

THE TRAFFIC MANAGEMENT CONSULTANT

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TMC Job No. 201911

January 22, 2021

HG Kauai Joint Venture, LLC
5662 W. Clubhouse Drive
Hurricane, Utah 84737

Ladies and Gentlemen:

Subject: HoKua Place
Kapa`a, Kaua`i, Hawaii

The Traffic Management Consultant (TMC) is pleased to submit this Traffic Memorandum to HG Kauai Joint Venture, LLC for the proposed HoKua Place in Kapa`a, Kaua`i, Hawai`i. The purpose of this Memorandum is to present the midday peak hour traffic count data, which were collected at major intersections in Kapa`a in March 2017. The State of Hawaii Department of Transportation (HDOT) also was contacted regarding the status of on-going highway projects in Kapa`a.

Midday Peak Hour Traffic

The Traffic Impact Analysis Report Update for the Proposed HoKua Place, dated September 29, 2017 (TIAR), analyzed the traffic impacts during the AM and PM peak hours of traffic. According to the Institute of Transportation Engineers (ITE) Trip Generation Manual, the trips generated by a residential development are highest during the commuter AM and PM peak periods of traffic. As such, the TIAR did not include the midday peak hour traffic impact analysis.

Turning movement traffic count data, collected from the Kuhio Highway intersections at Kukui Street, Lehua Street, and the Kapa`a Bypass Road (south junction), and the roundabout intersection of Olohena Road and the Kapa`a Bypass Road, were processed for the hours between the AM and PM peak periods of traffic, i.e., 9:00 AM to 3:00 PM. The midday traffic count data are attached. The locations of the major intersections are depicted on Figure 1.

The midday peak hour of traffic varied throughout the study area. With the exception of the intersection of Kuhio Highway and Kukui Street, the midday peak hour traffic at the other intersections were either lower or about the same as the AM and/or PM peak hour traffic. The midday peak hour of traffic at the intersection of Kuhio Highway and Kukui Street occurred between 9:15 AM and 10:15 AM. The midday peak hour traffic at the intersection was about 3 percent and 12 percent higher than the AM and PM peak hour traffic, respectively. The ITE trips generated by a multi-family residential development, during the AM and PM peak hours of traffic, are about 80 percent higher and 140 percent higher than the midday peak hour trips, respectively. Table 1 summarizes the AM, midday, and PM peak hour traffic volumes at the major intersections in the TIAR study area.



Figure 1. Location Map and Vicinity Map



Table 1. March 2017 Peak Hour Volumes

Table 1. March 2017 Peak Hour Volumes														
Intersection	Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Totals
Kuhio Hwy & Kukui St & Huluili St	AM	32	8	48	0	0	1	27	605	7	3	651	28	1410
	9:15 AM	32	9	25	1	0	28	33	649	20	6	618	38	1459
	PM	34	4	24	0	0	11	43	544	13	3	581	48	1305
Kuhio Hwy & Lehua St	AM	290	N/A	2	N/A	N/A	N/A	8	680	N/A	N/A	735	68	1783
	2:00 PM	289	N/A	4	N/A	N/A	N/A	17	599	N/A	N/A	609	169	1687
	PM	337	N/A	3	N/A	N/A	N/A	14	602	N/A	N/A	586	178	1720
Kapaa Bypass Rd & Oloheна Rd	AM	21	421	209	41	143	N/A	84	N/A	36	110	411	152	1628
	2:00 PM	32	202	59	129	329	N/A	201	N/A	203	84	249	103	1591
	PM	10	211	63	127	403	N/A	283	N/A	272	81	244	93	1787
Kuhio Hwy & Kapaa Bypass Rd	AM	5	N/A	652	N/A	N/A	N/A	102	616	N/A	N/A	735	1	2111
	9:45 AM	13	N/A	456	N/A	N/A	N/A	137	775	N/A	N/A	726	6	2113
	PM	24	N/A	396	N/A	N/A	N/A	636	721	N/A	N/A	388	70	2235

HDOT Highway Projects

The widening of Kuhio Highway is under construction at this writing. The on-going project would add a southbound lane on Kuhio Highway to provide two through lanes in each direction from the Kapa`a Bypass Road (south junction) to Kuamo`o Road.

The proposed Kapa`a Bypass Road Extension would widen the existing Kapa`a Bypass Road from Olohena Road to Kuhio Highway (north junction) from a one lane southbound roadway to a two-lane, two-way roadway. The Kapa`a Bypass Road Extension has been deferred by HDOT.

If you require clarification on any of the above material, or have any other questions, please do not hesitate to call me.

Very truly yours,

The Traffic Management Consultant



By

**Randall S. Okaneku, P. E.
Principal**

Attachments

Copy to: Mr. William W. L. Yuen

Kuhio Hwy Kukui St Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 2 PM-3

PM, 1 PM-2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808151, Location: 22.076147, -159.318205, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

Leg Direction	Kukui St Eastbound						Kukui St Westbound						Kuhio Hwy Northbound						Kuhio Hwy Southbound							
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int	
2017-03-16 9:00AM	4	1	9	1	15	5	0	0	8	0	8	13	6	160	4	0	170	0	3	149	9	0	161	1	354	
9:15AM	2	4	7	4	17	7	0	0	7	0	7	6	8	155	9	0	172	9	1	154	11	0	166	3	362	
9:30AM	11	0	6	0	17	2	0	0	3	1	4	13	10	177	2	0	189	10	1	159	6	0	166	4	376	
9:45AM	6	2	5	1	14	17	0	0	6	0	6	11	9	163	6	0	178	15	2	144	14	0	160	7	358	
Hourly Total	23	7	27	6	63	31	0	0	24	1	25	43	33	655	21	0	709	34	7	606	40	0	653	15	1450	
10:00AM	6	3	7	2	18	10	0	0	12	0	12	19	6	154	3	0	163	7	2	161	7	0	170	5	363	
10:15AM	5	1	11	0	17	11	0	0	5	0	5	12	10	153	5	0	168	13	5	137	8	0	150	7	340	
10:30AM	5	1	16	3	25	4	0	0	10	0	10	28	6	176	5	0	187	6	5	140	9	0	154	15	376	
10:45AM	5	0	3	2	10	17	0	0	8	0	8	22	6	148	6	0	160	10	4	127	13	0	144	19	322	
Hourly Total	21	5	37	7	70	42	0	0	35	0	35	81	28	631	19	0	678	36	16	565	37	0	618	46	1401	
11:00AM	3	2	4	2	11	27	0	0	3	0	3	36	5	151	2	0	158	12	2	130	8	0	140	3	312	
11:15AM	6	0	4	2	12	22	0	0	3	0	3	23	8	164	3	0	175	18	2	136	10	0	148	9	338	
11:30AM	9	1	6	2	18	31	0	0	5	0	5	25	7	156	5	0	168	6	1	126	11	0	138	11	329	
11:45AM	8	5	7	3	23	28	0	0	9	0	9	26	9	144	9	0	162	10	5	130	9	0	144	18	338	
Hourly Total	26	8	21	9	64	108	0	0	20	0	20	110	29	615	19	0	663	46	10	522	38	0	570	41	1317	
12:00PM	10	2	11	1	24	11	0	0	5	0	5	24	7	143	1	0	151	7	1	131	11	0	143	6	323	
12:15PM	6	0	6	1	13	20	0	0	7	0	7	18	9	152	4	0	165	22	1	118	9	0	128	8	313	
12:30PM	7	0	13	2	22	15	0	0	5	0	5	26	7	133	3	0	143	22	1	103	11	0	115	8	285	
12:45PM	4	2	10	4	20	17	0	0	7	0	7	26	7	156	5	0	168	17	0	114	12	0	126	10	321	
Hourly Total	27	4	40	8	79	63	0	0	24	0	24	94	30	584	13	0	627	68	3	466	43	0	512	32	1242	
1:00PM	8	1	5	0	14	20	0	0	8	0	8	52	7	146	1	0	154	7	1	114	6	0	121	7	297	
1:15PM	4	1	6	2	13	21	0	0	9	0	9	23	5	153	5	0	163	18	1	122	9	0	132	14	317	
1:30PM	4	2	5	0	11	15	0	0	9	0	9	33	10	136	5	0	151	4	3	127	17	0	147	8	318	
1:45PM	8	5	9	5	27	12	0	0	10	0	10	28	6	143	2	0	151	21	2	129	10	0	141	10	329	
Hourly Total	24	9	25	7	65	68	0	0	36	0	36	136	28	578	13	0	619	50	7	492	42	0	541	39	1261	
2:00PM	12	0	9	3	24	10	0	1	3	0	4	28	8	128	1	0	137	15	8	129	18	0	155	14	320	
2:15PM	7	0	13	6	26	19	0	0	8	0	8	24	8	116	2	0	126	12	4	135	10	0	149	16	309	
2:30PM	7	3	14	3	27	10	0	0	2	0	2	26	7	109	2	0	118	10	1	143	13	0	157	13	304	
2:45PM	8	2	12	3	25	9	0	0	6	0	6	19	5	115	0	0	120	12	2	128	12	0	142	2	293	
Hourly Total	34	5	48	15	102	48	0	1	19	0	20	97	28	468	5	0	501	49	15	535	53	0	603	45	1226	
Total	155	38	198	52	443	360	0	1	158	1	160	561	176	3531	90	0	3797	283	58	3186	253	0	3497	218	7897	
% Approach	35.0%	8.6%	44.7%	11.7%	-	-	0%	0.6%	98.8%	0.6%	-	-	4.6%	93.0%	2.4%	0%	-	-	1.7%	91.1%	7.2%	0%	-	-	-	
% Total	2.0%	0.5%	2.5%	0.7%	5.6%	-	0%	0%	2.0%	0%	2.0%	-	2.2%	44.7%	1.1%	0%	48.1%	-	0.7%	40.3%	3.2%	0%	44.3%	-	-	
Lights	150	38	197	52	437	-	0	1	157	1	159	-	170	3436	88	0	3694	-	58	3129	247	0	3434	-	7724	
% Lights	96.8%	100%	99.5%	100%	98.6%	-	0%	100%	99.4%	100%	99.4%	-	96.6%	97.3%	97.8%	0%	97.3%	-	100%	98.2%	97.6%	0%	98.2%	-	97.8%	
Articulated Trucks	0	0	0	0	0	0	-	0	0	0	0	0	-	0	12	0	0	12	-	0	8	0	0	8	-	20
% Articulated Trucks	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0%	0.3%	0%	0%	0.2%	-	0.3%
Buses and Single-Unit Trucks	5	0	1	0	6	-	0	0	1	0	1	-	6	83	2	0	91	-	0	49	6	0	55	-	153	
% Buses and Single-Unit Trucks	3.2%	0%	0.5%	0%	1.4%	-	0%	0%	0.6%	0%	0.6%	-	3.4%	2.4%	2.2%	0%	2.4%	-	0%	1.5%	2.4%	0%	1.6%	-	1.9%	
Pedestrians	-	-	-	-	-	360	-	-	-	-	-	561	-	-	-	-	-	283	-	-	-	-	-	218		
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Kukui St Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 2 PM-3

PM, 1 PM-2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808151, Location: 22.076147, -159.318205, Site Code: Hokua Place



Provided by: The Traffic Management

Consultant

1188 Bishop Street, Suite 1907,

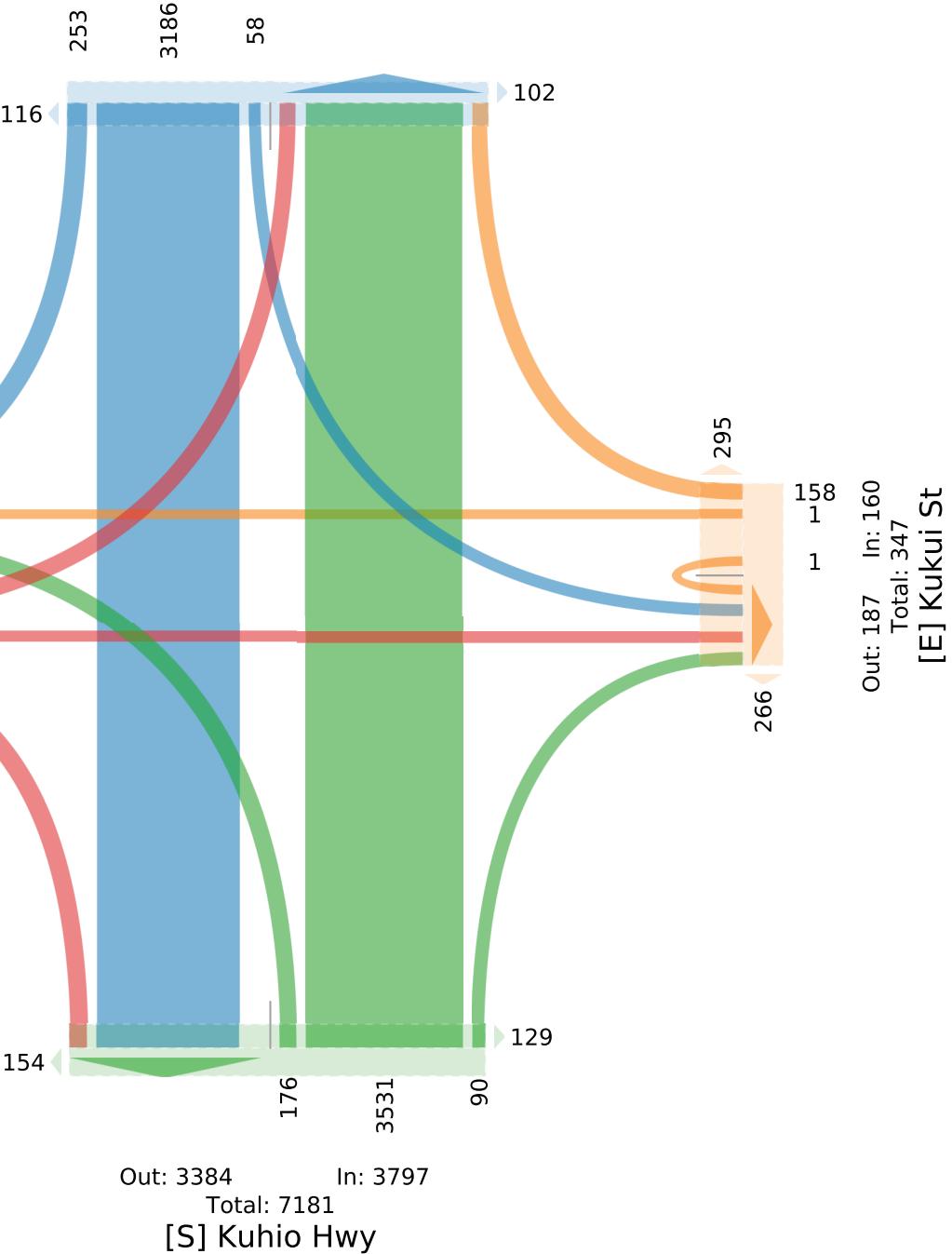
Honolulu, HI, 96813, US

[N] Kuhio Hwy

Total: 7341

In: 3497

Out: 3844



Kuhio Hwy Kukui St Off-Peak - TMC

Thu Mar 16, 2017

AM Peak, Forced Peak (9:15 AM - 10:15 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,
Pedestrians)

All Movements

ID: 808151, Location: 22.076147, -159.318205, Site Code: Hokua Place



Provided by: The Traffic Management Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

Leg Direction	Kukui St Eastbound						Kukui St Westbound						Kuhio Hwy Northbound						Kuhio Hwy Southbound							
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int	
2017-03-16 9:15AM	2	4	7	4	17	7	0	0	7	0	7	6	8	155	9	0	172	9	1	154	11	0	166	3	362	
9:30AM	11	0	6	0	17	2	0	0	3	1	4	13	10	177	2	0	189	10	1	159	6	0	166	4	376	
9:45AM	6	2	5	1	14	17	0	0	6	0	6	11	9	163	6	0	178	15	2	144	14	0	160	7	358	
10:00AM	6	3	7	2	18	10	0	0	12	0	12	19	6	154	3	0	163	7	2	161	7	0	170	5	363	
Total	25	9	25	7	66	36	0	0	28	1	29	49	33	649	20	0	702	41	6	618	38	0	662	19	1459	
% Approach	37.9%	13.6%	37.9%	10.6%	-	-	0%	0%	96.6%	3.4%	-	-	4.7%	92.5%	2.8%	0%	-	-	0.9%	93.4%	5.7%	0%	-	-	-	
% Total	1.7%	0.6%	1.7%	0.5%	4.5%	-	0%	0%	1.9%	0.1%	2.0%	-	2.3%	44.5%	1.4%	0%	48.1%	-	0.4%	42.4%	2.6%	0%	45.4%	-	-	
PHF	0.568	0.563	0.893	0.438	0.917	-	-	-	0.583	0.250	0.604	-	0.825	0.917	0.556	-	0.929	-	0.750	0.960	0.679	-	0.974	-	0.970	
Lights	23	9	25	7	64	-	0	0	28	1	29	-	32	623	20	0	675	-	6	602	38	0	646	-	1414	
% Lights	92.0%	100%	100%	100%	97.0%	-	0%	0%	100%	100%	100%	-	97.0%	96.0%	100%	0%	96.2%	-	100%	97.4%	100%	0%	97.6%	-	96.9%	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	-	0	3	0	0	3	-	0	1	0	0	1	-	4	
% Articulated Trucks	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.4%	-	0%	0.2%	0%	0%	0.2%	-	0.3%
Buses and Single-Unit Trucks	2	0	0	0	0	2	-	0	0	0	0	0	-	1	23	0	0	24	-	0	15	0	0	15	-	41
% Buses and Single-Unit Trucks	8.0%	0%	0%	0%	3.0%	-	0%	0%	0%	0%	0%	-	3.0%	3.5%	0%	0%	3.4%	-	0%	2.4%	0%	0%	2.3%	-	2.8%	
Pedestrians	-	-	-	-	-	36	-	-	-	-	-	49	-	-	-	-	-	41	-	-	-	-	-	19		
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Kukui St Off-Peak - TMC

Thu Mar 16, 2017

AM Peak, Forced Peak (9:15 AM - 10:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808151, Location: 22.076147, -159.318205, Site Code: Hokua Place



Provided by: The Traffic Management Consultant

1188 Bishop Street, Suite 1907,

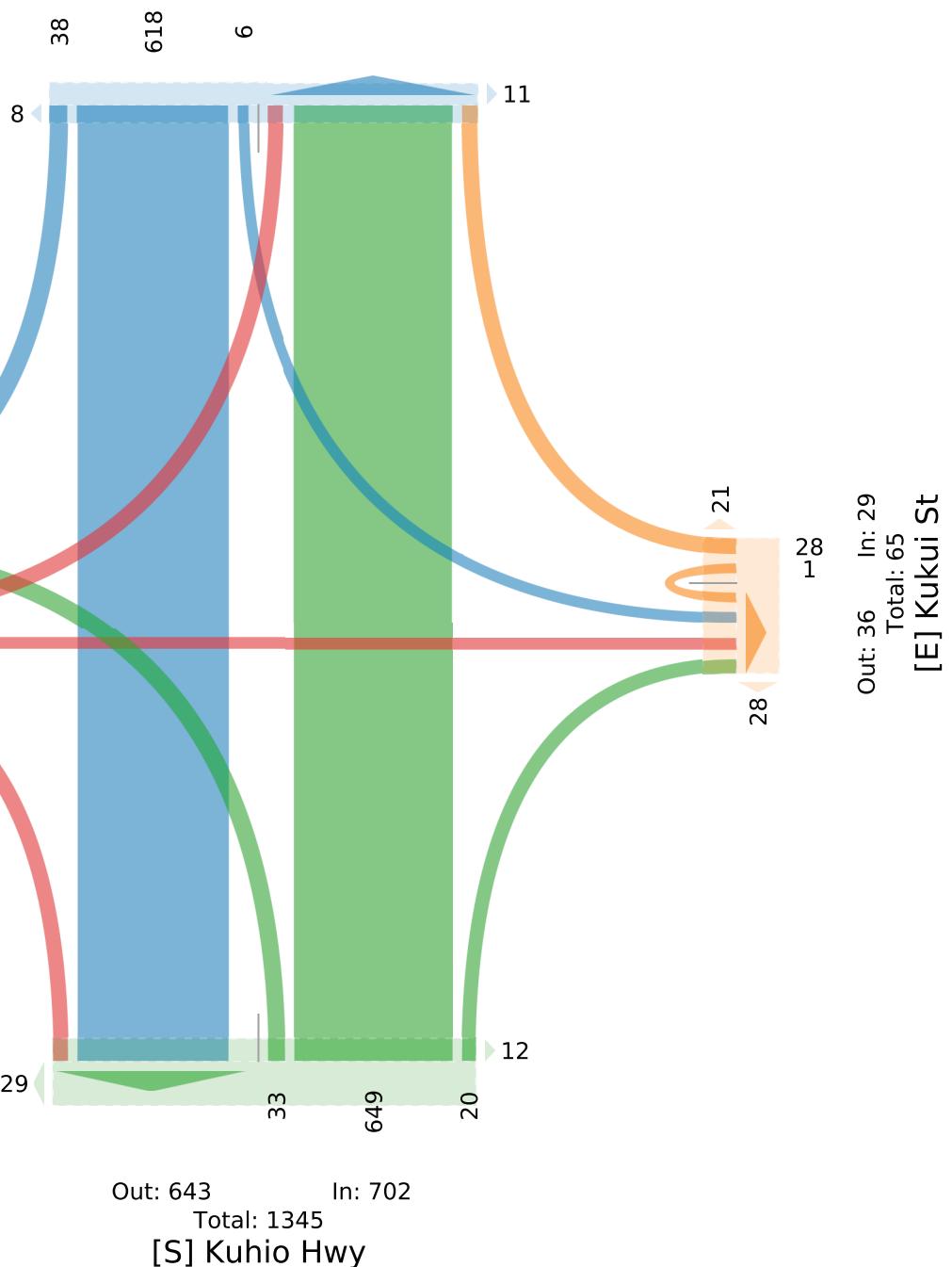
Honolulu, HI, 96813, US

[N] Kuhio Hwy

Total: 1364

In: 662

Out: 702



Kuhio Hwy Lehua St Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 2 PM-3

PM, 1 PM-2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808152, Location: 22.07759, -159.316729, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

Leg Direction	Lehua St Eastbound					Kuhio Hwy Northbound					Kuhio Hwy Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2017-03-16 9:00AM	25	4	0	29	8	7	168	0	175	0	164	24	0	188	0	392
9:15AM	38	5	0	43	2	4	156	0	160	0	173	29	0	202	0	405
9:30AM	30	1	0	31	12	5	190	0	195	0	174	21	0	195	0	421
9:45AM	43	5	0	48	7	1	180	0	181	1	158	18	0	176	0	405
Hourly Total	136	15	0	151	29	17	694	0	711	1	669	92	0	761	0	1623
10:00AM	39	1	0	40	4	2	175	0	177	0	165	28	0	193	0	410
10:15AM	34	3	0	37	5	5	185	0	190	0	151	33	0	184	0	411
10:30AM	41	3	0	44	9	5	199	0	204	0	150	27	0	177	0	425
10:45AM	33	2	0	35	16	4	157	0	161	0	144	25	0	169	0	365
Hourly Total	147	9	0	156	34	16	716	0	732	0	610	113	0	723	0	1611
11:00AM	44	2	0	46	2	1	173	0	174	0	147	26	0	173	0	393
11:15AM	38	6	0	44	14	5	181	0	186	3	140	18	0	158	0	388
11:30AM	49	3	0	52	8	0	165	0	165	3	141	22	0	163	0	380
11:45AM	43	3	0	46	7	4	163	0	167	1	142	31	0	173	0	386
Hourly Total	174	14	0	188	31	10	682	0	692	7	570	97	0	667	0	1547
12:00PM	53	3	0	56	14	1	161	0	162	0	139	26	0	165	0	383
12:15PM	44	4	0	48	6	5	164	1	170	0	116	19	0	135	0	353
12:30PM	48	2	0	50	3	5	148	0	153	0	124	28	0	152	0	355
12:45PM	56	5	0	61	2	7	160	0	167	0	120	17	0	137	0	365
Hourly Total	201	14	0	215	25	18	633	1	652	0	499	90	0	589	0	1456
1:00PM	39	1	0	40	11	4	171	0	175	0	138	25	0	163	0	378
1:15PM	38	0	0	38	5	5	160	0	165	1	139	18	0	157	0	360
1:30PM	54	2	0	56	5	4	159	0	163	5	135	28	0	163	0	382
1:45PM	56	5	0	61	9	4	167	0	171	0	134	34	0	168	0	400
Hourly Total	187	8	0	195	30	17	657	0	674	6	546	105	0	651	0	1520
2:00PM	59	0	0	59	9	7	147	0	154	0	162	34	0	196	0	409
2:15PM	72	0	0	72	7	3	153	0	156	1	153	45	0	198	0	426
2:30PM	86	1	0	87	3	4	146	0	150	0	147	47	0	194	0	431
2:45PM	72	3	0	75	3	3	153	0	156	0	147	43	0	190	0	421
Hourly Total	289	4	0	293	22	17	599	0	616	1	609	169	0	778	0	1687
Total	1134	64	0	1198	171	95	3981	1	4077	15	3503	666	0	4169	0	9444
% Approach	94.7%	5.3%	0%	-	-	2.3%	97.6%	0%	-	-	84.0%	16.0%	0%	-	-	-
% Total	12.0%	0.7%	0%	12.7%	-	1.0%	42.2%	0%	43.2%	-	37.1%	7.1%	0%	44.1%	-	-
Lights	1094	63	0	1157	-	95	3884	1	3980	-	3441	637	0	4078	-	9215
% Lights	96.5%	98.4%	0%	96.6%	-	100%	97.6%	100%	97.6%	-	98.2%	95.6%	0%	97.8%	-	97.6%
Articulated Trucks	1	0	0	1	-	0	12	0	12	-	8	0	0	8	-	21
% Articulated Trucks	0.1%	0%	0%	0.1%	-	0%	0.3%	0%	0.3%	-	0.2%	0%	0%	0.2%	-	0.2%
Buses and Single-Unit Trucks	39	1	0	40	-	0	85	0	85	-	54	29	0	83	-	208
% Buses and Single-Unit Trucks	3.4%	1.6%	0%	3.3%	-	0%	2.1%	0%	2.1%	-	1.5%	4.4%	0%	2.0%	-	2.2%
Pedestrians	-	-	-	-	171	-	-	-	-	15	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Lehua St Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 2 PM-3

PM, 1 PM-2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808152, Location: 22.07759, -159.316729, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

[N] Kuhio Hwy

Total: 9284

In: 4169

Out: 5115



[S] Kuhio Hwy

Total: 7645

In: 4077

Out: 3568

Kuhio Hwy Lehua St Off-Peak - TMC

Thu Mar 16, 2017

PM Peak, Forced Peak (2 PM - 3 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808152, Location: 22.07759, -159.316729, Site Code: Hokua Place



Provided by: The Traffic Management Consultant

1188 Bishop Street, Suite 1907,

Honolulu, HI, 96813, US

Leg Direction	Lehua St Eastbound					Kuhio Hwy Northbound					Kuhio Hwy Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2017-03-16 2:00PM	59	0	0	59	9	7	147	0	154	0	162	34	0	196	0	409
2:15PM	72	0	0	72	7	3	153	0	156	1	153	45	0	198	0	426
2:30PM	86	1	0	87	3	4	146	0	150	0	147	47	0	194	0	431
2:45PM	72	3	0	75	3	3	153	0	156	0	147	43	0	190	0	421
Total	289	4	0	293	22	17	599	0	616	1	609	169	0	778	0	1687
% Approach	98.6%	1.4%	0%	-	-	2.8%	97.2%	0%	-	-	78.3%	21.7%	0%	-	-	-
% Total	17.1%	0.2%	0%	17.4%	-	1.0%	35.5%	0%	36.5%	-	36.1%	10.0%	0%	46.1%	-	-
PHF	0.840	0.333	-	0.842	-	0.607	0.979	-	0.987	-	0.940	0.899	-	0.982	-	0.979
Lights	277	4	0	281	-	17	593	0	610	-	597	162	0	759	-	1650
% Lights	95.8%	100%	0%	95.9%	-	100%	99.0%	0%	99.0%	-	98.0%	95.9%	0%	97.6%	-	97.8%
Articulated Trucks	0	0	0	0	-	0	1	0	1	-	1	0	0	1	-	2
% Articulated Trucks	0%	0%	0%	0%	-	0%	0.2%	0%	0.2%	-	0.2%	0%	0%	0.1%	-	0.1%
Buses and Single-Unit Trucks	12	0	0	12	-	0	5	0	5	-	11	7	0	18	-	35
% Buses and Single-Unit Trucks	4.2%	0%	0%	4.1%	-	0%	0.8%	0%	0.8%	-	1.8%	4.1%	0%	2.3%	-	2.1%
Pedestrians	-	-	-	-	22	-	-	-	-	1	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Lehua St Off-Peak - TMC

Thu Mar 16, 2017

PM Peak, Forced Peak (2 PM - 3 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808152, Location: 22.07759, -159.316729, Site Code: Hokua Place



Provided by: The Traffic Management Consultant

1188 Bishop Street, Suite 1907,

Honolulu, HI, 96813, US

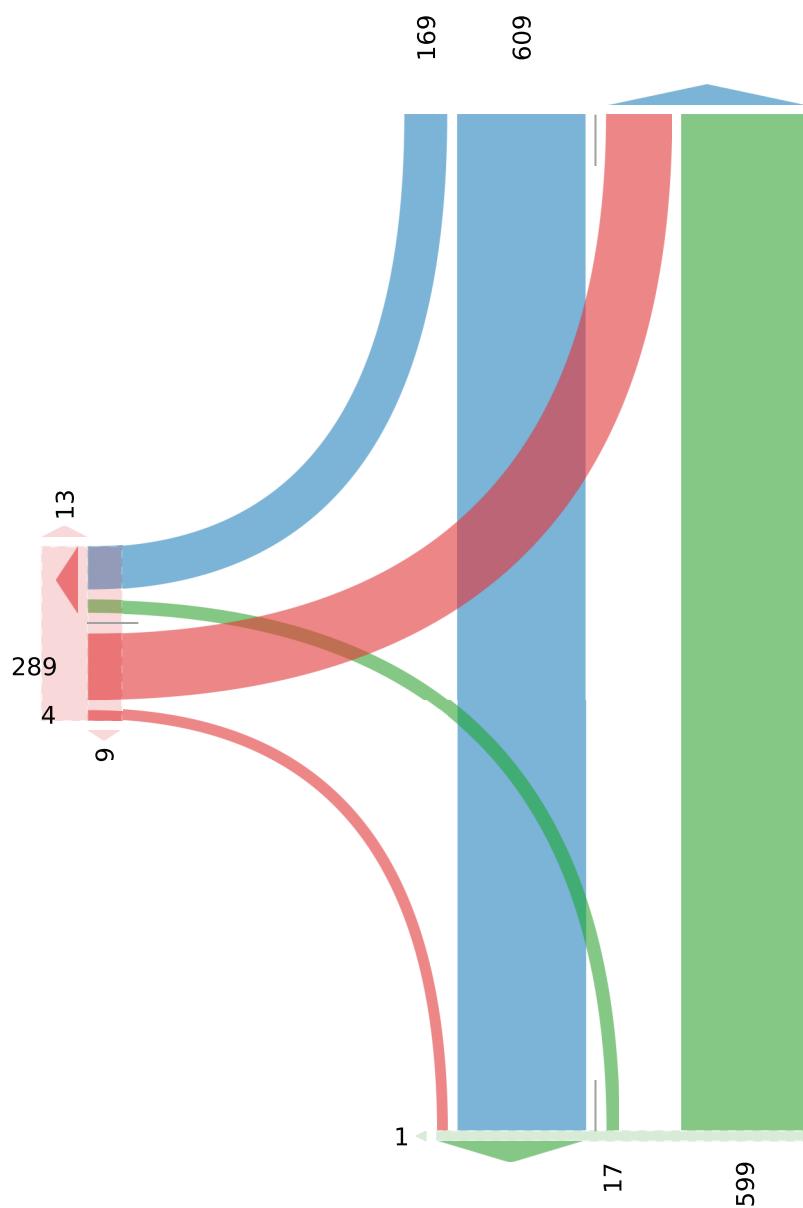
[N] Kuhio Hwy

Total: 1666

In: 778

Out: 888

[W] Lehua St
Total: 479
In: 293 Out: 186



Out: 613 In: 616

Total: 1229

[S] Kuhio Hwy

Olorena Rd Kapaa Bypass Off-Peak - TMC

Tue Mar 14, 2017

Full Length (8:30 AM-9 AM, 9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 1

PM-2 PM, 2 PM-3 PM, 3 PM-3:30 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 808154, Location: 22.07725, -159.322378, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

Leg Direction	Olorena Rd Eastbound				Olorena Rd Westbound				Kapaa Bypass Northbound				Kapaa Bypass Southbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	L	T	R	App	Int
2017-03-14 8:30AM	55	24	1	80	21	31	2	54	15	11	0	26	13	77	12	102	262
8:45AM	67	17	3	87	10	31	1	42	11	12	1	24	17	76	12	105	258
Hourly Total	122	41	4	167	31	62	3	96	26	23	1	50	30	153	24	207	520
9:00AM	37	22	4	63	19	32	4	55	9	20	0	29	21	53	8	82	229
9:15AM	41	13	6	60	19	52	0	71	14	16	0	30	16	93	13	122	283
9:30AM	50	14	0	64	23	34	1	58	14	12	0	26	15	78	14	107	255
9:45AM	62	20	2	84	21	27	0	48	8	13	0	21	15	52	9	76	229
Hourly Total	190	69	12	271	82	145	5	232	45	61	0	106	67	276	44	387	996
10:00AM	46	25	2	73	19	43	4	66	16	11	0	27	15	73	10	98	264
10:15AM	46	14	1	61	26	55	0	81	9	21	0	30	18	73	15	106	278
10:30AM	38	26	1	65	17	53	2	72	13	22	0	35	26	51	9	86	258
10:45AM	52	16	3	71	20	47	0	67	25	12	0	37	16	57	15	88	263
Hourly Total	182	81	7	270	82	198	6	286	63	66	0	129	75	254	49	378	1063
11:00AM	42	16	2	60	22	64	3	89	22	27	0	49	20	50	14	84	282
11:15AM	39	11	5	55	27	56	0	83	31	25	0	56	14	47	11	72	266
11:30AM	50	10	1	61	17	69	1	87	28	28	0	56	20	71	11	102	306
11:45AM	37	9	2	48	24	64	0	88	25	31	0	56	23	44	14	81	273
Hourly Total	168	46	10	224	90	253	4	347	106	111	0	217	77	212	50	339	1127
12:00PM	42	15	4	61	28	61	4	93	18	27	0	45	20	56	13	89	288
12:15PM	40	25	3	68	23	52	0	75	30	28	0	58	13	54	14	81	282
12:30PM	32	15	2	49	32	66	2	100	24	33	0	57	8	53	12	73	279
12:45PM	44	14	4	62	27	56	0	83	22	25	0	47	28	52	15	95	287
Hourly Total	158	69	13	240	110	235	6	351	94	113	0	207	69	215	54	338	1136
1:00PM	28	14	3	45	22	48	3	73	34	29	0	63	11	43	17	71	252
1:15PM	47	16	4	67	23	46	0	69	35	45	0	80	18	52	13	83	299
1:30PM	26	14	0	40	24	65	2	91	25	29	1	55	15	47	8	70	256
1:45PM	54	12	4	70	20	70	0	90	43	37	0	80	17	60	20	97	337
Hourly Total	155	56	11	222	89	229	5	323	137	140	1	278	61	202	58	321	1144
2:00PM	42	10	5	57	24	85	4	113	41	55	0	96	17	56	27	100	366
2:15PM	78	16	11	105	21	71	2	94	47	41	0	88	18	55	26	99	386
2:30PM	43	18	13	74	35	83	1	119	53	51	0	104	23	68	28	119	416
2:45PM	39	15	3	57	39	90	3	132	60	56	0	116	26	70	22	118	423
Hourly Total	202	59	32	293	119	329	10	458	201	203	0	404	84	249	103	436	1591
3:00PM	42	19	1	62	22	54	1	77	55	42	0	97	18	46	27	91	327
3:15PM	42	12	5	59	10	25	2	37	49	47	0	96	18	41	12	71	263
Hourly Total	84	31	6	121	32	79	3	114	104	89	0	193	36	87	39	162	590
Total	1261	452	95	1808	635	1530	42	2207	776	806	2	1584	499	1648	421	2568	8167
% Approach	69.7%	25.0%	5.3%	-	28.8%	69.3%	1.9%	-	49.0%	50.9%	0.1%	-	19.4%	64.2%	16.4%	-	-
% Total	15.4%	5.5%	1.2%	22.1%	7.8%	18.7%	0.5%	27.0%	9.5%	9.9%	0%	19.4%	6.1%	20.2%	5.2%	31.4%	-
Lights	1240	441	91	1772	607	1507	16	2130	760	772	2	1534	484	1592	414	2490	7926
% Lights	98.3%	97.6%	95.8%	98.0%	95.6%	98.5%	38.1%	96.5%	97.9%	95.8%	100%	96.8%	97.0%	96.6%	98.3%	97.0%	97.0%
Articulated Trucks	1	1	0	2	5	0	0	5	2	4	0	6	1	8	1	10	23
% Articulated Trucks	0.1%	0.2%	0%	0.1%	0.8%	0%	0%	0.2%	0.3%	0.5%	0%	0.4%	0.2%	0.5%	0.2%	0.4%	0.3%
Buses and Single-Unit Trucks	20	10	4	34	23	23	26	72	14	30	0	44	14	48	6	68	218
% Buses and Single-Unit Trucks	1.6%	2.2%	4.2%	1.9%	3.6%	1.5%	61.9%	3.3%	1.8%	3.7%	0%	2.8%	2.8%	2.9%	1.4%	2.6%	2.7%

*L: Left, R: Right, T: Thru, U: U-Turn

Olorena Rd Kapaa Bypass Off-Peak - TMC

Tue Mar 14, 2017

Full Length (8:30 AM-9 AM, 9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 1

PM-2 PM, 2 PM-3 PM, 3 PM-3:30 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 808154, Location: 22.07725, -159.322378, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

[N] Kapaa Bypass

Total: 2568

In: 2568

Out: 0

421 1648 499

[W] Olorena Rd
Total: 4630
In: 1808 Out: 2822

95

1261

452

1530
635
42
Out: 2608 In: 2207 Total: 4815 [E] Olorena Rd

Out: 2737 In: 1584

Total: 4321

[S] Kapaa Bypass

2 776 806

Olorena Rd Kapaa Bypass Off-Peak - TMC

Tue Mar 14, 2017

PM Peak, Forced Peak (2 PM - 3 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 808154, Location: 22.07725, -159.322378, Site Code: Hokua Place



Provided by: The Traffic Management Consultant
1188 Bishop Street, Suite 1907, Honolulu, HI, 96813, US

Leg Direction	Olorena Rd Eastbound				Olorena Rd Westbound				Kapaa Bypass Northbound				Kapaa Bypass Southbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	L	T	R	App	Int
2017-03-14 2:00PM	42	10	5	57	24	85	4	113	41	55	0	96	17	56	27	100	366
2:15PM	78	16	11	105	21	71	2	94	47	41	0	88	18	55	26	99	386
2:30PM	43	18	13	74	35	83	1	119	53	51	0	104	23	68	28	119	416
2:45PM	39	15	3	57	39	90	3	132	60	56	0	116	26	70	22	118	423
Total	202	59	32	293	119	329	10	458	201	203	0	404	84	249	103	436	1591
% Approach	68.9%	20.1%	10.9%	-	26.0%	71.8%	2.2%	-	49.8%	50.2%	0%	-	19.3%	57.1%	23.6%	-	-
% Total	12.7%	3.7%	2.0%	18.4%	7.5%	20.7%	0.6%	28.8%	12.6%	12.8%	0%	25.4%	5.3%	15.7%	6.5%	27.4%	-
PHF	0.647	0.819	0.615	0.698	0.763	0.914	0.625	0.867	0.838	0.906	-	0.871	0.808	0.889	0.920	0.916	0.940
Lights	192	56	29	277	117	319	6	442	196	195	0	391	81	236	101	418	1528
% Lights	95.0%	94.9%	90.6%	94.5%	98.3%	97.0%	60.0%	96.5%	97.5%	96.1%	0%	96.8%	96.4%	94.8%	98.1%	95.9%	96.0%
Articulated Trucks	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	2	3
% Articulated Trucks	0%	0%	0%	0%	0.8%	0%	0%	0.2%	0%	0%	0%	0%	0%	0.8%	0%	0.5%	0.2%
Buses and Single-Unit Trucks	10	3	3	16	1	10	4	15	5	8	0	13	3	11	2	16	60
% Buses and Single-Unit Trucks	5.0%	5.1%	9.4%	5.5%	0.8%	3.0%	40.0%	3.3%	2.5%	3.9%	0%	3.2%	3.6%	4.4%	1.9%	3.7%	3.8%

*L: Left, R: Right, T: Thru, U: U-Turn

Olorena Rd Kapaa Bypass Off-Peak - TMC

Tue Mar 14, 2017

PM Peak, Forced Peak (2 PM - 3 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 808154, Location: 22.07725, -159.322378, Site Code: Hokua Place



Provided by: The Traffic Management Consultant
1188 Bishop Street, Suite 1907, Honolulu, HI, 96813, US

[N] Kapaa Bypass

Total: 436

In: 436

Out: 0

103
249
84

[W] Olohena Rd
Total: 958
In: 293
Out: 665

32
202
59

329
119
10
Out: 499
Total: 957
[E] Olohena Rd
In: 458

201
203

Out: 427
In: 404

Total: 831

[S] Kapaa Bypass

Kuhio Hwy Kapaa Bypass South Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 1 PM-2

PM, 2 PM-3 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808153, Location: 22.054779, -159.330082, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

Leg Direction	Kapaa Bypass South Eastbound					Kuhio Hwy Northbound					Kuhio Hwy Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2017-03-16 9:00AM	4	122	0	126	0	27	175	0	202	0	177	2	0	179	0	507
9:15AM	4	114	0	118	0	30	174	0	204	0	155	3	0	158	0	480
9:30AM	2	128	0	130	0	23	205	0	228	0	190	5	0	195	0	553
9:45AM	1	100	0	101	0	29	197	0	226	0	159	1	0	160	0	487
Hourly Total	11	464	0	475	0	109	751	0	860	0	681	11	0	692	0	2027
10:00AM	1	107	0	108	0	34	186	1	221	0	191	2	0	193	0	522
10:15AM	6	124	0	130	0	32	197	0	229	0	189	0	0	189	0	548
10:30AM	5	125	0	130	1	41	195	0	236	0	187	3	0	190	0	556
10:45AM	4	80	0	84	0	37	201	0	238	0	154	5	0	159	0	481
Hourly Total	16	436	0	452	1	144	779	1	924	0	721	10	0	731	0	2107
11:00AM	2	86	0	88	0	40	205	0	245	0	152	5	0	157	0	490
11:15AM	3	89	0	92	0	47	196	0	243	0	107	4	0	111	0	446
11:30AM	4	107	0	111	0	47	152	0	199	0	133	8	0	141	0	451
11:45AM	8	87	0	95	0	56	165	0	221	0	101	4	0	105	0	421
Hourly Total	17	369	0	386	0	190	718	0	908	0	493	21	0	514	0	1808
12:00PM	5	86	0	91	0	50	202	0	252	0	116	4	0	120	0	463
12:15PM	3	82	0	85	0	74	184	0	258	0	129	2	0	131	0	474
12:30PM	2	91	0	93	0	59	163	0	222	0	140	5	0	145	0	460
12:45PM	2	87	0	89	0	66	224	0	290	0	124	4	0	128	0	507
Hourly Total	12	346	0	358	0	249	773	0	1022	0	509	15	0	524	0	1904
1:00PM	2	78	0	80	0	55	186	0	241	0	136	5	0	141	0	462
1:15PM	3	97	0	100	0	55	196	0	251	0	129	2	0	131	0	482
1:30PM	0	86	0	86	0	66	187	0	253	0	111	3	0	114	0	453
1:45PM	6	77	0	83	0	75	198	0	273	0	110	4	0	114	0	470
Hourly Total	11	338	0	349	0	251	767	0	1018	0	486	14	0	500	0	1867
2:00PM	2	79	0	81	0	108	184	0	292	0	112	6	0	118	0	491
2:15PM	4	94	0	98	0	83	164	0	247	0	103	5	0	108	0	453
2:30PM	2	115	0	117	0	107	168	0	275	0	88	6	0	94	0	486
2:45PM	3	107	0	110	0	122	183	0	305	0	91	9	0	100	0	515
Hourly Total	11	395	0	406	0	420	699	0	1119	0	394	26	0	420	0	1945
Total	78	2348	0	2426	1	1363	4487	1	5851	0	3284	97	0	3381	0	11658
% Approach	3.2%	96.8%	0%	-	-	23.3%	76.7%	0%	-	-	97.1%	2.9%	0%	-	-	-
% Total	0.7%	20.1%	0%	20.8%	-	11.7%	38.5%	0%	50.2%	-	28.2%	0.8%	0%	29.0%	-	-
Lights	75	2276	0	2351	-	1315	4377	1	5693	-	3207	94	0	3301	-	11345
% Lights	96.2%	96.9%	0%	96.9%	-	96.5%	97.5%	100%	97.3%	-	97.7%	96.9%	0%	97.6%	-	97.3%
Articulated Trucks	0	10	0	10	-	5	12	0	17	-	9	1	0	10	-	37
% Articulated Trucks	0%	0.4%	0%	0.4%	-	0.4%	0.3%	0%	0.3%	-	0.3%	1.0%	0%	0.3%	-	0.3%
Buses and Single-Unit Trucks	3	62	0	65	-	43	98	0	141	-	68	2	0	70	-	276
% Buses and Single-Unit Trucks	3.8%	2.6%	0%	2.7%	-	3.2%	2.2%	0%	2.4%	-	2.1%	2.1%	0%	2.1%	-	2.4%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Kapaa Bypass South Off-Peak - TMC

Thu Mar 16, 2017

Full Length (9 AM-10 AM, 10 AM-11 AM, 11 AM-12 PM, 12 PM-1 PM, 1 PM-2

PM, 2 PM-3 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 808153, Location: 22.054779, -159.330082, Site Code: Hokua Place



Provided by: The Traffic Management
Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

[N] Kuhio Hwy

Total: 7946

In: 3381 Out: 4565



[S] Kuhio Hwy

[W] Kapaa Bypass South

Total: 3886
In: 2426 Out: 1460

Kuhio Hwy Kapaa Bypass South Off-Peak - TMC

Thu Mar 16, 2017

AM Peak, Forced Peak (9:45 AM - 10:45 AM) - Overall Peak Hour
 All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,
 Pedestrians)
 All Movements
 ID: 808153, Location: 22.054779, -159.330082, Site Code: Hokua Place



Provided by: The Traffic Management Consultant
 1188 Bishop Street, Suite 1907,
 Honolulu, HI, 96813, US

Leg Direction	Kapaa Bypass South Eastbound					Kuhio Hwy Northbound					Kuhio Hwy Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2017-03-16 9:45AM	1	100	0	101	0	29	197	0	226	0	159	1	0	160	0	487
10:00AM	1	107	0	108	0	34	186	1	221	0	191	2	0	193	0	522
10:15AM	6	124	0	130	0	32	197	0	229	0	189	0	0	189	0	548
10:30AM	5	125	0	130	1	41	195	0	236	0	187	3	0	190	0	556
Total	13	456	0	469	1	136	775	1	912	0	726	6	0	732	0	2113
% Approach	2.8%	97.2%	0%	-	-	14.9%	85.0%	0.1%	-	-	99.2%	0.8%	0%	-	-	-
% Total	0.6%	21.6%	0%	22.2%	-	6.4%	36.7%	0%	43.2%	-	34.4%	0.3%	0%	34.6%	-	-
PHF	0.542	0.912	-	0.902	-	0.829	0.984	0.250	0.966	-	0.950	0.500	-	0.948	-	0.950
Lights	12	446	0	458	-	128	749	1	878	-	707	6	0	713	-	2049
% Lights	92.3%	97.8%	0%	97.7%	-	94.1%	96.6%	100%	96.3%	-	97.4%	100%	0%	97.4%	-	97.0%
Articulated Trucks	0	2	0	2	-	1	1	0	2	-	1	0	0	1	-	5
% Articulated Trucks	0%	0.4%	0%	0.4%	-	0.7%	0.1%	0%	0.2%	-	0.1%	0%	0%	0.1%	-	0.2%
Buses and Single-Unit Trucks	1	8	0	9	-	7	25	0	32	-	18	0	0	18	-	59
% Buses and Single-Unit Trucks	7.7%	1.8%	0%	1.9%	-	5.1%	3.2%	0%	3.5%	-	2.5%	0%	0%	2.5%	-	2.8%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kuhio Hwy Kapaa Bypass South Off-Peak - TMC

Thu Mar 16, 2017

AM Peak, Forced Peak (9:45 AM - 10:45 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,
Pedestrians)

All Movements

ID: 808153, Location: 22.054779, -159.330082, Site Code: Hokua Place

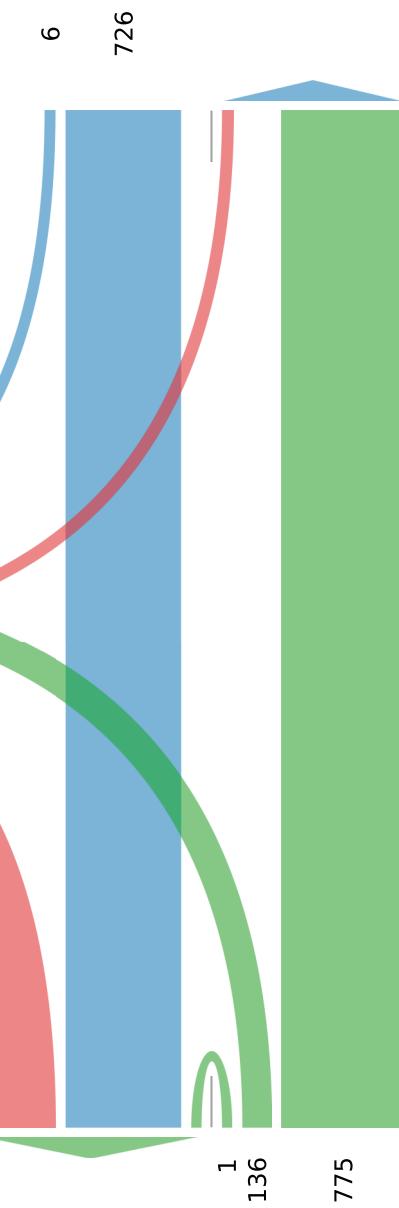


Provided by: The Traffic Management Consultant
1188 Bishop Street, Suite 1907,
Honolulu, HI, 96813, US

[N] Kuhio Hwy

Total: 1520

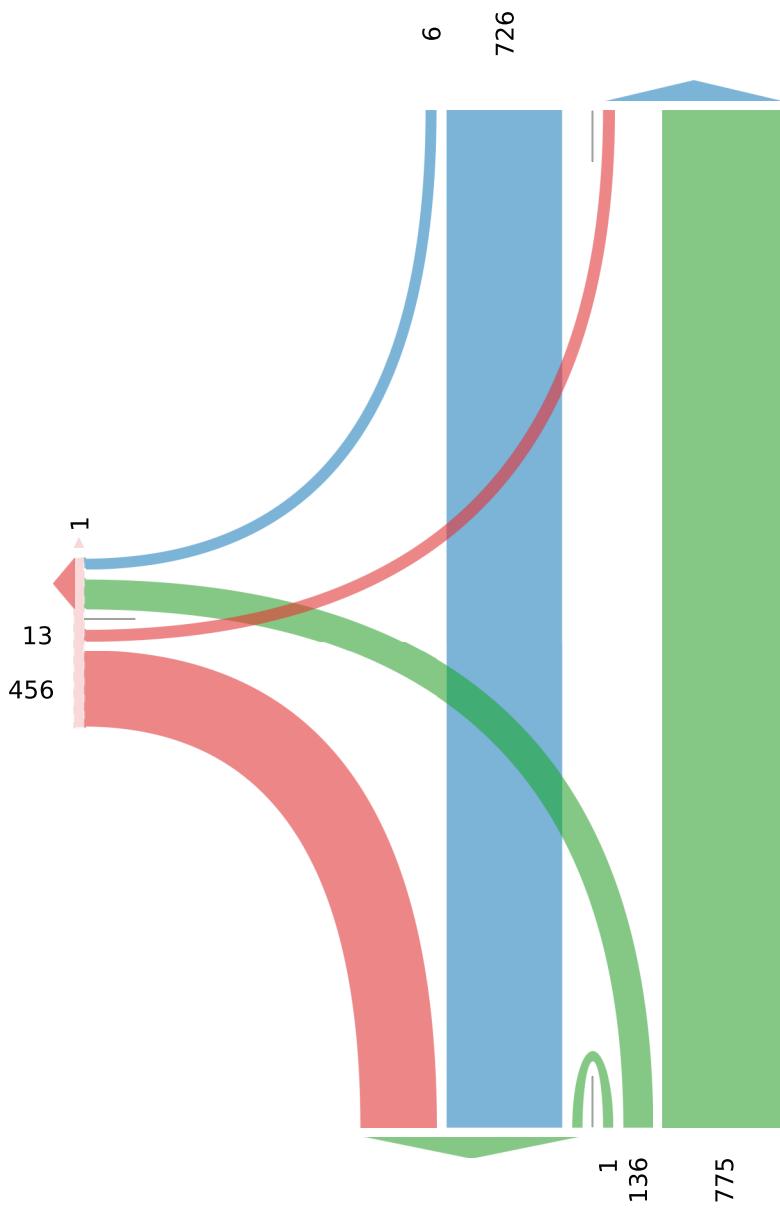
In: 732 Out: 788



[W] Kapaa Bypass South

Total: 611
In: 469 Out: 142

13
456



Out: 1183 In: 912

Total: 2095

[S] Kuhio Hwy

136

775