

KIONI DUDLEY, PRESIDENT
Friends of Makakilo
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Kapolei, HI 96707

Kioni Dudley
Appearing pro se for the
Friends of Makakilo

LAND USE COMMISSION
STATE OF HAWAII
2015 OCT 20 P 1:44

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the PETITION of	)	DOCKET NO. A06-771
D.R. HORTON-SCHULER HOMES, LLC., a	)	
Delaware limited liability company, d.b.a. D.R.	)	INTERVENOR FRIENDS OF MAKAKILO'S
HORTON SCHULER DIVISION	)	AMENDED EXHIBIT LIST AND
	)	EXHIBITS 63-72
To Amend the Agricultural Land Use District	)	AND CERTIFICATE OF SERVICE
Boundaries into the Urban Land Use District	)	
for Approximately 1,525.516 Acres in Ewa	)	
District, Island of Oahu, Tax Map Key Nos.	)	
(1)9-1-017:004(por.). 059, and 072;(1) 9-1-	)	
018:-001 and 004	)	
	)	
	)	
	)	
	)	
	)	
	)	
	)	
	)	
	)	

Friends of Makakilo
Motion for Order to Show Cause
Amended Exhibit List

63	Map comparing projects listed in Ewa Development Plan pg 2-10 with projects listed on pg. 24 of TIAR
64	Map super-imposing TAZ map area from TIAR Appendix F on map of projects listed in Ewa Development Plan p. 2-10
65	TIAR pg.24 containing list of projects surrounding Ho’opili projects
66	TAZ map from TIAR Appendix F
67	Table F-1 from TIAR Appendix F compared to numbers in ORTP 2035 numbers 444-764
68	ORTP 2035 listing of TAZ numbers for Leeward Oahu numbers 444-764
69	Picture of H-1 Freeway eastbound just beyond H-1/H-2 merge
70	TIAR Table 4.4 2035 without project and without mitigations
71	TIAR Table 5.8 2035 with project – with and without mitigations
72	TIAR Table 5.11 2035 with project and rail – with and without mitigations



Map comparing projects listed in Ewa Development Plan (red yellow and green) with those listed in TIAR pg 24 (green only)



Map super-imposed TAZ map area from TIAR Appendix F on map of projects listed in Ewa Development Plan p. 2-10

Exhibit 65

Does not include

Mehana 1,130	Palailai 350
Leikado 714	Koolina 3286
Ewa by Gentry 658	Makaniis 422
Ewa by Gentry 1067	Villages of Koe 660
Ewa Villages 590	Downtown Koe 4000
	<u>12,897</u>

Under reports the following by:

UHOW 1280
DHHL 413
Kalaeloa 2000
Makana 250
<u>f 4573 = 17,460</u>

- University of Hawaii – located west of Kualakai Parkway and south of Farrington Highway. West Oahu (UHOW) – not open at time of the data collection; includes 2,660 non-university dwelling units and 347,400 square feet of village mixed use (VMX development). 2,660
- Ka Makana Alii – located to the south of the intersection of Kualakai Parkway/Kapolei parkway. Ka Makana Alii is a planned shopping Center, a DeBartolo Development project, consisting of approximately 1.4 million square feet of retail commercial space..
- East Kapolei II – A Department of Hawaiian Home Lands (DHHL) Residential development will consist of approximately 2,100 dwelling units and located to the south west of the Project. 2,100
- Kroc Center – membership based community center – not open at the time of the data collection is located to the north east of the intersection of Kualakai Parkway/East-West Road.
- Makaiwa Hills – Residential/commercial/mixed used development, approximately 4,100 dwelling units, 215,000 square feet of commercial space as well as an elementary school. This development is planned to the west of the Project above the H-1 Freeway. 4,100
- Kapolei West – is planned as a resort, mixed use residential and commercial development located between the Ko Olina resort and the city of Kapolei. 2,500
- Kapolei Harborside – will ultimately include 4.5 million square feet of commercial/industrial space and is generally located north of the Campbell Industrial Park.
- Hoakalei – continued development of the Hoakalei project in the Ewa Beach located at the bottom of Fort Weaver Road. In addition to the residential dwellings, the project is also planned for resort development with a hotel as well as shops and restaurants. 2,095
- Hunt's Development – Residential development, approximately 4,000 dwelling units. This development is planned to the west of the Project south of Roosevelt Avenue and east of Kalaeloa Boulevard. 4,000

The surrounding projects traffic studies – UHOW, Ka Makana Alii and East Kapolei developments – were used to determine turning movement volumes and were reconciled with the ORTP, which does not provide individual turning movement volumes. Other projects' trip contributions to the background traffic were assumed to be implicit to the ORTP.

17,455

See Figure 4.1 for the Kapolei Long Range Master Plan.

4.1.2 ORTP Recommended Improvements

See Figure 4.2 for a list of regional improvements recommended by the ORTP within the vicinity of the study area.

The ORTP recommends corridor-wide improvements to improve the east-west flow of commuter traffic between West Oahu and the Primary Urban Center (PUC); this is done through the widening of the H-1 Freeway and Farrington Highway by one (1) lane in either direction.

In addition, Makakilo Drive will be extended from its current terminus near Pueonani Street to forge a second access for Makakilo at the Kualakai Interchange. This improvement is anticipated to divert some Makakilo traffic away from the Makakilo Interchange. Figure 4.1:

[illegible]

Figure E1 - TΔ7 Man

TIAR Appendix F Table F1: Growth in Population, Employment and Household between 2007 and 2035

TIAR DROP

TAZ	Population	Total Employment	Total Household	Projects
444	48	147	23	
445	-24	128	1	
446	-91	136	1	
447	547	209	254	
450	-260	90	0	
451	-30	516	55	
452	-110	75	0	
453	-2	130	25	
454	-183	103	3	
456	317	156	137	
457	-228	136	0	
458	-170	122	1	
459	-125	134	1	
460	-192	100	0	
461	-110	518	9	
541	3982	2899	1375	Royal Kunia I & II
542	110	256	128	Royal Kunia I
543	99	84	101	Royal Kunia I +
544	-289	304	7	
545	2752	1973	863	Hoopili
546	4853	779	1459	East Kapolei II
547	500	510	169	
548	-133	-429	0	
549	8790	1255	2760	Hoopili
550	-203	68	0	
551	590	135	244	
552	-296	50	3	
553	-13	527	17	
554	-218	58	18	
555	1511	309	548	
556	-163	128	2	
557	-229	136	1	
558	-160	157	1	
564	2144	-57	859	
566	1553	647	509	
567	1147	444	374	
568	360	374	131	
569	1304	586	413	
570	-45	28	-8	
571	3698	2127	1227	Kamakana All
591	350	555	104	
597	235	1331	80	
598	95	1421	30	
599	825	855	280	
600	9459	7553	2966	Hoopili
601	1055	85	416	
602	98	51	94	
603	3334	953	1046	Hoopili
604	1073	3813	339	UHWO
605	93	2084	33	Part of Hoopili
606	18	38	47	
618	-1	74	0	
763	4972	852	1562	UHWO
764	1563	1380	490	Hoopili

Source: Data obtained from the OMPO Model dated 2011 ??

TIAR { Total 19,178 New households 2007-2035
Total 8,158 Hoopili, not 11,750
Total 11,020 outside Hoopili

ORIP 2035
Total houses
21,258

Total in
Hoopili:
8991

Total outside
Hoopili:
12,267

TIAR
under counts
ORIP 2035
by 10%

Exhibit 68

TAZ Numbers Oahu Regional Transportation Plan (ORtP 2035) Difference 2007 – 2035

Supplied by Oahu Metropolitan Planning Organization

444	67	80	26
445	-17	74	1
446	-67	93	1
447	724	194	322
448	-29	52	10
449	-69	81	19
450	-192	51	0
451	50	344	59
452	-81	41	0
453	29	71	28
454	-130	152	4
455	-21	212	0
456	380	125	150
457	-168	132	0
458	-125	62	1
459	-91	72	1
460	-141	60	0
461	-74	212	10
462	-98	108	2
463	-118	51	0
464	31	91	49
465	-90	53	0
466	-143	39	0
467	-241	66	0
468	117	2061	46
469	219	845	127
470	0	0	0
471	0	0	0
472	7328	640	2638
473	657	307	232
474	2082	220	735
475	11912	1053	4205
476	178	1450	63
477	2848	694	1006
478	2609	290	921
479	5657	741	1997
480	1598	178	564
481	0	0	0

482	-75	76	0
483	-134	0	0
484	-157	59	6
485	-136	71	12
486	-70	62	0
487	-131	72	0
488	-134	54	0
489	-89	0	0
490	-52	139	0
491	-56	49	2
492	-181	31	1
493	-144	119	210
494	1090	176	606
495	231	1432	138
496	-48	106	50
497	-72	31	1
498	-54	0	0
499	-22	50	6
500	-69	66	5
501	-28	203	6
502	-29	31	5
503	-76	76	0
504	-88	31	1
505	-81	69	1
506	1	88	30
507	0	0	0
508	0	0	0
509	-152	121	0
510	0	0	0
511	0	58	0
512	0	117	0
513	-119	97	15
514	-58	66	29
515	-21	63	2
516	-66	88	12
517	-69	95	10
518	-11	90	12
519	-70	145	2
520	128	131	64
521	65	111	43
522	-68	67	5
523	-59	69	0
524	-54	65	3

525	208	54	148
526	-175	107	2
527	0	53	0
528	-79	42	0
529	0	0	0
530	-16	0	0
531	0	0	0
532	0	33	0
533	-157	61	0
534	-58	216	6
535	-8	97	0
536	-247	96	0
537	0	95	0
538	-175	119	0
539	-38	201	0
540	0	47	0
541	4573	2530	1647
542	-148	133	26
543	-193	32	6
544	-205	79	8
545	2752	1973	951
546	4651	606	1607
547	357	523	137
548	-87	-340	0
549	8833	1048	3052
550	-133	23	0
551	995	115	362
552	-198	21	0
553	-5	401	13
554	-167	48	3
555	754	152	312
556	-106	115	1
557	-147	83	1
558	-103	130	1
559	-1	100	0
560	-6	0	0
561	-144	32	0
562	-60	56	7
563	-71	169	15
564	1825	-28	741
565	3414	2087	1276
566	1681	932	583
567	1162	393	403

568	500	141	154
569	1141	161	363
570	18	16	7
571	3725	2123	1348
572	0	1278	0
573	60	1854	21
574	6027	3143	2127
575	0	302	0
576	0	265	0
577	20	461	7
578	784	4286	278
579	171	1946	61
580	184	683	66
581	475	75	286
582	589	3195	201
583	6118	173	2109
584	2223	165	758
585	1646	205	627
586	1069	1051	345
587	691	1939	223
588	-37	0	0
589	124	506	41
590	34	195	11
591	402	569	130
592	130	24	43
593	185	5526	61
594	657	907	212
595	3650	508	1178
596	2807	536	906
597	270	625	90
598	113	1711	39
599	881	740	305
600	9459	7398	3268
601	1098	54	427
602	4	18	48
603	3334	953	1152
604	1208	2743	418
605	71	1140	28
606	-105	32	0
607	2964	340	986
608	793	53	314
609	531	138	256
610	1643	361	515

611	916	139	305
612	770	1671	257
613	1560	195	519
614	-59	-3	56
615	3262	336	1085
616	1897	140	631
617	-3	131	0
618	-1	103	0
619	2925	72	749
620	-5	2	0
621	74	8	64
622	81	4	46
623	713	28	245
624	-152	1	6
625	-20	9	0
626	-189	-2	6
627	-31	-3	5
628	-50	1	0
629	44	2	18
630	-1	0	0
631	1624	1	584
632	1064	37	362
633	60	6	61
634	19	16	122
635	615	17	255
636	628	23	260
637	-131	8	5
638	-215	-11	11
639	-45	5	21
640	99	6	112
641	-451	4	24
642	784	24	283
643	32	3	90
644	-24	-4	5
645	-8	2	0
646	-9	3	2
647	1	1	11
648	3	7	50
649	-47	1	3
650	-48	6	6
651	-32	2	23
652	58	5	41
653	129	7	57

654	-1	2	3
655	0	0	0
656	-186	10	5
657	29	1	11
658	-8	8	1
659	18	2	28
660	33	3	28
661	9	2	16
662	20	1	8
663	121	-26	75
664	264	20	158
665	119	-208	116
666	1917	56	801
667	635	1199	333
668	847	257	371
669	272	68	194
670	3	-233	45
671	93	27	50
672	27	1	13
673	63	26	55
674	114	30	77
675	1	0	8
676	175	-28	110
677	59	-11	41
678	40	-1	22
679	-3	11	1
680	-119	17	0
681	-81	-1	16
682	-110	9	9
683	-40	-65	12
684	0	0	0
685	-9	0	18
686	-32	4	4
687	-30	5	12
688	7	4	6
689	-45	6	2
690	-46	14	0
691	-51	11	3
692	-79	-1	21
693	-198	24	6
694	0	24	0
695	-114	23	0
696	-26	2	11

697	-68	14	13
698	-62	31	7
699	-110	26	7
700	-65	-104	15
701	90	-7	40
702	-5	30	1
703	0	6	0
704	-31	15	3
705	-66	14	0
706	-66	-3	16
707	-1	0	0
708	0	10	0
709	-89	4	16
710	18	24	37
711	-76	11	1
712	-30	22	1
713	0	21	0
714	-17	12	0
715	-38	13	5
716	-92	-270	28
717	46	30	33
718	-19	-7	26
719	-37	2	34
720	-124	49	48
721	-135	220	0
722	-354	262	0
723	-26	21	3
724	-65	13	0
725	-139	30	1
726	-9	-19	10
727	-37	-17	6
728	-60	5	4
729	-49	-10	6
730	-107	19	2
731	-88	18	8
732	-111	7	14
733	-39	30	35
734	-140	30	10
735	-7	24	1
736	-39	-9	0
737	-28	0	0
738	-71	21	4
739	-191	18	12

740	570	-71	210
741	-23	-12	10
742	-67	13	21
743	-59	31	35
744	-56	15	1
745	63	-6	30
746	-48	0	0
747	-18	-14	2
748	115	69	153
749	-37	21	0
750	-70	24	0
751	-73	7	9
752	125	-36	55
753	-5	24	0
754	-3	19	8
755	0	15	0
756	-89	15	16
757	-72	21	0
758	214	56	133
759	51	25	32
760	-41	24	4
761	514	-111	226
762	0	159	0
763	5128	1144	1772
764	1563	1428	540

Exhibit 69



2035 Without project – without mitigations

Table 4.4

Exhibit 70

Table 4.4: BY 2035 LOS Summary

ID	Intersection	Signalized?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures					
			AM			PM				AM			PM		
			Delay	v/c	LOS	Delay	v/c	LOS		Delay	v/c	LOS	Delay	v/c	LOS
Kualakal Parkway @															
1	Westbound H-1 Freeway On/Off-Ramps		46	0.74	D	31	0.67	C	No.	44	0.71	D	33	0.64	C
2	Eastbound H-1 Freeway On/Off-Ramps		20	0.62	B	7	0.60	A	Yes; see Table 4.5	21	0.70	C	16	0.61	B
4	Farrington Highway		46	0.76	D	42	0.70	D	Yes; see Table 4.5	41	0.65	D	36	0.62	D
5	UH West Oahu/Future D.R. Horton		16	0.52	B	25	0.76	C	No.						
6	DHHL Access		23	0.76	C	19	0.68	B	Yes; see Table 4.5	15	0.73	B	8	0.47	A
7	East-West Road		34	0.62	C	37	0.62	D	No.						
8	Kapolei Parkway		45	0.61	D	44	0.68	D	Yes; see Table 4.5	43	0.52	D	40	0.65	D
Kunia Road @															
21	Kupuna Loop (North)		19	0.83	B	42	0.93	D	Yes; see Table 4.5	21	0.76	C	40	0.86	D
22	Kupuna Loop (South)		16	0.78	B	15	0.86	B	Yes; see Table 4.5	21	0.74	C	16	0.71	B
23	H-1 WB On-ramp SBR		N/A	N/A	N/A	N/A	N/A	N/A	Yes; see Table 4.5	N/A	N/A	N/A	N/A	N/A	N/A
24	H-1 EB Off-ramp/H1- EB On-Ramp		4	0.64	A	3	0.72	A	No.						
26	H-1 EB On-Ramp from Kunia Road		27	0.78	C	30	0.90	C	Yes; see Table 4.5	26	0.78	C	27	0.79	C
27	H-1 EB On-Ramp from Kunia Road		5	0.79	A	2	0.55	A	No.						
41	Honowai Street		60	0.75	F	34	0.52	D	No. Limited ROW						
Fort Weaver Road @															
Limited ROW exist along Fort Weaver Road and therefore mitigations cannot be accommodated.															
45	Laulaunui Street		20	0.86	B	30	0.78	C	No.						
46	Old Fort Weaver Road/Aawa Drive		55	1.06	E*	33	0.74	C	No.						
47	Hale O Ulu School		19	0.79	B	15	0.69	A	No.						
48	Renton Road		57	0.95	E	55	0.86	D	No.						
49	Kolowala Drive		62	0.93	E	55	0.71	D	No.						
50	Geiger Road/Iroquois Point		71	0.76	E	77	0.80	E	No.						
Farrington Highway @															
69	Old Fort Weaver Road (West)		39	0.29	E	26	0.29	D	Yes; see Table 4.5	41	0.28	E	29	0.27	D
70	Old Fort Weaver Road (East)		12	0.08	B	11	0.10	B	No.						
71	Old Fort Weaver Road (East)/Old Fort Weaver Road (West)		8	0.06	A	9	0.21	A	No.						
73	Westbound Farrington left-turn onto Southbound Fort Weaver		10	0.62	B	15	0.71	B	No.						
77	Eastbound Farrington left-turn onto Northbound Kunia Road		6	0.59	A	8	0.70	A	No.						
East-West Road @															
81	Kroc Center		36	0.19	E	21	0.09	C	No. Intersections should be monitored for signal warrant and should be signalized when warranted.	20	0.10	C	21	0.09	C
82	Road A (Critical Movement)		33	0.28	D	26	0.16	D		33	0.28	D	26	0.16	D
83	Road B (Critical Movement)		20	0.15	C	23	0.12	C		20	0.15	C	23	0.12	C
84	Road D (Critical Movement)		14	0.07	B	16	0.05	C		14	0.07	B	16	0.05	C
85	Road G (Critical Movement)		11	0.13	B	12	0.18	B		11	0.13	B	12	0.18	B
Paiwa Street @															
200	H-1 WB On-Ramp/WB Off-Ramp		15	0.64	B	26	0.83	C	No.						
201	H-1 EB Off-Ramp/H-1 EB Off-Ramp		43	0.88	D	26	0.72	C	No.						
ID	Intersection	Signalized?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures					
			AM		PM		AM			PM					
			Density	LOS	Density	LOS	Density	LOS		Density	LOS				
Ramp Analysis															
Kualakal Interchange															
R1	H-1 WB On-Ramp		28.1	D	29.4	D	Yes; Recommendations will be discussed in the with Project scenario.								
R2	H-1 WB Off-Ramp		27.3	C	29.5	D									
R3	H-1 EB Off-Ramp		27.5	C	29.1	D									
R4	H-1 EB On-Ramp		36.1	E	34.7	D									
Kunia Interchange															
R10	H-1 WB On-Ramp		36.7	F	35.7	E									
R11	H-1 WB Loop Off-Ramp to SB Kunia Rd		33.1	D	32.5	D									
R12	H-1 WB Off-Ramp to NB Kunia Rd		31.8	D	35	D									
R13	H-1 EB Off-Ramp		31.6	D	36.1	F									
R15	H-1 EB On-Ramp from SB Kunia Rd		34.5	D	40.9	F									
Paiwa Interchange															
R16	H-1 WB On-Ramp		43	F	38	F									
R17	H-1 WB Off-Ramp		35.9	F	34.8	D									
R18	H-1 EB Off-Ramp		41.4	E	33.6	D									
R19	H-1 EB On-Ramp		35.5	F	30.5	D									
Waiala Interchange															
R20	H-1 EB Off-Ramp Exit 8A		36.2	E	32.6	D									
R21	H-1 EB Off-Ramp Exit 8B		41.2	E	33	D									
R22	H-1 EB Loop Off-Ramp Exit 8C		35	D	30.9	D									
R24	H-1 WB On-Ramp from Kamehameha Highway		39.7	F	38.2	F									
Freeway Analysis															
H-1 Freeway between the Kualakal Interchange and the Kunia Interchange															
H-1 EB			41.4	E	55.8	F	Yes; Recommendations will be discussed in the with Project scenario.								
H-1 WB			46	F	42.5	E									
H-1 Freeway between the Kunia Interchange and the Paiwa Interchange															
H-1 EB			36.3	E	48.4	F									
H-1 WB			37.8	E	48.4	F									
H-1 Freeway between the Paiwa Interchange and the Waiala Interchange															
H-1 EB			56.1	F	38.8	E									
H-1 WB			65.6	F	47.2	F									

2035 – with project – with and without mitigations

Table 5.8: Year 2035 With Project LOS Summary

Exhibit 71

ID	Intersection	Significance?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures					
			AM			PM				AM			PM		
			Delay	V/C	LOS	Delay	V/C	LOS		Delay	V/C	LOS	Delay	V/C	LOS
Kualakal Parkway @															
1	Westbound H-1 Freeway On/Off-Ramps		94	1.04	F*	109	1.06	F*	Yes; see Table 5.9	46	0.86	D	39	0.84	D
2	Eastbound H-1 Freeway On/Off-Ramps		10	0.88	A	13	0.98	B	Yes; see Table 5.9	23	0.88	C	16	0.80	B
8	Hoopili RRD		15	0.10	B	13	0.81	B	No.						
4	Farrington Highway		102	1.14	F*	105	1.06	F*	Yes; see Table 5.9	63	0.85	E	80	0.92	E
5	Uli West Oahu/Future D.R. Horton		44	0.50	D	69	0.87	E	Yes; see Table 5.9	41	0.78	D	55	0.79	E
6	DHNL Access		47	1.00	F*	30	0.80	C	Yes; see Table 5.9	27	0.82	C	28	0.91	C
7	East-West Road		60	0.58	E	63	0.94	E	Yes; see Table 5.9	40	0.69	D	59	0.89	E
8	Kapolei Parkway		61	0.77	E	56	0.83	E	Yes; see Table 5.9	48	0.64	D	45	0.74	D
Kunia Road @															
21	Kupuna Loop (North)		23	0.87	C	54	0.97	D	Yes; see Table 5.9	22	0.87	C	51	0.97	D
22	Kupuna Loop (South)		24	0.84	C	24	0.92	C	Yes; see Table 5.9	23	0.84	C	18	0.75	B
24	H-1 EB On-Ramp/H-1 EB On-Ramp		6	0.70	A	7	0.84	A	No.						
26	H-1 EB On-Ramp from Kunia Road		33	0.88	C	67	1.11	F*	Yes; see Table 5.9	32	0.88	C	30	0.91	C
27	H-1 EB On-Ramp from Kunia Road		11	0.93	B	3	0.69	A	No.						
41	Honowai Street		182	1.14	F*	75	0.77	F	No. Limited ROW						
Fort Weaver Road @															
Limited ROW exists along Fort Weaver Road and therefore mitigations cannot be accommodated.															
45	Laulaunui Street		34	0.94	C	41	0.86	D	No.						
46	Old Fort Weaver Road/Kawa Drive		234	2.79	F*	82	1.13	F*	Yes; see Table 5.9	75	1.07	F*	51	0.92	D
47	Hale O Uila School		13	0.81	B	16	0.74	B	No.						
48	Renton Road		60	1.00	F*	44	0.92	D	No.						
49	Kalawaka Drive		66	0.96	E	42	0.79	D	No.						
50	Gilger Road/Honolulu Point		80	0.78	F	86	0.85	F	No.						
Farrington Highway @															
61	Driveway 1		21	0.77	C	35	0.95	C	Yes; see Table 5.9	19	0.58	B	28	0.74	C
62	Driveway 2		19	0.78	B	32	0.89	C	Yes; see Table 5.9	22	0.60	C	22	0.69	C
63	Driveway 3		13	0.77	B	14	0.74	B	Yes; see Table 5.9	19	0.56	B	17	0.54	B
64	Driveway 4		17	0.69	B	18	0.76	B	Yes; see Table 5.9	20	0.50	B	19	0.57	B
65	Driveway 5		15	0.76	B	15	0.74	B	Yes; see Table 5.9	18	0.56	B	15	0.55	B
66	Driveway 6		20	0.85	B	26	0.82	C	Yes; see Table 5.9	14	0.65	B	30	0.63	C
68	Driveway 8		28	0.79	C	33	0.88	C	Yes; see Table 5.9	27	0.59	C	33	0.68	C
69	Old Fort Weaver Road (East)		29	0.70	C	29	0.86	C	Yes; see Table 5.9	17	0.47	B	21	0.61	C
70	Old Fort Weaver Road (East)		46	0.94	D	108	1.20	F*	Yes; see Table 5.9	28	0.73	C	43	0.96	D
71	Old Fort Weaver Road (East)/Old Fort Weaver Road (West)		7	0.14	A	9	0.25	A	Yes; see Table 5.9	7	0.14	A	9	0.23	A
73	Westbound Farrington left turn onto Southbound Fort Weaver		40	0.99	D	59	1.12	F*	Yes; see Table 5.9	10	0.66	A	13	0.72	B
77	Eastbound Farrington left turn onto Northbound Kunia Road		71	1.13	F*	140	1.46	F*	Yes; see Table 5.9	10	0.70	B	21	0.91	C
204	Phase 1A.2 Access		22	0.50	C	22	0.65	C	Yes; see Table 5.9	21	0.37	C	13	0.54	B
East-West Road @															
81	Kroc Center		120	0.49	F	78	0.29	F	Intersections should be monitored for signal warrant and should be signaled when warranted.						
82	Road A (Critical Movement)		162	0.78	F	244	0.82	F							
83	Road B (Critical Movement)		59	0.40	F	127	0.51	F							
84	Road D (Critical Movement)		30	0.13	D	61	0.20	F							
85	Road G (Critical Movement)		26	0.36	D	99	0.04	F							
86	Road E (Critical Movement)		44	0.75	E	301	1.48	F*							
87	Road 7 (Critical Movement)		18	0.23	C	29	0.38	D							
88	Road 8 (Critical Movement)		17	0.27	C	31	0.47	D							
89	Old Fort Weaver Road		29	0.65	D	35	0.67	E							
Palwa Street @															
200	H-1 WB On-Ramp/WB Off-Ramp		15	0.72	B	24	0.90	C	No.						
701	H-1 EB Off-Ramp/H-1 EB Off-Ramp		46	0.91	D	31	0.74	C	No.						
ID Intersection															
Significance?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures							
	AM			PM				AM			PM				
	Density	LOS	Density	LOS			Density	LOS	Density	LOS					
Ramp Analysis															
An additional H-1 freeway lane would be provided in the eastbound and westbound direction between the Kualakal Interchange and the Waiawa Interchange. Therefore traffic flow along the freeway would improve and consequently improve ramp operations. Unless otherwise noted the ramp analyzed configurations remain the same.															
Kualakal Interchange															
R1	H-1 WB On-Ramp		30		D	31.5		D	Yes; see Figure 5.5	30		D	31.5		D
R2	H-1 WB Off-Ramp		29.5		D	33.3		F	Yes; see Figure 5.5	27.3		C	29.4		D
R3	H-1 EB Off-Ramp		28.3		D	30.4		D	No.	22.1		C	24.6		C
R4	H-1 EB On-Ramp		45.2		F	41.5		F	Yes; see Figure 5.5	37.6		E	33.3		D
Kunia Interchange															
R10	H-1 WB On-Ramp		42.4		F	43.3		F	Yes; see Figure 5.5	30.6		D	31.6		D
R11	H-1 WB Loop Off-Ramp to SB Kunia Rd		36.8		F	37.8		F	Yes; see Figure 5.5	31.5		D	34.9		D
R12	H-1 WB Off-Ramp to NB Kunia Rd		36.2		E	42		F	Yes; see Figure 5.5	29.4		D	34.4		D
R13	H-1 EB Off-Ramp		37.5		F	43.5		F	Yes; see Figure 5.5	30.6		D	32.8		D
R15	H-1 EB On-Ramp from SB Kunia Rd		41.8		F	47.7		F	Yes; see Figure 5.5	29.6		D	32.3		D
Palwa Interchange															
R16	H-1 WB On-Ramp		52.2		F	44.3		F	Yes; see Figure 5.5	36.2		F	36.5		E
R17	H-1 WB Off-Ramp		44.6		F	41.5		F	Yes; see Figure 5.5	33.1		D	34.1		D
R18	H-1 EB Off-Ramp		48		F	39		F	Yes; see Figure 5.5	40.1		E	32.1		D
R19	H-1 EB On-Ramp		40.7		F	34.5		F	Yes; see Figure 5.5	32.9		D	26.7		C
Waiawa Interchange															
R20	H-1 EB Off-Ramp Exit 8A		42.6		E	37.5		E	Yes; see Figure 5.5	35.9		E	31		D
R21	H-1 EB Off-Ramp Exit 8B		51.4		F	39.4		E	Yes; see Figure 5.5	23		C	22.9		C
R22	H-1 EB Loop Off-Ramp Exit 8C		41		F	33.9		D	Yes; see Figure 5.5	36.9		E	30.2		D
R24	H-1 WB On-Ramp from Kamehameha Highway		45.2		F	47.8		F	Yes; see Figure 5.5	32.4		D	36.4		E
Freeway Analysis															
An additional H-1 freeway lane would be provided in the eastbound and westbound direction between the Kualakal Interchange and the Waiawa Interchange. Therefore traffic flow along the freeway would improve.															
H-1 Freeway between the Kualakal Interchange and the Kunia Interchange															
H-1 EB			67.1		F	91.4		F	Yes; see Figure 5.5	34.9		D	39.2		E
H-1 WB			64.3		F	68.3		F	Yes; see Figure 5.5	34.3		D	35.1		E
H-1 Freeway between the Kunia Interchange and the Palwa Interchange															
H-1 EB			49.2		F	72		F	Yes; see Figure 5.5	34.8		D	40		E
H-1 WB			49.3		F	82.7		F	Yes; see Figure 5.5	32.9		D	42.6		E
H-1 Freeway between the Palwa Interchange and the Waiawa Interchange															
H-1 EB			104		F	52		F	Yes; see Figure 5.5	46.7		F	33.9		D
H-1 WB			117.8		F	82.3		F	Yes; see Figure 5.5	42.5		E	42.5		E

2035 with Project and Rail – with and without mitigations

Table 5.10: Year 2035 With Project and Rail LOS Summary

Exhibit 72

ID	Intersection	Severities?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures					
			AM			PM				AM			PM		
			Delay	v/c	LOS	Delay	v/c	LOS		Delay	v/c	LOS	Delay	v/c	LOS
Kualakai Parkway @															
1	Westbound H-1 Freeway On/Off-Ramps		32	0.49	C	38	0.79	D	No.						
2	Eastbound H-1 Freeway On/Off-Ramps		4	0.59	A	5	0.65	A	No.						
3	Hoopili RHO		13	0.07	B	21	0.47	C	Yes; see Table 5.7	12	0.07	B	20	0.44	C
4	Farrington Highway		50	0.90	D	105	1.05	F*	Yes; see Table 5.7	35	0.76	C	42	0.82	D
5	UH West Oahu/Future D.R. Horton		35	0.80	C	43	0.80	D	Yes; see Table 5.7	34	0.80	C	39	0.80	D
6	DHHL Access		32	0.93	C	27	0.86	C	Yes; see Table 5.7	36	0.95	D	26	0.79	C
7	East-West Road		36	0.72	D	36	0.76	D	No.						
8	Kapolei Parkway		32	0.57	C	41	0.77	D	No.						
Kunia Road @															
21	Kupuna Loop (North)		16	0.71	B	28	0.80	C	No.						
22	Kupuna Loop (South)		16	0.69	B	14	0.79	B	No.						
24	H-1 EB Off-ramp/H1- EB On-Ramp		4	0.60	A	4	0.67	A	No.						
26	H-1 EB On-Ramp from Kunia Road		25	0.76	C	27	0.89	C	No.						
27	H-1 EB On-Ramp from Kunia Road		7	0.85	A	3	0.60	A	No.						
41	Honowai Street		76	0.81	F	82	0.48	D	No. Limited ROW						
Fort Weaver Road @															
Limited ROW exists along Fort Weaver Road and therefore mitigations cannot be accommodated.															
45	Laulumai Street		31	0.85	C	26	0.77	C	No.						
46	Old Fort Weaver Road/Pawa Drive		37	0.91	D	31	0.74	C	No.						
47	Hale O Ulu School		18	0.80	B	15	0.70	B	No.						
48	Renton Road		53	0.91	D	54	0.86	D	No.						
49	Kolowaka Drive		64	0.92	E	49	0.71	D	No.						
50	Geiger Road/Iroquois Point		64	0.69	E	69	0.71	E	No.						
Farrington Highway @															
61	Driveway 1		20	0.44	C	56	0.85	F	No.						
69	Old Fort Weaver Road (West)		38	0.26	E	60	0.49	F	No.						
70	Old Fort Weaver Road (East)		13	0.08	B	13	0.11	B	No.						
71	Old Fort Weaver Road (East)/Old Fort Weaver Road (West)		7	0.05	A	8	0.08	A	No.						
73	Westbound Farrington left-turn onto Southbound Fort Weaver		9	0.80	A	17	0.78	B	No.						
77	Eastbound Farrington left-turn onto Northbound Kunia Road		5	0.58	A	11	0.82	B	No.						
204	Phase 1A.2 Access		23	0.35	C	22	0.50	C	No.						
East-West Road @															
81	Kroc Center		53	0.27	F	37	0.16	E	Intersections should be monitored for signal warrant and should be signalized when warranted.						
82	Road A (Critical Movement)		54	0.41	F	58	0.33	F							
83	Road B (Critical Movement)		29	0.22	D	0.47	0.24	E							
84	Road D (Critical Movement)		18	0.10	C	30	0.10	D							
85	Road G (Critical Movement)		14	0.20	B	26	0.42	D							
86	Road 6 (Critical Movement)		11	0.12	B	16	0.24	C							
Paiwa Street @															
200	H-1 WB On-Ramp/WB Off-Ramp		14	0.71	B	20	0.76	B	No.						
201	H-1 EB Off-Ramp/H-1 EB Off-Ramp		46	0.90	D	30	0.77	C	No.						
ID	Intersection	Severities?	without Mitigative Measures						Mitigation Recommended?	with Mitigative Measures					
			AM			PM				AM			PM		
			Density	LOS	Density	Density	LOS	LOS		Density	LOS	Density	Density	LOS	LOS
Freeway Analysis															
An additional H-1 freeway lane would be provided in the eastbound and westbound direction between the Kualakai Interchange and the Waiawa Interchange. Therefore traffic flow along the freeway would improve.															
H-1 Freeway between the Kualakai interchange and the Kunia Interchange															
	H-1 EB		42.8	E	50.8	F		Yes; see Figure 5.5		28.1	D	30.7	D		
	H-1 WB		30.5	D	41.1	E		Yes; see Figure 5.5		22.6	C	27.5	D		
H-1 Freeway between the Kunia interchange and the Paiwa Interchange															
	H-1 EB		35.8	E	46.7	F		Yes; see Figure 5.5		28.3	D	31.9	D		
	H-1 WB		28.9	D	45.8	F		Yes; see Figure 5.5		23	C	31.5	D		
H-1 Freeway between the Paiwa interchange and the Waiawa Interchange															
	H-1 EB		51.5	F	39.7	E		Yes; see Figure 5.5		33.7	D	28.9	D		
	H-1 WB		37.4	E	45.1	F		Yes; see Figure 5.5		26	D	31.2	D		

