

HONOAPI'ILANI HIGHWAY IMPROVEMENTS PROJECT,  
WEST MAUI: UKUMEHAME TO LAUNIUPOKO

# Appendix 3.14 – Transportation - Supplemental Information

November 2025

*Prepared for*



Honoapi'ilani Highway  
Improvements

*Prepared by*



November 2025



# Contents

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WSP USA, Inc. Transportation Evaluation Report

WSP USA, Inc. Supplemental Transportation Evaluation Report



# **WSP USA, Inc. Transportation Evaluation Report**



TRANSPORTATION EVALUATION REPORT

Honoapiʻilani Highway Improvements Project  
West Maui, Ukumehame to Launiupoko

June 2024

Transportation Evaluation Report

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US-WSP-31000290.00





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# I. Introduction

This technical report documents the transportation evaluation conducted for the proposed realignment of the existing Honoapiʻilani Highway between Ukumehame and Launiupoko in west Maui, Hawaiʻi. This roadway is under the jurisdiction of the State of Hawaiʻi Department of Transportation (HDOT). Figure I-1 illustrates the study area.

The primary purpose and need for this Honoapiʻilani Highway Improvements Project is to increase the resiliency of this segment of Honoapiʻilani Highway by responding to existing shoreline erosion and effects of projected sea-level rise.

The Project is a new two-lane, divided highway that would be constructed to allow for upgrading to a four-lane, divided highway—if future conditions are appropriate and funds are available. This new two-lane, divided highway would replace the existing two-lane, undivided highway as the primary regional arterial roadway. The existing two-lane highway would become a local roadway, which would primarily provide access to existing uses and is proposed to be under the jurisdiction of Maui County. The transportation impacts evaluated in this report focus on a two-lane highway configuration for both the existing and future conditions.

The evaluation of both existing and future conditions includes documentation of existing and future roadway and intersection configurations, documentation of existing and projected future traffic volumes, and analysis of peak-hour roadway segment and intersection operations. Additionally, public transit, bicycle, and pedestrian conditions for the existing and future conditions are documented. Traffic crash information is summarized for existing conditions and the potential safety benefits of the Project are forecast. The purpose of this report is to describe how the proposed Honoapiʻilani Highway realignment alternatives compare to the existing condition and to each other.

Industry-accepted methodologies for roadway capacity, intersection operational analyses, and traffic safety were used to evaluate existing and future traffic conditions:

- Roadway segment level of service was determined using ranges of volume/capacity ratios based on guidance contained in the *Highway Capacity Manual, Seventh Edition: A Guide for Multimodal Mobility Analysis*.
- Intersection operational analyses utilized methodologies documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*—Chapter 19 was referenced for signalized intersections and Chapter 20 was referenced for unsignalized intersections. Cubic Transportation Systems Synchro Studio 11 traffic analysis software was used to apply these methodologies.
- Evaluation of traffic signal warrants were based on procedures documented in the *FHWA Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition* (Chapter 4C, Traffic Control Signal Needs Studies, was applied).



- Intersection configuration recommendations were based on guidelines in *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018—commonly referred to as the Green Book—from the American Association of State Highway and Transportation Officials (AASHTO).
- Safety analyses utilized methods documented in the AASHTO *Highway Safety Manual*, Part C – Predictive Method. And crash modification factors obtained from the Oregon DOT *Crash Reduction Factor Manual* were used to estimate benefits of the proposed divided Honoapiʻilani Highway.



FIGURE I-1 Existing Honoapi'ilani Highway and Intersections







## II. Existing Conditions

As shown in Figure II-1, the Honoapiʻilani Highway Improvements Project area is in West Maui between Ukumehame (milepost 11) and Launiupoko (milepost 17). The southeastern terminus would connect to the existing Honoapiʻilani Highway in the vicinity of the Pali. The northwestern terminus in Launiupoko would connect to the existing Lāhainā Bypass.

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### EXISTING ROADWAYS

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#### Honoapiʻilani Highway

Honoapiʻilani Highway is a two-lane, undivided principal arterial that is part of the National Highway System and the Primary Highway Freight System. It is the primary roadway connecting West Maui to the rest of the island of Maui. The posted speed limit varies between 35 miles per hour (mph) in areas with high driveway density and 55 mph with infrequent formal access. Passing is allowed on selected segments of Honoapiʻilani Highway. Intersections within the project area are unsignalized with stop-control on the minor-street approaches.

#### Olowalu Area

##### *Olowalu Recycling and Refuse Convenience Center Driveway*

This driveway is a two-lane, paved mauka-makai road originating at Honoapiʻilani Highway between Launiupoko and Olowalu. It provides access to both the Olowalu Recycling and Refuse Convenience Center and a former cinder mining quarry that is currently being used as a temporary storage site for ash and debris from the Lāhainā wildfire.

##### *Honoapiʻilani Highway Frontage Road*

This is a private, partially paved, two-lane frontage road located mauka of and parallel to Honoapiʻilani Highway. It begins at the Olowalu Recycling and Refuse Convenience Center driveway and ends at the north terminus of the Olowalu Village Road. The frontage road, also referred to as a cane haul road, provides access to a farm and the Maui Paintball site. There are gates on this roadway located just south of the farm driveway and at its southern terminus. These gates are often locked, restricting public access to this segment of the frontage road.

##### *Upper Olowalu Access Road*

This partially paved two-lane road provides access to the Olowalu Petroglyphs site and residences that are makai and mauka of the site. The roadway begins at Olowalu Village Road and terminates at the driveways into mauka properties and the Olowalu Cultural Reserve area.

##### *Olowalu Village Road*

Olowalu Village Road is a paved, two-lane roadway located mauka of and generally parallel to Honoapiʻilani Highway. The drivable segment of this roadway begins approximately at the Upper Olowalu Access Road—north of the Olowalu General Store area—and ends south of Olowalu Village. It



provides traffic circulation within Olowalu Village and in the Olowalu General Store area. On the makai side of Honoapi'ilani Highway, the roadway leading to Olowalu Landing and Camp Olowalu is also designated as Olowalu Village Road. This roadway intersects Honoapi'ilani Highway opposite the main driveway into the Olowalu General Store area and provides access to private driveways to the Olowalu Plantation House and a residential neighborhood located makai of Honoapi'ilani Highway.

### *Luawai Street*

Luawai Street is a paved, two-lane, mauka-makai road originating at Honoapi'ilani Highway in the vicinity of Olowalu Village. It provides access to a large-lot residential subdivision and can be used to access the Olowalu Petroglyphs. Luawai Street is currently private, but the intention is to dedicate a segment of it to Maui County at the appropriate time.

### Ukumehame Area

#### *Ehehene Street*

Ehehene Street is a paved, two-lane, mauka-makai road originating at Honoapi'ilani Highway in the Ukumehame area. It provides access to the Ukumehame Sod Farm, Maui Island Sod, and a large-lot residential subdivision. Ehehene Street is currently private, but the intention is to dedicate a segment of it to Maui County at the appropriate time.

#### *Pōhaku 'Aeko Street*

Pōhaku 'Aeko Street is a paved, two-lane, mauka-makai road originating at Honoapi'ilani Highway in the Ukumehame area. It provides access to a large-lot residential subdivision with an internal street, Paeki'i Place. Pōhaku 'Aeko Street is currently private, but the intention is to dedicate a segment of it to Maui County at the appropriate time.

#### *Ukumehame Firing Range Driveway*

The Ukumehame Firing Range driveway is a paved, two-lane, mauka-makai road originating at Honoapi'ilani Highway in the Ukumehame area. It provides access to Ukumehame Firing Range and maintenance access to the HDOT sedimentation basin.

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## **EXISTING INTERSECTIONS**

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Eleven intersections, all unsignalized, were included in the evaluation of existing conditions. Figure II-1 shows their locations on the existing Honoapi'ilani Highway and Figure II-2 shows their lane configurations. These intersections are the defined intersections on the existing Honoapi'ilani Highway.

In addition to these defined intersections, there is semicontinuous beach access along the makai side of Honoapi'ilani Highway. Figure II-3 shows the existing access points and beach access. Although some beaches have designated parking areas, large segments of the beaches allow unrestricted vehicular maneuvers directly on and off Honoapi'ilani Highway. As shown in FIGURE II-3, much of this unrestricted beach access occurs in the Launiupoko and Ukumehame areas.





FIGURE II-1. Location of Existing Intersections.

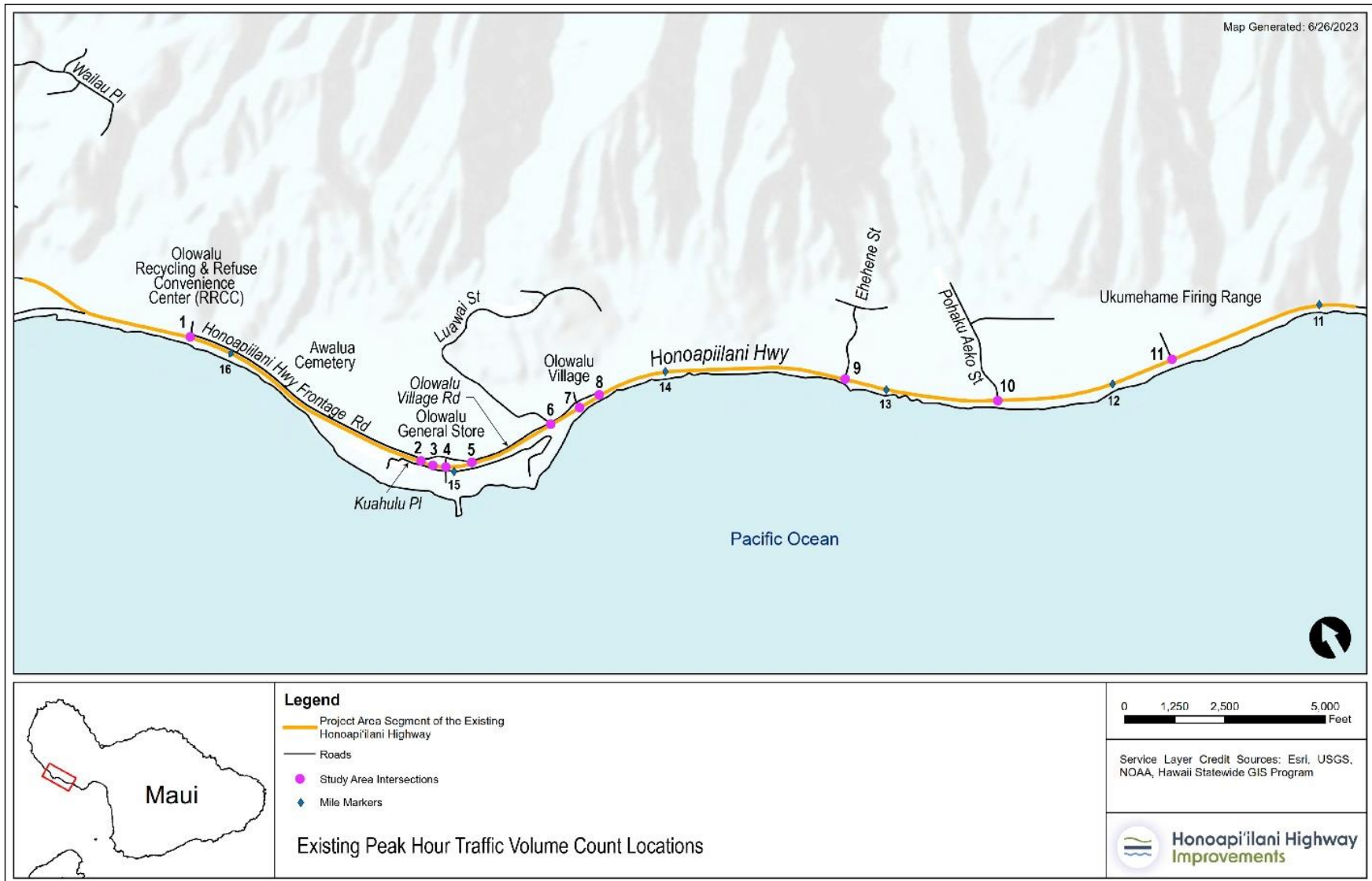




FIGURE II-2. Existing Lane Configurations

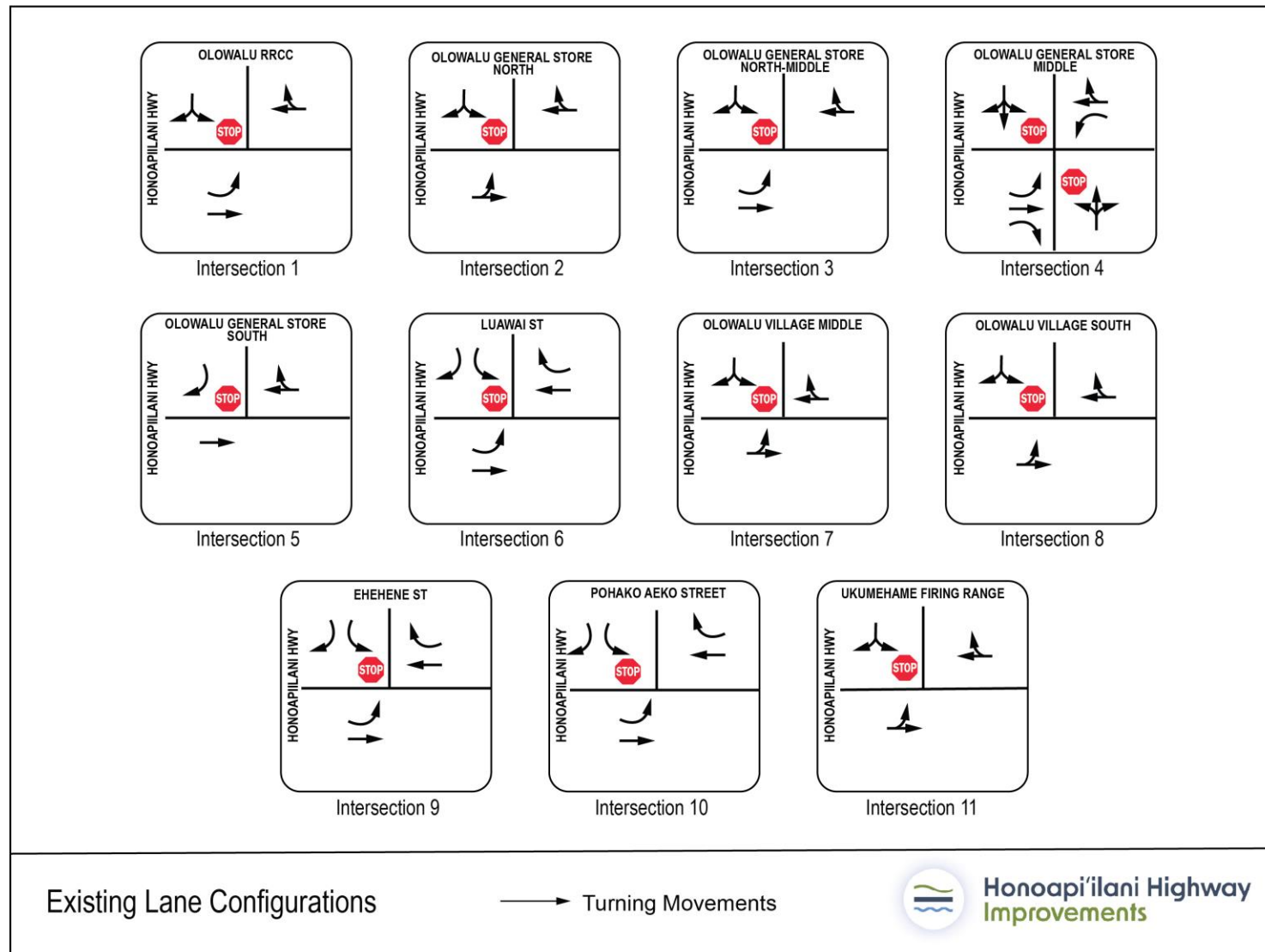
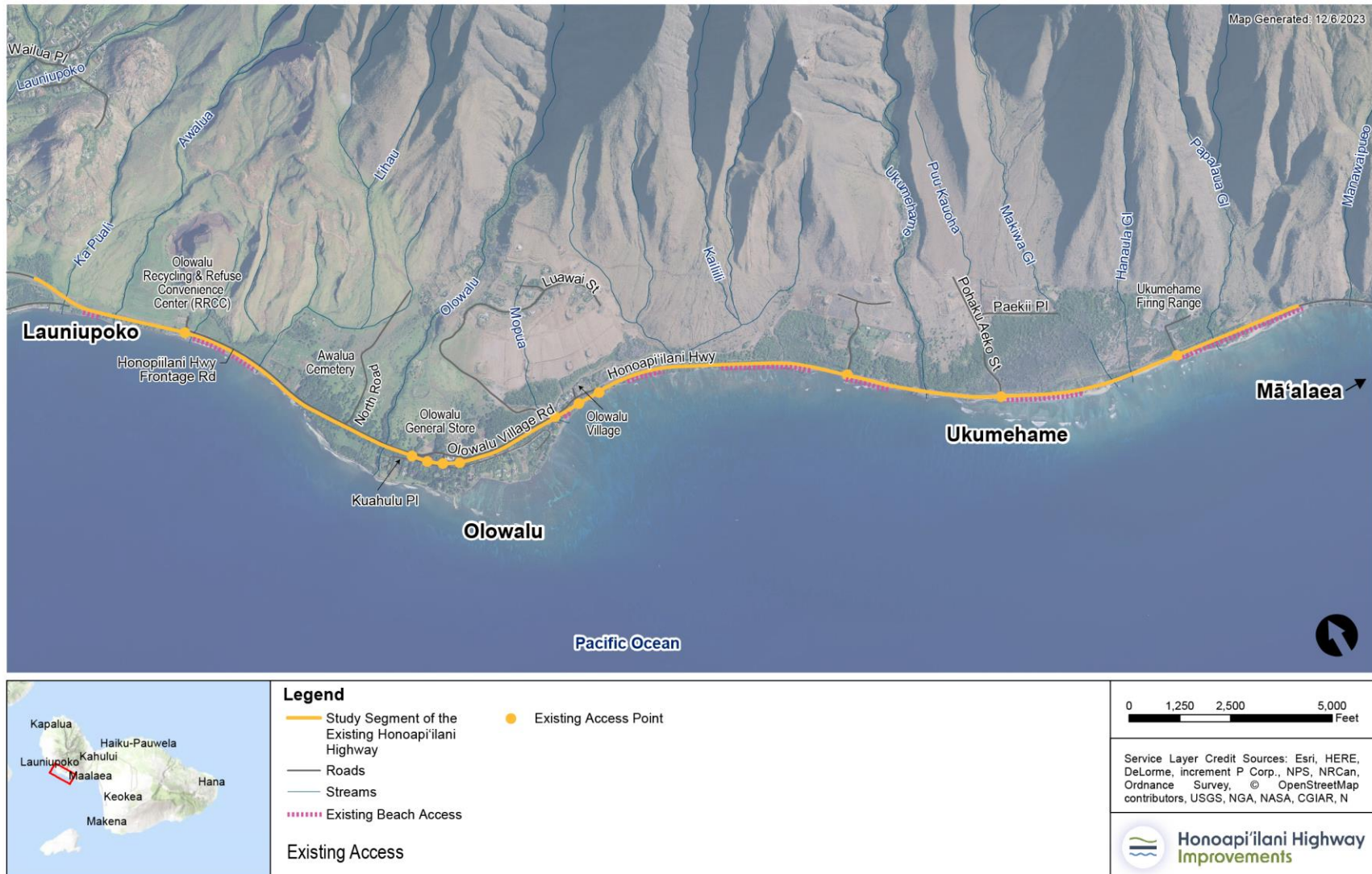




FIGURE II-3. Existing Access along Honoapiʻilani Highway





### **Honoapiʻilani Highway and Refuse Convenience Center**

The Olowalu Recycling and Refuse Convenience Center driveway's shared-lane approach to Honoapiʻilani Highway is stop-controlled. An exclusive left-turn lane is provided for the southbound Honoapiʻilani Highway approach.

### **Olowalu Area**

#### *Honoapiʻilani Highway/Olowalu General Store Area*

There is one major driveway and three minor driveways into this commercial area.

The major access driveway is across from the roadway that provides access to the makai area of Camp Olowalu, Olowalu Landing, and the Olowalu Plantation House. This four-legged, unsignalized intersection has exclusive left-turn lanes on both Honoapiʻilani Highway approaches. An exclusive right-turn lane into the makai roadway is provided on the southbound Honoapiʻilani Highway approach. Both driveway approaches from the Olowalu General Store area and the makai roadway are STOP-sign controlled.

All of the minor-street accesses are unsignalized T-intersections and have either explicit (signed) or implicit (unsigned driveway) STOP-control on the driveway approach. The northernmost minor access is near the northern terminus of Olowalu Village Road. A second minor access is just to the south, in the parking area fronting the Olowalu Farmer's Market and Kamala's Kitchen. These two minor accesses are full-movement T-intersections with no turn movement restrictions. The third minor access is a right-in/right-out driveway located south of Leoda's Kitchen and Pie Shop.

#### *Honoapiʻilani Highway/Luawai Street*

The Honoapiʻilani Highway/Luawai Street intersection is an unsignalized T-intersection with STOP-sign control on the Luawai Street approach. An exclusive left-turn lane is provided for the southbound Honoapiʻilani approach, and a right-turn deceleration lane is provided for the northbound Honoapiʻilani approach. A left-turn refuge is provided in the median for vehicles turning left out of Luawai Street. The Luawai Street approach is channelized with separate left- and right-turn lanes.

#### *Honoapiʻilani Highway/Olowalu Village*

Two Olowalu Village access points are provided south of Luawai Street. Both access points are unsignalized T-intersections with implied STOP-sign control on the driveway approaches. Neither access intersection has exclusive left- or right-turn lanes on Honoapiʻilani Highway.



## **Ukumehame Area**

### *Honoapiʻilani Highway/Ehehene Street*

Honoapiʻilani Highway/Ehehene Street intersection is an unsignalized T-intersection with STOP-sign control on the Ehehene Street approach. An exclusive left-turn lane is provided for the southbound Honoapiʻilani approach, and right-turn deceleration and acceleration lanes are provided on northbound Honoapiʻilani Highway. A left-turn refuge is provided in the median for vehicles turning left out of Ehehene Street. The Ehehene Street approach is channelized with separate left- and right-turn lanes.

### *Honoapiʻilani Highway/Pōhaku ʻAeko Street*

The Honoapiʻilani Highway/Pōhaku ʻAeko Street intersection is an unsignalized T-intersection with STOP-sign control on the Pōhaku ʻAeko Street approach. An exclusive left-turn lane is provided for the southbound Honoapiʻilani approach, and right-turn deceleration and acceleration lanes are provided on northbound Honoapiʻilani Highway. A left-turn refuge is provided in the median for vehicles turning left out of Pōhaku ʻAeko Street. Pōhaku ʻAeko Street approach is channelized with separate left- and right-turn lanes.

### *Honoapiʻilani Highway/Ukumehame Firing Range Driveway*

The Ukumehame Firing Range driveway is an unsignalized T-intersection with STOP-sign control on the driveway approach. No turn lanes are provided on Honoapiʻilani Highway, and there is no channelization of the driveway approach.

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## **EXISTING PUBLIC TRANSIT**

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The Maui County Department of Transportation works with Roberts Hawaii to provide Maui Bus, which is an island-wide public bus transit system. The Lāhainā Islander Route, which connects the Kahului-Wailuku Area to Lāhainā, passes through the project area on Honoapiʻilani Highway. No bus stops are located within the project area.

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## **EXISTING BICYCLE/PEDESTRIAN FACILITIES**

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Currently, no formal bike facilities are provided within the project area. For most of the area, paved shoulders on Honoapiʻilani Highway can be used by bicyclists to avoid riding in a through highway lane and by pedestrians walking along the highway.

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## **EXISTING ROADWAY DATA**

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Existing roadway data was identified and incorporated into the discussion of operations, including the following:

- Number of lanes and shoulder widths
- Intersection Lane configurations





- Bicycle facilities
- Pedestrian facilities and crosswalk locations
- Intersection traffic control
- Posted speed limits

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## EXISTING SEGMENT OPERATIONS

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Traffic volumes on Honoapiʻilani Highway were collected and general segment operations were evaluated—with the purpose of identifying the relative quality of flow on existing Honoapiʻilani Highway given the current traffic volume demand.

### Corridor Traffic Volumes

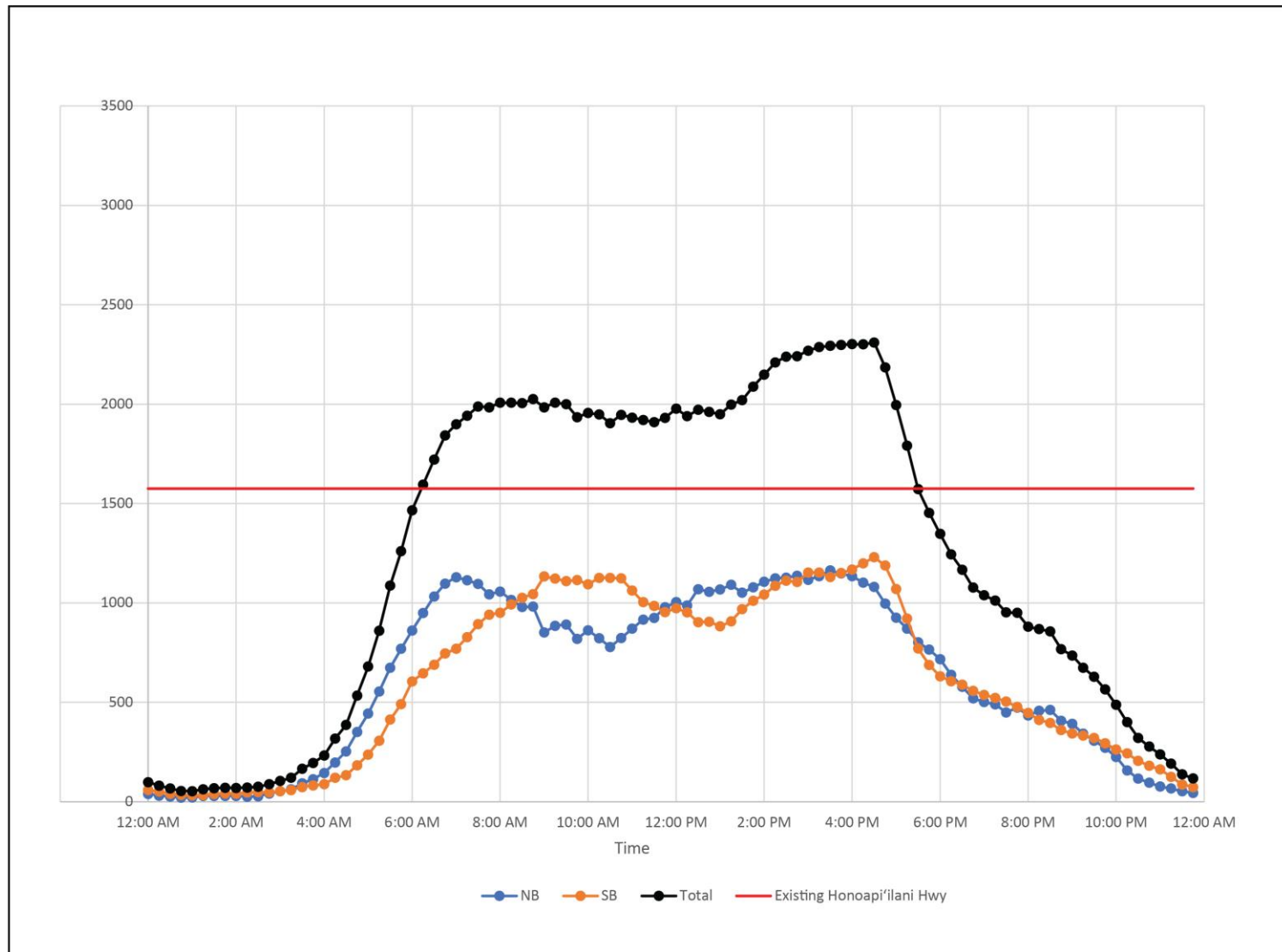
Existing Honoapiʻilani Highway traffic volumes obtained from the State of Hawaii Department of Transportation (HDOT) were augmented with counts recorded for the Project over 24 hours—May 3 through May 4, 2023—at the driveways of the Olowalu Recycling and Refuse Convenience Center and the Ukumehame Firing Range. The data from these counts are included in Appendix A of this report. For this analysis, these two intersections represent traffic volumes at the north and south ends of the project area, respectively, and **FIGURE II-4** and **FIGURE II-5** show their distributions—including both directional traffic volumes and the two-way totals. Additionally, reference lines indicate the maximum directional operational volume of Honoapiʻilani Highway based on its current level of access management and roadway geometrics. These maximum directional operational volumes are used as a measure of capacity, because through traffic on Honoapiʻilani Highway is largely unconstrained by intersecting street traffic.

### Corridor Evaluation

**FIGURE II-4** and **FIGURE II-5** show that both the Launiupoko and Ukumehame ends of Honoapiʻilani Highway within the project area experience peak-hour traffic volumes below the maximum directional operational volume. This is consistent with observations indicating that traffic on the highway is substantial but mostly flows well. Occasionally, and especially during the PM peak-hour in the southbound direction, there are minor operational disruptions at intersections that trigger congestion and result in vehicles queuing on Honoapiʻilani Highway. But these events are intermittent and traffic flows well between them.



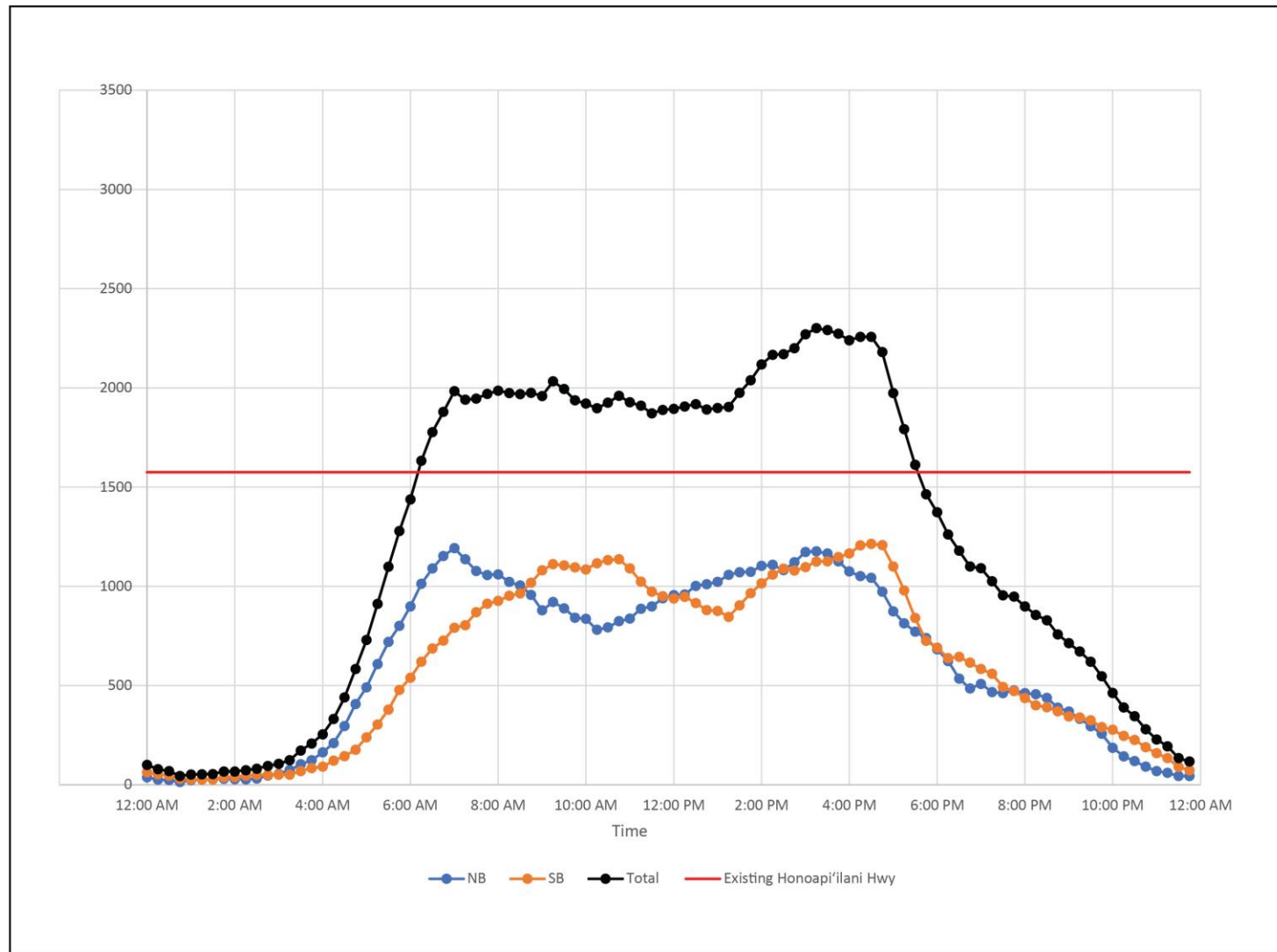
FIGURE II-4. Existing 2023 Honoapiʻilani Highway Traffic Volumes at Launiupoko in the Vicinity of Milepost 16.5



Existing 2023 Hourly Honoapiilani Highway Traffic Volume North of Project



FIGURE II-5. Existing 2023 Honoapiʻilani Highway Traffic Volumes at Ukumehame in the Vicinity of Milepost 11.5



Existing 2023 Hourly Honoapiʻilani Highway Traffic Volume South of Project





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## G. EXISTING INTERSECTION OPERATIONS

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Traffic turning movement volumes at eleven intersections on Honoapiʻilani Highway were collected and peak-hour intersection operations were evaluated, the locations of these intersection were shown previously in Figure II-3.

### Intersection Turning Movement Traffic Volumes

Traffic turning movement counts and pedestrian/bicycle counts for the Project were conducted on Wednesday, May 3, 2023, at the following numbered intersections:

1. Honoapiʻilani Highway/Olowalu Recycling and Refuse Convenience Center
2. Honoapiʻilani Highway/Olowalu General Store area, north driveway
3. Honoapiʻilani Highway/Olowalu General Store area, north-middle driveway
4. Honoapiʻilani Highway/Olowalu General Store area, middle/Camp Olowalu driveway
5. Honoapiʻilani Highway/Olowalu General Store area, south driveway (right-in/right-out)
6. Honoapiʻilani Highway/Luawai Street
7. Honoapiʻilani Highway/Olowalu Village, middle access
8. Honoapiʻilani Highway/Olowalu Village, south access
9. Honoapiʻilani Highway/Ehehene Street
10. Honoapiʻilani Highway/Pōhaku ʻAeko Street
11. Honoapiʻilani Highway/Ukumehame Firing Range Driveway

The AM and PM peak hours occurred from 8:45 a.m. to 9:45 a.m. and 3:15 p.m. to 4:15 p.m., respectively. FIGURE II-6 shows the existing peak-hour traffic volumes at these intersections. The intersection numbers in this figure correspond to the intersection numbers shown in the intersection location map in Figure II-3 and the list above.

Bicycle and pedestrian volumes were very low—less than five each per hour at any intersection during the peak-hour periods.

### Intersection Peak-Hour Operations

The study intersections were analyzed with Synchro Studio 11 software using the methodologies for unsignalized intersections documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. Because of the very low bicycle and pedestrian volumes, only vehicular mode operational analyses were conducted. The Synchro worksheets are included in Appendix B of this report.

Unsignalized intersection analyses characterize operating conditions by assigning a scaled qualitative measure, level of service (LOS), to key traffic movements at an intersection. LOS ranges from A to F, with LOS A representing operations with low vehicular delays and LOS F representing operations with relatively high vehicular delays. TABLE II-1 shows the relationship of delays to unsignalized LOS levels.



FIGURE II-6. Existing Peak-Hour Traffic Volumes

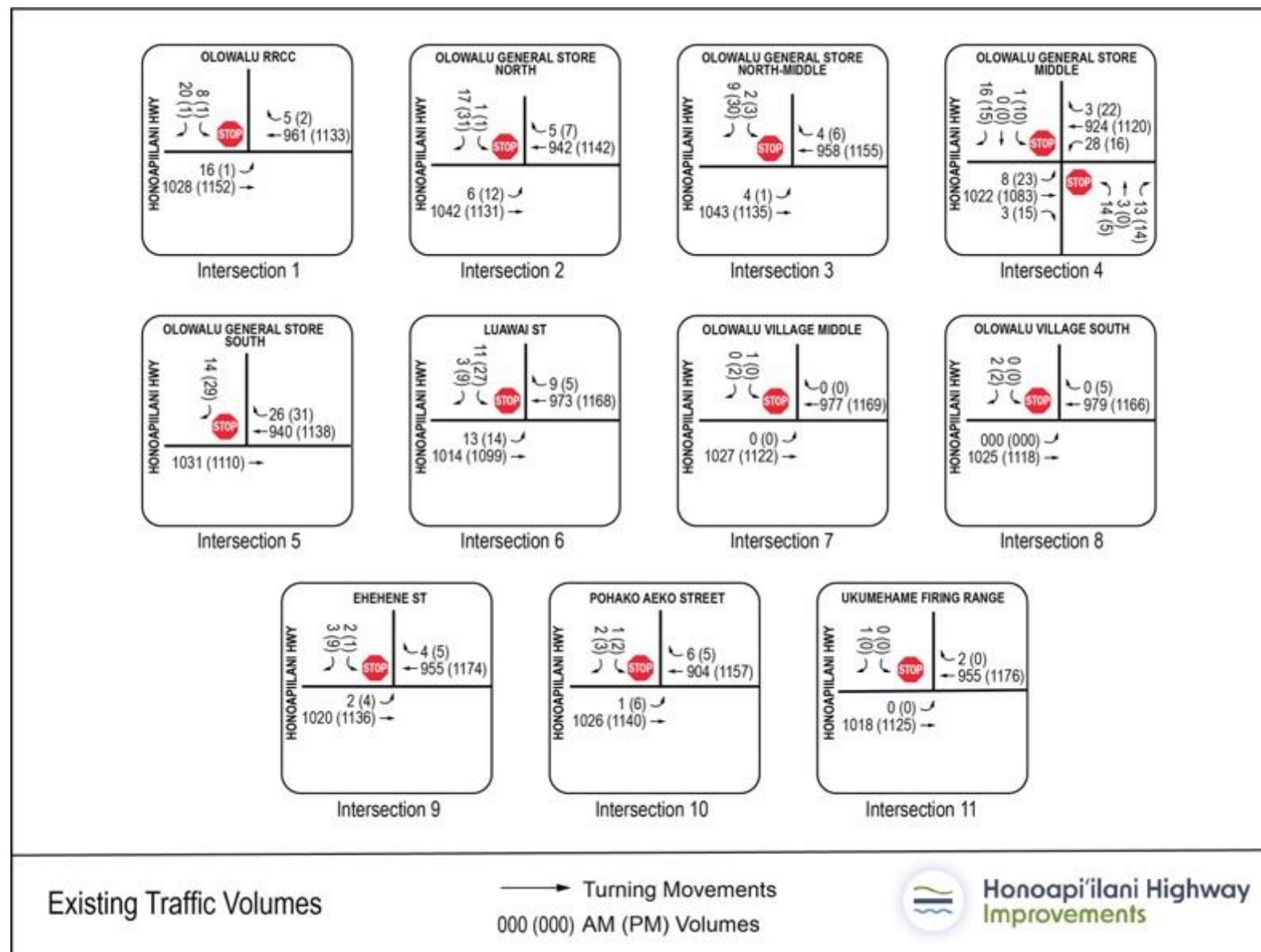


TABLE II-1. **Unsignalized Intersection Level of Service Definition**

LEVEL OF SERVICE (LOS)	UNSIGNALIZED LOS DELAY THRESHOLDS (SECONDS/VEHICLE)
A	≤10
B	>10 to 15
C	>15 to 25
D	>25 to 35
E	>35 to 50
F	>50

Note: Highway Capacity Manual, Sixth Edition

All intersections analyzed for the Project are unsignalized two-way STOP-control (TWSC) with uninterrupted flow on Honoapiʻilani Highway and STOP-control on the intersecting street approaches.

TABLE II-2 displays key existing conditions operating LOS for each intersection. As shown in TABLE II-2, the bolded intersections operate at LOS E or LOS F. The LOS shown relate to the left-turn movements out of the minor streets onto Honoapiʻilani Highway. This is usually the most difficult movement to execute at an unsignalized intersection, especially when there is substantial traffic volume on the main roadway, as is the case with Honoapiʻilani Highway. More detailed tables that include all of the evaluated traffic movements are included in the Transportation Analysis Report in the Appendix.

These intersections are incurring LOS E or F because they do not provide median refuge lanes for left turns out from the minor streets. Median refuge would allow these left-turning vehicles to execute the movement in two steps: first from the minor street into the median, and then from the median into the through traffic lane on Honoapiʻilani Highway. Without this feature, traffic turning out from the minor street needs to feel comfortable in clearing traffic coming from both directions on Honoapiʻilani Highway—a much more difficult task. Still, while delays result in LOS E or LOS F for these minor-street approaches, the movements involve a relatively small numbers of vehicles.

Intersections such as the Luawai Street, Ehehene Street, and Pōhaku ʻAeko Street provide median refuge lanes and, therefore, operate at LOS D or better during both peak periods. And overall, traffic movements on mainline Honoapiʻilani Highway operate well with very little delay.



TABLE II-2. Existing Year 2023 Intersection Level of Service

INTERSECTION	TRAFFIC CONTROL	MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
			LOS	DELAY	V/C	LOS	DELAY	V/C
Honoapiʻilani Highway/ Olowalu Recycling and Refuse Convenience Center	TWSC	Highest Delay Minor-Street Movement	E	40	0.22	F	75	0.17
Honoapiʻilani Highway/ Olowalu General Store North	TWSC	Highest Delay Minor-Street Movement	D	34	0.16	E	45	0.30
Honoapiʻilani Highway/ Olowalu General Store North-Mid	TWSC	Highest Delay Minor-Street Movement	D	33	0.06	D	31	0.21
Honoapiʻilani Highway/ Olowalu General Store Middle	TWSC	Highest Delay Minor-Street Movement	F	151	0.63	F	254	0.83
Honoapiʻilani Highway/ Olowalu General Store South	TWSC	Highest Delay Minor-Street Movement	C	18	0.05	C	24	0.14
Honoapiʻilani Highway/ Luawai Street	TWSC	Highest Delay Minor-Street Movement	C	20	0.05	D	26	0.14
Honoapiʻilani Highway/ Olowalu Village Middle	TWSC	Highest Delay Minor-Street Movement	E	48	0.11	F	77	0.18
Honoapiʻilani Highway/ Olowalu Village South	TWSC	Highest Delay Minor-Street Movement	E	48	0.11	F	77	0.18
Honoapiʻilani Highway/ Ehehene Street	TWSC	Highest Delay Minor-Street Movement	C	19	0.02	C	24	0.03
Honoapiʻilani Highway/ Pōhaku ʻAeko Street	TWSC	Highest Delay Minor-Street Movement	C	18	0.02	C	23	0.03
Honoapiʻilani Highway/ Ukumehame Firing Range	TWSC	Highest Delay Minor-Street Movement	E	46	0.11	F	79	0.18

Note: Delay shown in seconds per vehicle

TWSC = Two-Way STOP-Controlled

## H. EXISTING CRASH DATA

The Traffic Branch of HDOT's Highways Division provided traffic crash data from 2020, 2021, and 2022.



	SECOND ACTION											
	Overturn/Rollover off Roadway	Ran off Roadway	Cross Median	Collision with Guardrail	Collision with Tree	Collision with Other	Head On	Rear End	Angle (Opposite Direction)	Sideswipe (Opposite Direction)	None	TOTAL
											2	2
Ran off Roadway	1				1							2
Fell/Jumped from Motor Vehicle						1					2	3
Cross Centerline				1	1		4		2	3		11
Collision with Guardrail					1						1	2
Collision with Tree	1											1
Ped Darting Out											1	1
Rear End			1					5			12	18
Angle (Same Direction)											1	1
Broadside		1									1	2
Collision with Parked Motor Vehicle											1	1
<b>Total</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>21</b>	<b>44</b>

shows the first and second actions of the crashes identified in the project area. In addition, a traffic crash inventory within the project area (milepost 11 to milepost 17) for the three most recent years of data available in a memorandum dated August 17, 2023. This data is included in Appendix D of this report.



TABLE II-3. Existing Crash Data First and Second Actions (2020, 2021, 2022)

	SECOND ACTION											
	Overturn/Rollover off Roadway	Ran off Roadway	Cross Median	Collision with Guardrail	Collision with Tree	Collision with Other	Head On	Rear End	Angle (Opposite Direction)	Sideswipe (Opposite Direction)	None	TOTAL
											2	2
Ran off Roadway	1				1							2
Fell/Jumped from Motor Vehicle						1					2	3
Cross Centerline				1	1		4		2	3		11
Collision with Guardrail					1						1	2
Collision with Tree	1											1
Ped Darting Out											1	1
Rear End			1					5			12	18
Angle (Same Direction)											1	1
Broadside		1									1	2
Collision with Parked Motor Vehicle											1	1
<b>Total</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>21</b>	<b>44</b>

Of these 44 major traffic crashes reported, five were motorcycle crashes, one involved a pedestrian, and there were no bicycle crashes. There were 18 lane departure crashes, of which nine crashes involved speeding. There were two fatalities and 13 serious injuries.

As shown in



	SECOND ACTION											
	Overturn/Rollover off Roadway	Ran off Roadway	Cross Median	Collision with Guardrail	Collision with Tree	Collision with Other	Head On	Rear End	Angle (Opposite Direction)	Sideswipe (Opposite Direction)	None	TOTAL
											2	2
Ran off Roadway	1				1							2
Fell/Jumped from Motor Vehicle						1					2	3
Cross Centerline				1	1		4		2	3		11
Collision with Guardrail					1						1	2
Collision with Tree	1											1
Ped Darting Out											1	1
Rear End			1					5			12	18
Angle (Same Direction)											1	1
Broadside		1									1	2
Collision with Parked Motor Vehicle											1	1
<b>Total</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>21</b>	<b>44</b>

, the two most prominent categories of crashes were rear end, with 18 occurrences, and crossing of the centerline, with 11 occurrences. Both reflect the characteristics of the existing Honoapiʻilani Highway as an undivided, two-lane roadway with low management of access and limited intersections with turning movement lanes.

Rear-end crashes had the highest occurrence—18 of the 44 reported incidents. Three of these 18 accidents were attributed to speeding and seven were attributed to distracted driving. Rear-end accidents could potentially be reduced by providing turning movement turn lanes at intersections and providing more management of access. There were 11 occurrences of vehicles crossing the centerline. Of these, four resulted in head-on collisions—potentially the most severe type of motor vehicle accident. Finally, fourteen of the 44 major traffic crashes reported occurred at night. The existing highway is in a rural area and does not provide street lighting.



### III. Projected Year 2045 Conditions

The purpose and need for this project is to increase the resiliency of Honoapiʻilani Highway between Ukumehame and Launiupoko. The primary way to increase the resiliency of the highway segment is to relocate Honoapiʻilani Highway mauka out of the project sea-level rise areas. This relocated highway segment is proposed as a two-lane divided highway. However, to assure future reliability for handling unanticipated increases in traffic volumes, right-of-way is proposed to be acquired that would allow expansion to a four-lane highway facility if travel demand and funding is available to do so.

This section discusses the data inputs and analyses used to evaluate the No Build and Build Alternatives for the Future Year 2045. For this analysis year, future traffic volumes used in the evaluation are established, and the No Build Alternative and the Build Alternatives are described, evaluated, documented, and summarized.

This section analyzes conditions with these future traffic volumes for the No Build Alternative (retaining the existing highway in its current configuration) as well as four build alternatives in Olowalu and three build alternatives in Ukumehame, which were grouped together as the four Build Alternatives for the Project. FIGURE III-5 illustrates the No Build Alternative and the Build Alternatives.

All of the evaluated roadway alternatives are approximately 6 miles long and extend from Ukumehame near the Pali to Launiupoko, where it joins the existing Lāhainā Bypass. The Build Alternatives would be constructed as principal arterials with paved shoulders—8-foot outside and 6-foot inside. The posted speed limit for the Build Alternatives would be 45 miles per hour to maintain consistency with the existing Lahaina Bypass that has a posted speed limit of 45 miles per hour.

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#### FUTURE YEAR 2045 TRAVEL DEMAND

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Year 2045 was used as the future analysis time frame within the project area to be consistent with the Maui MPO's current updated travel demand model forecast which is a component of the [Hele Mai Maui 2040 Long Range Transportation Plan](#).

The Maui MPO travel demand forecasts were developed prior to the Lāhainā wildfire. Based on coordination with the MPO and given the extended period of reconstruction and rebound in economic activity, these projections are considered to be appropriate over the long-term but are likely conservatively high for the Future Year 2045. In turn, the results of the Project's future traffic analyses are considered conservative in assessing potential operational effects.

The Maui MPO maintains the Maui Travel Demand Model, the purpose of which is to provide travel information that aids in planning for regional transportation improvements. The model was updated in 2021 and includes 2019 baseline and projected 2045 travel demand. The Maui MPO Travel Demand Model provided the basis for future traffic volume projections within the project corridor.

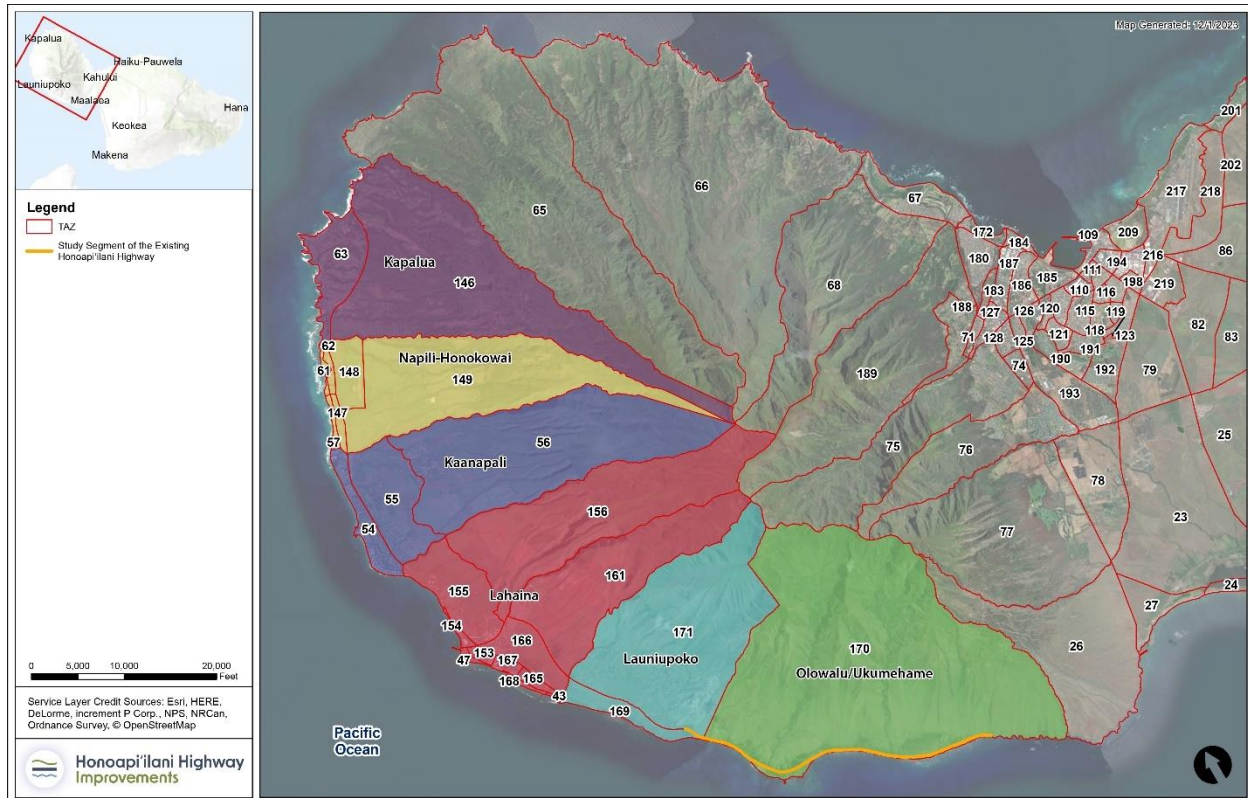




This forecast includes assumptions of future land use that have been adopted for use in the model.

The model breaks the island of Maui into traffic analysis zones (TAZs). **Figure III-1** illustrates the TAZ's for the West Maui area. The project study area falls into TAZ 170. **Table III-1** summarizes the households and employment inputs to the travel demand model.

**FIGURE III-1. West Maui TAZs**



**TABLE III-1. Households/Employment within Project Area (TAZ 170)**

YEAR	HOUSEHOLDS	EMPLOYMENT
2019	55	10
2030	61	11
2045	67	12

As shown, only modest growth in households and employment are assumed in the travel demand model input.

**TABLE III-2** shows the number of households and employment for West Maui TAZs, which includes Lāhainā, Kaanapali, Nāpili-Honokōwai, and Kapalua. As shown, household counts are projected to increase by approximately 0.8% annually while employment is projected to increase by 1.1% between the base year and 2045. **FIGURE III-2** illustrates the differences in household and employment between the Base Year 2019 and Projected Year 2045.

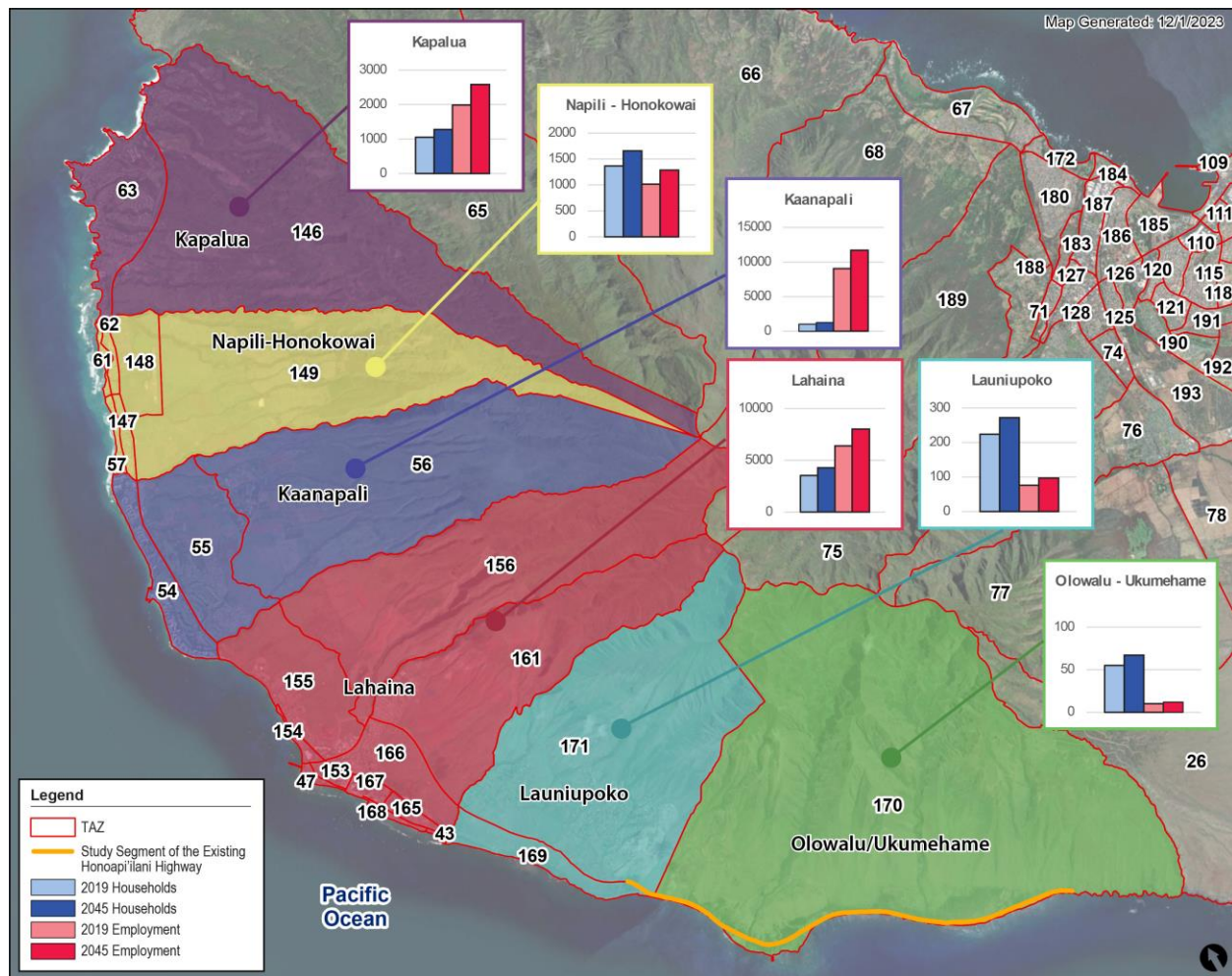


TABLE III-2. Projected West Maui Households/Employment by Traffic Analysis Zone

LOCATION	TRAFFIC ANALYSIS ZONE	HOUSEHOLDS			EMPLOYMENT		
		2019	2030	2045	2019	2030	2045
Kapalua	63	885	978	1,074	1,637	1,864	2,124
	146	168	186	204	352	401	457
Napili-Honokowai	57	98	109	119	88	98	110
	61	102	113	124	74	84	94
	62	243	269	295	231	262	299
	147	243	269	295	256	285	316
	148	678	749	823	306	347	392
	149	0	0	0	60	68	76
Kaanapali	54	262	290	318	8,967	10,203	11,600
	55	698	771	847	88	100	112
	56	79	87	96	0	0	0
Lahaina	43	13	14	16	4	5	5
	47	336	371	408	15	17	19
	153	228	252	277	663	746	836
	154	29	32	35	167	189	214
	155	796	880	966	1,429	1,588	1,751
	156	0	0	0	0	0	0
	161	470	519	570	26	29	31
	165	224	248	272	95	105	116
	166	976	1,079	1,184	985	1,111	1,247
	167	315	348	382	1,981	2,218	2,472
	168	137	151	166	1,028	1,163	1,314
Launiupoko	169	13	14	16	19	21	25
	171	211	233	256	57	64	72
Olowalu /Ukumehame	170	55	61	67	10	11	12
Total		7,259	8,023	8,810	18,538	20,979	23,694



FIGURE III-2. Projected West Maui Model Parameters



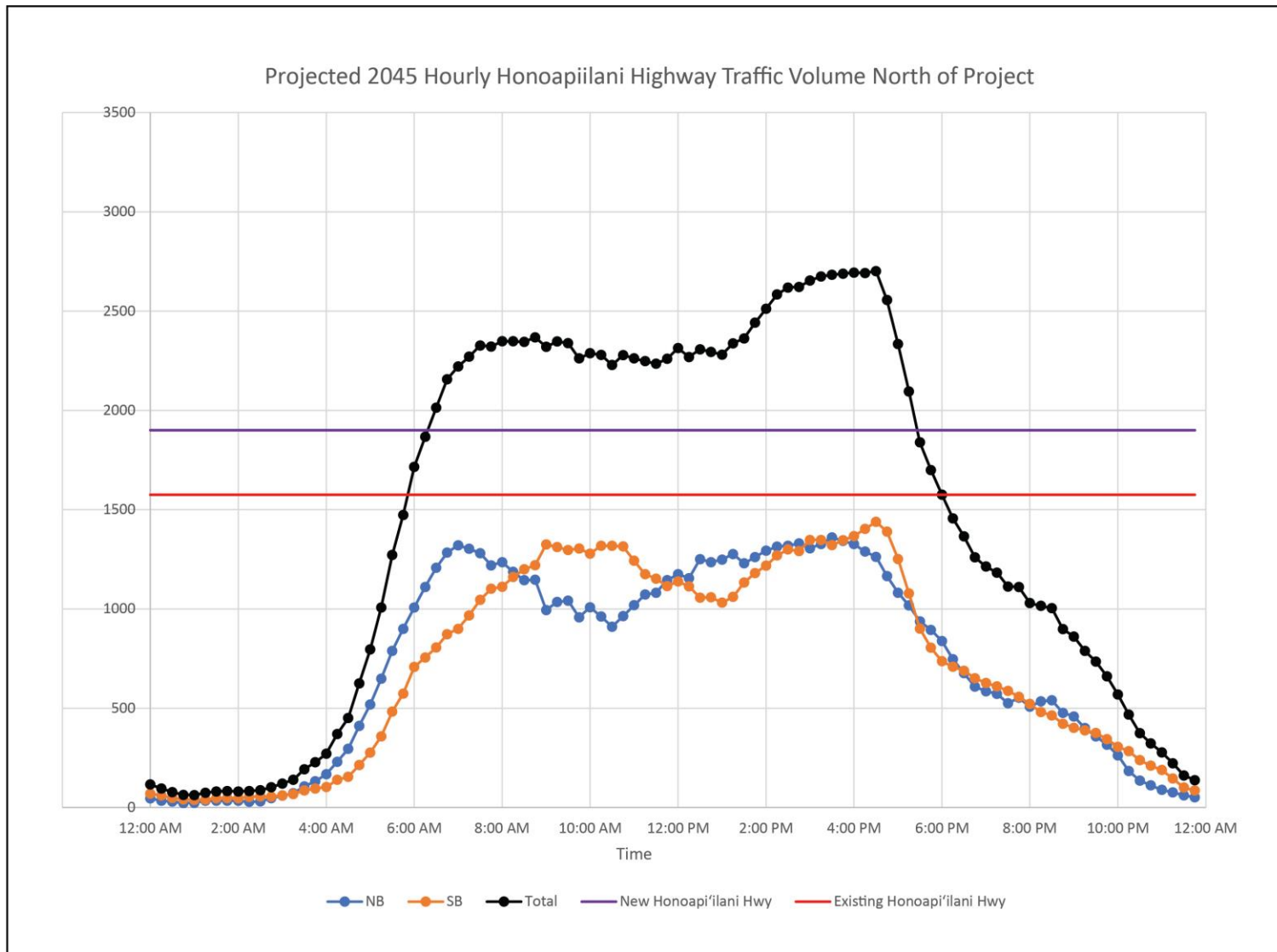
## PROJECTED YEAR 2045 TRAFFIC VOLUMES

FIGURE III-3 and FIGURE III-4 illustrate the projected Year 2045 traffic volumes at Olowalu RRCC and Ukumehame Firing Range Driveways, respectively. These figures illustrate the distribution of hourly traffic volumes over a 24-hour period by direction as well as for the two-way total. And reference lines indicate the maximum directional operational volumes for both the existing Honoapiʻilani Highway—based on its current level of access management and roadway geometrics—and for the new Honoapiʻilani Highway, with improved access management and roadway geometrics. Because through traffic on Honoapiʻilani Highway is largely unconstrained by intersecting street traffic, these maximum directional operational volumes were assumed to be a measure of through capacity. Signalized intersections, if implemented, would be timed to prioritize movement and maintain capacity for this through traffic on the new Honoapiʻilani Highway.

As shown, with the regional growth in traffic projected for Honoapiʻilani Highway, there are time periods in which traffic volumes approach the interrupted lane capacity of Honoapiʻilani Highway. This implies that queuing would occur on the main line at any intersection with projected interrupted traffic flow on



FIGURE III-3. Future Year 2045 Honoapiʻilani Highway Traffic Volumes at Launiupoko in the Vicinity of Milepost 16.5

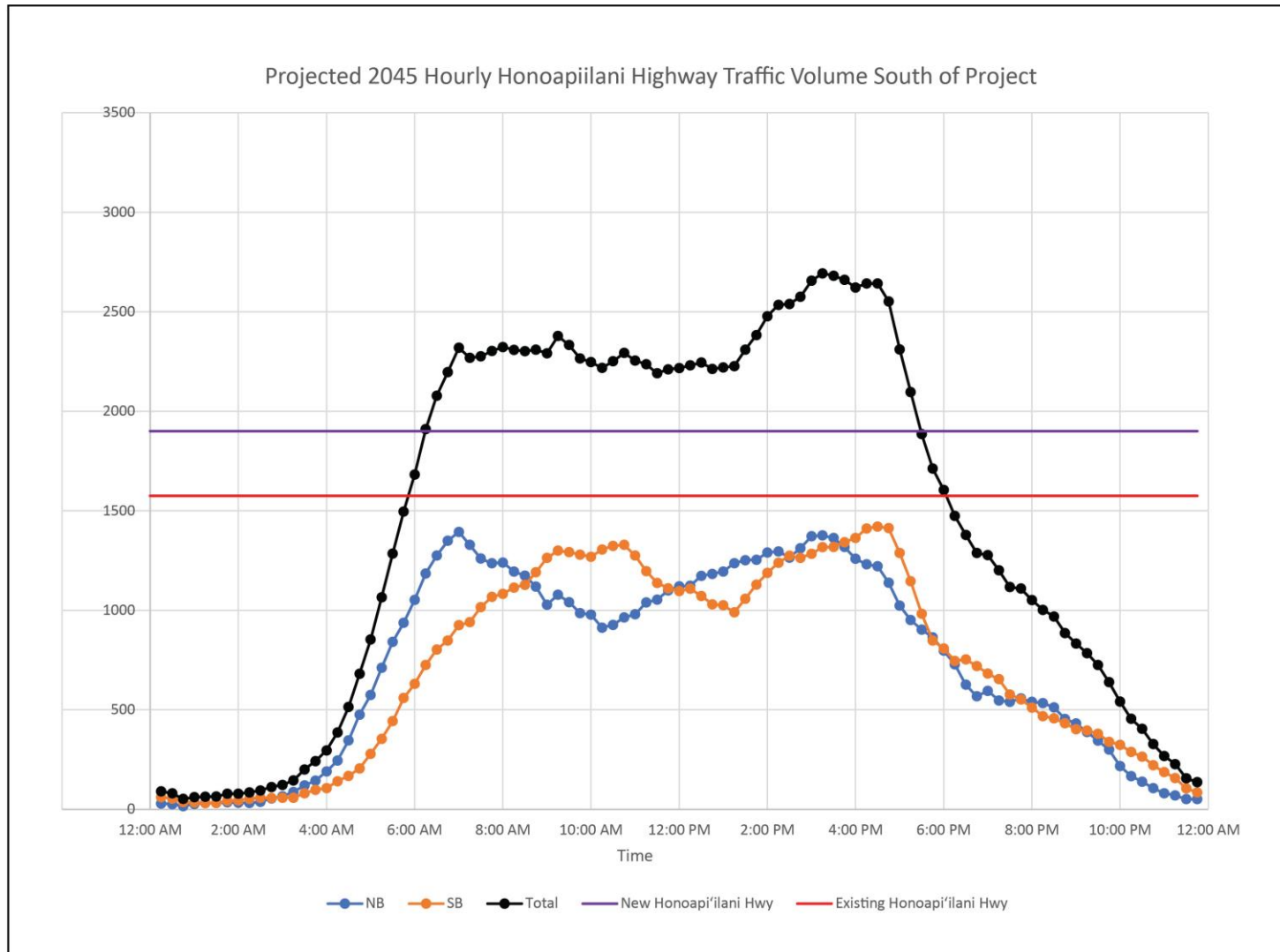


Projected 2045 Hourly Honoapiilani Highway Traffic Volume North of Project





FIGURE III-4. **Future Year 2045 Honoapi'ilani Highway Traffic Volumes at Ukumehame in the Vicinity of Milepost 11.5**



Projected 2045 Hourly Honoapiilani Highway Traffic Volume South of Project



Honoapiʻilani Highway (a traffic signal would be an example of an interruption). In addition, it is expected that stop-controlled side streets would experience LOS F delays due to the demand on Honoapiʻilani Highway. However, Honoapiʻilani Highway is projected to be able to handle the demand and operate under capacity overall.

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## DESCRIPTION OF THE NO BUILD ALTERNATIVE AND THE BUILD ALTERNATIVES

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Because of similar access configurations across the alternatives in Olowalu and Ukumehame, it would be feasible to combine an alternative in the Olowalu area with another one in the Ukumehame area to produce a composite Preferred Alternative. Therefore, to summarize the evaluation, four alternatives in Olowalu and three alternatives in Ukumehame were grouped as the Project's Build Alternatives. These five alternative roadway configurations, the No Build Alternative and the Build Alternatives, are illustrated in **FIGURE III-5** and described in the following sections.

### **No Build Alternative**

The No Build Alternative reflects future conditions if the Project were not constructed. In this alternative, Honoapiʻilani Highway would remain in its current alignment and configuration, and existing intersections and traffic control would remain unchanged.

### **Build Alternatives**

#### *Future Roadway Network and Access Assumptions Common to All Alternatives*

The Build Alternatives differ primarily in roadway alignment, but are similar in terms of design parameters and access. All the alternatives would construct a new, divided, two-lane highway with grading, drainage, and roadway structures designed for future expansion to four lanes—if conditions are appropriate and funding is available. All intersections would include street lighting.

The Build Alternatives would be access-managed roadway facilities with access only allowed at designated intersections. The existing Honoapiʻilani Highway would remain in place and be accessible from the new highway via cross streets that intersect the Build Alternatives. The existing highway would continue to provide access to adjacent properties and the beaches. All the Build Alternatives would intersect existing cross streets at Olowalu Recycling and Refuse Convenience Center, Luawai Street, Ehehene Street, and Pōhaku 'Aeko Street.

The following are differences among the Build Alternatives:

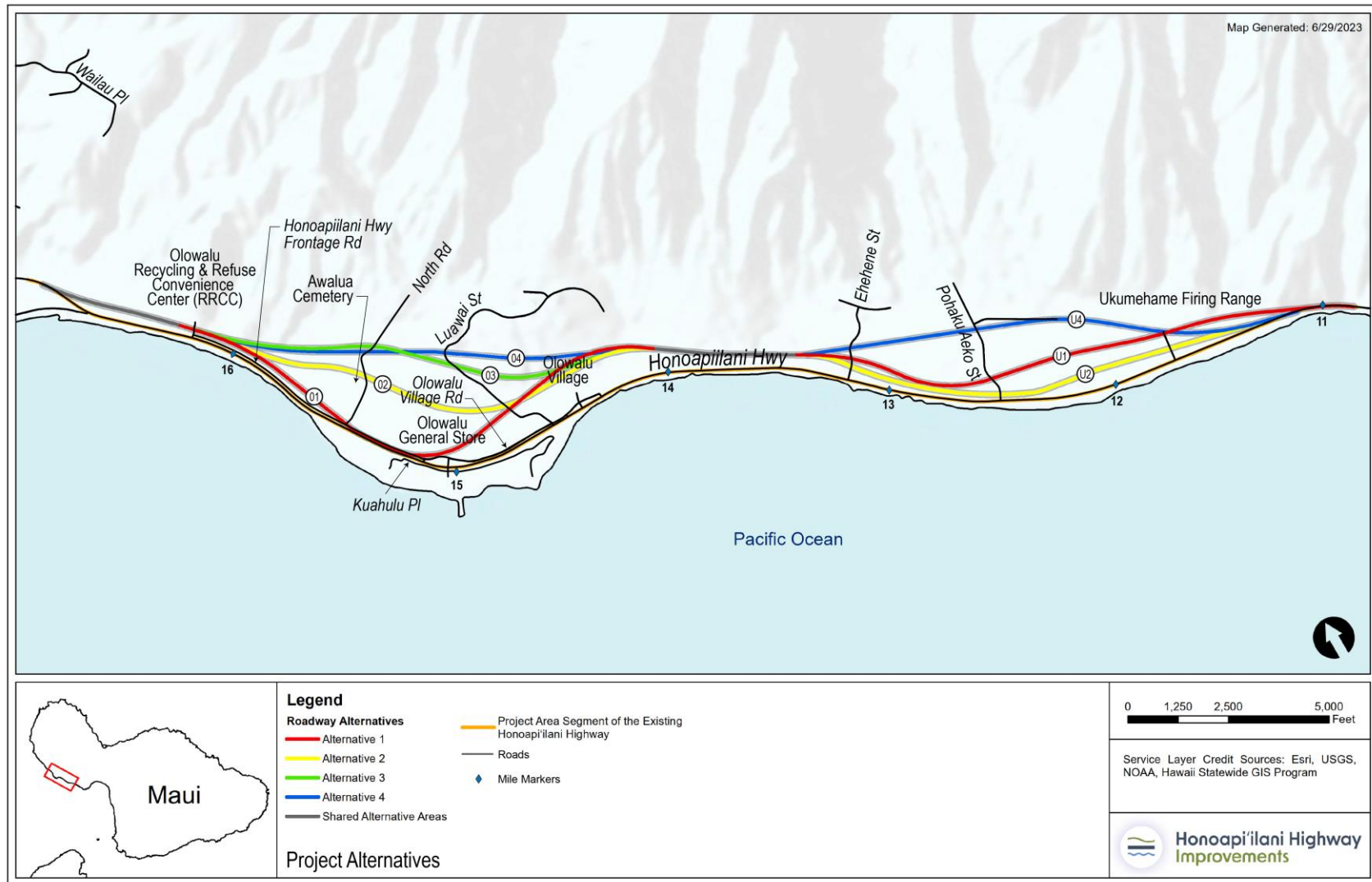
- In Olowalu, Build Alternatives 2, 3, and 4 would intersect the new North Road, a subdivision roadway that is currently under construction north of the Olowalu General Store area. Build Alternative 1 would not intersect North Road.
- In Olowalu, to take advantage of the proximity of Build Alternative 1 to the Olowalu General Store area, there would be a four-legged intersection at a new roadway aligned to intersect the existing Honoapiʻilani Highway near the existing main driveway to the store. To maintain intersection spacing, Build Alternative 1 would not have an intersection at the new North Road. So, Build Alternative 1 has the same number of intersections as the other Build Alternatives.



- While Build Alternatives 2 and 3 intersect the Ukumehame Firing Range driveway, Build Alternatives 1 and 4 do not. This is due to elevation differences between the viaducts in Build Alternatives 1 and 4 and the Ukumehame Firing Range access that make a direct connection difficult. As a result, Build Alternatives 1 and 4 would utilize the intersection at Pōhaku ‘Aeko Street to access the existing Honoapiʻilani Highway, which would then allow access to the existing Ukumehame Firing Range Driveway.



FIGURE III-5. The No Build Alternative and the Build Alternatives



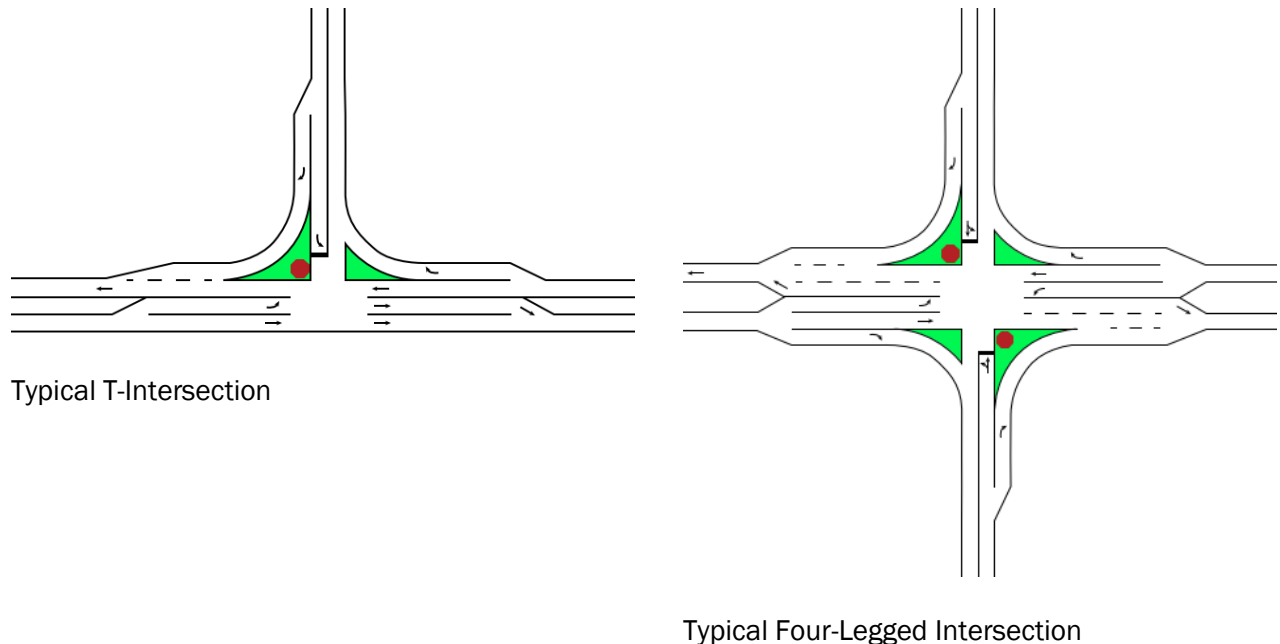




### **Intersections of the Build Alternatives**

All intersections in the Build Alternatives would provide channelized minor-street approaches with separate left- and right-turn lanes. Exclusive right- and left-turn lanes would be part of the new Honoapiʻilani Highway, as would median left-turn refuge lanes at all unsignalized intersections. Typical layouts for three-legged (that is, T-intersections) and four-legged intersections are shown in **FIGURE III-6**.

**FIGURE III-6. Build Alternatives – Typical Unsignalized Intersection Configuration**



It is projected that one signalized intersection would be warranted for each of the Build Alternatives. The warrant analysis is documented in the Transportation Analysis Report in the Appendix. For Build Alternative 1, this would be at the intersection with the proposed new road in the Olowalu General Store area. For Build Alternatives 2, 3, and 4, the signalized intersection would be at Luawai Street. The signalized intersections would help to accommodate the projected traffic that would be consolidated on the Luawai Street connection between the new highway and the existing highway.

**FIGURE III-7** through **FIGURE III-10** show the locations of the access intersections for each Build Alternative.

**FIGURE III-11** through **FIGURE III-21** illustrate the access intersections in more detail for each Build Alternative along with the detailed study area limits.



FIGURE III-7. **Build Alternative 1: Access from Launiupoko to Ukumehame.**

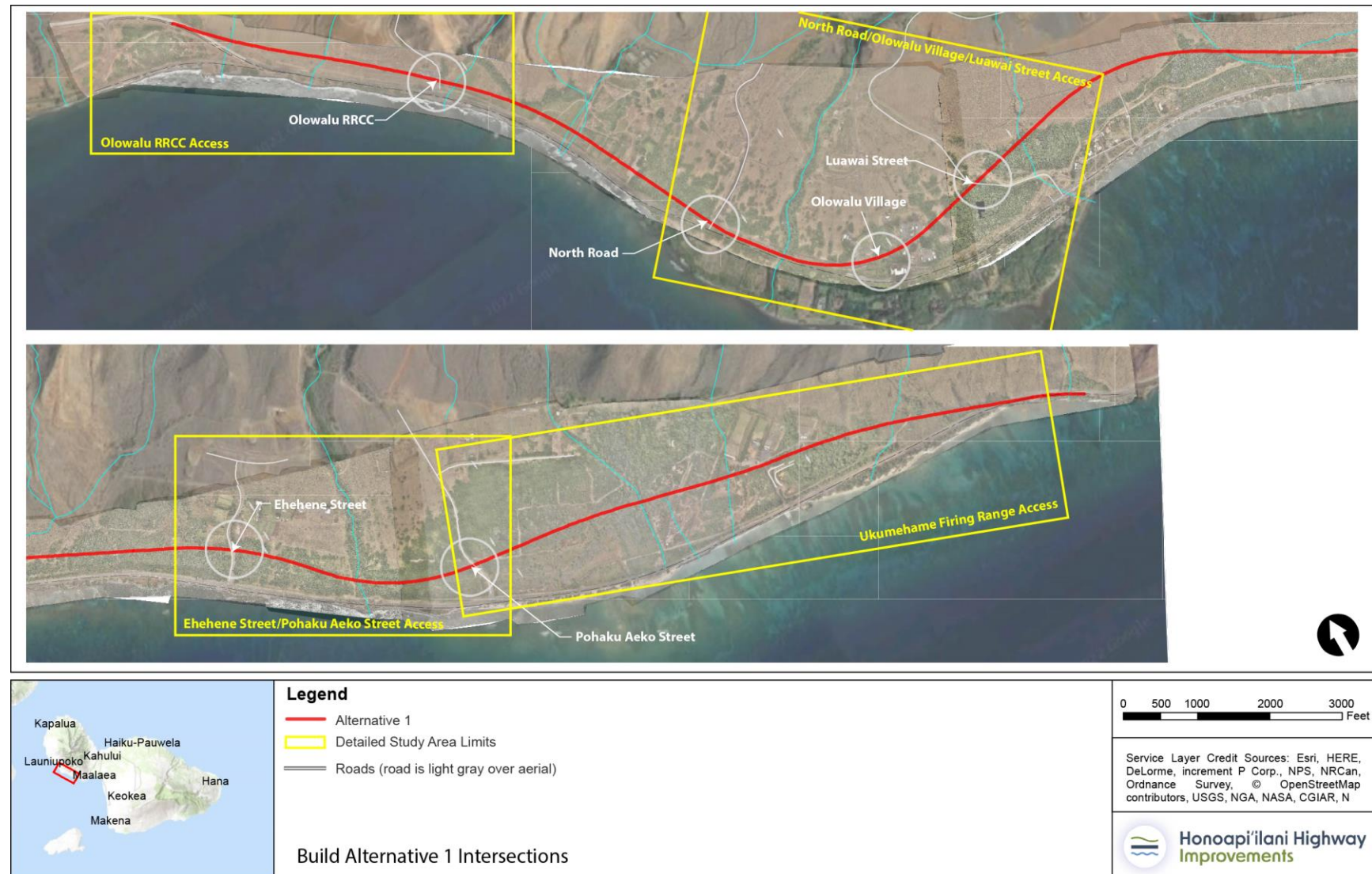




FIGURE III-8. **Build Alternative 2: Access from Launiupoko to Ukumehame.**







FIGURE III-9. **Build Alternative 3: Access from Launiupoko to Ukumehame.**





FIGURE III-10. **Build Alternative 4: Access from Launiupoko to Ukumehame.**







FIGURE III-11. Olowalu – Build Alternatives 1 through 4: Olowalu Recycling and Refuse Convenience Center Access.





FIGURE III-12. **Olowalu – Build Alternative 1: Access between North Road and Luawai Street Intersections.**

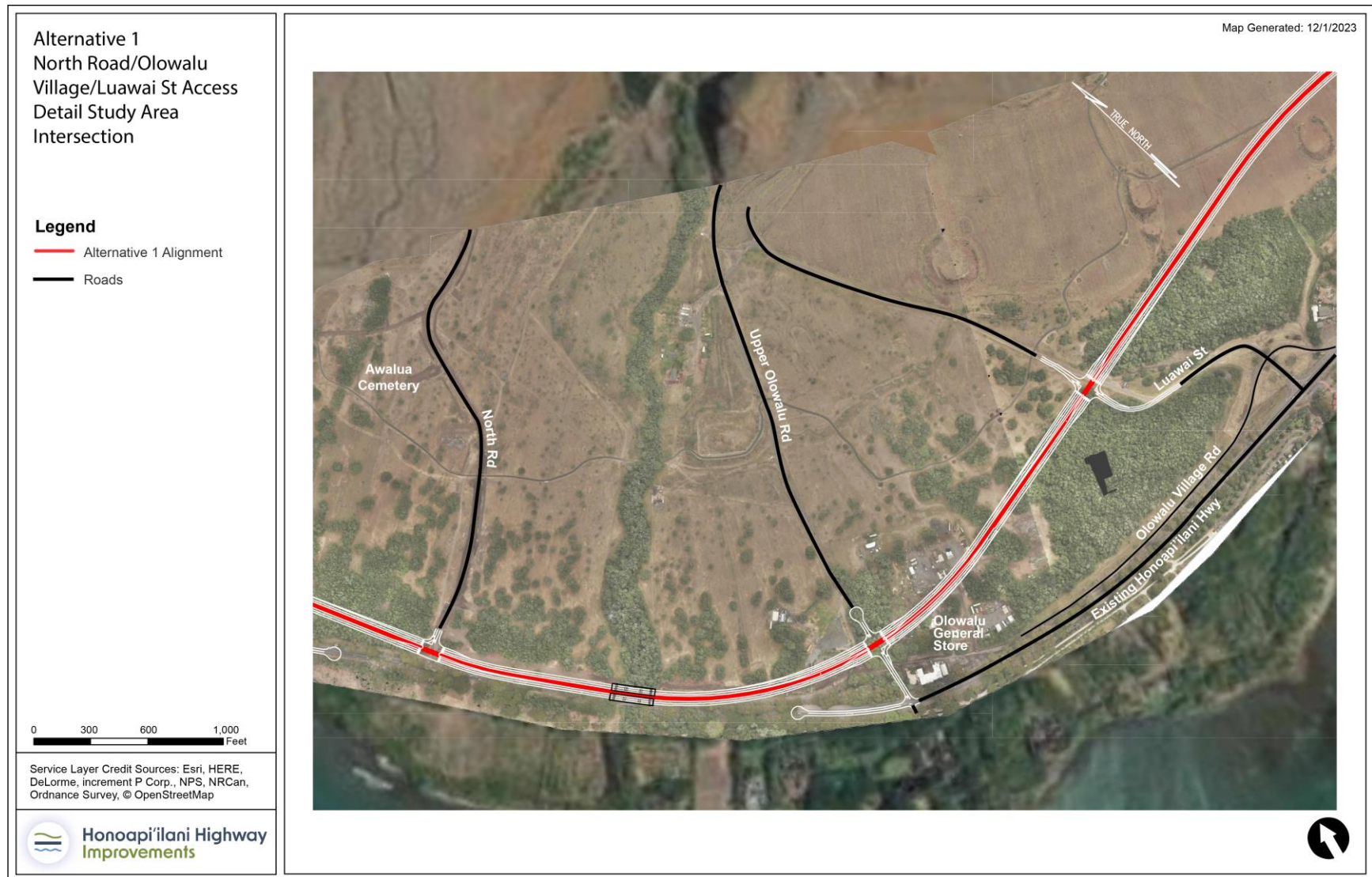






FIGURE III-13. Olowalu – Build Alternative 2: Access between North Road and Luawai Street Intersections.

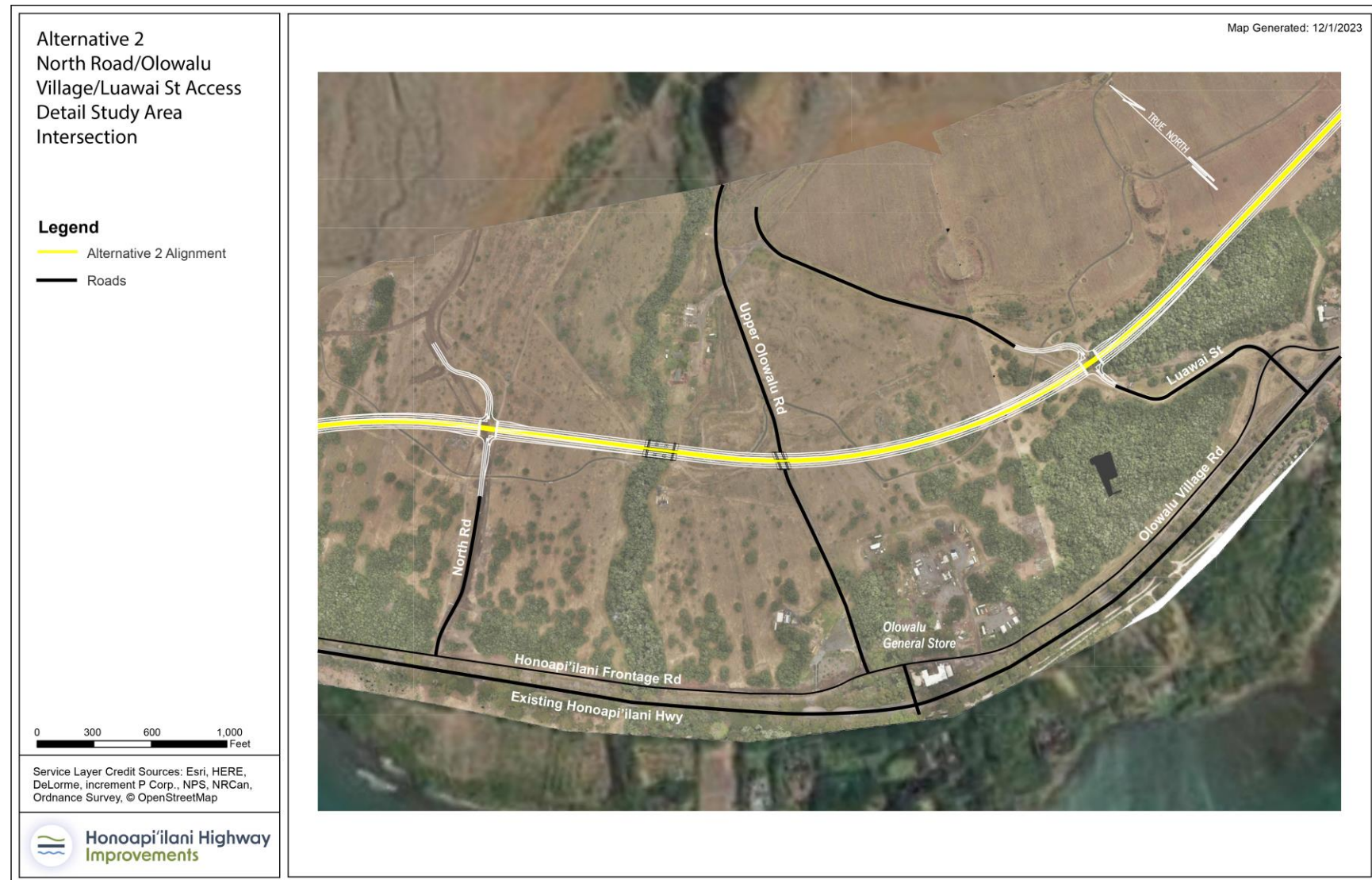






FIGURE III-14. **Olowalu – Build Alternative 3: Access between North Road and Luawai Street Intersections.**





FIGURE III-15. **Olowalu – Build Alternative 4: Access between North Road and Luawai Street Intersections**

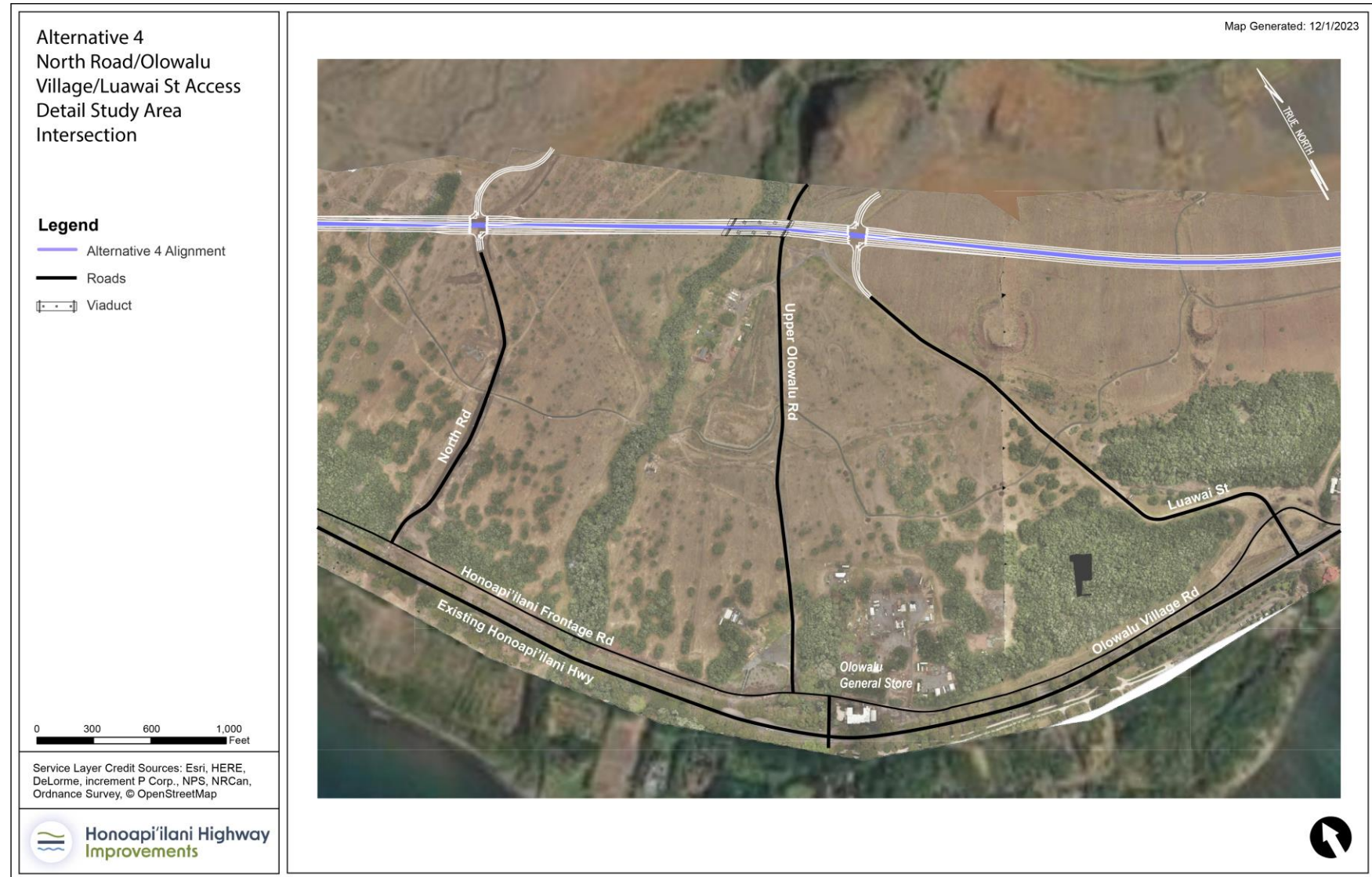






FIGURE III-16. Ukumehame – Build Alternative 1: Access between Ehehene Street and Pōhaku ‘Aeko Street Intersections.

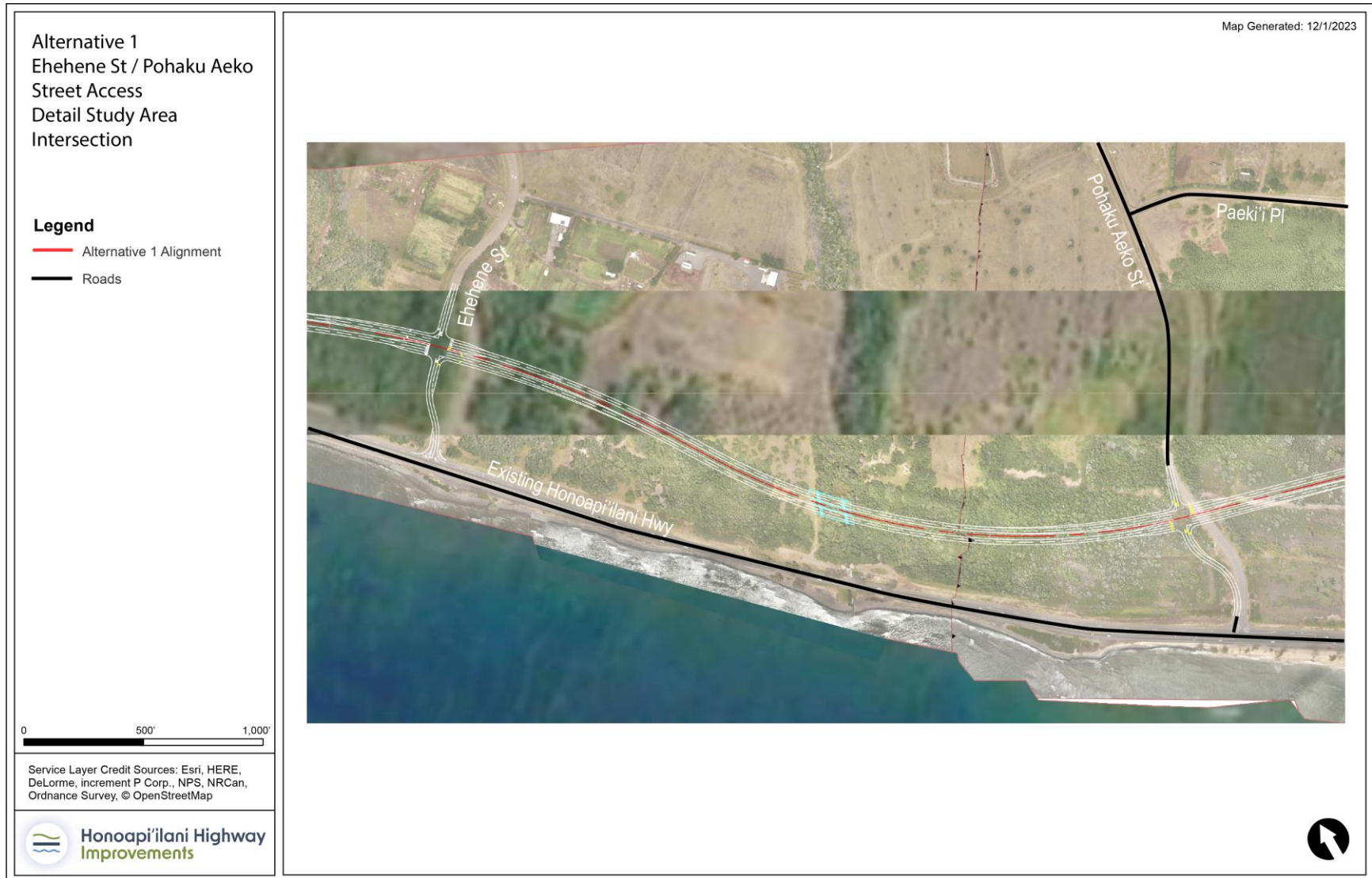




FIGURE III-17. Ukumehame – Build Alternatives 2 and 3: Access between Ehehene Street and Pōhaku 'Aeko Street Intersections.







FIGURE III-18. Ukumehame – Build Alternative 4: Access between Ehehene Street and Pōhaku ‘Aeko Street Intersections.





FIGURE III-19. Ukumehame – Build Alternative 1: Ukumehame Firing Range Access.







FIGURE III-20. Ukumehame – Build Alternatives 2 and 3: Ukumehame Firing Range Access.

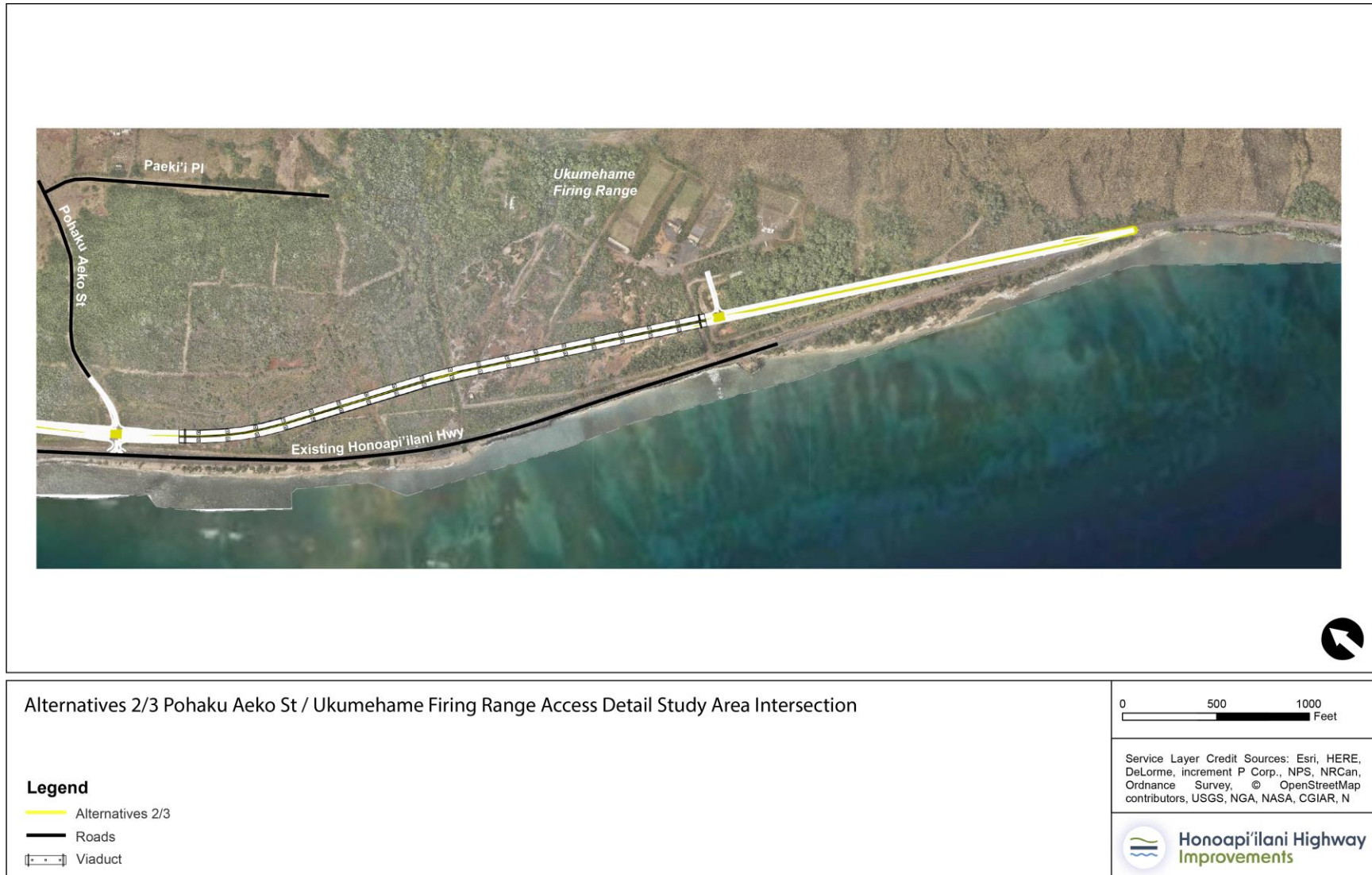
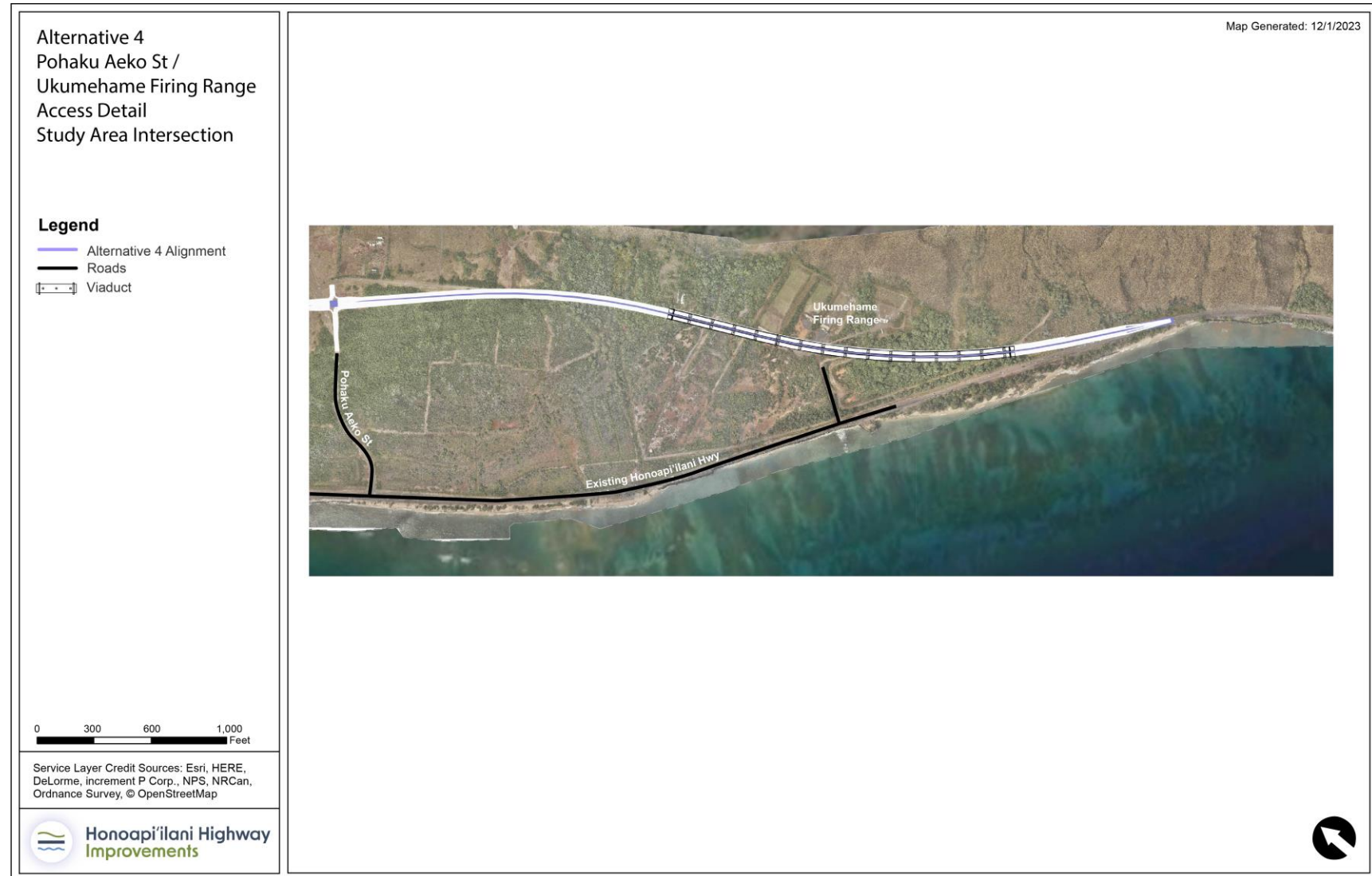






FIGURE III-21. Ukumehame – Build Alternative 4: Ukumehame Firing Range Access.





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## TRANSIT SERVICE

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No significant changes to transit service are anticipated within the project area.

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## BICYCLE/PEDESTRIAN FACILITIES

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While the Project does not include formal bicycle facilities along the Build Alternatives, the new roadways would have paved shoulders that could be utilized by bicycles and pedestrians. Additionally, the Build Alternatives are projected to reallocate regional traffic from the existing Honoapiʻilani Highway to the new Honoapiʻilani Highway, thereby substantially reducing traffic on the existing highway and making it more conducive to biking.

Further, the *West Maui Greenway Plan* currently being developed by the Maui County Department of Parks and Recreation includes concepts of a greenway trail roughly paralleling the existing Honoapiʻilani Highway. Although formal plans have not been developed, the proposed greenway could provide opportunities for new bicycle and pedestrian facilities.

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## PROJECTED SEGMENT OPERATIONS

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Projected Future Year 2045 roadway segment and intersection turning-movement volumes for the AM and PM peak-hour periods were used to evaluate highway and intersection operations on both the existing and future Honoapiʻilani Highway.

### Project Area Evaluation

As shown in FIGURE III-3 and FIGURE III-4, both AM and PM peak-hour Future Year 2045 volumes on Honoapiʻilani Highway are projected to be less than the maximum directional operational volume for both the existing and new Honoapiʻilani Highway. The maximum directional operational volume is estimated at 1,575 vehicles per hour (vph) for the existing Honoapiʻilani Highway and 1,900 vph for the new Honoapiʻilani Highway. This higher maximum directional operational volume for the new Honoapiʻilani Highway is projected because of better management of the number of accesses and improved roadway segment and intersection configurations. These design elements are recommended to ensure that future volumes and associated LOS are maintained by managing the number of future accesses along the new highway to minimize traffic friction. This will assist in maintaining the integrity of the highway's functional classification.

The ratio of this demand volume to the maximum directional operational volume is analogous to a volume/capacity (V/C) ratio. Using the projected Future Year 2045 traffic volumes, the maximum directional operational volume for existing Honoapiʻilani Highway at 1,440 vph, and the maximum directional operational volume for the new Honoapiʻilani Highway at 1,900 vph, the V/C for the alternatives would be as follows:

- No Build Alternative: V/C = 0.91 LOS E
- All Build Alternatives: V/C = 0.76 LOS C



This indicates that while the existing Honoapiʻilani Highway could accommodate projected Future Year 2045 traffic volumes, compared to any of the Build Alternatives, it will experience higher delays and be more vulnerable to any traffic event that interferes with the flow of through traffic.

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## PROJECTED FUTURE YEAR 2045 INTERSECTION TRAFFIC OPERATIONS

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FIGURE III-22 through FIGURE III-26 show the intersection numbering used for each alternative to evaluate intersections in the operational summary. The intersections were analyzed using Synchro Studio 11 software and methodologies for signalized and unsignalized intersections outlined in the *Highway Capacity Manual (Sixth Edition)*. The Synchro worksheets for projected Year 2045 conditions are included in Appendix D of this report.

FIGURE III-27 through FIGURE III-31 summarize the projected Year 2045 AM and PM peak hour intersection turning movements at these intersections for the No Build and Build Alternatives.

TABLE III-3 and TABLE III-4 compare the projected Future Year 2045 peak-hour LOS for each intersection by alternative for the AM and PM peak hours, respectively. For the Build Alternatives, both proposed and existing Honoapiʻilani intersections are evaluated, with the greatest difference in operations projected to occur at the intersections on the existing Honoapiʻilani Highway. For the unsignalized intersections, the LOS shown relate to the left-turn movements out of the minor streets onto Honoapiʻilani Highway. This is usually the most difficult movement to execute at an unsignalized intersection, especially when there is substantial traffic volume on the main roadway, as is the case with both existing and future Honoapiʻilani Highway. More detailed tables that include all of the evaluated traffic movements are included in the Transportation Analysis Report in the Appendix.

Future through traffic is projected to primarily utilize the alignments of the Build Alternative, thereby substantially reducing the traffic volume on the existing Honoapiʻilani Highway. This reduced traffic volume on the existing highway would in turn reduce side-street delays for vehicles accessing the highway from locations like beaches and the Olowalu General Store.

In the No Build Alternative, through traffic would remain on the existing Honoapiʻilani Highway, which would result in increased delays on side-street approaches of intersections and increased LOS E and F operations for minor-street traffic movements.

For the Build Alternatives, all intersections on the new Honoapiʻilani Highway are projected to operate during the peak-hour periods at LOS D or better, which are typically considered acceptable intersection operational levels for peak-hour conditions. This includes the overall LOS D for the one proposed signalized intersection at the Olowalu General Store intersection for Build Alternative 1 and the Luawai Street intersection for Build Alternatives 2, 3, and 4. Traffic signal warrant analysis per the Manual of Uniform Traffic Control Devices (MUTCD) is included in Appendix E of this report.



FIGURE III-22. Future Year 2045 No Build Alternative Intersection Locations.





FIGURE III-23. Future Year 2045 Build Alternative 1 Intersection Locations.

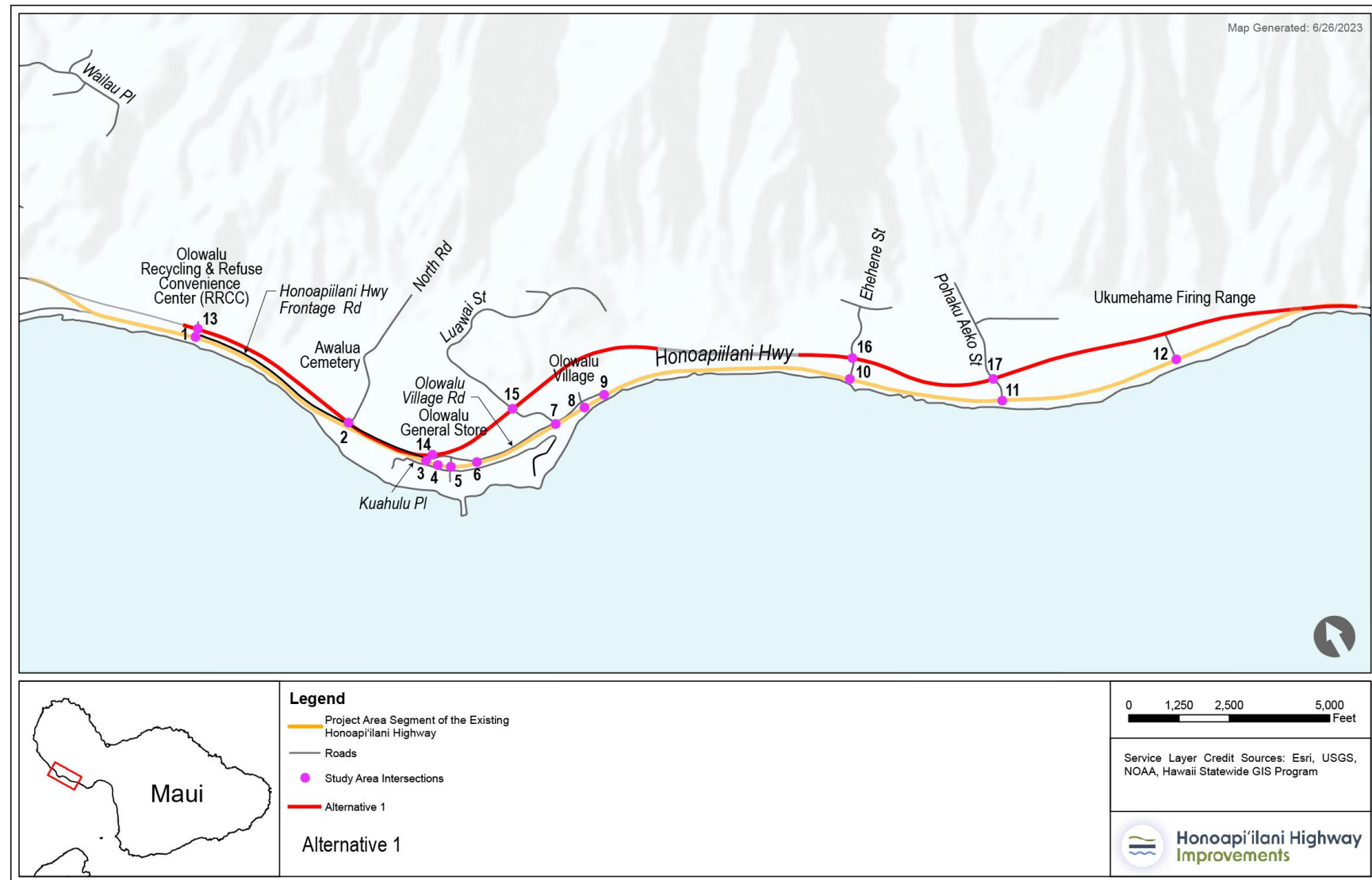






FIGURE III-24. Future Year 2045 Build Alternative 2 Intersection Locations.

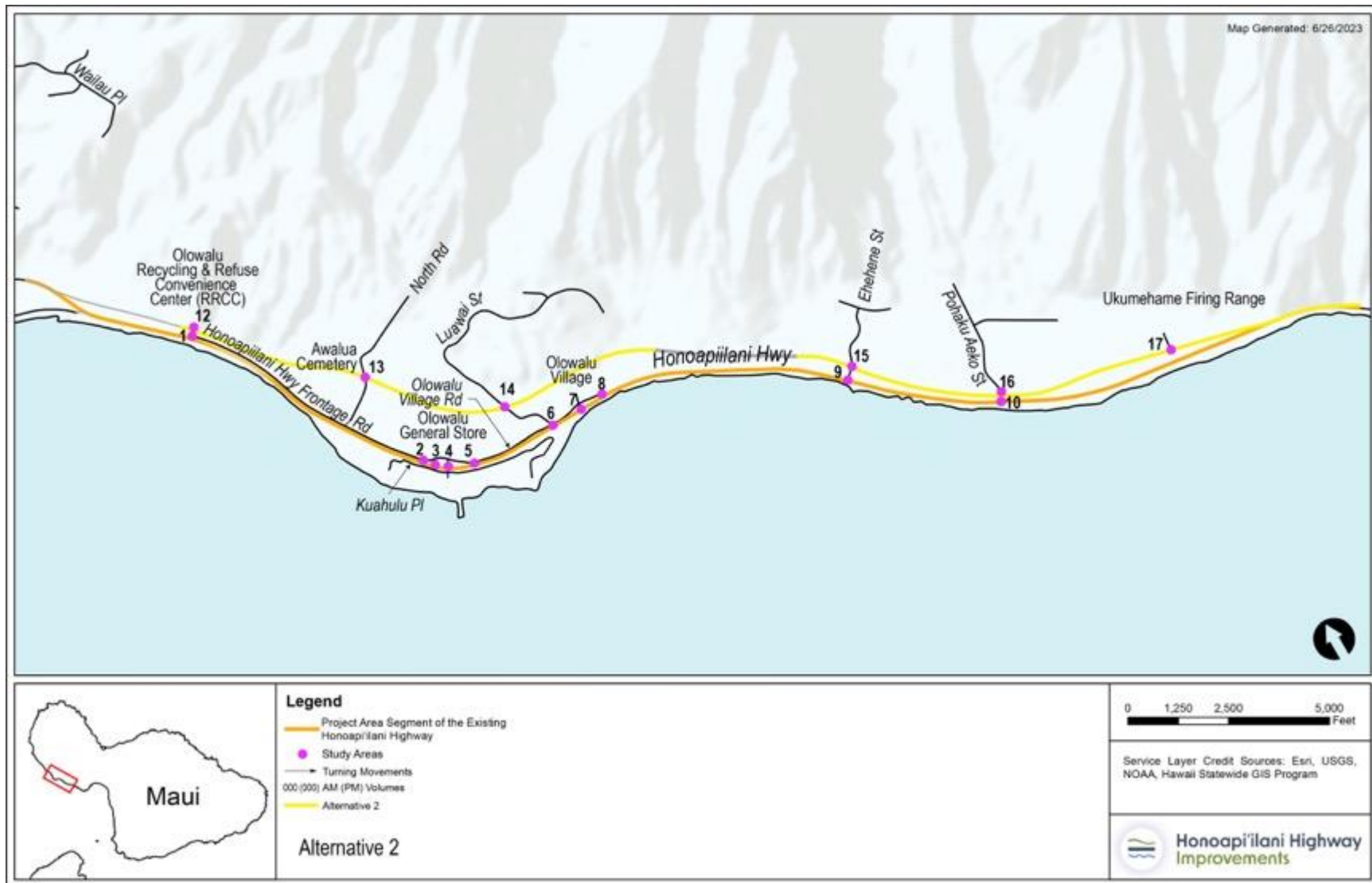




FIGURE III-25. Future Year 2045 Build Alternative 3 Intersection Locations.

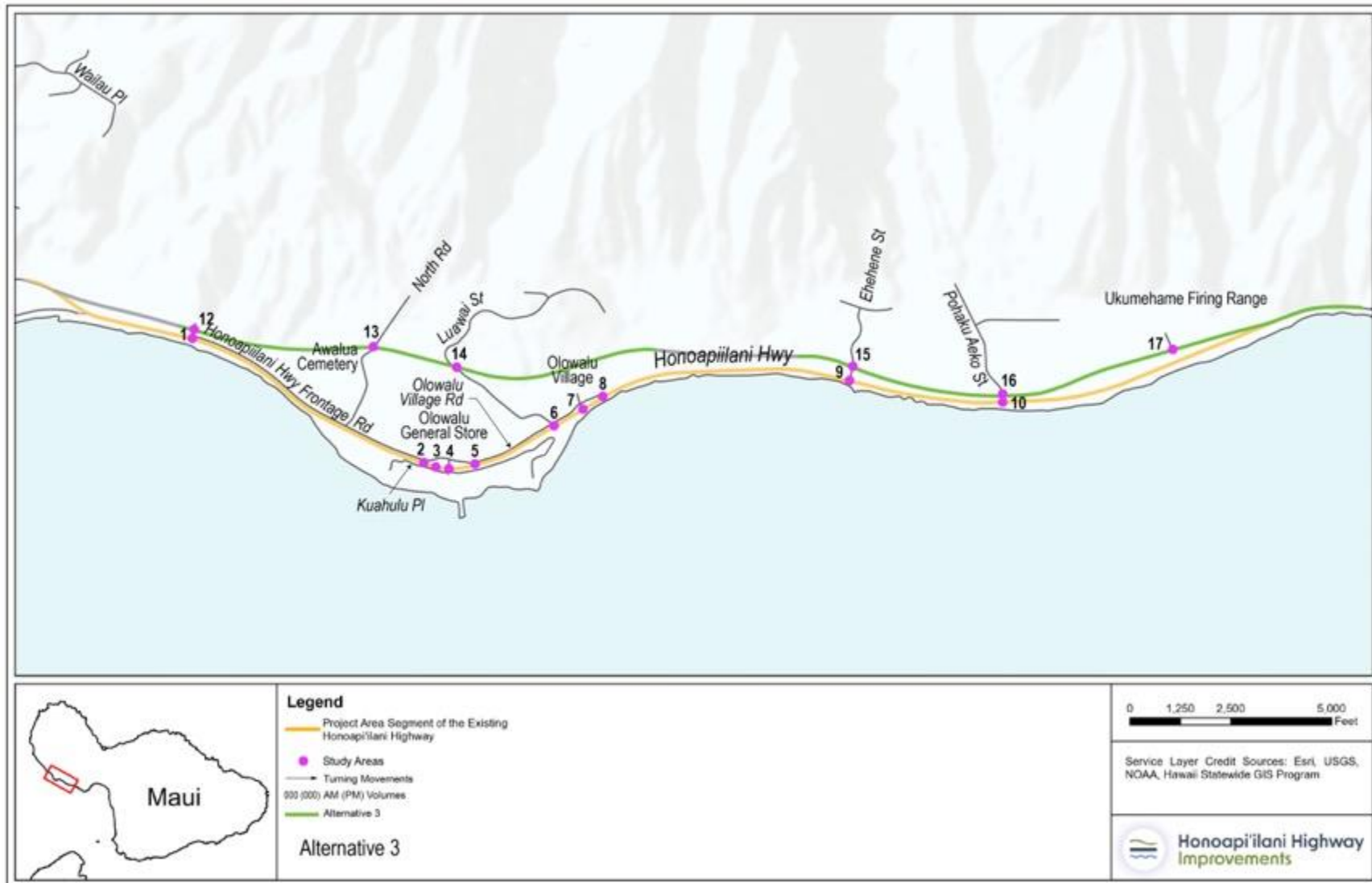
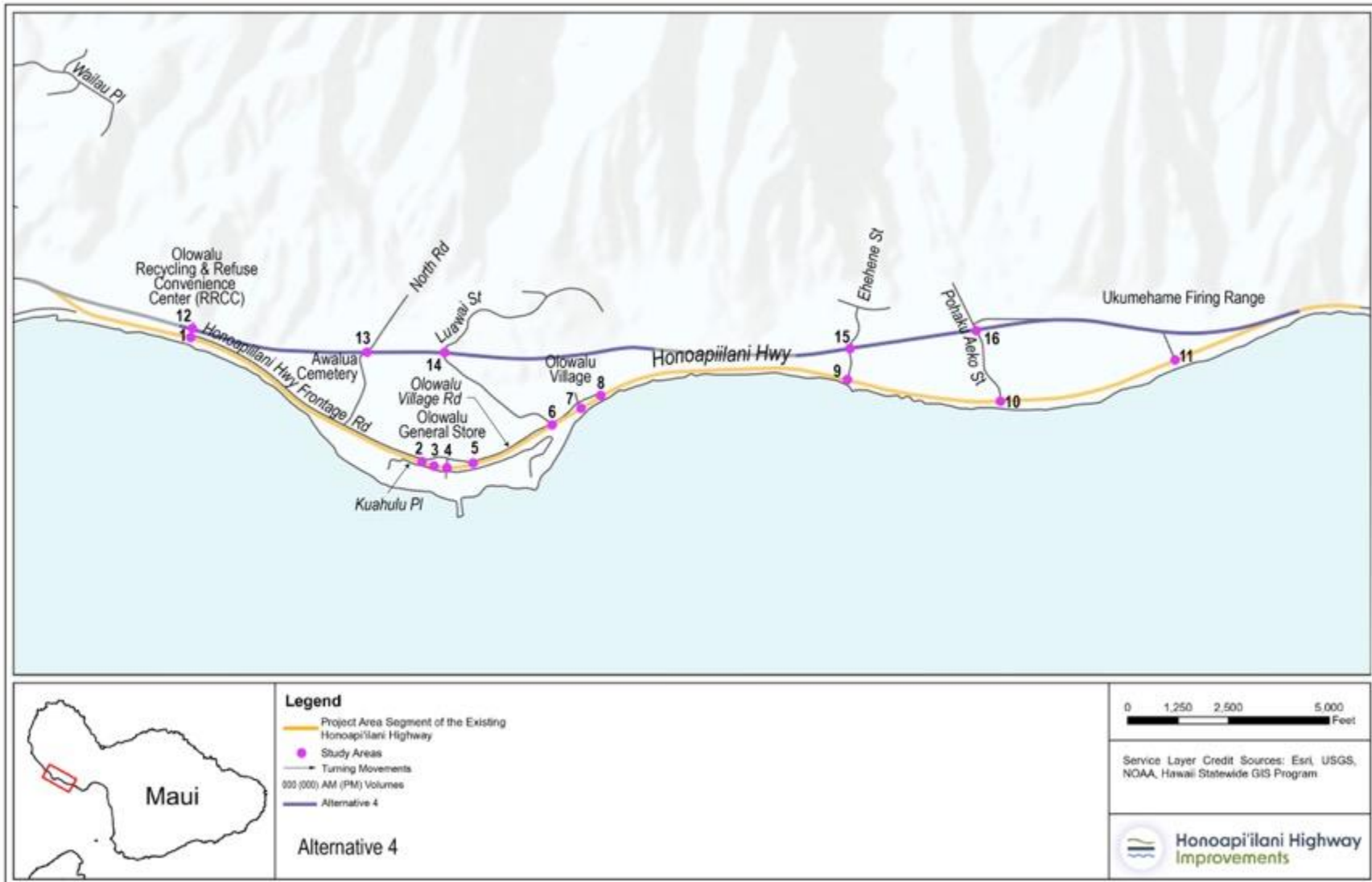






FIGURE III-26. Future Year 2045 Build Alternative 4 Intersection Locations.





## Appendix 3.14 – Transportation – Supplemental Information

FIGURE III-27. Projected Year 2045 No Build Peak Hour Traffic Volumes

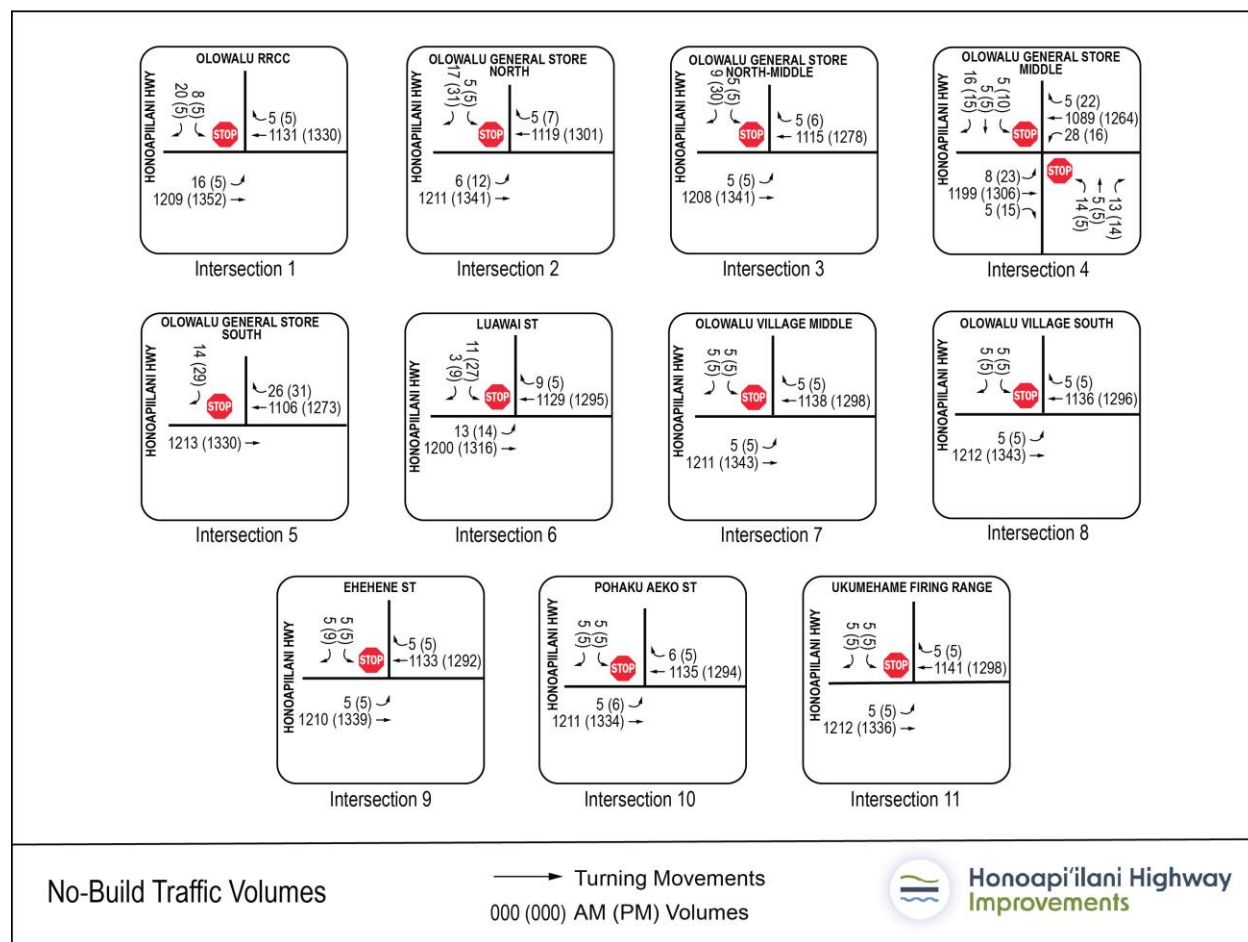




FIGURE III-28. Projected Year 2045 Alternative 1 Peak Hour Traffic Volumes

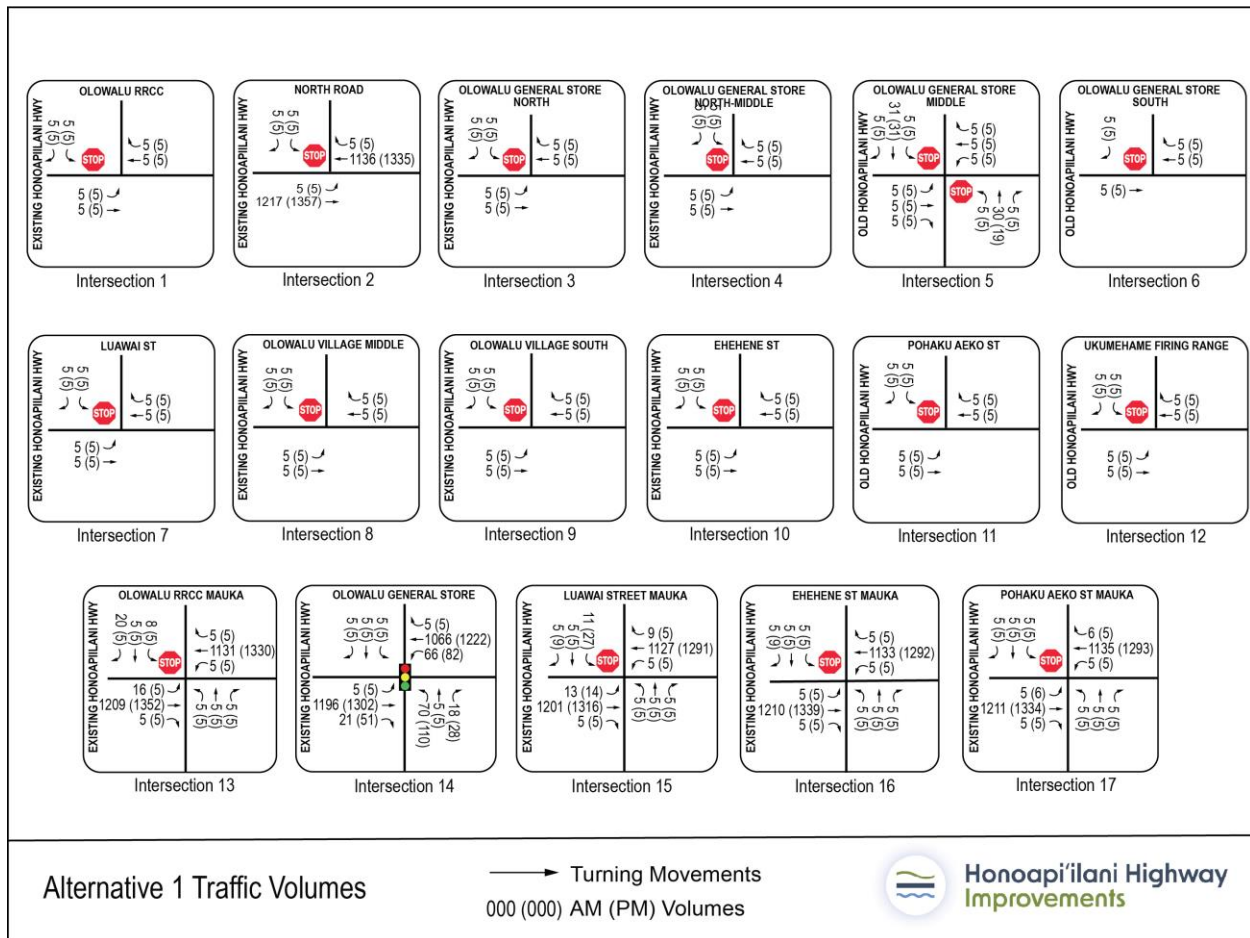




FIGURE III-29. Projected Year 2045 Alternative 2 Peak Hour Traffic Volumes

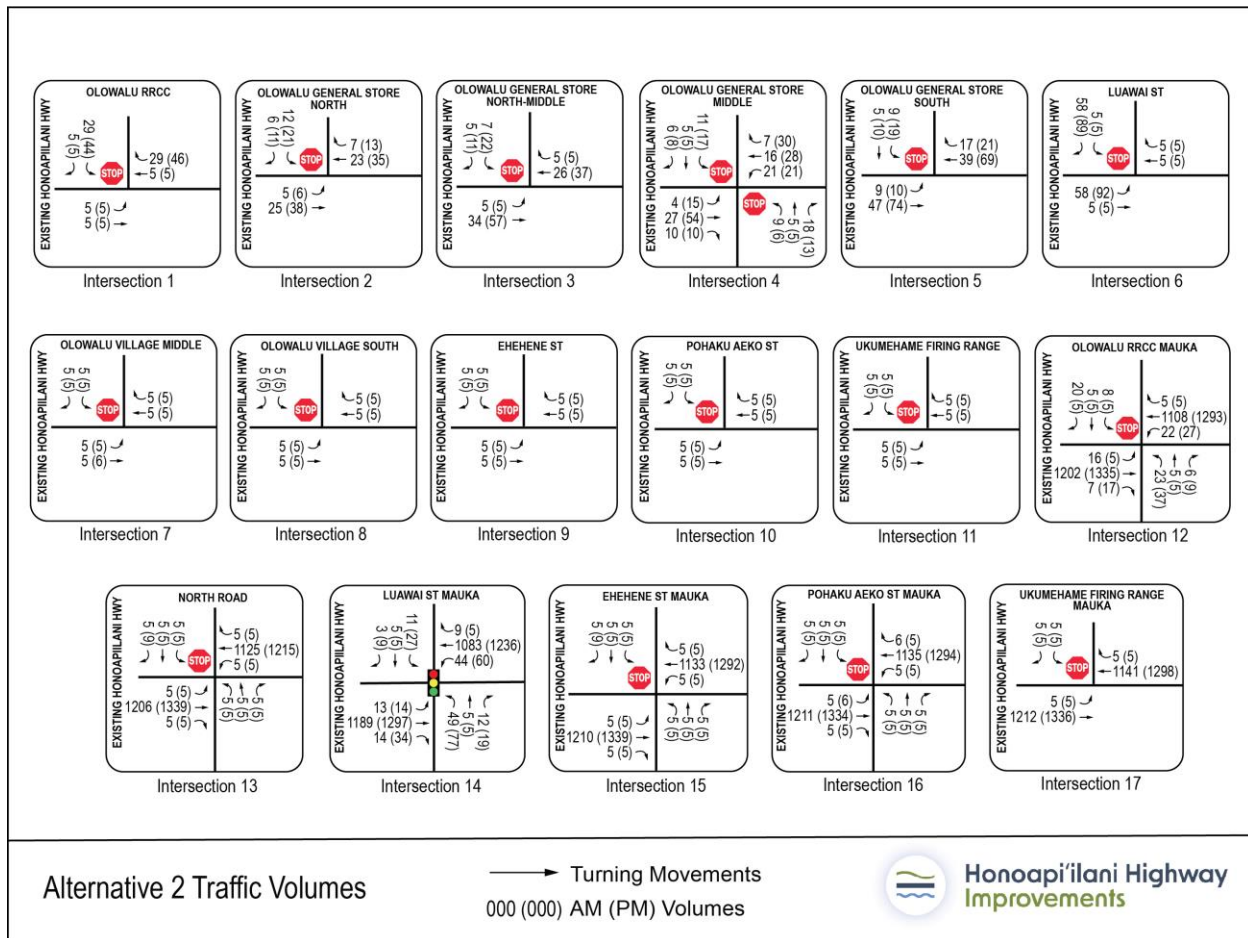




FIGURE III-30. Projected Year 2045 Alternative 3 Peak Hour Traffic Volumes

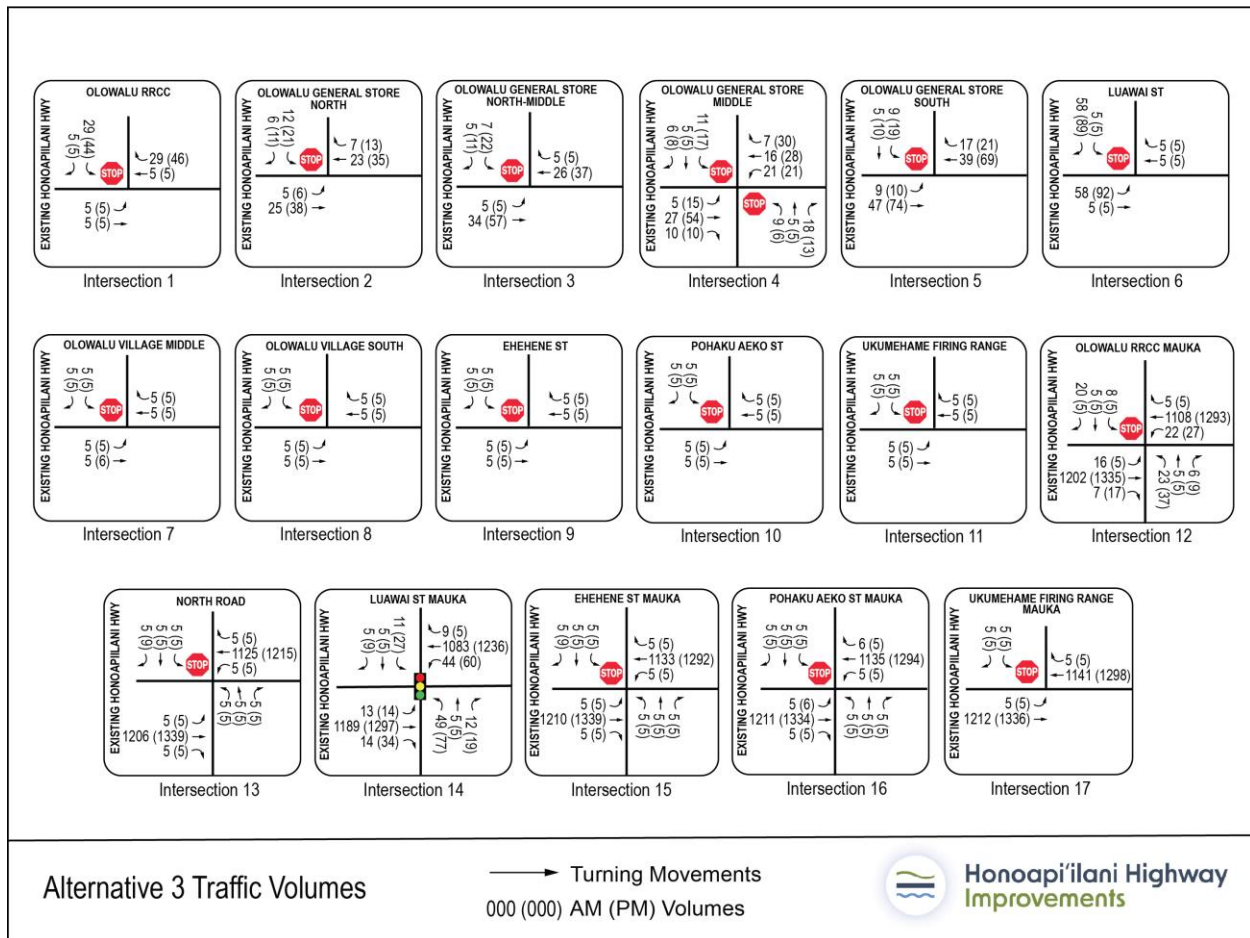






FIGURE III-31. Projected Year 2045 Alternative 4 Peak Hour Traffic Volumes

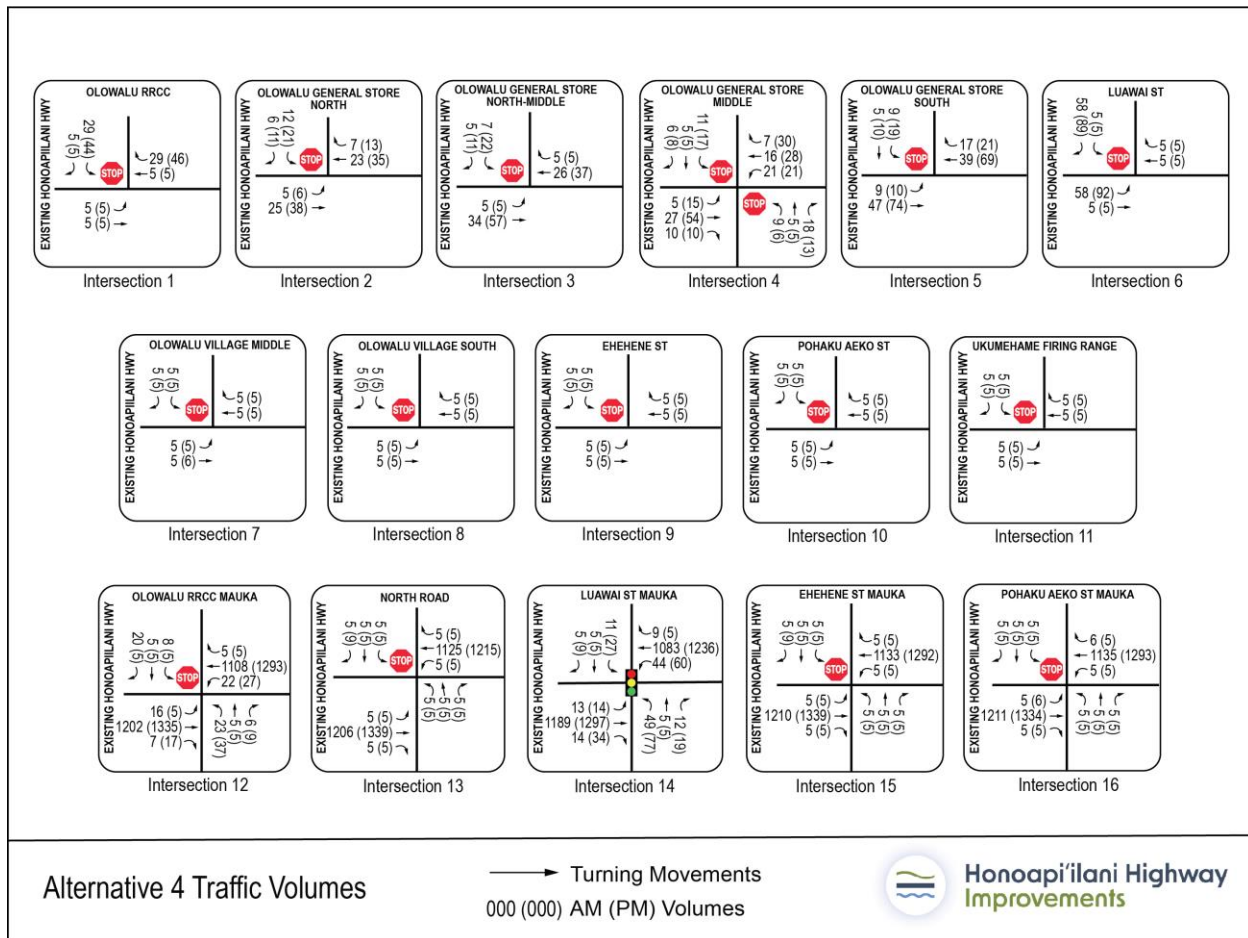



TABLE III-3. **Year 2045 No Build Alternative and Build Alternatives AM Peak-Hour LOS Comparison**

INTERSECTION	TRAFFIC CONTROL	MOVEMENT	NO BUILD	ALT 1	ALT 2	ALT 3	ALT 4
Honoapiʻilani Highway/Olowalu Recycling and Refuse Convenience Center	TWSC	Highest Delay Minor Street	F	C	C	C	C
Honoapiʻilani Highway/North Road	TWSC	Highest Delay Minor Street	N/A	N/A	C	C	C
Honoapiʻilani Highway/Olowalu General Store	Traffic Signal*	Overall*	N/A	B*	N/A	N/A	N/A
Honoapiʻilani Highway/Luawai Street	TWSC/ Traffic Signal*	Highest Delay Minor Street/ Overall*	C	C	B*	B*	B*
Honoapiʻilani Highway/Ehehene Street	TWSC	Highest Delay Minor Street	C	C	C	C	C
Honoapiʻilani Highway/Pōhaku ʻAeko Street	TWSC	Highest Delay Minor Street	C	C	C	C	C
Honoapiʻilani Highway/Ukumehame Firing Range	TWSC	Highest Delay Minor Street	F	N/A	C	C	N/A
Old Honoapiʻilani Highway/Olowalu Recycling and Refuse Convenience Center	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapiʻilani Highway/Olowalu General Store North	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapiʻilani Highway/Olowalu General Store North-Mid	TWSC/Alt 1 Traffic Signal	Highest Delay Minor Street	E	B*	A	A	A
Old Honoapiʻilani Highway/Olowalu General Store Middle	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapiʻilani Highway/Olowalu General Store South	TWSC	Highest Delay Minor Street	C	A	A	A	A
Old Honoapiʻilani Highway/Luawai Street	TWSC	Highest Delay Minor Street	C	A	A	A	A
Old Honoapiʻilani Highway/Olowalu Village Middle	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapiʻilani Highway/Olowalu Village South	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapiʻilani Highway/Ehehene Street	TWSC	Highest Delay Minor Street	C	A	A	A	A
Old Honoapiʻilani Highway/Pōhaku ʻAeko Street	TWSC	Highest Delay Minor Street	C	A	A	A	A
Old Honoapiʻilani Highway/Ukumehame Firing Range	TWSC	Highest Delay Minor Street	F	A	N/A	N/A	A

Note: TWSC = Two-Way STOP-Controlled, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, \* = signalized intersection, N/A=not applicable



TABLE III-4. **No Build Alternative and Build Alternatives PM Peak-Hour LOS Comparison.**

INTERSECTION	TRAFFIC CONTROL	MOVEMENT	NO BUILD	ALT 1	ALT 2	ALT 3	ALT 4
Honoapi'ilani Hwy/Olowalu Recycling and Refuse Convenience Center	TWSC	Highest Delay Minor Street	F	D	D	D	D
Honoapi'ilani Hwy/North Road	TWSC	Highest Delay Minor Street	N/A	N/A	D	D	D
Honoapi'ilani Hwy/Olowalu General	Traffic Signal*	Overall*	N/A	C*	N/A	N/A	N/A
Honoapi'ilani Hwy/Luawai Street	TWSC/ Traffic Signal*	Highest Delay Minor Street/ Overall*	D	D	C*	C*	C*
Honoapi'ilani Hwy/Ehehene Street	TWSC	Highest Delay Minor Street	D	D	D	D	D
Honoapi'ilani Hwy/Pōhaku 'Aeko Street	TWSC	Highest Delay Minor Street	D	D	D	D	D
Honoapi'ilani Hwy/Ukumehame Firing Range	TWSC	Highest Delay Minor Street	F	N/A	D	D	N/A
Old Honoapi'ilani Hwy/ Olowalu Recycling and Refuse Convenience Center	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapi'ilani Hwy/Olowalu General Store North	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapi'ilani Hwy/Olowalu General Store North-Mid	TWSC	Highest Delay Minor Street	E	A	A	A	A
Old Honoapi'ilani Hwy/Olowalu General Store Middle	TWSC	TWSC/Alt 1 Traffic Signal	F	C*	A	A	A
Old Honoapi'ilani Hwy/Olowalu General Store South	TWSC	Highest Delay Minor Street	D	A	A	A	A
Old Honoapi'ilani Hwy/Luawai Street	TWSC	Highest Delay Minor Street	D	A	A	A	A
Old Honoapi'ilani Hwy/Olowalu Village Middle	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapi'ilani Hwy/Olowalu Village South	TWSC	Highest Delay Minor Street	F	A	A	A	A
Old Honoapi'ilani Hwy/Ehehene Street	TWSC	Highest Delay Minor Street	D	A	A	A	A
Old Honoapi'ilani Hwy/Pōhaku 'Aeko Street	TWSC	Highest Delay Minor Street	D	A	A	A	A
Old Honoapi'ilani Hwy/ Ukumehame Firing Range	TWSC	Highest Delay Minor Street	F	A	N/A	N/A	A

Note: TWSC = Two-Way Stop-Controlled, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, \* = signalized intersection, N/A=not applicable



## CRASH DATA DISCUSSION

A safety analysis was performed on the Honoapi'ilani Highway corridor using the AASHTO *Highway Safety Manual* predicted crash frequency methodology. This analysis was focused on the existing Honoapi'ilani Highway as this is where the difference between the No Build Alternative and the Build Alternatives can be best evaluated.

The predicted average crash frequency represents the number of crashes a similar intersection or roadway segment is anticipated to experience on average. It is calculated with safety performance functions, which are equations derived from empirical data based on a facility's characteristics such as geometry, lighting, traffic control, and traffic volumes.

The expected average crash frequency is defined as the estimated number of crashes a facility is likely to experience, accounting for both the predicted crash frequency and the observed crash history. The number of predicted/expected crashes are reported in decimal form because it represents a calculation over time—for example, a 0.2 crash frequency could be defined as one crash occurring every five years, on average.

The safety analysis was conducted using existing and projected Future Year 2045 traffic volumes applied to the No Build and Build Alternatives. Build Alternative 1 was evaluated separately from the other Build Alternatives, because it has a unique access plan for the Olowalu General Store area. Build Alternatives 2, 3, and 4 are combined into a single set of values due to their similarity. Table III-5 shows these results.

TABLE III-5. Predicted Crash Frequency

	PREDICTED AVERAGE CRASH FREQUENCY (CRASHES/YEAR)			EXPECTED AVERAGE CRASH FREQUENCY, N <sub>expected</sub>
Existing Conditions	56.4	19.1	37.2	31.8
Future Year 2045 No Build Alternative	66.7	22.7	44.0	Not Applicable
Build Alternative 1	0.7	0.3	0.5	Not Applicable
Build Alternatives 2, 3, 4	1.8	0.7	1.1	Not Applicable

FI: Fatalities/Injuries; PDO: Property Damage Only

While the No Build Alternative shows an increase in predicted crashes from existing conditions, the Build Alternatives show a clear reduction—with Build Alternative 1 predicted to show the greatest reduction. The reduction in crashes for the Build Alternatives is due to the projected reduction in through traffic volumes on the existing Honoapi'ilani Highway. Even under existing conditions, the number of expected crashes is lower than the number of predicted crashes, which indicates that the highway's safety performance is better than that of similar facilities. Note that expected crash frequencies were determined based on the reported and available crash data.

While all of the Build Alternatives would shift traffic volume from the existing highway to the new highway, this is not equivalent to shifting expected crashes to the new highway—because the new



highway will be constructed in ways that are known to improve safety. (One way of independently estimating the safety implications of the alternatives would be to use sources such as the Oregon DOT *Crash Reduction Factor Manual* to estimate overall crash reduction.) While the existing Honoapiʻilani Highway is undivided, the new highway will be divided with opposite directions of travel separated by a median, which has the potential to reduce crashes by 30% (based on the applicable crash reduction factor).

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## CONSTRUCTION EFFECTS

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The Project is in a section of Honoapiilani Highway designated as rural principal arterial that has limited multimodal infrastructure and transit accessibility. During the construction of the Project, the existing Highway would remain open and operational since the Build Alternatives are not on the existing alignment with the exception of the Build Alternative 1 in the Olowalu area.

Build Alternative 1 differs from the other Build Alternatives in that its alignment would overlap a segment of the existing Honoapiʻilani Highway north of Olowalu. Approximately 2.5 miles of Build Alternative 1 will be constructed in sub-phases with lane closures traffic congestion along the highway corridor. This Alternative requires lane closures due to its use of the existing Honoapiilani Highway and the crossing of it.

Additionally, all Build Alternatives will have lane closures and construction phasing when construction occurs at intersections and where at the north and south ends of the project area, where the new roadway would connect to the existing roadway.

Construction of intersections, bridges and viaducts (where proposed) would cause temporary disruption of traffic on the cross streets. Best practices for maintenance of traffic would be employed during construction.

While construction-related vehicles (including for commuting) would temporarily increase traffic on the existing Honoapiʻilani Highway, there will be measures in place to optimally focus these increases during non-peak-hour periods.

During the construction of the Project a traffic management plan is expected to be developed by the design-builder. Its purpose would be to minimize traffic congestion and maintain the efficiency of the study corridor.

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## ANTICIPATED BENEFICIAL EFFECTS

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The Build Alternatives are designed to optimize traffic operations and safety, including the following:

- All intersections on the new Honoapiʻilani Highway would have exclusive turn lanes and channelized minor-street approaches that separate right-turn movements from left-turn and through movements. The intersections would also incorporate improved geometric features such as median left-turn refuges at unsignalized intersections, which would mitigate the delays that are currently experienced at some of the intersections.



- To maintain operational delays and improve safety for minor-street vehicles, traffic signals are projected to be warranted on the realigned Honoapiʻilani Highway at its intersection with Luawai Street for Build Alternatives 2, 3, and 4, and at its intersection with the Olowalu General Store Driveway for Build Alternative 1.
- Regional through traffic on the existing highway would be reallocated to a new, divided, access-managed Honoapiʻilani Highway, which would improve intersection operations on the existing highway and in turn substantially reduce vehicle delays on the minor-street approaches for the Build Alternatives.
- The volume of traffic would be greatly reduced on the existing Honoapiʻilani Highway—which would remain as a local road—improving operations and increasing safety with a substantial reduction in predicted traffic crashes.
- The Build Alternatives would construct a new divided highway with opposite directions of travel separated by a median, which has the potential to reduce crashes by 30% (based on the applicable crash reduction factor).
- Most of the beneficial indirect effects on traffic from the Build Alternatives would be attributed to a reduction in through traffic volume on the existing Honoapiʻilani Highway. Qualitative indirect effects could include enhanced experiences for visitors to the beach parks that are adjacent to the existing highway. And while destinations such as the Olowalu General Store could see a reduction in drive-by business, reduced traffic volumes in the area would improve the store’s visitor experience.

As a result, and as evaluated in this Draft EIS, there are no adverse effects anticipated with any of the Build Alternatives and no additional mitigation is required.

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## SUMMARY OF ALTERNATIVES EVALUATION

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The evaluation of alternatives indicates that all the Build Alternatives are projected to perform better than the No Build Alternative based on roadway operations, intersection operations, and traffic safety.

Roadway operations, intersection operations, and traffic safety are comparable across the Build Alternatives. Alternatives 2, 3, and 4 appear to be less disruptive during construction because their alignments interact less with the existing Honoapiʻilani Highway. On the other hand, Build Alternative 1 would require substantial coordination during construction to maintain regional traffic flow because part of its alignment is shared with the existing Honoapiʻilani Highway, between Olowalu and Launiupoko.

Both the No Build Alternative and the Build Alternatives would be able to accommodate the projected Future Year 2045 peak-hour traffic volumes within the project area. The Build Alternatives are projected to operate at LOS C—compared to LOS E for the No Build Alternative on a segment capacity basis—indicating that the No Build Alternative would be more susceptible to disruption to regional traffic flow from events within the corridor.



The Build Alternatives are projected to reallocate regional traffic from the existing Honoapiʻilani Highway to the new Honoapiʻilani Highway. This would result in a substantial reduction in future traffic volume on the existing Honoapiʻilani Highway, directly benefitting its intersections operations. For the No Build Alternative, regional traffic would only increase from current levels, resulting in increased delays for minor-street vehicles.

Reduced future traffic volumes on the existing Honoapiʻilani Highway also reduces the number predicted traffic crashes for the Build Alternatives, while the No Build Alternative is projected to experience a slight increase from current levels. In summary, the change in configuration from an undivided roadway in the No Build Alternative to a divided roadway in the Build Alternatives results in lower predicted crashes within the project area.

All Build Alternatives are projected to be similar from a traffic operational perspective. As noted in Section 3.14.5, Build Alternative 1 has greater construction impacts than the other Build Alternatives. A discussion that results in a recommendation for a preferred Build Alternative is included in Chapter 5 of the Draft Environmental Impact Statement (DEIS).



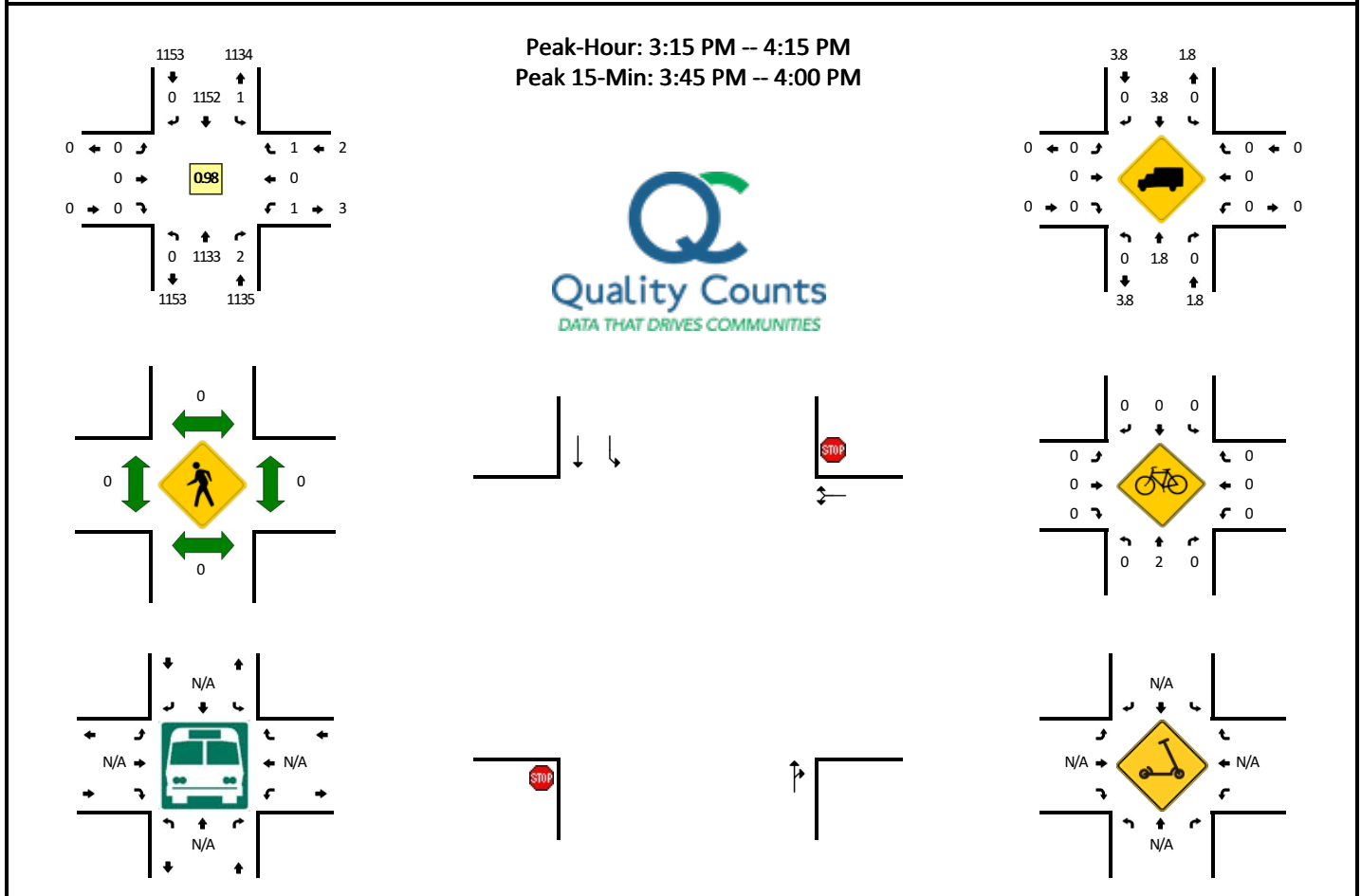


## Appendix A

### Traffic Turning Movement Data

**LOCATION:** Honoapiilani Highway -- Olowalu Recycling/Refuse Convenience Center  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179901  
**DATE:** Wed, May 3 2023



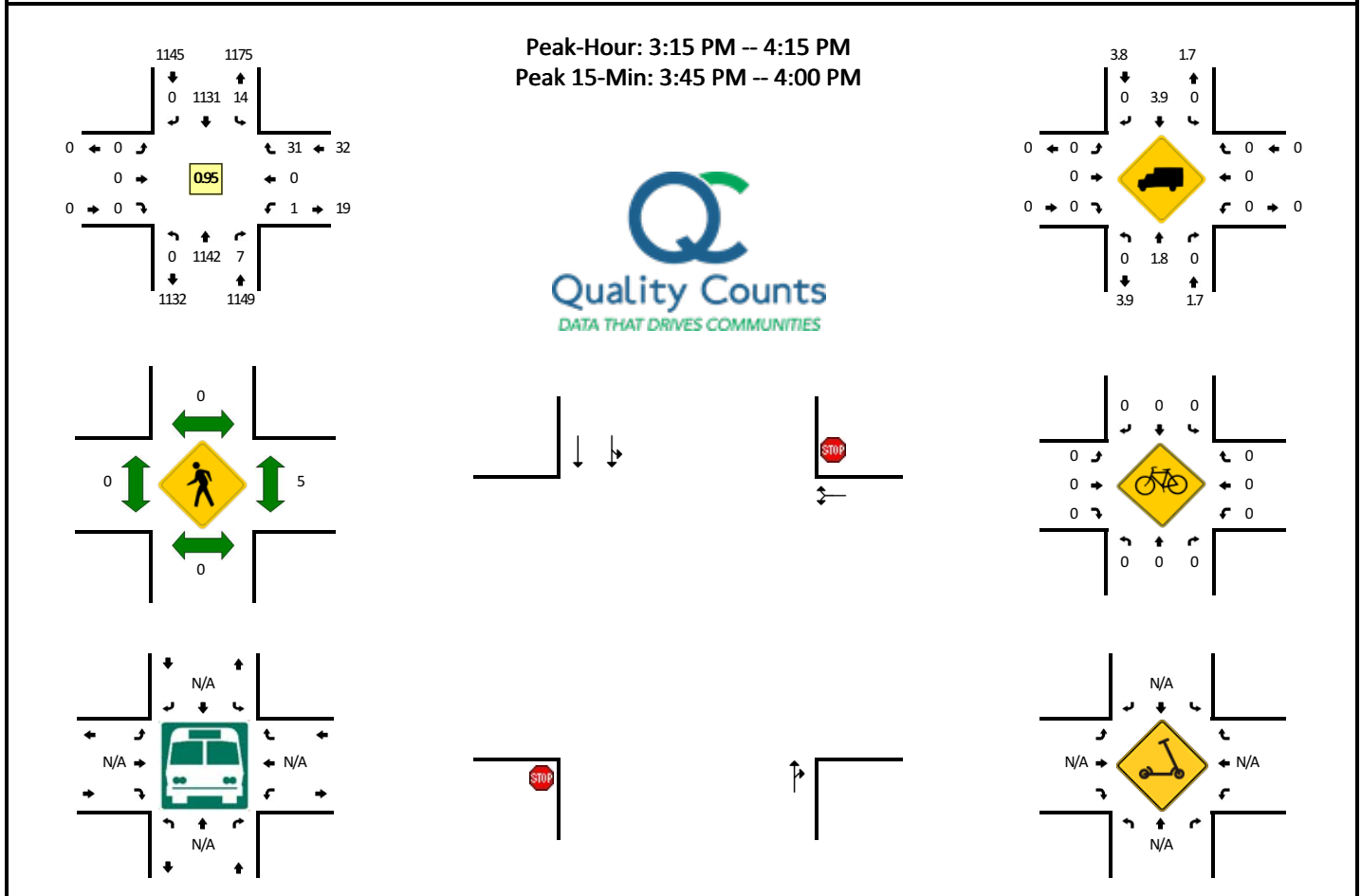
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Recycling/Refuse Convenience Center (Eastbound)				Olowalu Recycling/Refuse Convenience Center (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	11	0	0	0	17	0	0	0	0	0	0	0	0	0	0	28	
12:15 AM	0	10	0	0	0	15	0	0	0	0	0	0	0	0	0	0	25	
12:30 AM	0	12	0	0	0	16	0	0	0	0	0	0	0	0	0	0	28	
12:45 AM	0	6	0	0	0	11	0	0	0	0	0	0	0	0	0	0	17	98
1:00 AM	0	2	1	0	0	9	0	0	0	0	0	0	0	0	0	0	12	82
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	67
1:30 AM	0	5	0	0	0	10	0	0	0	0	0	0	0	0	1	0	16	55
1:45 AM	0	7	0	0	0	9	0	0	0	0	0	0	0	0	0	0	16	54
2:00 AM	0	9	0	0	0	10	0	0	0	0	0	0	0	0	1	0	20	62
2:15 AM	0	6	0	0	0	10	0	0	0	0	0	0	0	0	0	0	16	68
2:30 AM	0	6	0	0	0	12	0	0	0	0	0	0	0	0	0	0	18	70
2:45 AM	0	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	15	69
3:00 AM	0	6	0	0	0	16	0	0	0	0	0	0	0	0	0	0	22	71
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	75
3:30 AM	0	20	0	0	0	11	0	0	0	0	0	0	0	0	0	0	31	88
3:45 AM	0	18	1	0	0	13	0	0	0	0	0	0	0	0	0	0	32	105
4:00 AM	0	16	0	0	0	22	0	0	0	0	0	0	0	0	0	0	38	121
4:15 AM	0	38	0	0	0	27	0	0	0	0	0	0	0	0	0	0	65	166
4:30 AM	0	41	0	0	0	20	0	0	0	0	0	0	0	0	0	0	61	196
4:45 AM	0	49	0	0	0	19	0	0	0	0	0	0	0	0	0	0	68	232
5:00 AM	0	69	0	0	0	54	0	0	0	0	0	0	0	0	0	0	123	317
5:15 AM	0	94	0	0	0	40	0	0	0	0	0	0	0	0	0	0	134	386
5:30 AM	0	139	0	0	0	70	0	0	0	0	0	0	0	0	0	0	209	534
5:45 AM	0	141	0	0	0	73	0	0	0	0	0	0	0	0	0	0	214	680
6:00 AM	0	180	0	0	0	123	0	0	0	0	0	0	0	0	0	0	303	860
6:15 AM	0	213	2	0	0	147	0	0	0	0	0	0	0	0	1	0	363	1089
6:30 AM	0	234	0	0	0	148	0	0	0	0	0	0	0	0	0	0	382	1262
6:45 AM	0	233	0	0	0	187	0	0	0	0	0	0	0	0	0	0	420	1468
7:00 AM	0	268	0	0	1	163	0	0	0	0	0	0	0	0	0	0	432	1597
7:15 AM	0	296	0	0	0	190	0	0	0	0	0	0	0	0	1	0	487	1721
7:30 AM	0	299	0	0	1	204	0	0	0	0	0	0	0	0	0	0	504	1843
7:45 AM	0	262	1	0	6	204	0	0	0	0	0	0	0	0	3	0	476	1899
8:00 AM	0	249	1	1	5	217	0	0	0	0	0	0	3	0	4	0	480	1947
8:15 AM	0	272	2	1	3	253	0	0	0	0	0	0	1	0	6	0	538	1998
8:30 AM	0	244	2	1	4	249	0	0	0	0	0	0	2	0	3	0	505	1999
8:45 AM	0	277	0	0	2	217	0	0	0	0	0	0	2	0	2	0	500	2023
9:00 AM	0	205	2	1	10	254	0	0	0	0	0	0	2	0	6	0	480	2023

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Recycling/Refuse Convenience Center (Eastbound)				Olowalu Recycling/Refuse Convenience Center (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:15 AM	0	232	2	0	2	288	0	0	0	0	0	0	1	0	10	0	535	2020
9:30 AM	0	247	1	0	2	269	0	0	0	0	0	0	3	0	2	0	524	2039
9:45 AM	0	146	2	0	5	303	0	0	0	0	0	0	0	0	3	0	459	1998
10:00 AM	0	241	2	0	5	248	0	0	0	0	0	0	3	0	4	0	503	2021
10:15 AM	0	238	0	0	4	273	0	0	0	0	0	0	1	0	10	0	526	2012
10:30 AM	0	174	1	0	6	271	0	0	0	0	0	0	0	0	3	0	455	1943
10:45 AM	0	185	2	0	5	281	0	0	0	0	0	0	2	0	7	0	482	1966
11:00 AM	0	199	3	1	7	279	0	1	0	0	0	0	0	0	6	0	496	1959
11:15 AM	0	200	2	0	4	273	0	0	0	0	0	0	2	0	4	0	485	1918
11:30 AM	0	214	2	1	7	267	0	0	0	0	0	0	0	0	8	0	499	1962
11:45 AM	0	231	3	0	3	222	0	0	0	0	0	0	1	0	8	0	468	1948
12:00 PM	0	245	1	0	6	222	0	0	0	0	0	0	1	0	6	0	481	1933
12:15 PM	0	205	0	0	5	253	0	0	0	0	0	0	1	0	7	0	471	1919
12:30 PM	0	272	3	0	4	238	0	0	0	0	0	0	0	0	4	0	521	1941
12:45 PM	0	256	0	0	11	234	0	0	0	0	0	0	0	0	9	0	510	1983
1:00 PM	0	228	4	0	3	204	0	0	0	0	0	0	4	0	6	0	449	1951
1:15 PM	0	287	3	0	5	204	0	0	0	0	0	0	2	0	7	0	508	1988
1:30 PM	0	259	1	1	7	237	0	0	0	0	0	0	2	0	4	0	511	1978
1:45 PM	0	271	1	0	7	215	0	0	0	0	0	0	5	0	5	0	504	1972
2:00 PM	0	251	0	0	6	226	0	0	0	0	0	0	1	0	7	0	491	2014
2:15 PM	0	249	2	0	4	267	0	0	0	0	0	0	2	0	5	0	529	2035
2:30 PM	0	287	3	0	1	284	0	0	0	0	0	0	2	0	3	0	580	2104
2:45 PM	0	303	0	0	0	254	0	0	0	0	0	0	0	0	1	0	558	2158
3:00 PM	0	273	0	0	3	273	0	0	0	0	0	0	0	0	2	0	551	2218
3:15 PM	0	258	1	0	1	296	0	0	0	0	0	0	0	0	0	0	556	2245
3:30 PM	0	298	0	0	0	278	0	0	0	0	0	0	0	0	1	0	577	2242
3:45 PM	0	284	0	0	0	302	0	0	0	0	0	0	0	0	0	0	586	2270
4:00 PM	0	293	1	0	0	276	0	0	0	0	0	0	1	0	0	0	571	2290
4:15 PM	0	287	0	0	0	274	0	0	0	0	0	0	0	0	0	0	561	2295
4:30 PM	0	284	0	0	0	298	0	0	0	0	0	0	0	0	0	0	582	2300
4:45 PM	0	270	1	0	0	320	0	0	0	0	0	0	1	0	0	0	592	2306
5:00 PM	0	261	0	0	0	307	0	1	0	0	0	0	0	0	0	0	569	2304
5:15 PM	0	264	1	0	1	304	0	0	0	0	0	0	2	0	1	0	573	2316
5:30 PM	0	201	0	0	0	256	0	0	0	0	0	0	0	0	0	0	457	2191
5:45 PM	0	198	1	0	1	201	0	0	0	0	0	0	1	0	0	0	402	2001
6:00 PM	0	206	0	0	0	158	0	0	0	0	0	0	0	0	0	0	364	1796
6:15 PM	0	197	0	0	0	154	0	0	0	0	0	0	0	0	0	0	351	1574
6:30 PM	0	164	0	1	0	174	0	0	0	0	0	0	0	0	0	0	339	1456
6:45 PM	0	149	0	0	0	144	0	0	0	0	0	0	0	0	1	0	294	1348
7:00 PM	0	127	0	0	0	134	0	0	0	0	0	0	0	0	0	0	261	1245
7:15 PM	0	135	1	0	0	137	0	0	0	0	0	0	0	0	2	0	275	1169
7:30 PM	0	106	0	0	0	142	0	0	0	0	0	0	0	0	0	0	248	1078
7:45 PM	0	131	0	0	2	122	0	0	0	0	0	0	0	0	0	0	255	1039
8:00 PM	0	116	0	0	0	119	0	0	0	0	0	0	0	0	0	0	235	1013
8:15 PM	0	96	0	0	0	118	0	0	0	0	0	0	0	0	0	0	214	952
8:30 PM	0	130	0	0	0	116	0	0	0	0	0	0	0	0	0	0	246	950
8:45 PM	0	92	0	0	0	93	0	0	0	0	0	0	0	0	0	0	185	880
9:00 PM	0	139	0	0	0	84	0	0	0	0	0	0	0	0	0	0	223	868
9:15 PM	0	100	0	0	0	103	0	0	0	0	0	0	0	0	0	0	203	857
9:30 PM	0	76	0	0	0	80	0	0	0	0	0	0	0	0	0	0	156	767
9:45 PM	0	77	1	0	0	76	0	0	0	0	0	0	0	0	0	0	154	736
10:00 PM	0	89	0	0	0	73	0	0	0	0	0	0	0	0	0	0	162	675
10:15 PM	0	64	0	0	1	91	0	0	0	0	0	0	0	0	1	0	157	629
10:30 PM	0	40	0	0	0	53	0	0	0	0	0	0	0	0	0	0	93	566
10:45 PM	0	31	0	0	0	44	0	1	0	0	0	0	0	0	0	0	76	488
11:00 PM	0	21	0	0	0	54	0	0	0	0	0	0	0	0	0	0	75	401
11:15 PM	0	24	0	0	0	54	0	0	0	0	0	0	0	0	0	0	78	322
11:30 PM	0	20	0	0	0	29	0	0	0	0	0	0	0	0	0	0	49	278
11:45 PM	0	11	0	0	0	25	0	0	0	0	0	0	0	0	0	0	36	238
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1136	0	0	0	1208	0	0	0	0	0	0	0	0	0	0	2344	
Heavy Trucks	0	24	0	0	0	40	0	0	0	0	0	0	0	0	0	0	64	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles																		
Scooters																		

Comments:

**LOCATION:** Honoapiilani Highway -- Olowalu General Store-North Driveway  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179902  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu General Store-North Driveway (Eastbound)				Olowalu General Store-North Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	10	0	0	0	17	0	0	0	0	0	0	0	0	0	0	27	
12:15 AM	0	11	0	0	0	16	0	0	0	0	0	0	0	0	0	0	27	
12:30 AM	0	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	28	
12:45 AM	0	6	0	0	0	12	0	0	0	0	0	0	0	0	0	0	18	100
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	84
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	67
1:30 AM	0	4	0	0	0	8	0	0	0	0	0	0	0	0	0	0	12	51
1:45 AM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	20	53
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	60
2:15 AM	0	7	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17	67
2:30 AM	0	4	0	0	0	11	0	0	0	0	0	0	0	0	0	0	15	70
2:45 AM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	16	66
3:00 AM	0	5	0	0	0	13	0	0	0	0	0	0	0	0	0	0	18	66
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	69
3:30 AM	0	21	0	0	0	13	0	0	0	0	0	0	0	0	0	0	34	88
3:45 AM	0	22	0	0	0	13	0	0	0	0	0	0	0	0	0	0	35	107
4:00 AM	0	14	0	0	0	22	0	0	0	0	0	0	0	0	0	0	36	125
4:15 AM	0	41	0	0	0	28	0	0	0	0	0	0	0	0	0	0	69	174
4:30 AM	0	36	0	0	0	20	0	0	0	0	0	0	0	0	0	0	56	196
4:45 AM	0	51	0	0	0	22	0	0	0	0	0	0	0	0	0	0	73	234
5:00 AM	0	68	0	0	0	49	0	0	0	0	0	0	0	0	0	0	117	315
5:15 AM	0	97	0	0	0	45	0	0	0	0	0	0	0	0	0	0	142	388
5:30 AM	0	156	0	0	0	68	0	0	0	0	0	0	0	0	1	0	225	557
5:45 AM	0	142	0	0	0	75	0	0	0	0	0	0	0	0	2	0	219	703
6:00 AM	0	172	0	0	0	125	0	0	0	0	0	0	0	0	1	0	298	884
6:15 AM	0	228	0	0	0	150	0	0	0	0	0	0	0	0	1	0	379	1121
6:30 AM	0	224	0	0	0	144	0	0	0	0	0	0	0	0	2	0	370	1266
6:45 AM	0	215	0	0	0	157	0	0	0	0	0	0	0	0	1	0	373	1420
7:00 AM	0	292	0	0	0	185	0	0	0	0	0	0	0	0	2	0	479	1601
7:15 AM	0	293	0	0	0	188	0	0	0	0	0	0	0	0	6	0	487	1709
7:30 AM	0	297	0	0	0	206	0	0	0	0	0	0	0	0	3	0	506	1845
7:45 AM	0	251	0	0	0	212	0	0	0	0	0	0	0	0	2	0	465	1937
8:00 AM	0	253	0	0	0	223	0	0	0	0	0	0	1	0	2	0	479	1937
8:15 AM	0	273	0	0	0	250	0	0	0	0	0	0	0	0	3	0	526	1976
8:30 AM	0	261	2	0	0	243	0	0	0	0	0	0	4	0	1	0	511	1981
8:45 AM	0	256	2	0	1	237	0	3	0	0	0	0	0	0	4	0	503	2019
9:00 AM	0	218	1	0	2	248	0	0	0	0	0	0	0	0	1	0	470	2010

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu General Store-North Driveway (Eastbound)				Olowalu General Store-North Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:15 AM	0	239	2	0	1	271	0	0	0	0	0	0	1	0	9	0	523	2007
9:30 AM	0	229	0	0	2	286	0	1	0	0	0	0	0	0	3	0	521	2017
9:45 AM	0	144	0	0	2	295	0	0	0	0	0	0	0	0	6	0	447	1961
10:00 AM	0	258	1	0	2	251	0	1	0	0	0	0	0	0	5	0	518	2009
10:15 AM	0	220	1	0	1	272	0	1	0	0	0	0	0	0	5	0	500	1986
10:30 AM	0	175	3	1	3	277	0	0	0	0	0	0	1	0	7	0	467	1932
10:45 AM	0	185	2	0	1	283	0	0	0	0	0	0	1	0	6	0	478	1963
11:00 AM	0	211	0	0	1	282	0	2	0	0	0	0	0	0	6	0	502	1947
11:15 AM	0	193	0	0	7	271	0	0	0	0	0	0	3	0	2	0	476	1923
11:30 AM	0	201	3	0	5	276	0	1	0	0	0	0	3	0	10	0	499	1955
11:45 AM	0	217	2	0	7	208	0	1	0	0	0	0	3	0	16	0	454	1931
12:00 PM	0	228	5	0	4	229	0	0	0	0	0	0	4	0	9	0	479	1908
12:15 PM	0	195	2	0	3	228	0	0	0	0	0	0	9	0	7	0	444	1876
12:30 PM	0	290	3	0	2	258	0	1	0	0	0	0	4	0	6	0	564	1941
12:45 PM	0	234	3	0	5	225	0	0	0	0	0	0	0	0	13	0	480	1967
1:00 PM	0	232	0	0	5	202	0	0	0	0	0	0	1	0	11	0	451	1939
1:15 PM	0	272	1	0	5	217	0	0	0	0	0	0	4	0	7	0	506	2001
1:30 PM	0	257	1	0	2	234	0	0	0	0	0	0	2	0	10	0	506	1943
1:45 PM	0	255	2	0	0	207	0	0	0	0	0	0	3	0	13	0	480	1943
2:00 PM	0	245	9	0	5	242	0	0	0	0	0	0	2	0	9	0	512	2004
2:15 PM	0	244	4	0	1	259	0	0	0	0	0	0	3	0	5	0	516	2014
2:30 PM	0	281	4	0	3	283	0	1	0	0	0	0	3	0	13	0	588	2096
2:45 PM	0	260	3	0	2	260	0	2	0	0	0	0	1	0	15	0	543	2159
3:00 PM	0	274	0	0	1	274	0	1	0	0	0	0	1	0	15	0	566	2213
3:15 PM	0	277	0	0	3	273	0	0	0	0	0	0	0	0	11	0	564	2261
3:30 PM	0	276	1	0	2	284	0	1	0	0	0	0	0	0	9	0	573	2246
3:45 PM	0	305	2	0	3	296	0	0	0	0	0	0	1	0	4	0	611	2314
4:00 PM	0	284	4	0	4	278	0	1	0	0	0	0	0	0	7	0	578	2326
4:15 PM	0	277	1	0	1	279	0	1	0	0	0	0	2	0	10	0	571	2333
4:30 PM	0	250	4	0	3	294	0	0	0	0	0	0	2	0	9	0	562	2322
4:45 PM	0	259	3	1	3	327	0	0	0	0	0	0	0	0	8	0	601	2312
5:00 PM	0	265	1	2	0	315	0	0	0	0	0	0	2	0	7	0	592	2326
5:15 PM	0	238	2	0	3	296	0	0	0	0	0	0	1	0	7	0	547	2302
5:30 PM	0	203	0	0	1	261	0	0	0	0	0	0	5	0	5	0	475	2215
5:45 PM	0	192	1	0	1	195	0	0	0	0	0	0	4	0	4	0	397	2011
6:00 PM	0	205	0	0	0	152	0	0	0	0	0	0	5	0	4	0	366	1785
6:15 PM	0	188	0	0	0	149	0	0	0	0	0	0	0	0	1	0	338	1576
6:30 PM	0	170	0	0	0	175	0	0	0	0	0	0	0	0	1	0	346	1447
6:45 PM	0	129	0	0	0	144	0	0	0	0	0	0	0	0	2	0	275	1325
7:00 PM	0	128	0	0	0	151	0	0	0	0	0	0	0	0	0	0	279	1238
7:15 PM	0	132	0	0	0	132	0	0	0	0	0	0	0	0	0	0	264	1164
7:30 PM	0	94	0	0	0	152	0	0	0	0	0	0	0	0	0	0	246	1064
7:45 PM	0	136	0	0	0	117	0	0	0	0	0	0	0	0	0	0	253	1042
8:00 PM	0	121	0	0	0	119	0	0	0	0	0	0	0	0	0	0	240	1003
8:15 PM	0	100	0	0	0	111	0	0	0	0	0	0	0	0	0	0	211	950
8:30 PM	0	110	0	0	0	123	0	0	0	0	0	0	0	0	0	0	233	937
8:45 PM	0	99	0	0	0	87	0	0	0	0	0	0	0	0	0	0	186	870
9:00 PM	0	124	0	0	0	91	0	0	0	0	0	0	0	0	0	0	215	845
9:15 PM	0	91	0	0	0	101	0	0	0	0	0	0	0	0	0	0	192	826
9:30 PM	0	86	0	0	0	81	0	0	0	0	0	0	0	0	0	0	167	760
9:45 PM	0	80	0	0	0	77	0	0	0	0	0	0	0	0	0	0	157	731
10:00 PM	0	81	0	0	0	75	0	0	0	0	0	0	0	0	0	0	156	672
10:15 PM	0	55	0	0	0	81	0	0	0	0	0	0	0	0	0	0	136	616
10:30 PM	0	43	0	0	0	65	0	0	0	0	0	0	0	0	0	0	108	557
10:45 PM	0	27	0	0	0	46	0	0	0	0	0	0	0	0	0	0	73	473
11:00 PM	0	20	0	0	0	54	0	0	0	0	0	0	0	0	0	0	74	391
11:15 PM	0	33	0	0	0	52	0	0	0	0	0	0	0	0	0	0	85	340
11:30 PM	0	13	0	0	0	29	0	0	0	0	0	0	0	0	0	0	42	274
11:45 PM	0	11	0	0	0	24	0	0	0	0	0	0	0	0	0	0	35	236
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1220	8	0	12	1184	0	0	0	0	0	0	4	0	16	0	2444	
Heavy Trucks	0	20	0	0	0	36	0	0	0	0	0	0	0	0	0	0	56	
Buses																		
Pedestrians	0				0				0				0				0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

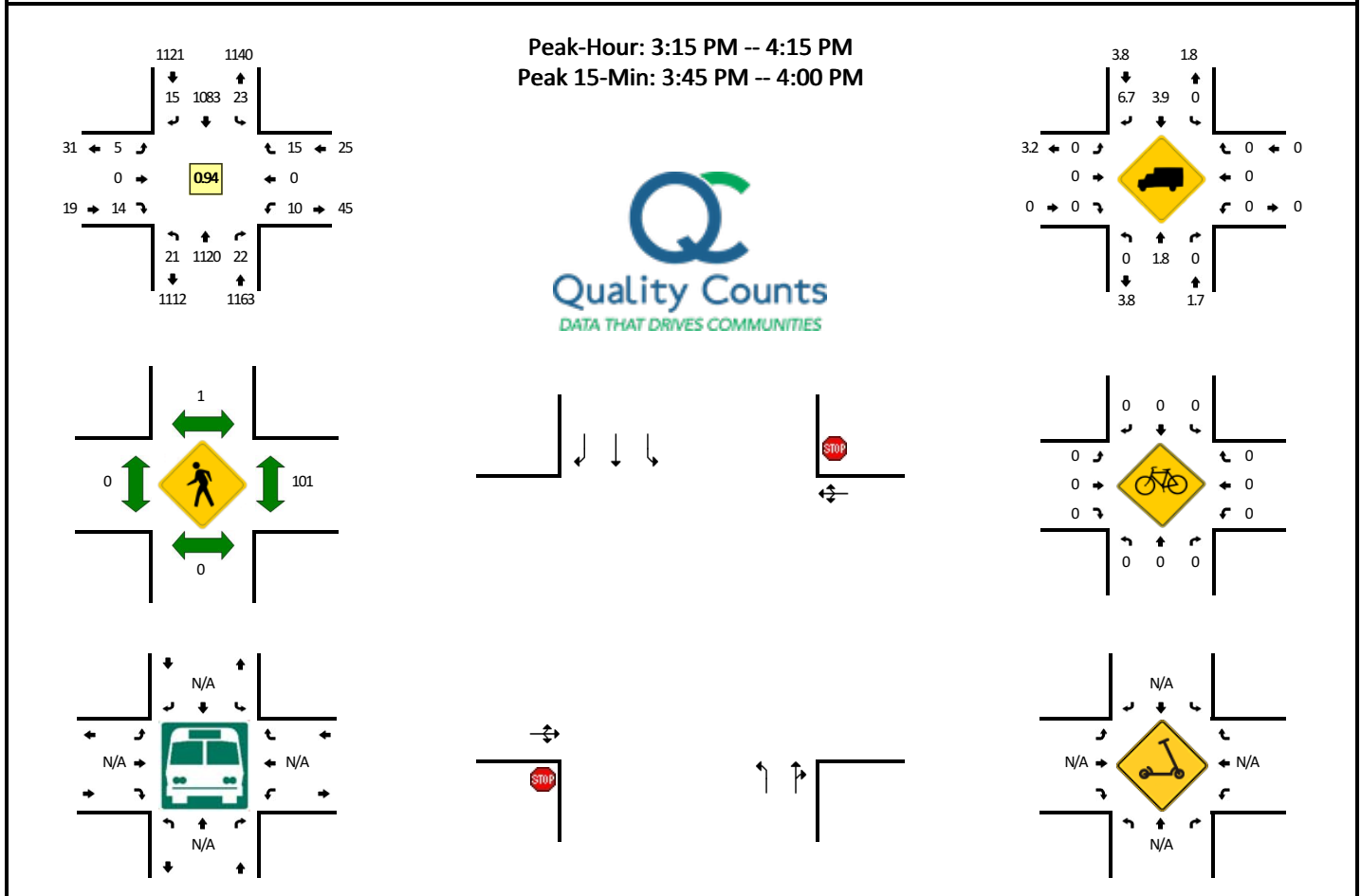
Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



**LOCATION:** Honoapiilani Highway -- Olowalu General Store-Middle Driveway  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179903  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu General Store-Middle Driveway (Eastbound)				Olowalu General Store-Middle Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	11	0	0	0	17	1	0	0	0	1	0	0	0	0	0	30	
12:15 AM	0	10	0	0	0	16	0	0	0	0	0	0	0	0	1	0	27	
12:30 AM	0	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	28	
12:45 AM	0	5	0	0	0	12	0	0	0	0	0	0	0	0	0	0	17	102
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	83
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	66
1:30 AM	0	4	0	0	0	8	0	0	0	0	0	0	0	0	0	0	12	50
1:45 AM	0	10	0	0	0	9	1	0	0	0	0	0	0	0	0	0	20	53
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	60
2:15 AM	0	7	0	0	1	9	0	0	0	0	0	0	0	0	0	0	17	67
2:30 AM	0	4	0	0	0	11	0	0	0	0	0	0	0	0	0	0	15	70
2:45 AM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	16	66
3:00 AM	0	5	0	0	0	13	0	0	0	0	0	1	0	0	0	0	19	67
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	70
3:30 AM	0	21	0	0	0	12	0	0	0	0	0	0	0	0	0	0	33	88
3:45 AM	0	22	0	0	0	14	0	0	0	0	0	0	0	0	0	0	36	108
4:00 AM	0	15	0	0	1	20	0	0	1	0	0	0	0	0	0	0	37	126
4:15 AM	0	41	0	0	0	27	0	0	0	0	0	1	0	0	0	0	69	175
4:30 AM	0	36	0	0	0	19	0	0	0	0	0	0	0	0	0	0	55	197
4:45 AM	0	51	1	0	0	22	0	0	0	0	0	1	0	0	0	0	75	236
5:00 AM	0	71	0	0	0	49	0	0	0	0	0	3	0	0	0	0	123	322
5:15 AM	0	94	0	0	0	44	0	0	0	0	0	3	0	0	2	0	143	396
5:30 AM	0	155	1	0	0	69	0	0	1	0	0	1	0	0	0	0	227	568
5:45 AM	0	137	0	0	0	74	0	0	1	0	0	3	0	0	3	0	218	711
6:00 AM	0	163	0	0	1	123	0	0	1	1	1	1	0	1	0	3	294	882
6:15 AM	0	223	0	0	1	150	0	0	1	0	1	1	0	0	0	2	378	1117
6:30 AM	2	216	0	0	4	137	1	0	3	0	0	0	0	0	3	0	366	1256
6:45 AM	3	211	0	0	2	152	0	0	0	0	2	0	0	0	4	0	374	1412
7:00 AM	2	293	0	0	1	181	0	0	1	0	2	0	0	0	0	0	480	1598
7:15 AM	2	293	1	0	0	185	1	0	1	0	1	0	0	0	1	0	485	1705
7:30 AM	2	291	2	1	0	205	0	0	2	0	4	1	0	0	3	0	511	1850
7:45 AM	0	254	0	0	3	207	0	0	3	1	3	0	0	0	4	0	475	1951
8:00 AM	3	253	0	0	1	220	3	0	1	1	3	0	0	0	3	0	488	1959
8:15 AM	5	268	2	0	2	241	0	0	2	0	3	0	0	0	2	0	525	1999
8:30 AM	5	258	3	0	3	237	4	0	4	0	5	0	1	0	0	0	520	2008
8:45 AM	13	260	0	0	6	226	3	0	4	0	3	0	0	0	3	0	518	2051
9:00 AM	6	205	1	0	1	244	0	0	6	0	3	0	1	0	8	0	475	2038

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowlu General Store-Middle Driveway (Eastbound)				Olowlu General Store-Middle Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:15 AM	3	235	2	0	0	266	0	0	1	2	4	0	0	0	1	0	514	2027
9:30 AM	6	224	0	0	1	286	0	0	3	1	3	0	0	0	4	0	528	2035
9:45 AM	3	140	0	0	0	283	1	0	1	0	3	0	2	0	0	0	433	1950
10:00 AM	2	256	2	0	1	242	3	0	3	0	7	0	1	0	3	0	520	1995
10:15 AM	3	208	1	0	1	260	0	0	8	2	4	0	1	0	3	0	491	1972
10:30 AM	0	179	2	0	5	270	3	0	3	1	5	0	1	0	3	0	472	1916
10:45 AM	2	181	2	1	3	278	2	0	1	0	5	0	4	1	1	0	481	1964
11:00 AM	4	207	1	0	5	272	3	0	4	1	4	0	2	0	2	0	505	1949
11:15 AM	1	191	3	0	9	262	4	0	0	1	3	0	1	0	0	0	475	1933
11:30 AM	3	207	6	0	8	264	3	0	1	1	4	0	1	0	4	0	502	1963
11:45 AM	4	208	8	0	6	198	2	0	5	0	2	0	3	0	3	0	439	1921
12:00 PM	5	226	5	1	10	218	2	0	3	0	5	0	6	0	2	0	483	1899
12:15 PM	2	197	5	1	8	222	3	0	1	0	2	0	2	0	0	0	443	1867
12:30 PM	2	285	8	0	7	251	2	0	0	0	0	0	1	0	6	0	562	1927
12:45 PM	1	231	6	1	5	221	1	0	0	0	1	0	2	0	4	0	473	1961
1:00 PM	2	224	2	0	5	192	2	0	1	1	3	0	2	0	8	0	442	1920
1:15 PM	5	270	2	1	6	215	2	0	0	0	6	0	2	0	2	0	511	1988
1:30 PM	1	249	6	0	15	213	5	0	1	0	5	0	2	0	3	0	500	1926
1:45 PM	3	247	5	2	10	203	1	0	2	0	2	0	1	0	6	0	482	1935
2:00 PM	1	236	2	2	5	234	2	0	0	0	1	0	4	0	6	0	493	1986
2:15 PM	0	240	3	1	5	256	2	0	0	0	0	0	0	0	8	0	515	1990
2:30 PM	2	295	6	2	6	274	2	0	1	0	2	0	2	0	7	0	599	2089
2:45 PM	1	248	7	1	7	247	7	0	1	0	3	0	4	0	6	0	532	2139
3:00 PM	1	273	2	0	4	267	3	0	0	2	3	0	3	1	1	0	560	2206
3:15 PM	0	262	7	2	7	259	6	0	1	0	0	0	0	0	4	0	548	2239
3:30 PM	6	271	5	2	6	272	3	0	2	0	5	0	4	0	4	0	580	2220
3:45 PM	8	302	6	0	7	283	4	0	0	0	4	0	3	0	2	0	619	2307
4:00 PM	2	285	4	1	3	269	2	0	2	0	5	0	3	0	5	0	581	2328
4:15 PM	4	268	1	0	4	272	4	1	1	1	5	0	3	0	5	0	569	2349
4:30 PM	1	245	4	0	2	289	3	0	1	0	2	0	0	0	1	0	548	2317
4:45 PM	1	259	2	0	2	321	1	0	1	0	3	0	4	0	4	0	598	2296
5:00 PM	1	270	2	0	1	308	2	0	0	1	1	0	1	0	3	0	590	2305
5:15 PM	0	228	5	0	4	289	0	0	0	1	0	0	0	0	4	0	531	2267
5:30 PM	5	204	1	0	4	261	1	0	0	1	1	0	3	1	3	0	485	2204
5:45 PM	4	187	2	0	3	188	3	0	2	1	2	0	0	1	3	0	396	2002
6:00 PM	0	200	0	0	2	155	4	0	3	1	3	0	3	0	0	0	371	1783
6:15 PM	2	188	1	0	1	148	0	0	1	0	0	0	0	0	1	0	342	1594
6:30 PM	1	165	1	1	0	173	1	0	2	0	3	0	0	0	1	0	348	1457
6:45 PM	1	125	0	0	0	145	2	0	0	0	1	0	0	0	2	0	276	1337
7:00 PM	1	128	0	0	0	148	2	0	2	0	2	0	0	0	1	0	284	1250
7:15 PM	4	128	0	0	0	130	2	0	2	0	1	0	0	0	0	0	267	1175
7:30 PM	2	93	0	0	1	149	2	0	1	0	2	0	0	0	0	0	250	1077
7:45 PM	2	134	0	0	0	116	1	0	1	0	2	0	0	0	0	0	256	1057
8:00 PM	4	123	0	0	0	117	3	0	0	0	0	0	0	0	0	0	247	1020
8:15 PM	0	92	0	0	0	109	3	0	7	0	0	0	0	0	0	0	211	964
8:30 PM	1	129	0	0	0	119	3	0	2	0	0	0	0	0	0	0	254	968
8:45 PM	3	109	0	0	0	88	0	0	0	0	1	0	0	0	0	0	201	913
9:00 PM	1	125	0	0	0	89	3	0	0	1	0	0	0	0	0	0	219	885
9:15 PM	2	88	0	0	1	100	0	0	0	0	2	0	0	0	2	0	195	869
9:30 PM	2	84	0	0	0	81	0	0	0	0	0	0	0	0	1	0	168	783
9:45 PM	1	81	0	1	0	75	2	0	0	0	1	0	1	0	0	0	162	744
10:00 PM	0	76	0	0	0	74	1	0	4	0	3	0	0	0	0	0	158	683
10:15 PM	2	48	0	1	0	79	2	0	9	0	3	0	0	0	0	0	144	632
10:30 PM	2	43	0	0	0	64	1	0	0	0	0	0	0	0	0	0	110	574
10:45 PM	2	26	0	0	0	46	0	0	0	0	3	0	0	1	0	0	78	490
11:00 PM	0	20	0	0	0	55	0	0	0	0	0	0	0	0	0	0	75	407
11:15 PM	0	32	0	0	0	52	0	0	0	0	0	0	0	0	0	0	84	347
11:30 PM	1	13	0	0	1	27	0	0	0	0	0	0	0	0	0	0	42	279
11:45 PM	0	12	0	0	0	22	0	0	0	0	0	0	0	0	0	0	34	235
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	32	1208	24	0	28	1132	16	0	0	0	16	0	12	0	8	0	2476	
Heavy Trucks	0	24	0	0	0	32	4	0	0	0	0	0	0	0	0	0	60	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	96	0	0	0	96	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																		

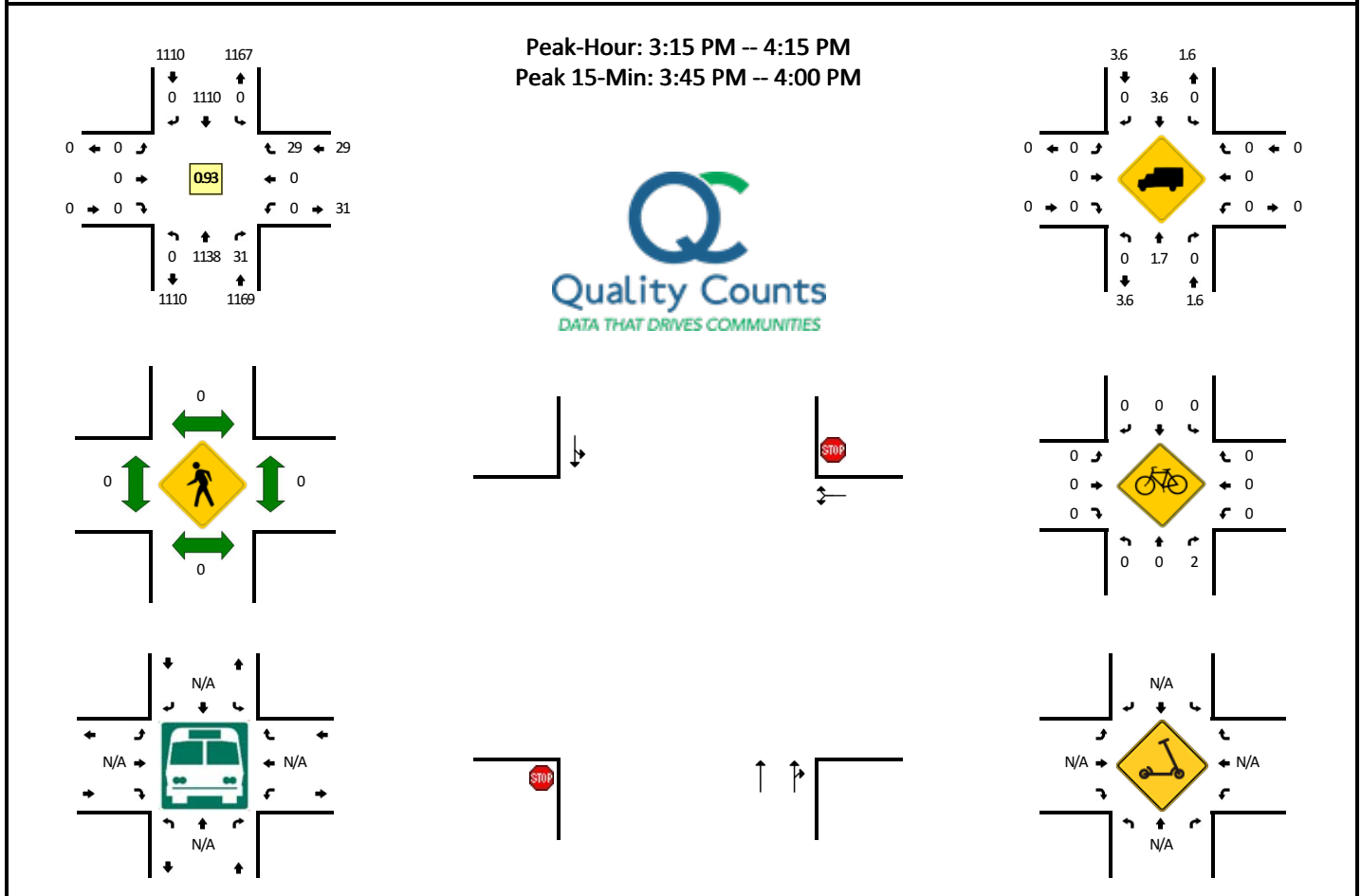
Comments:

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- Olowalu General Store-South Driveway  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179904  
**DATE:** Wed, May 3 2023

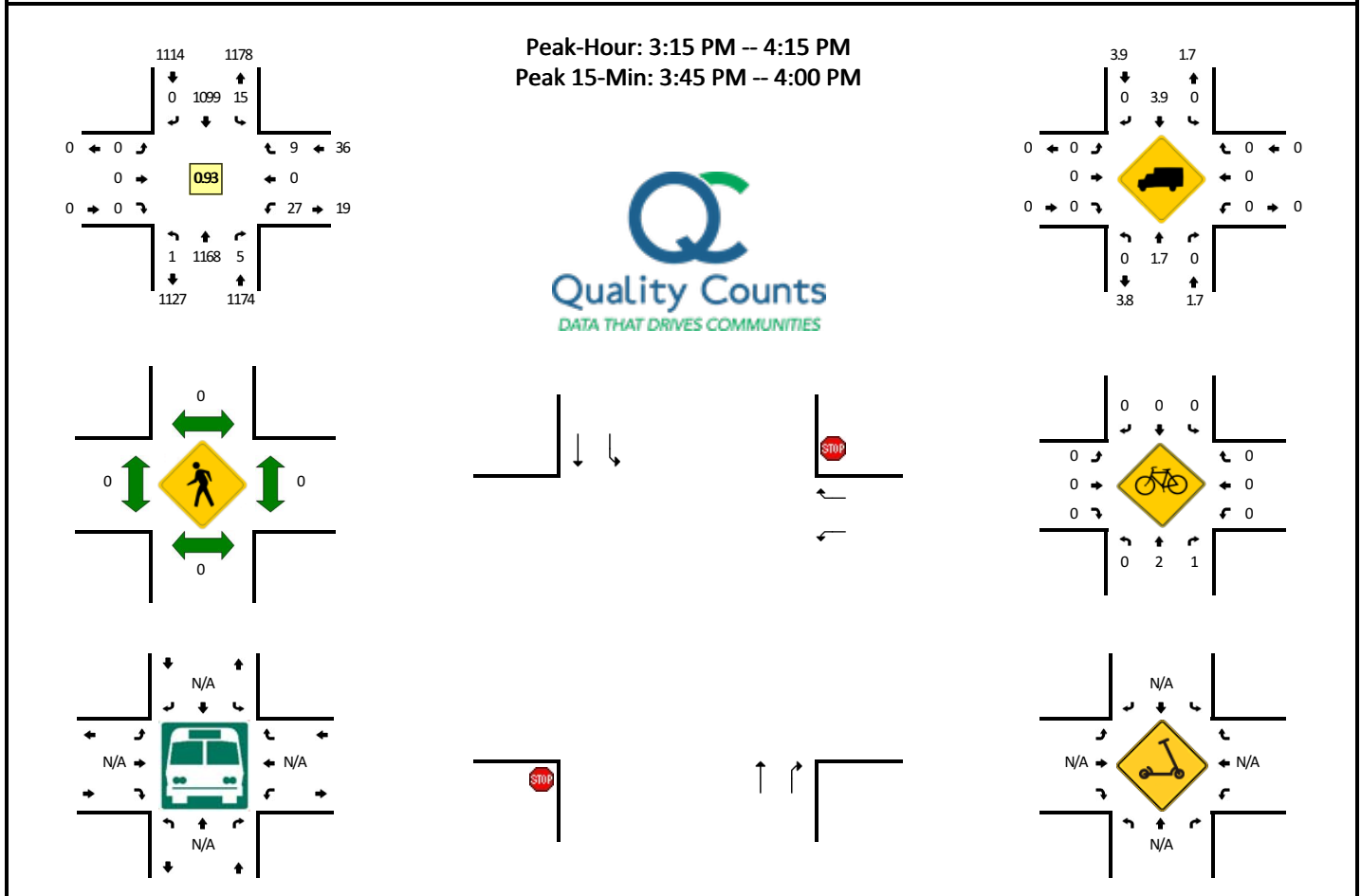


15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu General Store-South Driveway (Eastbound)				Olowalu General Store-South Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	9	1	0	0	18	0	0	0	0	0	0	0	0	0	0	28	
12:15 AM	0	10	0	0	0	16	0	0	0	0	0	0	0	0	0	0	26	
12:30 AM	0	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	28	
12:45 AM	0	5	0	0	0	12	0	0	0	0	0	0	0	0	0	0	17	99
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	82
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	66
1:30 AM	0	4	0	0	0	8	0	0	0	0	0	0	0	0	0	0	12	50
1:45 AM	0	10	0	0	0	9	0	0	0	0	0	0	0	0	0	0	19	52
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	59
2:15 AM	0	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	15	64
2:30 AM	0	4	0	0	0	12	0	0	0	0	0	0	0	0	0	0	16	68
2:45 AM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	16	65
3:00 AM	0	5	0	0	0	14	0	0	0	0	0	0	0	0	0	0	19	66
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	71
3:30 AM	0	21	0	0	0	11	0	0	0	0	0	0	0	0	0	0	32	87
3:45 AM	0	22	0	0	0	14	0	0	0	0	0	0	0	0	0	0	36	107
4:00 AM	0	14	0	0	0	20	0	0	0	0	0	0	0	0	0	0	34	122
4:15 AM	0	41	0	0	0	29	0	0	0	0	0	0	0	0	0	0	70	172
4:30 AM	0	36	0	0	0	20	0	0	0	0	0	0	0	0	0	0	56	196
4:45 AM	0	52	0	0	0	24	0	0	0	0	0	0	0	0	0	0	76	236
5:00 AM	0	70	2	0	0	52	0	0	0	0	12	0	0	0	0	0	124	326
5:15 AM	0	96	0	0	0	48	0	0	0	0	0	0	0	0	0	0	144	400
5:30 AM	0	157	2	0	0	69	0	0	0	0	0	0	0	0	1	0	229	573
5:45 AM	0	137	4	0	0	79	0	0	0	0	0	0	0	0	0	0	220	717
6:00 AM	0	165	6	0	0	124	0	0	0	0	0	0	0	0	1	0	296	889
6:15 AM	0	226	7	0	0	151	0	0	0	0	0	0	0	0	1	0	385	1130
6:30 AM	0	218	4	0	0	138	0	0	0	0	0	0	0	0	0	0	360	1261
6:45 AM	0	213	6	0	0	150	0	0	0	0	0	0	0	0	1	0	370	1411
7:00 AM	0	295	4	0	0	186	0	0	0	0	0	0	0	0	0	0	485	1600
7:15 AM	0	294	9	0	0	186	0	0	0	0	0	0	0	0	2	0	491	1706
7:30 AM	0	291	6	0	0	209	0	0	0	0	0	0	0	0	3	0	509	1855
7:45 AM	0	250	7	0	0	209	0	0	0	0	0	0	0	0	0	0	466	1951
8:00 AM	0	254	8	0	0	224	0	0	0	0	0	0	0	0	2	0	488	1954
8:15 AM	0	268	2	0	0	241	0	0	0	0	0	0	0	0	3	0	514	1977
8:30 AM	0	263	4	0	0	245	0	0	0	0	0	0	0	0	3	0	515	1983
8:45 AM	0	264	5	0	0	227	0	0	0	0	0	0	0	0	7	0	503	2020
9:00 AM	0	212	10	0	0	246	0	0	0	0	0	0	0	0	0	0	468	2000

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu General Store-South Driveway (Eastbound)				Olowalu General Store-South Driveway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:15 AM	0	237	5	0	0	270	0	0	0	0	0	0	0	0	3	0	515	2001
9:30 AM	0	227	6	0	0	288	0	0	0	0	0	0	0	0	4	0	525	2011
9:45 AM	0	140	2	0	1	287	0	0	0	0	0	0	0	0	1	0	431	1939
10:00 AM	0	259	9	0	0	249	0	0	0	0	0	0	0	0	0	0	517	1988
10:15 AM	0	207	7	0	0	263	0	0	0	0	0	0	0	0	3	0	480	1953
10:30 AM	0	176	9	0	0	278	0	0	0	0	0	0	0	0	7	0	470	1898
10:45 AM	0	173	5	0	0	288	0	0	0	0	0	0	0	0	11	0	477	1944
11:00 AM	0	211	16	0	0	277	0	0	0	0	0	0	0	0	3	0	507	1934
11:15 AM	0	189	6	0	0	267	0	0	0	0	0	0	0	0	5	0	467	1921
11:30 AM	0	207	12	0	0	271	0	0	0	0	0	0	0	0	10	0	500	1951
11:45 AM	0	212	12	0	0	207	0	0	0	0	0	0	0	0	8	0	439	1913
12:00 PM	0	223	7	0	0	229	0	0	0	0	0	0	0	0	15	0	474	1880
12:15 PM	0	199	9	0	0	226	0	0	0	0	0	0	0	0	5	0	439	1852
12:30 PM	0	287	7	0	0	253	0	0	0	0	0	0	0	0	6	0	553	1905
12:45 PM	0	229	7	0	0	226	0	0	0	0	0	0	0	0	10	0	472	1938
1:00 PM	0	222	8	0	0	196	0	0	0	0	0	0	0	0	5	0	431	1895
1:15 PM	0	273	11	0	0	226	0	0	0	0	0	0	0	0	7	0	517	1973
1:30 PM	0	251	10	0	0	218	0	0	0	0	0	0	0	0	5	0	484	1904
1:45 PM	0	249	17	0	0	209	0	0	0	0	0	0	0	0	7	0	482	1914
2:00 PM	0	236	15	0	0	241	0	0	0	0	0	0	0	0	9	0	501	1984
2:15 PM	0	237	18	0	0	257	0	0	0	0	0	0	0	0	7	0	519	1986
2:30 PM	0	302	20	0	0	278	0	0	0	0	0	0	0	0	5	0	605	2107
2:45 PM	0	248	10	0	0	256	0	0	0	0	0	0	0	0	8	0	522	2147
3:00 PM	0	268	10	0	0	271	0	0	0	0	0	0	0	0	9	0	558	2204
3:15 PM	0	264	8	0	0	260	0	0	0	0	0	0	0	0	6	0	538	2223
3:30 PM	0	276	4	0	0	282	0	0	0	0	0	0	0	0	10	0	572	2190
3:45 PM	0	314	12	0	0	290	0	0	0	0	0	0	0	0	4	0	620	2288
4:00 PM	0	284	7	0	0	278	0	0	0	0	0	0	0	0	9	0	578	2308
4:15 PM	0	270	10	0	0	281	0	0	0	0	0	0	0	0	10	0	571	2341
4:30 PM	0	249	6	0	0	292	0	0	0	0	0	0	0	0	7	0	554	2323
4:45 PM	0	257	4	0	0	323	0	0	0	0	0	0	0	0	2	0	586	2289
5:00 PM	0	267	8	0	0	313	0	0	0	0	0	0	0	0	4	0	592	2303
5:15 PM	0	232	7	0	0	291	0	0	0	0	0	0	0	0	4	0	534	2266
5:30 PM	0	202	5	0	0	268	0	0	0	0	0	0	0	0	6	0	481	2193
5:45 PM	0	185	6	0	0	189	0	0	0	0	0	0	0	0	7	0	387	1994
6:00 PM	0	197	6	0	0	164	0	0	0	0	0	0	0	0	5	0	372	1774
6:15 PM	0	189	1	0	0	149	0	0	0	0	0	0	0	0	2	0	341	1581
6:30 PM	0	169	2	0	0	177	0	0	0	0	0	0	0	0	0	0	348	1448
6:45 PM	0	125	3	0	0	143	0	0	0	0	0	0	0	0	0	0	271	1332
7:00 PM	0	129	0	0	1	148	0	0	0	0	0	0	0	0	1	0	279	1239
7:15 PM	0	131	0	0	0	134	0	0	0	0	0	0	0	0	0	0	265	1163
7:30 PM	0	95	0	0	0	151	0	0	0	0	0	0	0	0	0	0	246	1061
7:45 PM	0	136	0	0	0	116	0	0	0	0	0	0	0	0	1	0	253	1043
8:00 PM	0	127	0	0	0	119	0	0	0	0	0	0	0	0	0	0	246	1010
8:15 PM	0	92	0	0	0	108	0	0	0	0	0	0	0	0	0	0	200	945
8:30 PM	0	130	0	0	0	120	0	0	0	0	0	0	0	0	0	0	250	949
8:45 PM	0	110	0	0	0	90	0	0	0	0	0	0	0	0	0	0	200	896
9:00 PM	0	127	0	0	0	89	0	0	0	0	0	0	0	0	1	0	217	867
9:15 PM	0	90	0	0	0	100	0	0	0	0	0	0	0	0	0	0	190	857
9:30 PM	0	85	0	0	0	84	0	0	0	0	0	0	0	0	0	0	169	776
9:45 PM	0	82	1	0	0	77	0	0	0	0	0	0	0	0	0	0	160	736
10:00 PM	0	76	0	0	0	77	0	0	0	0	0	0	0	0	0	0	153	672
10:15 PM	0	52	0	0	0	82	0	0	0	0	0	0	0	0	0	0	134	616
10:30 PM	0	43	0	0	0	64	0	0	0	0	0	0	0	0	0	0	107	554
10:45 PM	0	29	0	0	0	50	0	0	0	0	0	0	0	0	0	0	79	473
11:00 PM	0	21	0	0	0	55	0	0	0	0	0	0	0	0	0	0	76	396
11:15 PM	0	31	0	0	0	52	0	0	0	0	0	0	0	0	0	0	83	345
11:30 PM	0	14	0	0	0	27	0	0	0	0	0	0	0	0	0	0	41	279
11:45 PM	0	12	0	0	0	20	0	0	0	0	0	0	0	0	0	0	32	232
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1256	48	0	0	1160	0	0	0	0	0	0	0	0	16	0	2480	
Heavy Trucks	0	24	0		0	32	0		0	0	0		0	0	0		56	
Buses																		
Pedestrians	0				0				0				0				0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

**LOCATION:** Honoapiilani Highway -- Luawai Street  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179905  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Luawai Street (Eastbound)				Luawai Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	11	0	0	0	19	0	0	0	0	0	0	0	0	0	0	30	
12:15 AM	0	10	0	0	0	15	0	0	0	0	0	0	0	0	0	0	25	
12:30 AM	0	14	0	0	1	14	0	0	0	0	0	0	0	0	0	0	29	
12:45 AM	0	4	0	0	0	12	0	0	0	0	0	0	0	0	0	0	16	100
1:00 AM	0	2	0	0	1	9	0	0	0	0	0	0	0	0	0	0	12	82
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	67
1:30 AM	0	4	0	0	1	7	0	0	0	0	0	0	0	0	0	0	12	50
1:45 AM	0	11	0	0	1	8	0	0	0	0	0	0	0	0	0	0	20	54
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	60
2:15 AM	0	6	0	0	0	9	0	0	0	0	0	0	0	0	0	0	15	65
2:30 AM	0	4	1	0	0	11	0	0	0	0	0	0	0	0	0	0	16	69
2:45 AM	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	0	17	66
3:00 AM	0	5	0	0	0	14	0	0	0	0	0	0	0	0	0	0	19	67
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	72
3:30 AM	0	21	0	0	0	12	0	0	0	0	0	0	0	0	0	0	33	89
3:45 AM	0	22	0	0	0	13	0	0	0	0	0	0	0	0	0	0	35	107
4:00 AM	0	22	0	0	0	20	0	0	0	0	0	0	0	0	0	0	42	130
4:15 AM	0	37	0	0	0	26	0	0	0	0	0	0	0	0	0	0	63	173
4:30 AM	0	37	0	0	0	22	0	0	0	0	0	0	0	0	0	0	59	199
4:45 AM	0	52	2	0	0	24	0	0	0	0	0	0	0	0	1	0	79	243
5:00 AM	0	71	0	0	0	54	0	0	0	0	0	0	0	0	1	0	126	327
5:15 AM	0	99	0	0	0	49	0	0	0	0	0	0	0	0	0	0	148	412
5:30 AM	0	197	0	0	0	67	0	0	0	0	0	0	0	0	1	0	265	618
5:45 AM	0	134	0	0	0	76	0	0	0	0	0	0	0	0	1	0	211	750
6:00 AM	0	174	0	0	0	120	0	0	0	0	0	0	1	0	1	0	296	920
6:15 AM	0	223	0	0	1	150	0	0	0	0	0	0	2	0	3	0	379	1151
6:30 AM	0	207	5	0	2	140	0	0	0	0	0	0	1	0	2	0	357	1243
6:45 AM	0	232	6	0	0	151	0	0	0	0	0	0	1	0	2	0	392	1424
7:00 AM	0	300	4	0	0	176	0	0	0	0	0	0	3	0	3	0	486	1614
7:15 AM	0	290	3	1	0	189	0	1	0	0	0	0	5	0	4	0	493	1728
7:30 AM	0	294	1	0	1	191	0	0	0	0	0	0	4	0	4	0	495	1866
7:45 AM	0	250	4	0	1	212	0	0	0	0	0	0	4	0	3	0	474	1948
8:00 AM	0	268	2	1	5	225	0	0	0	0	0	0	1	0	3	0	505	1967
8:15 AM	0	254	2	0	0	242	0	1	0	0	0	0	1	0	1	0	501	1975
8:30 AM	0	260	4	0	4	238	0	2	0	0	0	0	0	0	4	0	512	1992
8:45 AM	0	286	2	0	1	236	0	0	0	0	0	0	2	0	0	0	527	2045
9:00 AM	0	215	3	0	3	240	0	1	0	0	0	0	3	0	0	0	465	2005
9:15 AM	0	230	2	0	6	264	0	1	0	0	0	0	1	0	1	0	505	2009
9:30 AM	0	242	2	0	3	274	0	1	0	0	0	0	5	0	2	0	529	2026



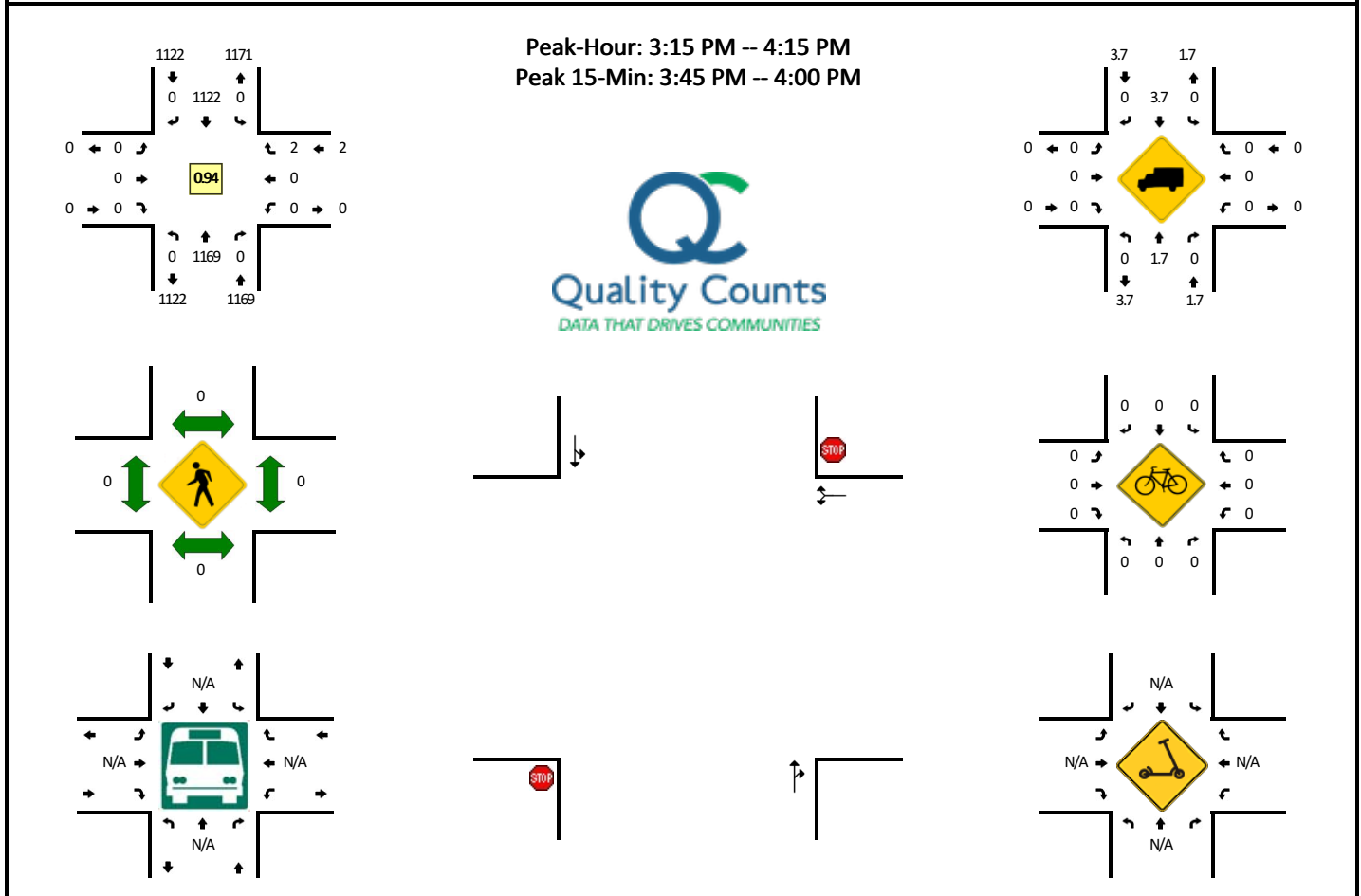
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Luawai Street (Eastbound)				Luawai Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	140	2	0	0	286	0	1	0	0	0	0	2	0	2	0	433	1932
10:00 AM	0	265	2	0	2	253	0	1	0	0	0	0	4	0	1	0	528	1995
10:15 AM	0	211	0	0	1	263	0	0	0	0	0	0	5	0	3	0	483	1973
10:30 AM	0	172	1	1	1	270	0	0	0	0	0	0	1	0	2	0	448	1892
10:45 AM	0	179	3	0	4	287	0	1	0	0	0	0	2	0	0	0	476	1935
11:00 AM	0	227	0	0	3	269	0	4	0	0	0	0	0	0	3	0	506	1913
11:15 AM	0	181	1	0	3	261	0	1	0	0	0	0	2	0	1	0	450	1880
11:30 AM	0	224	2	0	1	270	0	0	0	0	0	0	2	0	4	0	503	1935
11:45 AM	0	216	1	0	6	205	0	1	0	0	0	0	6	0	3	0	438	1897
12:00 PM	0	222	3	0	3	215	0	2	0	0	0	0	3	0	6	0	454	1845
12:15 PM	0	212	2	0	1	230	0	0	0	0	0	0	6	0	5	0	456	1851
12:30 PM	0	291	1	0	2	252	0	2	0	0	0	0	1	0	3	0	552	1900
12:45 PM	0	233	0	0	5	209	0	2	0	0	0	0	7	0	1	0	457	1919
1:00 PM	0	220	0	0	1	200	0	0	0	0	0	0	6	0	2	0	429	1894
1:15 PM	0	281	1	0	2	215	0	1	0	0	0	0	6	0	4	0	510	1948
1:30 PM	0	265	1	0	3	224	0	1	0	0	0	0	4	0	4	0	502	1898
1:45 PM	0	245	5	0	8	205	0	0	0	0	0	0	2	0	4	0	469	1910
2:00 PM	0	258	6	0	5	230	0	2	0	0	0	0	3	0	2	0	506	1987
2:15 PM	0	248	3	0	6	214	0	1	0	0	0	0	5	0	6	0	483	1960
2:30 PM	0	316	2	0	2	279	0	1	0	0	0	0	5	0	8	0	613	2071
2:45 PM	0	247	1	0	4	248	0	0	0	0	0	0	5	0	4	0	509	2111
3:00 PM	0	282	1	1	4	263	0	0	0	0	0	0	6	0	2	0	559	2164
3:15 PM	0	260	1	1	5	258	0	0	0	0	0	0	11	0	5	0	541	2222
3:30 PM	0	281	0	0	4	282	0	1	0	0	0	0	6	0	1	0	575	2184
3:45 PM	0	325	3	0	4	284	0	0	0	0	0	0	4	0	2	0	622	2297
4:00 PM	0	302	1	0	1	275	0	0	0	0	0	0	6	0	1	0	586	2324
4:15 PM	0	260	2	1	3	268	0	0	0	0	0	0	10	0	0	0	544	2327
4:30 PM	0	244	1	0	3	299	0	2	0	0	0	0	3	0	4	0	556	2308
4:45 PM	0	253	2	1	3	317	0	0	0	0	0	0	4	0	3	0	583	2269
5:00 PM	0	287	1	0	2	305	0	1	0	0	0	0	2	0	1	0	599	2282
5:15 PM	0	226	1	0	3	294	0	0	0	0	0	0	4	0	3	0	531	2269
5:30 PM	0	213	2	0	3	268	0	1	0	0	0	0	4	0	0	0	491	2204
5:45 PM	0	186	1	0	5	178	0	0	0	0	0	0	4	0	0	0	374	1995
6:00 PM	0	186	0	0	2	166	0	0	0	0	0	0	5	0	2	0	361	1757
6:15 PM	0	198	1	0	1	158	0	0	0	0	0	0	1	0	1	0	360	1586
6:30 PM	0	166	1	0	1	170	0	0	0	0	0	0	3	0	3	0	344	1439
6:45 PM	0	125	1	0	1	139	0	0	0	0	0	0	5	0	0	0	271	1336
7:00 PM	0	137	0	0	0	156	0	0	0	0	0	2	1	0	1	0	295	1270
7:15 PM	0	122	1	0	0	134	0	0	0	0	0	0	0	0	1	0	258	1168
7:30 PM	0	93	1	0	0	152	0	0	0	0	0	0	0	0	0	0	246	1070
7:45 PM	0	133	3	0	3	111	0	0	0	0	0	0	1	0	0	0	251	1050
8:00 PM	0	124	2	0	1	120	0	0	0	0	0	0	0	0	1	0	248	1003
8:15 PM	0	99	0	0	2	103	0	0	0	0	0	0	0	0	0	0	204	949
8:30 PM	0	130	0	0	1	123	0	0	0	0	0	0	0	0	0	0	254	957
8:45 PM	0	101	1	0	1	91	0	0	0	0	0	0	0	0	1	0	195	901
9:00 PM	0	126	0	0	0	85	0	0	0	0	0	0	0	0	1	0	212	865
9:15 PM	0	89	0	0	0	102	0	0	0	0	0	0	0	0	0	0	191	852
9:30 PM	0	84	1	0	0	87	0	0	0	0	0	0	0	0	0	0	172	770
9:45 PM	0	85	0	0	1	73	0	0	0	0	0	0	0	0	0	0	159	734
10:00 PM	0	71	0	0	0	78	0	0	0	0	0	0	0	0	0	0	149	671
10:15 PM	0	52	0	0	2	78	0	0	0	0	0	0	0	0	0	0	132	612
10:30 PM	0	45	0	0	2	66	0	0	0	0	0	0	0	0	0	0	113	553
10:45 PM	0	25	0	0	2	45	0	0	0	0	0	0	0	0	0	0	72	466
11:00 PM	0	27	0	0	0	55	0	0	0	0	0	0	0	0	0	0	82	399
11:15 PM	0	26	0	0	0	52	0	0	0	0	0	0	0	0	0	0	78	345
11:30 PM	0	13	1	0	1	27	0	0	0	0	0	0	2	0	0	0	44	276
11:45 PM	0	9	1	0	0	20	0	0	0	0	0	0	0	0	1	0	31	235
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1300	12	0	16	1136	0	0	0	0	0	0	16	0	8	0	2488	
Heavy Trucks	0	20	0		0	44	0		0	0	0		0	0	0		64	
Buses																		
Pedestrians	0				0				0				0				0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- Olowalu Village Middle  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179906  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Village Middle (Eastbound)				Olowalu Village Middle (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	11	0	0	0	19	0	0	0	0	0	0	0	0	0	0	30	
12:15 AM	0	10	0	0	0	15	0	0	0	0	0	0	0	0	0	0	25	
12:30 AM	0	13	0	0	0	14	0	0	0	0	0	0	0	0	0	0	27	
12:45 AM	0	3	0	0	0	12	0	0	0	0	0	0	0	0	0	0	15	97
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	78
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	63
1:30 AM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10	46
1:45 AM	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	0	20	51
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	58
2:15 AM	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	14	62
2:30 AM	0	5	0	0	0	12	0	0	0	0	0	0	0	0	0	0	17	69
2:45 AM	0	8	1	0	0	9	0	0	0	0	0	0	0	0	0	0	18	67
3:00 AM	0	5	0	0	0	14	0	0	0	0	0	0	0	0	0	0	19	68
3:15 AM	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	0	21	75
3:30 AM	0	23	0	0	0	12	0	0	0	0	0	0	0	0	0	0	35	93
3:45 AM	0	19	0	0	0	13	0	0	0	0	0	0	0	0	0	0	32	107
4:00 AM	0	22	0	0	0	20	0	0	0	0	0	0	0	0	0	0	42	130
4:15 AM	0	39	0	0	0	26	0	0	0	0	0	0	0	0	0	0	65	174
4:30 AM	0	35	0	0	0	21	0	0	0	0	0	0	0	0	0	0	56	195
4:45 AM	0	54	0	0	0	24	0	0	0	0	0	0	0	0	0	0	78	241
5:00 AM	0	72	0	0	0	52	0	0	0	0	0	0	0	0	0	0	124	323
5:15 AM	0	99	0	0	0	52	0	0	0	0	0	0	0	0	0	0	151	409
5:30 AM	0	197	0	0	1	63	0	0	0	0	0	0	0	0	0	0	261	614
5:45 AM	0	140	0	0	0	79	0	0	0	0	0	0	0	0	0	0	219	755
6:00 AM	0	170	0	0	0	121	0	0	0	0	0	0	1	0	0	0	292	923
6:15 AM	0	227	1	0	0	147	0	0	0	0	0	0	0	0	0	0	375	1147
6:30 AM	0	210	0	0	0	142	0	0	0	0	0	0	0	0	0	0	352	1238
6:45 AM	0	240	0	0	0	156	0	0	0	0	0	0	0	0	0	0	396	1415
7:00 AM	0	303	0	0	0	175	0	0	0	0	0	0	1	0	0	0	479	1602
7:15 AM	0	294	0	0	0	193	0	0	0	0	0	0	0	0	1	0	488	1715
7:30 AM	0	292	0	0	0	197	0	0	0	0	0	0	0	0	2	0	491	1854
7:45 AM	0	257	0	0	0	220	0	0	0	0	0	0	0	0	0	0	477	1935
8:00 AM	0	269	0	0	0	227	0	0	0	0	0	0	0	0	0	0	496	1952
8:15 AM	0	252	1	0	0	241	0	0	0	0	0	0	1	0	1	0	496	1960
8:30 AM	0	263	0	0	0	236	0	0	0	0	0	0	0	0	1	0	500	1969
8:45 AM	0	290	0	0	0	239	0	0	0	0	0	0	1	0	0	0	530	2022
9:00 AM	0	215	0	0	0	238	0	0	0	0	0	0	0	0	0	0	453	1979
9:15 AM	0	229	0	0	0	273	0	0	0	0	0	0	0	0	0	0	502	1985
9:30 AM	0	243	0	0	0	277	0	0	0	0	0	0	0	0	0	0	520	2005

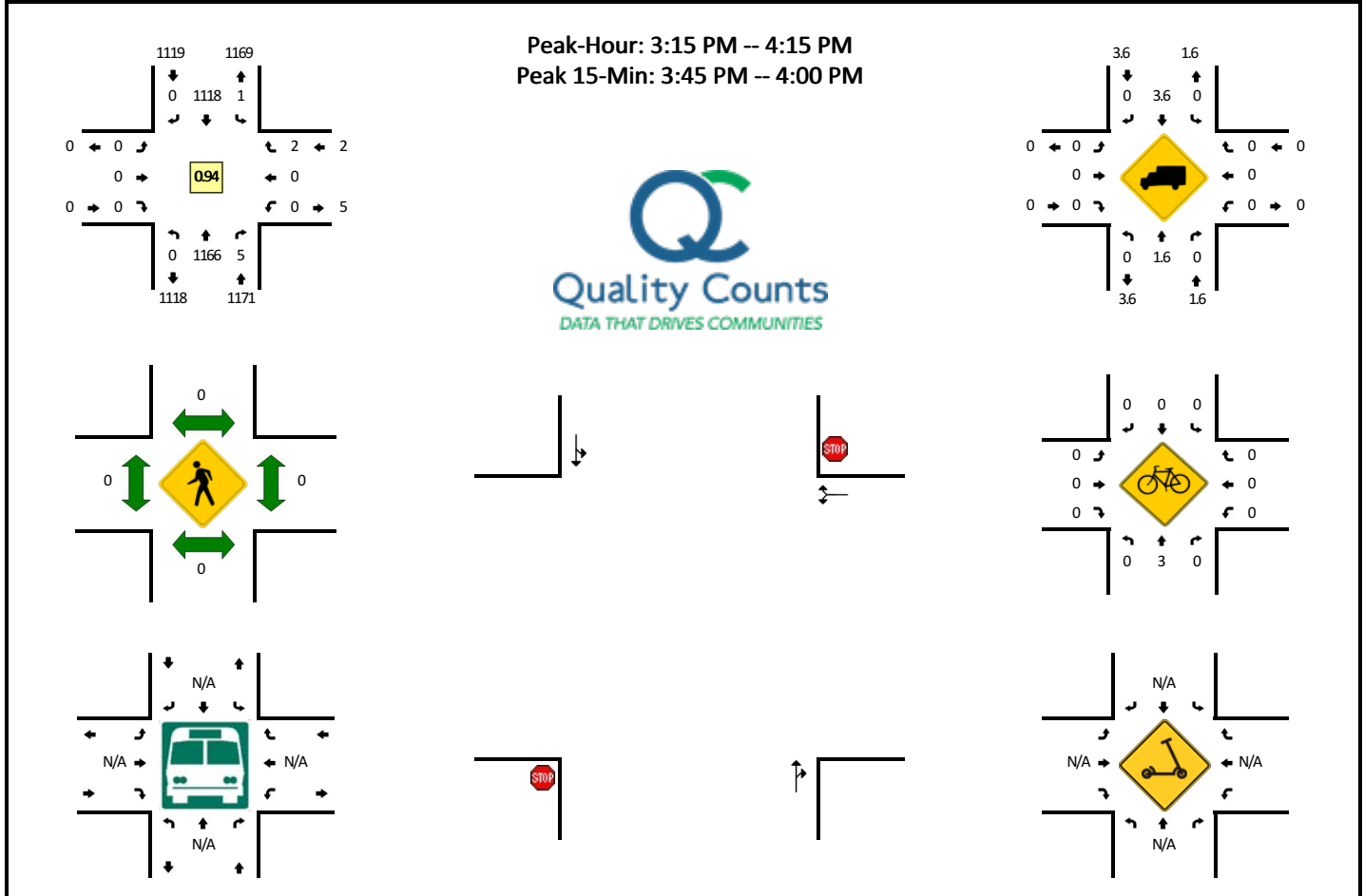
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Village Middle (Eastbound)				Olowalu Village Middle (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	143	0	0	0	290	0	0	0	0	0	0	0	0	0	0	433	1908
10:00 AM	0	266	0	0	0	254	0	0	0	0	0	0	0	0	0	0	520	1975
10:15 AM	0	212	0	0	0	274	0	0	0	0	0	0	0	0	0	0	486	1959
10:30 AM	0	169	0	0	0	271	0	0	0	0	0	0	0	0	0	0	440	1879
10:45 AM	0	185	0	0	0	292	0	0	0	0	0	0	0	0	0	0	477	1923
11:00 AM	0	223	0	0	0	271	0	0	0	0	0	0	0	0	0	0	494	1897
11:15 AM	0	178	0	0	0	263	0	0	0	0	0	0	0	0	0	0	441	1852
11:30 AM	0	223	0	0	0	272	0	0	0	0	0	0	0	0	0	0	495	1907
11:45 AM	0	219	0	0	0	209	0	0	0	0	0	0	0	0	0	0	428	1858
12:00 PM	0	220	0	0	0	222	0	0	0	0	0	0	0	0	0	0	442	1806
12:15 PM	0	218	1	0	0	232	0	0	0	0	0	0	0	0	0	0	451	1816
12:30 PM	0	287	0	0	0	257	0	0	0	0	0	0	0	0	1	0	545	1866
12:45 PM	0	235	2	0	1	213	0	0	0	0	0	0	0	0	0	0	451	1889
1:00 PM	0	220	0	0	1	211	0	0	0	0	0	0	0	0	1	0	433	1880
1:15 PM	0	279	0	0	0	216	0	0	0	0	0	0	0	0	0	0	495	1924
1:30 PM	0	264	0	0	0	227	0	0	0	0	0	0	0	0	0	0	491	1870
1:45 PM	0	248	0	0	0	213	0	0	0	0	0	0	0	0	1	0	462	1881
2:00 PM	0	268	0	0	0	231	0	0	0	0	0	0	1	0	0	0	500	1948
2:15 PM	0	252	0	0	1	224	0	0	0	0	0	0	0	0	0	0	477	1930
2:30 PM	0	314	0	0	0	280	0	0	0	0	0	0	0	0	0	0	594	2033
2:45 PM	0	252	0	0	0	254	0	0	0	0	0	0	1	0	0	0	507	2078
3:00 PM	0	285	0	0	0	268	0	0	0	0	0	0	0	0	0	0	553	2131
3:15 PM	0	254	0	0	0	272	0	0	0	0	0	0	0	0	1	0	527	2181
3:30 PM	0	287	0	0	0	283	0	0	0	0	0	0	0	0	0	0	570	2157
3:45 PM	0	326	0	0	0	285	0	0	0	0	0	0	0	0	0	0	611	2261
4:00 PM	0	302	0	0	0	282	0	0	0	0	0	0	0	0	1	0	585	2293
4:15 PM	0	258	0	0	0	275	0	0	0	0	0	0	0	0	0	0	533	2299
4:30 PM	0	248	0	0	0	300	0	0	0	0	0	0	0	0	0	0	548	2277
4:45 PM	0	250	0	0	0	323	0	0	0	0	0	0	0	0	1	0	574	2240
5:00 PM	0	292	0	0	0	308	0	0	0	0	0	0	0	0	0	0	600	2255
5:15 PM	0	225	0	0	0	301	0	0	0	0	0	0	0	0	0	0	526	2248
5:30 PM	0	210	1	0	0	269	0	0	0	0	0	0	0	0	0	0	480	2180
5:45 PM	0	187	0	0	0	181	0	0	0	0	0	0	0	0	0	0	368	1974
6:00 PM	0	182	0	0	0	174	0	0	0	0	0	0	0	0	0	0	356	1730
6:15 PM	0	200	0	0	0	159	0	0	0	0	0	0	0	0	0	0	359	1563
6:30 PM	0	167	0	0	0	170	0	0	0	0	0	0	0	0	0	0	337	1420
6:45 PM	0	129	1	0	0	144	0	0	0	0	0	0	0	0	0	0	274	1326
7:00 PM	0	137	0	0	0	155	0	0	0	0	0	0	0	0	0	0	292	1262
7:15 PM	0	119	0	0	0	134	0	0	0	0	0	0	0	0	0	0	253	1156
7:30 PM	0	96	0	0	0	152	0	0	0	0	0	0	0	0	0	0	248	1067
7:45 PM	0	135	0	0	0	110	0	0	0	0	0	0	0	0	0	0	245	1038
8:00 PM	0	126	0	0	0	119	0	0	0	0	0	0	0	0	0	0	245	991
8:15 PM	0	101	0	0	0	115	0	0	0	0	0	0	0	0	0	0	216	954
8:30 PM	0	129	0	0	0	126	0	0	0	0	0	0	0	0	0	0	255	961
8:45 PM	0	104	0	0	0	90	0	0	0	0	0	0	0	0	0	0	194	910
9:00 PM	0	124	0	0	0	83	0	0	0	0	0	0	0	0	0	0	207	872
9:15 PM	0	94	0	0	0	100	0	0	0	0	0	0	0	0	0	0	194	850
9:30 PM	0	85	2	0	0	88	0	0	0	0	0	0	0	0	0	0	175	770
9:45 PM	0	86	1	0	0	72	0	0	0	0	0	0	0	0	0	0	159	735
10:00 PM	0	76	2	0	0	79	0	0	0	0	0	0	0	0	1	0	158	686
10:15 PM	0	48	0	0	0	79	0	0	0	0	0	0	0	0	0	0	127	619
10:30 PM	0	46	0	0	0	66	0	0	0	0	0	0	0	0	1	0	113	557
10:45 PM	0	24	0	0	0	46	0	0	0	0	0	0	0	0	0	0	70	468
11:00 PM	0	27	0	0	0	55	0	0	0	0	0	0	0	0	0	0	82	392
11:15 PM	0	26	0	0	0	52	0	0	0	0	0	0	0	0	0	0	78	343
11:30 PM	0	15	0	0	0	32	0	0	0	0	0	0	0	0	0	0	47	277
11:45 PM	0	11	0	0	0	20	0	0	0	0	0	0	0	0	0	0	31	238
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1304	0	0	0	1140	0	0	0	0	0	0	0	0	0	0	2444	
Heavy Trucks	0	20	0	0	0	44	0	0	0	0	0	0	0	0	0	0	64	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- Olowalu Village South/East  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179907  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Village South/East (Eastbound)				Olowalu Village South/East (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	11	0	0	0	19	0	0	0	0	0	0	0	0	0	0	30	
12:15 AM	0	10	0	0	0	15	0	0	0	0	0	0	0	0	0	0	25	
12:30 AM	0	13	0	0	0	14	0	0	0	0	0	0	0	0	0	0	27	
12:45 AM	0	3	0	0	0	12	0	0	0	0	0	0	0	0	0	0	15	97
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	78
1:15 AM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9	62
1:30 AM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10	45
1:45 AM	0	12	0	0	0	9	0	0	0	0	0	0	0	0	0	0	21	51
2:00 AM	0	7	0	0	0	10	0	0	0	0	0	0	0	0	1	0	18	58
2:15 AM	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13	62
2:30 AM	0	6	0	0	0	13	0	0	0	0	0	0	0	0	0	0	19	71
2:45 AM	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	0	17	67
3:00 AM	0	5	0	0	0	14	0	0	0	0	0	0	0	0	0	0	19	68
3:15 AM	0	10	0	0	0	12	0	0	0	0	0	0	0	0	0	0	22	77
3:30 AM	0	21	0	0	0	11	0	0	0	0	0	0	0	0	0	0	32	90
3:45 AM	0	19	0	0	0	14	0	0	0	0	0	0	0	0	0	0	33	106
4:00 AM	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	0	41	128
4:15 AM	0	39	0	0	0	27	0	0	0	0	0	0	0	0	0	0	66	172
4:30 AM	0	35	0	0	0	22	0	0	0	0	0	0	0	0	0	0	57	197
4:45 AM	0	55	0	0	0	21	0	0	0	0	0	0	0	0	0	0	76	240
5:00 AM	0	70	0	0	0	52	0	0	0	0	0	0	0	0	0	0	122	321
5:15 AM	0	100	0	0	0	53	0	0	0	0	0	0	0	0	0	0	153	408
5:30 AM	0	189	0	0	0	62	0	0	0	0	0	0	0	0	0	0	251	602
5:45 AM	0	142	0	0	0	79	0	0	0	0	0	0	0	0	0	0	221	747
6:00 AM	0	168	0	0	0	122	0	0	0	0	0	0	0	0	0	0	290	915
6:15 AM	0	229	0	0	0	141	0	0	0	0	0	0	0	0	0	0	370	1132
6:30 AM	0	209	0	0	0	144	0	0	0	0	0	0	0	0	0	0	353	1234
6:45 AM	0	242	0	0	0	157	0	0	0	0	0	0	0	0	0	0	399	1412
7:00 AM	0	301	0	0	0	175	0	0	0	0	0	0	1	0	0	0	477	1599
7:15 AM	0	297	1	0	0	192	0	0	0	0	0	0	0	0	0	0	490	1719
7:30 AM	0	291	2	0	0	194	0	0	0	0	0	0	0	0	0	0	487	1853
7:45 AM	0	259	0	0	0	224	0	0	0	0	0	0	0	0	1	0	484	1938
8:00 AM	0	269	0	0	0	227	0	0	0	0	0	0	1	0	0	0	497	1958
8:15 AM	0	249	0	0	0	243	0	0	0	0	0	0	0	0	0	0	492	1960
8:30 AM	0	263	0	0	0	236	0	0	0	0	0	0	0	0	0	0	499	1972
8:45 AM	0	288	0	0	0	237	0	0	0	0	0	0	0	0	1	0	526	2014
9:00 AM	0	215	0	0	0	236	0	0	0	0	0	0	0	0	1	0	452	1969
9:15 AM	0	226	0	0	0	276	0	0	0	0	0	0	0	0	0	0	502	1979
9:30 AM	0	250	0	0	0	276	0	0	0	0	0	0	0	0	0	0	526	2006

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Olowalu Village South/East (Eastbound)				Olowalu Village South/East (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	149	0	0	0	288	0	0	0	0	0	0	0	0	0	0	437	1917
10:00 AM	0	265	0	0	1	253	0	0	0	0	0	0	0	0	1	0	520	1985
10:15 AM	0	210	0	0	0	274	0	0	0	0	0	0	0	0	1	0	485	1968
10:30 AM	0	170	0	0	0	274	0	0	0	0	0	0	0	0	0	0	444	1886
10:45 AM	0	184	1	0	0	290	0	0	0	0	0	0	0	0	0	0	475	1924
11:00 AM	0	228	0	0	0	270	0	0	0	0	0	0	0	0	0	0	498	1902
11:15 AM	0	181	0	0	0	262	0	0	0	0	0	0	0	0	0	0	443	1860
11:30 AM	0	227	2	0	0	270	0	0	0	0	0	0	0	0	0	0	499	1915
11:45 AM	0	215	0	0	0	210	0	0	0	0	0	0	0	0	0	0	425	1865
12:00 PM	0	219	0	0	0	224	0	0	0	0	0	0	0	0	0	0	443	1810
12:15 PM	0	221	0	0	0	233	0	0	0	0	0	0	0	0	0	0	454	1821
12:30 PM	0	286	0	0	0	259	0	0	0	0	0	0	0	0	0	0	545	1867
12:45 PM	0	239	0	0	0	211	0	0	0	0	0	0	1	0	0	0	451	1893
1:00 PM	0	220	0	0	0	216	0	0	0	0	0	0	0	0	0	0	436	1886
1:15 PM	0	276	0	0	0	216	0	0	0	0	0	0	0	0	0	0	492	1924
1:30 PM	0	263	1	0	0	224	0	0	0	0	0	0	0	0	0	0	488	1867
1:45 PM	0	250	0	0	0	217	0	0	0	0	0	0	0	0	0	0	467	1883
2:00 PM	0	272	0	0	0	233	0	0	0	0	0	0	0	0	0	0	505	1952
2:15 PM	0	256	0	0	0	226	0	0	0	0	0	0	0	0	0	0	482	1942
2:30 PM	0	313	0	0	0	277	0	0	0	0	0	0	0	0	0	0	590	2044
2:45 PM	0	253	0	0	0	258	0	0	0	0	0	0	0	0	0	0	511	2088
3:00 PM	0	284	0	0	0	269	0	0	0	0	0	0	1	0	1	0	555	2138
3:15 PM	0	252	2	0	0	271	0	0	0	0	0	0	0	0	0	0	525	2181
3:30 PM	0	289	1	0	0	280	0	1	0	0	0	0	0	0	0	0	571	2162
3:45 PM	0	323	0	0	0	287	0	0	0	0	0	0	0	0	1	0	611	2262
4:00 PM	0	302	2	0	0	280	0	0	0	0	0	0	0	0	1	0	585	2292
4:15 PM	0	259	0	0	0	277	0	0	0	0	0	0	0	0	0	0	536	2303
4:30 PM	0	248	0	0	0	301	0	0	0	0	0	0	0	0	0	0	549	2281
4:45 PM	0	251	0	0	0	322	0	0	0	0	0	0	0	0	0	0	573	2243
5:00 PM	0	292	0	0	0	309	0	0	0	0	0	0	0	0	0	0	601	2259
5:15 PM	0	219	2	0	0	301	0	0	0	0	0	0	1	0	0	0	523	2246
5:30 PM	0	213	1	0	0	266	0	0	0	0	0	0	0	0	1	0	481	2178
5:45 PM	0	189	0	0	0	186	0	0	0	0	0	0	0	0	0	0	375	1980
6:00 PM	0	178	0	0	0	171	0	0	0	0	0	0	0	0	0	0	349	1728
6:15 PM	0	200	0	0	0	162	0	0	0	0	0	0	0	0	0	0	362	1567
6:30 PM	0	169	0	1	0	171	0	0	0	0	0	0	0	0	0	0	341	1427
6:45 PM	0	128	0	0	0	146	0	0	0	0	0	0	0	0	0	0	274	1326
7:00 PM	0	137	0	0	0	154	0	0	0	0	0	0	0	0	0	0	291	1268
7:15 PM	0	119	0	0	0	134	0	0	0	0	0	0	0	0	0	0	253	1159
7:30 PM	0	99	1	0	0	152	0	0	0	0	0	0	1	0	0	0	253	1071
7:45 PM	0	132	1	0	0	109	0	0	0	0	0	0	1	0	0	0	243	1040
8:00 PM	0	126	0	0	0	119	0	0	0	0	0	0	0	0	0	0	245	994
8:15 PM	0	101	1	0	0	114	0	0	0	0	0	0	0	0	0	0	216	957
8:30 PM	0	130	0	0	0	123	0	0	0	0	0	0	0	0	0	0	253	957
8:45 PM	0	105	0	0	0	87	0	0	0	0	0	0	0	0	0	0	192	906
9:00 PM	0	122	0	0	0	83	0	0	0	0	0	0	0	0	0	0	205	866
9:15 PM	0	88	1	0	0	102	0	0	0	0	0	0	0	0	0	0	191	841
9:30 PM	0	89	0	0	0	87	0	0	0	0	0	0	0	0	0	0	176	764
9:45 PM	0	85	0	0	0	73	0	0	0	0	0	0	0	0	0	0	158	730
10:00 PM	0	78	0	0	0	79	0	0	0	0	0	0	0	0	0	0	157	682
10:15 PM	0	48	0	0	0	80	0	0	0	0	0	0	0	0	0	0	128	619
10:30 PM	0	47	1	0	0	63	0	0	0	0	0	0	0	0	0	0	111	554
10:45 PM	0	23	0	0	0	48	0	0	0	0	0	0	0	0	0	0	71	467
11:00 PM	0	27	0	0	0	55	0	0	0	0	0	0	0	0	0	0	82	392
11:15 PM	0	26	0	0	0	53	0	0	0	0	0	0	0	0	0	0	79	343
11:30 PM	0	15	0	0	0	32	0	0	0	0	0	0	0	0	0	0	47	279
11:45 PM	0	11	0	0	0	21	0	0	0	0	0	0	0	0	0	0	32	240
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1292	0	0	0	1148	0	0	0	0	0	0	0	0	4	0	2444	
Heavy Trucks	0	20	0	0	0	44	0	0	0	0	0	0	0	0	0	0	64	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

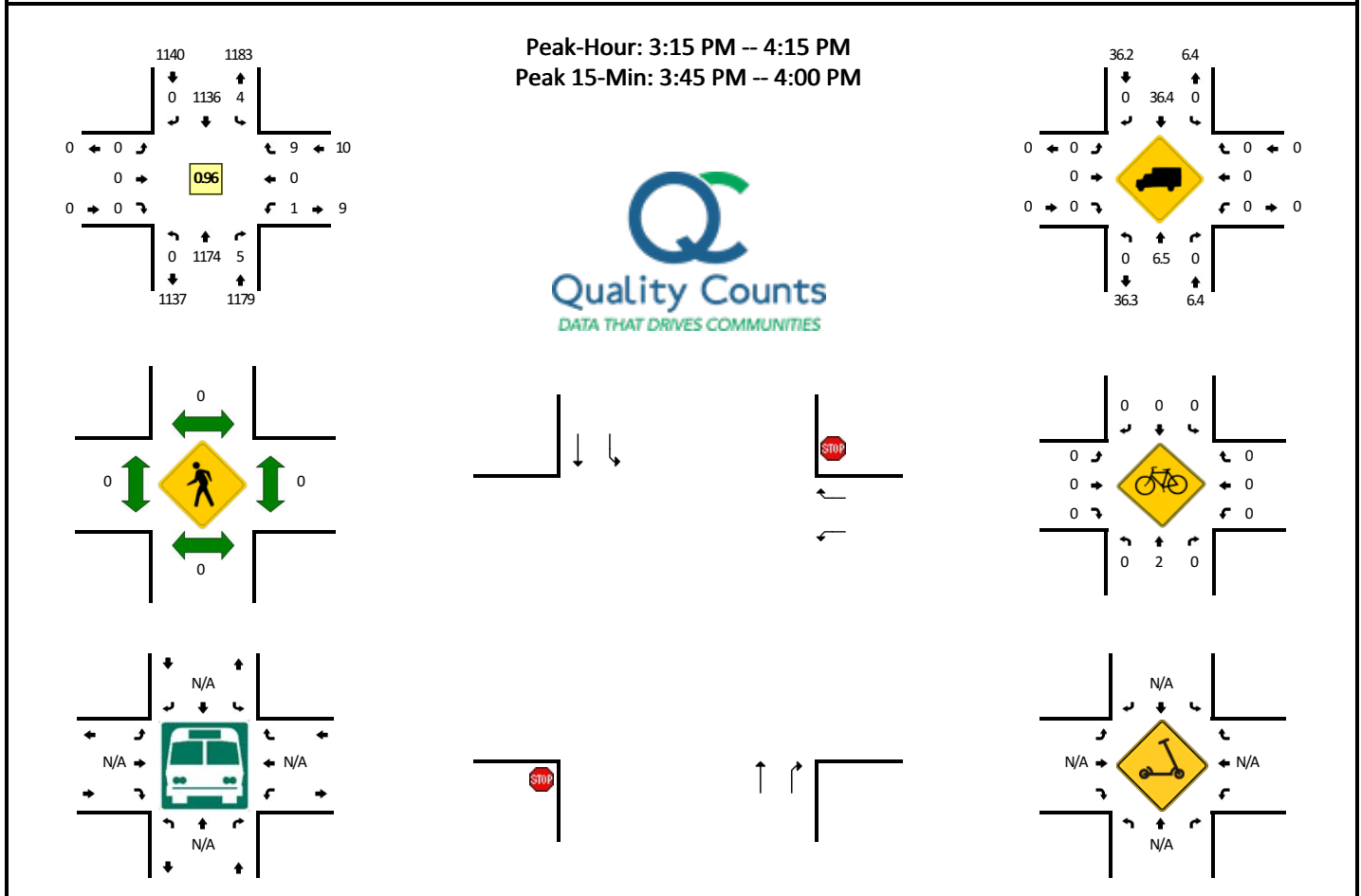
Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



**LOCATION:** Honoapiilani Highway -- Ehehene Street  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179908  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Ehehene Street (Eastbound)				Ehehene Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	3	0	0	0	13	0	0	0	0	0	0	0	0	0	0	16	
12:15 AM	0	6	0	0	0	14	0	0	0	0	0	0	0	0	0	0	20	
12:30 AM	0	7	0	0	0	15	0	0	0	0	0	0	0	0	0	0	22	
12:45 AM	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10	68
1:00 AM	0	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0	13	65
1:15 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	52
1:30 AM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8	38
1:45 AM	0	10	0	0	0	9	0	0	0	0	0	0	0	0	0	0	19	47
2:00 AM	0	5	0	0	0	10	0	0	0	0	0	0	0	0	0	0	15	49
2:15 AM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12	54
2:30 AM	0	5	0	0	0	13	0	0	0	0	0	0	0	0	0	0	18	64
2:45 AM	0	7	0	0	0	11	0	0	0	0	0	0	0	0	0	0	18	63
3:00 AM	0	3	0	0	0	16	0	0	0	0	0	0	0	0	0	0	19	67
3:15 AM	0	6	0	0	0	12	0	0	0	0	0	0	0	0	0	0	18	73
3:30 AM	0	14	0	0	0	11	0	0	0	0	0	0	0	0	0	0	25	80
3:45 AM	0	11	0	0	0	13	0	0	0	0	0	0	0	0	0	0	24	86
4:00 AM	0	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	34	101
4:15 AM	0	30	0	0	0	26	0	0	0	0	0	0	0	0	0	0	56	139
4:30 AM	0	22	0	0	0	22	0	0	0	0	0	0	0	0	0	0	44	158
4:45 AM	0	50	0	0	0	23	0	0	0	0	0	0	0	0	0	0	73	207
5:00 AM	0	51	0	0	0	55	0	0	0	0	0	0	0	0	1	0	107	280
5:15 AM	0	94	0	0	0	48	0	0	0	0	0	0	0	0	0	0	142	366
5:30 AM	0	92	0	0	0	33	0	0	0	0	0	0	0	0	0	0	125	447
5:45 AM	0	142	0	0	0	79	0	0	0	0	0	0	1	0	2	0	224	598
6:00 AM	0	172	0	0	0	120	0	0	0	0	0	0	0	0	0	0	292	783
6:15 AM	0	226	0	0	0	140	0	0	0	0	0	0	0	0	0	0	366	1007
6:30 AM	0	222	0	0	0	145	0	0	0	0	0	0	0	0	0	0	367	1249
6:45 AM	0	237	1	0	0	139	0	0	0	0	0	0	1	0	0	0	378	1403
7:00 AM	0	310	0	0	1	194	0	0	0	0	0	0	1	0	0	0	506	1617
7:15 AM	0	330	6	0	0	188	0	0	0	0	0	0	2	0	0	0	526	1777
7:30 AM	0	300	1	0	1	184	0	0	0	0	0	0	1	0	2	0	489	1899
7:45 AM	0	255	0	0	1	222	0	0	0	0	0	0	0	0	1	0	479	2000
8:00 AM	0	259	0	0	0	200	0	0	0	0	0	0	1	0	0	0	460	1954
8:15 AM	0	244	0	0	1	262	0	0	0	0	0	0	0	0	2	0	509	1937
8:30 AM	0	281	1	0	0	224	0	0	0	0	0	0	0	0	1	0	507	1955
8:45 AM	0	266	1	0	0	240	0	0	0	0	0	0	0	0	1	0	508	1984
9:00 AM	0	217	1	0	0	226	0	0	0	0	0	0	0	0	0	0	444	1968
9:15 AM	0	239	2	0	1	286	0	0	0	0	0	0	2	0	2	0	532	1991
9:30 AM	0	233	0	0	1	268	0	0	0	0	0	0	0	0	0	0	502	1986

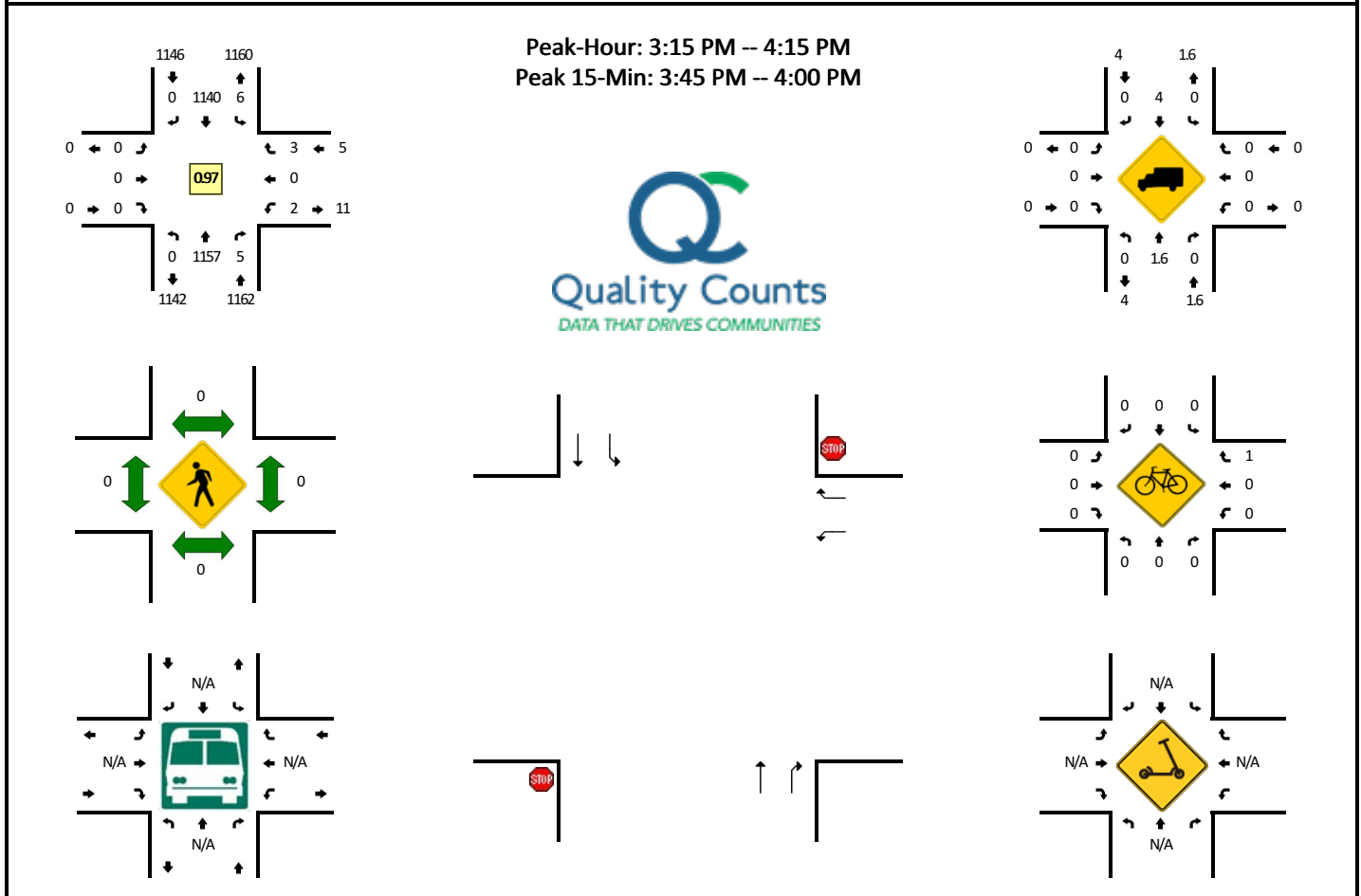
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Ehehene Street (Eastbound)				Ehehene Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	162	0	0	0	291	0	0	0	0	0	0	0	0	1	0	454	1932
10:00 AM	0	257	1	0	1	264	0	0	0	0	0	0	0	0	0	0	523	2011
10:15 AM	0	203	1	0	1	266	0	0	0	0	0	0	2	0	1	0	474	1953
10:30 AM	0	173	1	0	2	263	0	0	0	0	0	0	0	0	0	0	439	1890
10:45 AM	0	191	1	0	0	284	0	0	0	0	0	0	1	0	2	0	479	1915
11:00 AM	0	206	0	0	1	284	0	0	0	0	0	0	0	0	1	0	492	1884
11:15 AM	0	195	0	0	2	263	0	0	0	0	0	0	1	0	0	0	461	1871
11:30 AM	0	225	3	0	3	274	0	0	0	0	0	0	1	0	3	0	509	1941
11:45 AM	0	216	3	0	0	204	0	0	0	0	0	0	1	0	0	0	424	1886
12:00 PM	0	215	0	0	0	228	0	0	0	0	0	0	0	0	2	0	445	1839
12:15 PM	0	227	2	0	2	229	0	0	0	0	0	0	0	0	2	0	462	1840
12:30 PM	0	267	2	0	0	264	0	0	0	0	0	0	0	0	3	0	536	1867
12:45 PM	0	229	2	0	0	218	0	0	0	0	0	0	1	0	2	0	452	1895
1:00 PM	0	240	0	0	2	218	0	0	0	0	0	0	2	0	1	0	463	1913
1:15 PM	0	255	1	0	0	211	0	0	0	0	0	0	0	0	1	0	468	1919
1:30 PM	0	283	0	0	0	216	0	0	0	0	0	0	0	0	1	0	500	1883
1:45 PM	0	231	0	0	0	224	0	0	0	0	0	0	0	0	0	0	455	1886
2:00 PM	0	279	0	0	0	210	0	0	0	0	0	0	0	0	0	0	489	1912
2:15 PM	0	283	0	0	1	259	0	0	0	0	0	0	0	0	0	0	543	1987
2:30 PM	0	280	0	0	3	283	0	0	0	0	0	0	0	0	2	0	568	2055
2:45 PM	0	254	1	0	0	253	0	0	0	0	0	0	1	0	1	0	510	2110
3:00 PM	0	271	0	0	1	257	0	0	0	0	0	0	0	0	0	0	529	2150
3:15 PM	0	277	1	0	0	279	0	0	0	0	0	0	1	0	1	0	559	2166
3:30 PM	0	286	1	0	2	294	0	0	0	0	0	0	0	0	3	0	586	2184
3:45 PM	0	319	2	0	0	284	0	0	0	0	0	0	0	0	1	0	606	2280
4:00 PM	0	292	1	0	2	279	0	0	0	0	0	0	0	0	4	0	578	2329
4:15 PM	0	237	2	0	0	279	0	0	0	0	0	0	2	0	0	0	520	2290
4:30 PM	0	261	1	0	0	293	0	0	0	0	0	0	0	0	1	0	556	2260
4:45 PM	0	240	1	0	2	298	0	0	0	0	0	0	0	0	0	0	541	2195
5:00 PM	0	265	2	0	2	307	0	0	0	0	0	0	2	0	1	0	579	2196
5:15 PM	0	186	0	0	0	276	0	0	0	0	0	0	0	0	0	0	462	2138
5:30 PM	0	214	2	0	0	145	0	0	0	0	0	0	0	0	2	0	363	1945
5:45 PM	0	164	0	0	0	126	0	0	0	0	0	0	0	0	0	0	290	1694
6:00 PM	0	176	0	0	0	90	0	0	0	0	0	0	1	0	0	0	267	1382
6:15 PM	0	154	3	0	0	149	0	0	0	0	0	2	0	0	0	0	306	1226
6:30 PM	0	129	8	0	0	196	0	0	0	0	0	0	1	0	0	0	334	1197
6:45 PM	0	128	0	0	0	87	0	0	0	0	0	0	2	0	1	0	218	1125
7:00 PM	0	108	1	0	1	77	0	0	0	0	0	0	1	0	1	0	189	1047
7:15 PM	0	74	0	0	1	123	0	0	0	0	0	0	0	0	1	0	199	940
7:30 PM	0	86	0	0	0	132	0	0	0	0	0	0	0	0	0	0	218	824
7:45 PM	0	114	0	0	0	119	0	0	0	0	0	0	0	0	0	0	233	839
8:00 PM	0	86	1	0	0	96	0	0	0	0	0	0	1	0	1	0	185	835
8:15 PM	0	77	1	0	0	102	0	0	0	0	0	0	0	0	0	0	180	816
8:30 PM	0	98	0	0	0	107	0	0	0	0	0	0	0	0	0	0	205	803
8:45 PM	0	108	1	0	0	85	0	0	0	0	0	0	1	0	1	0	196	766
9:00 PM	0	81	0	0	0	71	0	0	0	0	0	0	0	0	0	0	152	733
9:15 PM	0	71	0	0	0	92	0	0	0	0	0	0	0	0	0	0	163	716
9:30 PM	0	66	0	0	0	90	0	0	0	0	0	0	1	0	0	0	157	668
9:45 PM	0	76	0	0	0	64	0	0	0	0	0	0	0	0	0	0	140	612
10:00 PM	0	53	0	0	0	69	0	0	0	0	0	0	0	0	0	0	122	582
10:15 PM	0	37	0	0	0	61	0	0	0	0	0	0	0	0	0	0	98	517
10:30 PM	0	37	0	0	0	73	0	0	0	0	0	0	0	0	0	0	110	470
10:45 PM	0	19	0	0	0	50	0	0	0	0	0	0	0	0	0	0	69	399
11:00 PM	0	20	0	0	0	46	0	0	0	0	0	0	0	0	0	0	66	343
11:15 PM	0	22	0	0	0	51	0	0	0	0	0	0	0	0	0	0	73	318
11:30 PM	0	11	0	0	0	31	0	0	0	0	0	0	0	0	0	0	42	250
11:45 PM	0	12	0	0	0	19	0	0	0	0	0	0	0	0	0	0	31	212
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1276	8	0	0	1136	0	0	0	0	0	0	0	0	4	0	2424	
Heavy Trucks	0	104	0		0	412	0		0	0	0		0	0	0		516	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- Pohaku Aeko Street  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179909  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Pohaku Aeko Street (Eastbound)				Pohaku Aeko Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	30	
12:15 AM	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	0	21	
12:30 AM	0	12	1	0	0	10	0	0	0	0	0	0	0	0	0	0	23	
12:45 AM	0	3	2	0	0	8	0	0	0	0	0	0	0	0	0	0	13	87
1:00 AM	0	3	0	0	0	11	0	0	0	0	0	0	0	0	0	0	14	71
1:15 AM	0	5	0	0	1	1	0	0	0	0	0	0	1	0	0	0	8	58
1:30 AM	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9	44
1:45 AM	0	12	0	0	0	6	0	0	0	0	0	0	0	0	0	0	18	49
2:00 AM	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	14	49
2:15 AM	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13	54
2:30 AM	0	7	0	0	0	12	0	0	0	0	0	0	0	0	0	0	19	64
2:45 AM	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	0	20	66
3:00 AM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11	63
3:15 AM	0	10	0	0	0	11	0	0	0	0	0	0	0	0	0	0	21	71
3:30 AM	0	24	0	0	1	9	0	0	0	0	0	0	0	0	0	0	34	86
3:45 AM	0	19	0	0	0	12	0	0	0	0	0	0	0	0	0	0	31	97
4:00 AM	0	26	0	0	0	12	0	0	0	0	0	0	1	0	0	0	39	125
4:15 AM	0	39	0	0	0	23	0	0	0	0	0	0	0	0	0	0	62	166
4:30 AM	0	44	0	0	0	21	0	0	0	0	0	0	0	0	0	0	65	197
4:45 AM	0	59	0	0	1	18	0	0	0	0	0	0	0	0	0	0	78	244
5:00 AM	0	73	0	0	0	39	0	0	0	0	0	0	0	0	0	0	112	317
5:15 AM	0	127	0	0	0	40	0	0	0	0	0	0	0	0	0	0	167	422
5:30 AM	0	153	0	0	0	30	0	0	0	0	0	0	0	0	0	0	183	540
5:45 AM	0	135	1	0	0	84	0	0	0	0	0	0	0	0	0	0	220	682
6:00 AM	0	167	0	0	1	111	0	0	0	0	0	0	1	0	1	0	281	851
6:15 AM	0	233	0	0	1	141	0	0	0	0	0	0	0	0	1	0	376	1060
6:30 AM	0	219	0	0	0	155	0	0	0	0	0	0	0	0	0	0	374	1251
6:45 AM	0	217	0	0	0	138	0	0	0	0	0	0	0	0	2	0	357	1388
7:00 AM	0	274	0	0	0	175	0	0	0	0	0	5	0	0	1	0	450	1557
7:15 AM	0	289	0	0	1	165	0	0	0	0	0	0	0	0	3	0	458	1639
7:30 AM	0	287	2	0	1	178	0	0	0	0	0	0	0	0	2	0	470	1735
7:45 AM	0	231	0	0	0	212	0	0	0	0	0	0	1	0	1	0	445	1823
8:00 AM	0	236	0	0	0	188	0	0	0	0	0	0	0	0	0	0	424	1797
8:15 AM	0	224	0	0	1	257	0	0	0	0	0	0	0	0	1	0	483	1822
8:30 AM	0	270	0	0	2	223	0	0	0	0	0	0	0	0	0	0	495	1847
8:45 AM	0	252	2	0	0	226	0	0	0	0	0	0	0	0	1	0	481	1883
9:00 AM	0	201	0	0	0	224	0	0	0	0	0	0	0	0	0	0	425	1884
9:15 AM	0	224	2	0	1	288	0	0	0	0	0	0	0	0	1	0	516	1917
9:30 AM	0	227	2	0	0	288	0	0	0	0	0	0	1	0	0	0	518	1940

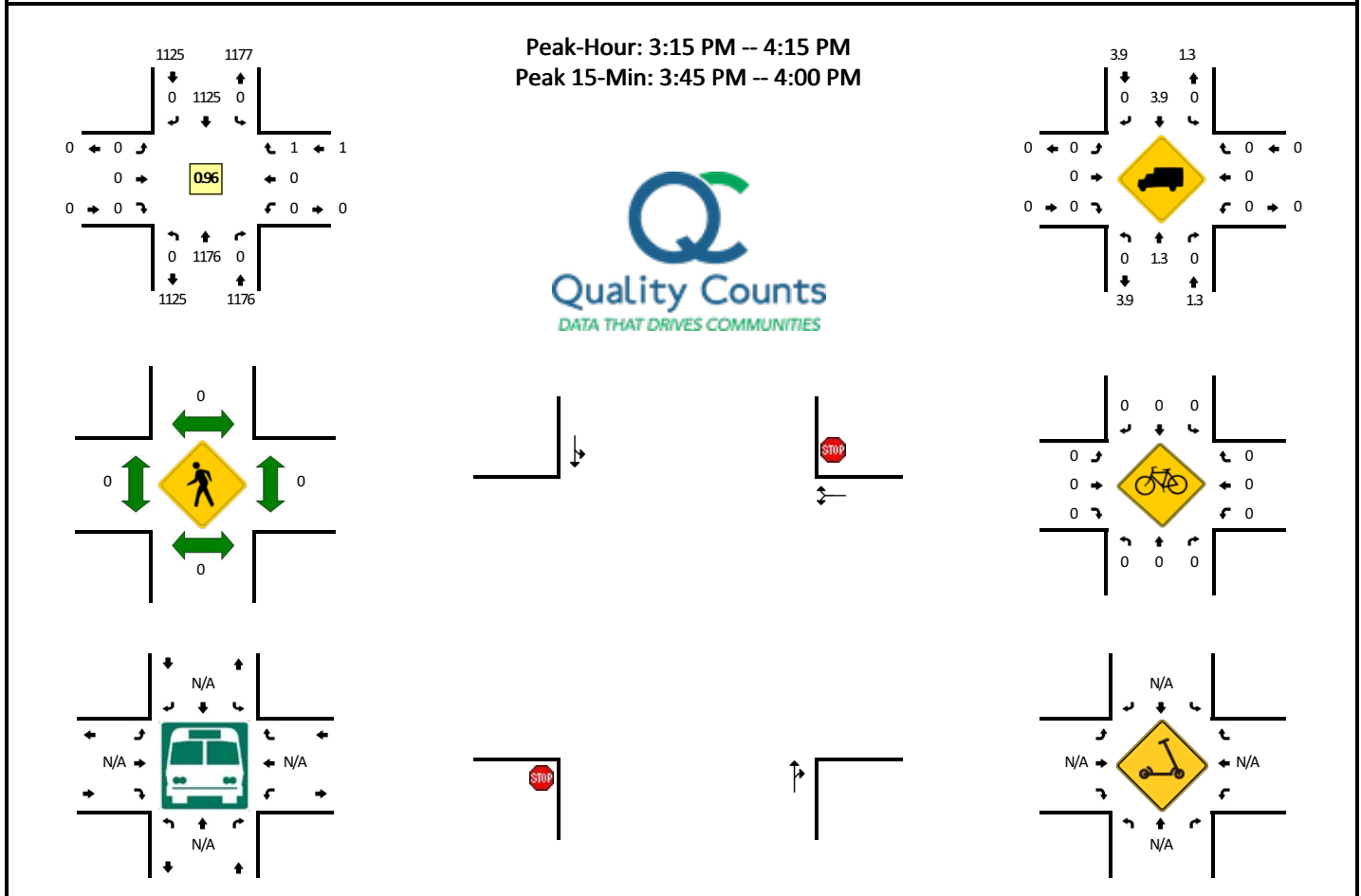
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Pohaku Aeko Street (Eastbound)				Pohaku Aeko Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	170	2	0	1	284	0	0	0	0	0	0	2	0	0	0	459	1918
10:00 AM	0	261	2	0	2	277	0	0	0	0	0	0	0	0	1	0	543	2036
10:15 AM	0	199	2	0	3	257	0	0	0	0	0	0	1	0	1	0	463	1983
10:30 AM	0	174	2	0	2	275	0	0	0	0	0	0	2	0	3	0	458	1923
10:45 AM	0	187	1	0	0	285	0	0	0	0	0	0	2	0	1	0	476	1940
11:00 AM	0	201	1	0	4	290	0	0	0	0	0	0	1	0	1	0	498	1895
11:15 AM	0	208	0	0	1	273	0	0	0	0	0	0	0	0	0	0	482	1914
11:30 AM	0	211	2	0	1	285	0	0	0	0	0	0	1	0	2	0	502	1958
11:45 AM	0	223	2	0	3	215	0	0	0	0	0	0	0	0	0	0	443	1925
12:00 PM	0	224	3	0	1	224	0	0	0	0	0	0	2	0	3	0	457	1884
12:15 PM	0	232	1	0	2	237	0	0	0	0	0	0	0	0	3	0	475	1877
12:30 PM	0	257	1	0	2	267	0	0	0	0	0	0	0	0	2	0	529	1904
12:45 PM	0	220	1	0	6	218	0	0	0	0	0	0	0	0	2	0	447	1908
1:00 PM	0	253	1	0	4	228	0	0	0	0	0	0	0	0	0	0	486	1937
1:15 PM	0	258	1	0	2	197	0	0	0	0	0	0	0	0	2	0	460	1922
1:30 PM	0	266	1	0	3	230	0	0	0	0	0	0	0	0	1	0	501	1894
1:45 PM	0	236	0	0	2	215	0	0	0	0	0	0	0	0	2	0	455	1902
2:00 PM	0	275	2	0	3	217	0	0	0	0	0	0	2	0	1	0	500	1916
2:15 PM	0	280	2	0	4	258	0	0	0	0	0	0	1	0	0	0	545	2001
2:30 PM	0	280	0	0	0	289	0	0	0	0	0	0	0	0	1	0	570	2070
2:45 PM	0	258	0	0	0	256	0	0	0	0	0	0	0	0	0	0	514	2129
3:00 PM	0	278	0	0	1	258	0	0	0	0	0	0	2	0	0	0	539	2168
3:15 PM	0	266	1	0	1	300	0	0	0	0	0	0	0	0	1	0	569	2192
3:30 PM	0	286	2	0	1	286	0	0	0	0	0	0	1	0	1	0	577	2199
3:45 PM	0	315	2	0	2	276	0	0	0	0	0	0	1	0	1	0	597	2282
4:00 PM	0	290	0	0	2	278	0	0	0	0	0	0	0	0	0	0	570	2313
4:15 PM	0	233	0	0	0	285	0	0	0	0	0	0	0	0	0	0	518	2262
4:30 PM	0	273	1	0	3	296	0	0	0	0	0	0	1	0	1	0	575	2260
4:45 PM	0	256	3	0	1	303	0	0	0	0	0	0	1	0	0	0	564	2227
5:00 PM	0	274	1	0	0	324	0	0	0	0	0	0	0	0	1	0	600	2257
5:15 PM	0	219	0	0	1	299	0	0	0	0	0	0	0	0	0	0	519	2258
5:30 PM	0	209	1	0	2	274	0	0	0	0	0	0	1	0	0	0	487	2170
5:45 PM	0	174	1	0	1	194	0	0	0	0	0	0	0	0	2	0	372	1978
6:00 PM	0	201	1	0	3	176	0	0	0	0	0	0	0	0	1	0	382	1760
6:15 PM	0	199	0	0	4	163	0	0	0	0	0	0	1	0	0	0	367	1608
6:30 PM	0	148	0	0	4	178	0	0	0	0	0	0	1	0	1	0	332	1453
6:45 PM	0	128	0	0	5	148	0	0	0	0	0	0	0	0	0	0	281	1362
7:00 PM	0	131	0	0	0	88	0	0	0	0	0	0	1	0	0	0	220	1200
7:15 PM	0	116	2	0	0	118	0	0	0	0	0	0	0	0	1	0	237	1070
7:30 PM	0	120	0	0	2	125	0	0	0	0	0	0	0	0	0	0	247	985
7:45 PM	0	162	1	0	2	103	0	0	0	0	0	0	0	0	2	0	270	974
8:00 PM	0	109	1	0	0	90	0	0	0	0	0	0	1	0	0	0	201	955
8:15 PM	0	109	0	0	0	88	0	0	0	0	0	0	0	0	0	0	197	915
8:30 PM	0	140	2	0	1	102	0	0	0	0	0	0	1	0	2	0	248	916
8:45 PM	0	135	1	0	0	65	0	0	0	0	0	0	0	0	1	0	202	848
9:00 PM	0	105	0	0	0	62	0	0	0	0	0	0	1	0	0	0	168	815
9:15 PM	0	86	0	0	1	84	0	0	0	0	0	0	0	0	0	0	171	789
9:30 PM	0	83	0	0	1	69	0	0	0	0	0	0	1	0	0	0	154	695
9:45 PM	0	106	1	0	0	47	0	0	0	0	0	0	0	0	0	0	154	647
10:00 PM	0	64	1	0	1	61	0	0	0	0	0	0	0	0	2	0	129	608
10:15 PM	0	49	1	0	0	53	0	0	0	0	0	0	1	0	0	0	104	541
10:30 PM	0	56	0	0	0	69	0	0	0	0	0	0	1	0	0	0	126	513
10:45 PM	0	29	0	0	0	40	0	0	0	0	0	0	1	0	0	0	70	429
11:00 PM	0	23	0	0	1	35	0	0	0	0	0	0	0	0	1	0	60	360
11:15 PM	0	28	0	0	0	38	0	0	0	0	0	0	0	0	0	0	66	322
11:30 PM	0	15	0	0	0	27	0	0	0	0	0	0	0	0	0	0	42	238
11:45 PM	0	12	0	0	0	17	0	0	0	0	0	0	0	0	0	0	29	197
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1260	8	0	8	1104	0	0	0	0	0	0	4	0	4	0	2388	
Heavy Trucks	0	32	0		0	32	0		0	0	0		0	0	0		64	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- Ukumehame Firing Range  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179910  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Ukumehame Firing Range (Eastbound)				Ukumehame Firing Range (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	13	0	0	0	20	0	0	0	0	0	0	0	0	0	0	33	
12:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	
12:30 AM	0	14	0	0	0	19	0	0	0	0	0	0	0	0	0	0	33	
12:45 AM	0	2	0	0	0	12	0	0	0	0	0	0	0	0	0	0	14	100
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	78
1:15 AM	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11	69
1:30 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8	44
1:45 AM	0	11	0	0	0	10	0	0	0	0	0	0	0	0	0	0	21	51
2:00 AM	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13	53
2:15 AM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12	54
2:30 AM	0	8	0	0	0	13	0	0	0	0	0	0	0	0	0	0	21	67
2:45 AM	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	0	21	67
3:00 AM	0	5	0	0	0	14	0	0	0	0	0	0	0	0	0	0	19	73
3:15 AM	0	9	0	0	0	11	0	0	0	0	0	0	0	0	0	0	20	81
3:30 AM	0	23	0	0	0	12	0	0	0	0	0	0	0	0	0	0	35	95
3:45 AM	0	18	0	0	0	13	0	0	0	0	0	0	0	0	0	0	31	105
4:00 AM	0	24	0	0	0	14	0	0	0	0	0	0	0	0	0	0	38	124
4:15 AM	0	38	0	0	0	30	0	0	0	0	0	0	0	0	0	0	68	172
4:30 AM	0	44	0	0	0	27	0	0	0	0	0	0	0	0	0	0	71	208
4:45 AM	0	57	0	0	0	20	0	0	0	0	0	0	0	0	0	0	77	254
5:00 AM	0	71	0	0	0	44	0	0	0	0	0	0	0	0	0	0	115	331
5:15 AM	0	124	0	0	0	53	0	0	0	0	0	0	0	0	0	0	177	440
5:30 AM	0	155	0	0	0	59	0	0	0	0	0	0	0	0	0	0	214	583
5:45 AM	0	141	0	0	0	83	0	0	0	0	0	0	0	0	0	0	224	730
6:00 AM	0	188	0	0	1	108	0	0	0	0	0	0	0	0	0	0	297	912
6:15 AM	0	236	0	0	0	129	0	0	0	0	0	0	0	0	0	0	365	1100
6:30 AM	0	236	0	0	0	158	0	0	0	0	0	0	0	0	0	0	394	1280
6:45 AM	0	239	0	0	0	144	0	0	0	0	0	0	0	0	0	0	383	1439
7:00 AM	0	302	0	0	0	189	0	0	0	0	0	0	0	0	0	0	491	1633
7:15 AM	0	313	0	0	0	196	0	0	0	0	0	0	0	0	0	0	509	1777
7:30 AM	0	299	0	0	0	197	0	0	0	0	0	0	0	0	0	0	496	1879
7:45 AM	0	278	0	0	0	209	0	0	0	0	0	0	0	0	0	0	487	1983
8:00 AM	0	246	0	0	0	202	0	0	0	0	0	0	0	0	0	0	448	1940
8:15 AM	0	252	2	0	0	261	0	0	0	0	0	0	0	0	0	0	515	1946
8:30 AM	0	279	0	0	0	240	0	0	0	0	0	0	0	0	1	0	520	1970
8:45 AM	0	279	2	0	0	223	0	0	0	0	0	0	0	0	0	0	504	1987
9:00 AM	0	208	0	0	0	228	0	0	0	0	0	0	0	0	0	0	436	1975
9:15 AM	0	236	0	0	0	273	0	0	0	0	0	0	0	0	0	0	509	1969
9:30 AM	0	232	0	0	0	294	0	0	0	0	0	0	0	0	0	0	526	1975



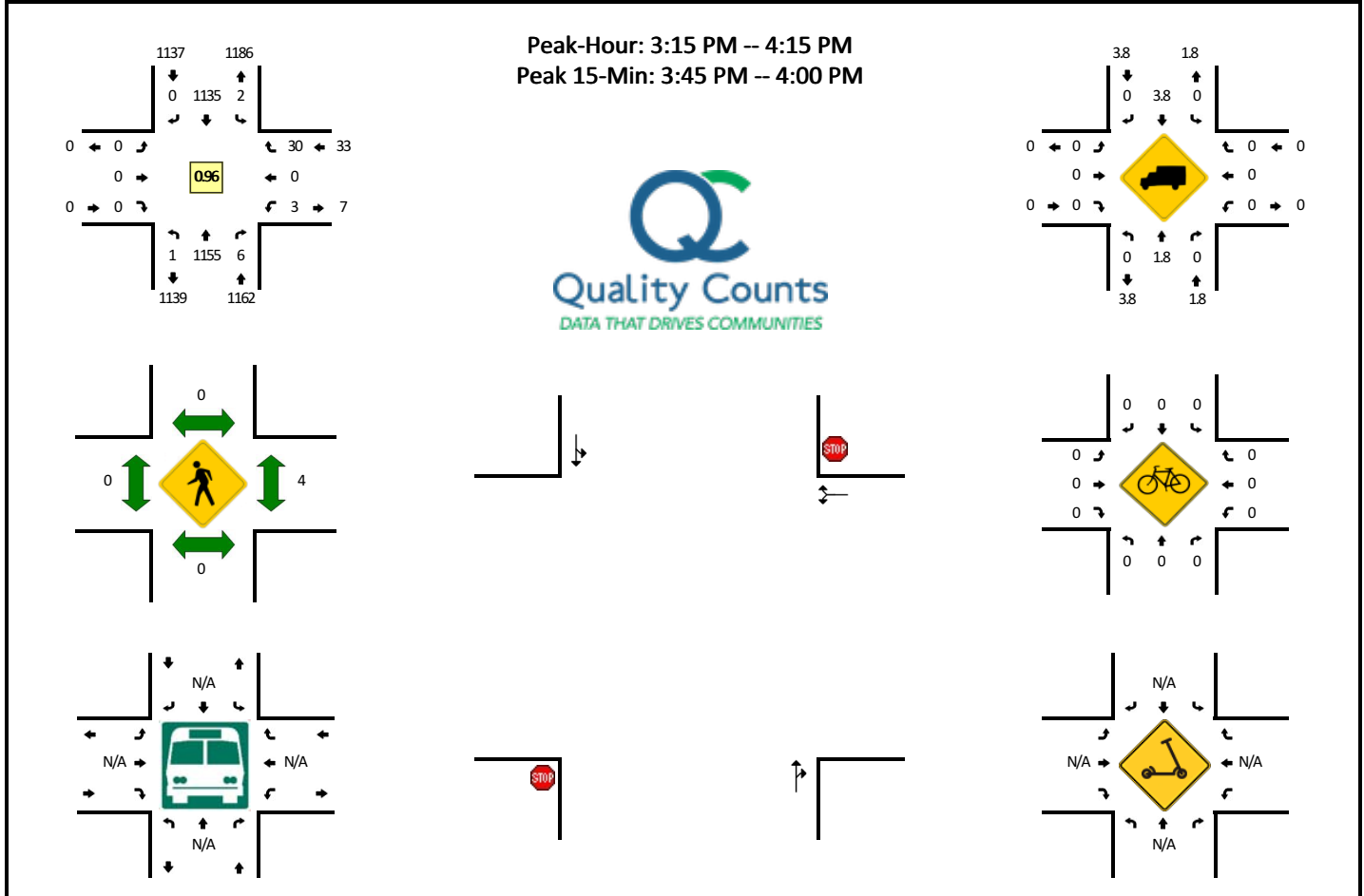
15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				Ukumehame Firing Range (Eastbound)				Ukumehame Firing Range (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	203	0	0	0	284	0	0	0	0	0	0	1	0	0	0	488	1959
10:00 AM	0	250	0	0	0	260	0	0	0	0	0	0	0	0	0	0	510	2033
10:15 AM	0	204	0	0	0	266	0	0	0	0	0	0	0	0	0	0	470	1994
10:30 AM	0	184	1	0	0	284	0	0	0	0	0	0	0	0	0	0	469	1937
10:45 AM	0	196	1	0	0	274	0	0	0	0	0	0	1	0	1	0	473	1922
11:00 AM	0	195	0	0	0	291	0	0	0	0	0	0	0	0	0	0	486	1898
11:15 AM	0	216	0	0	0	282	0	0	0	0	0	0	0	0	0	0	498	1926
11:30 AM	0	216	0	0	0	288	0	0	0	0	0	0	0	0	0	0	504	1961
11:45 AM	0	209	1	0	0	229	0	0	0	0	0	0	0	0	1	0	440	1928
12:00 PM	0	245	0	0	0	224	0	0	0	0	0	0	0	0	0	0	469	1911
12:15 PM	0	228	0	0	0	232	0	0	0	0	0	0	0	0	0	0	460	1873
12:30 PM	0	256	0	0	0	265	0	0	0	0	0	0	0	0	0	0	521	1890
12:45 PM	0	227	0	0	0	217	0	0	0	0	0	0	0	0	0	0	444	1894
1:00 PM	0	247	1	0	0	232	0	0	0	0	0	0	1	0	0	0	481	1906
1:15 PM	0	271	0	0	1	200	0	0	0	0	0	0	1	0	0	0	473	1919
1:30 PM	0	265	0	0	0	229	0	0	0	0	0	0	0	0	0	0	494	1892
1:45 PM	0	238	0	0	0	213	0	0	0	0	0	0	0	0	0	0	451	1899
2:00 PM	0	284	0	0	0	203	0	0	0	0	0	0	0	0	0	0	487	1905
2:15 PM	0	284	0	0	0	259	0	0	0	0	0	0	0	0	0	0	543	1975
2:30 PM	0	267	0	0	0	290	0	0	0	0	0	0	0	0	0	0	557	2038
2:45 PM	0	268	0	0	0	262	0	0	0	0	0	0	1	0	0	0	531	2118
3:00 PM	0	289	0	0	0	247	0	0	0	0	0	0	0	0	0	0	536	2167
3:15 PM	0	257	0	0	0	289	0	0	0	0	0	0	0	0	1	0	547	2171
3:30 PM	0	307	0	0	0	280	0	0	0	0	0	0	0	0	0	0	587	2201
3:45 PM	0	320	0	0	0	281	0	0	0	0	0	0	0	0	0	0	601	2271
4:00 PM	0	292	0	0	0	275	0	0	0	0	0	0	0	0	0	0	567	2302
4:15 PM	0	246	0	0	0	290	0	0	0	0	0	0	0	0	0	0	536	2291
4:30 PM	0	268	0	0	0	301	0	0	0	0	0	0	0	0	0	0	569	2273
4:45 PM	0	268	1	0	0	299	0	0	0	0	0	0	0	0	1	0	569	2241
5:00 PM	0	268	0	0	0	316	0	0	0	0	0	0	0	0	0	0	584	2258
5:15 PM	0	238	0	0	0	298	0	0	0	0	0	0	0	0	0	0	536	2258
5:30 PM	0	198	0	0	0	294	0	0	0	0	0	0	0	0	0	0	492	2181
5:45 PM	0	170	0	0	0	192	0	0	0	0	0	0	0	0	0	0	362	1974
6:00 PM	0	207	0	0	0	195	0	0	0	0	0	0	0	0	0	0	402	1792
6:15 PM	0	197	0	0	0	159	0	0	0	0	0	0	0	0	0	0	356	1612
6:30 PM	0	165	0	0	0	179	0	0	0	0	0	0	0	0	0	0	344	1464
6:45 PM	0	113	0	0	0	158	0	0	0	0	0	0	0	0	0	0	271	1373
7:00 PM	0	148	0	0	0	142	0	0	0	0	0	0	0	0	0	0	290	1261
7:15 PM	0	109	0	0	0	165	0	0	0	0	0	0	0	0	0	0	274	1179
7:30 PM	0	115	0	0	0	150	0	0	0	0	0	0	0	0	0	0	265	1100
7:45 PM	0	136	0	0	0	126	0	0	0	0	0	0	0	0	0	0	262	1091
8:00 PM	0	107	0	0	0	118	0	0	0	0	0	0	0	0	0	0	225	1026
8:15 PM	0	102	1	0	0	98	0	0	0	0	0	0	1	0	0	0	202	954
8:30 PM	0	130	0	0	0	129	0	0	0	0	0	0	0	0	0	0	259	948
8:45 PM	0	121	0	0	0	91	0	0	0	0	0	0	0	0	0	0	212	898
9:00 PM	0	102	0	0	0	81	0	0	0	0	0	0	0	0	0	0	183	856
9:15 PM	0	85	0	0	0	90	0	0	0	0	0	0	0	0	0	0	175	829
9:30 PM	0	80	0	0	0	108	0	0	0	0	0	0	0	0	0	0	188	758
9:45 PM	0	102	0	0	0	65	0	0	0	0	0	0	0	0	0	0	167	713
10:00 PM	0	65	0	0	0	76	0	0	0	0	0	0	0	0	0	0	141	671
10:15 PM	0	48	0	0	0	76	0	0	0	0	0	0	0	0	0	0	124	620
10:30 PM	0	42	0	0	0	73	0	0	0	0	0	0	0	0	0	0	115	547
10:45 PM	0	31	0	0	0	52	0	0	0	0	0	0	0	0	0	0	83	463
11:00 PM	0	22	0	0	0	45	0	0	0	0	0	0	0	0	0	0	67	389
11:15 PM	0	24	0	0	0	56	0	0	0	0	0	0	0	0	0	0	80	345
11:30 PM	0	14	0	0	0	36	0	0	0	0	0	0	0	0	0	0	50	280
11:45 PM	0	9	0	0	0	22	0	0	0	0	0	0	0	0	0	0	31	228
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1280	0	0	0	1124	0	0	0	0	0	0	0	0	0	0	2404	
Heavy Trucks	0	20	0	0	0	44	0	0	0	0	0	0	0	0	0	0	64	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Honoapiilani Highway -- General Store N Dwy  
**CITY/STATE:** Olowalu, HI

**QC JOB #:** 16179911  
**DATE:** Wed, May 3 2023



15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				General Store N Dwy (Eastbound)				General Store N Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	10	0	0	0	17	0	0	0	0	0	0	0	0	0	0	27	
12:15 AM	0	11	0	0	0	16	0	0	0	0	0	0	0	0	0	0	27	
12:30 AM	0	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	28	
12:45 AM	0	5	0	0	0	12	0	0	0	0	0	0	0	0	0	0	17	99
1:00 AM	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	11	83
1:15 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	66
1:30 AM	0	4	0	0	0	8	0	0	0	0	0	0	0	0	0	0	12	50
1:45 AM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	20	53
2:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	60
2:15 AM	0	7	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17	67
2:30 AM	0	4	0	0	0	11	0	0	0	0	0	0	0	0	0	0	15	70
2:45 AM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	16	66
3:00 AM	0	5	0	0	0	13	0	0	0	0	0	0	0	0	0	0	18	66
3:15 AM	0	8	0	0	0	12	0	0	0	0	0	0	0	0	0	0	20	69
3:30 AM	0	21	0	0	0	13	0	0	0	0	0	0	0	0	0	0	34	88
3:45 AM	0	22	0	0	0	13	0	0	0	0	0	0	0	0	0	0	35	107
4:00 AM	0	16	0	0	0	21	0	0	0	0	0	0	0	0	0	0	37	126
4:15 AM	0	41	0	0	0	28	0	0	0	0	0	0	0	0	0	0	69	175
4:30 AM	0	36	0	0	0	20	0	0	0	0	0	0	0	0	0	0	56	197
4:45 AM	0	50	1	0	0	22	0	0	0	0	0	0	0	0	1	0	74	236
5:00 AM	0	69	0	0	0	49	0	0	0	0	0	0	0	0	0	0	118	317
5:15 AM	0	97	0	0	0	45	0	0	0	0	0	0	0	0	0	0	142	390
5:30 AM	0	157	0	0	0	68	0	0	0	0	0	0	0	0	0	0	225	559
5:45 AM	0	145	0	0	0	75	0	0	0	0	0	0	0	0	0	0	220	705
6:00 AM	0	171	0	0	0	124	0	0	0	0	0	0	0	0	1	0	296	883
6:15 AM	0	227	0	0	0	149	0	0	0	0	0	0	0	0	1	0	377	1118
6:30 AM	0	228	0	0	0	141	0	0	0	0	0	0	0	0	0	0	369	1262
6:45 AM	0	216	0	0	1	157	0	0	0	0	0	0	0	0	3	0	377	1419
7:00 AM	0	298	0	0	0	184	0	0	0	0	0	60	0	0	0	0	482	1605
7:15 AM	0	300	1	0	0	187	0	0	0	0	0	0	0	0	1	0	489	1717
7:30 AM	0	301	0	0	1	209	0	0	0	0	0	0	0	0	3	0	514	1862
7:45 AM	0	260	0	0	1	211	0	0	0	0	0	0	1	0	0	0	473	1958
8:00 AM	0	254	0	1	0	223	0	0	0	0	0	0	1	0	3	2	484	1960
8:15 AM	0	277	0	0	0	252	0	0	0	0	0	0	0	0	3	0	532	2003
8:30 AM	0	263	0	1	1	241	0	0	0	0	0	0	2	0	1	0	509	1998
8:45 AM	0	259	2	0	0	238	0	2	0	0	0	0	2	0	3	0	506	2031
9:00 AM	0	220	1	0	0	249	0	0	0	0	0	0	0	0	2	0	472	2019
9:15 AM	0	246	1	1	2	271	0	0	0	0	0	0	0	0	0	0	521	2008
9:30 AM	0	233	0	1	2	285	0	1	0	0	0	0	0	0	4	0	526	2025

15-Min Count Period Beginning At	Honoapiilani Highway (Northbound)				Honoapiilani Highway (Southbound)				General Store N Dwy (Eastbound)				General Store N Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:45 AM	0	148	0	0	0	296	0	0	0	0	0	0	1	0	3	0	448	1967
10:00 AM	0	262	1	2	1	252	0	0	0	0	0	0	1	0	1	0	520	2015
10:15 AM	0	221	4	2	0	271	0	2	0	0	0	0	0	0	1	0	501	1995
10:30 AM	0	179	1	1	1	278	0	0	0	0	0	0	0	0	2	0	462	1931
10:45 AM	0	186	5	1	0	285	0	0	0	0	0	0	0	0	3	0	480	1963
11:00 AM	0	216	0	2	1	281	0	1	0	0	0	0	0	0	2	0	503	1946
11:15 AM	0	194	1	0	4	272	0	0	0	0	0	0	1	0	3	0	475	1920
11:30 AM	0	208	1	1	1	280	0	1	0	0	0	0	0	0	3	0	495	1953
11:45 AM	0	228	0	1	2	213	0	1	0	0	0	0	2	0	5	0	452	1925
12:00 PM	0	232	2	2	5	231	0	0	0	0	0	0	0	0	0	0	472	1894
12:15 PM	0	200	0	1	1	231	0	0	0	0	0	0	0	0	5	0	438	1857
12:30 PM	0	286	7	0	0	259	0	1	0	0	0	0	0	0	2	0	555	1917
12:45 PM	0	242	3	0	1	227	0	0	0	0	0	0	1	0	6	0	480	1945
1:00 PM	0	239	0	1	1	205	0	0	0	0	0	0	3	0	8	0	457	1930
1:15 PM	0	279	2	0	1	221	0	0	0	0	0	0	0	0	8	0	511	2003
1:30 PM	0	259	2	0	0	236	0	0	0	0	0	0	3	0	12	0	512	1960
1:45 PM	0	261	2	1	0	208	0	1	0	0	0	0	1	0	2	0	476	1956
2:00 PM	0	252	0	0	0	246	0	0	0	0	0	0	1	0	4	0	503	2002
2:15 PM	0	249	2	1	1	259	0	0	0	0	0	0	1	0	2	0	515	2006
2:30 PM	0	293	1	1	0	287	0	1	0	0	0	0	2	0	5	0	590	2084
2:45 PM	0	270	0	0	2	262	0	1	0	0	0	0	1	0	1	0	537	2145
3:00 PM	0	282	8	0	0	273	0	0	0	0	0	0	2	0	6	0	571	2213
3:15 PM	0	279	2	0	0	278	0	0	0	0	0	0	1	0	13	0	573	2271
3:30 PM	0	284	3	0	1	282	0	0	0	0	0	0	1	0	4	0	575	2256
3:45 PM	0	304	0	0	0	298	0	0	0	0	0	0	0	0	5	0	607	2326
4:00 PM	0	288	1	1	0	277	0	1	0	0	0	0	1	0	8	0	577	2332
4:15 PM	0	274	0	1	0	283	0	1	0	0	0	0	0	0	2	0	561	2320
4:30 PM	0	255	1	1	1	295	0	1	0	0	0	0	1	0	3	0	558	2303
4:45 PM	0	254	1	2	0	328	0	0	0	0	0	0	2	0	5	0	592	2288
5:00 PM	0	269	0	1	1	314	0	0	0	0	0	0	1	0	1	0	587	2298
5:15 PM	0	241	1	0	0	296	0	0	0	0	0	0	1	0	0	0	539	2276
5:30 PM	0	208	0	1	0	262	0	0	0	0	0	0	0	0	0	0	471	2189
5:45 PM	0	194	1	3	0	198	0	1	0	0	0	0	0	0	2	0	399	1996
6:00 PM	0	208	0	0	0	152	0	0	0	0	0	0	2	0	0	0	362	1771
6:15 PM	0	187	0	0	0	149	0	0	0	0	0	0	0	0	2	0	338	1570
6:30 PM	0	173	0	0	0	175	0	1	0	0	0	0	0	0	0	0	349	1448
6:45 PM	0	131	0	0	0	145	0	0	0	0	0	0	0	0	0	0	276	1325
7:00 PM	0	129	0	0	0	148	0	0	0	0	0	0	0	0	0	0	277	1240
7:15 PM	0	132	0	0	0	133	0	0	0	0	0	0	0	0	0	0	265	1167
7:30 PM	0	93	0	0	0	152	0	1	0	0	0	0	0	0	0	0	246	1064
7:45 PM	0	136	0	0	0	118	0	0	0	0	0	0	0	0	0	0	254	1042
8:00 PM	0	121	0	0	0	119	0	0	0	0	0	0	0	0	0	0	240	1005
8:15 PM	0	100	0	0	0	111	0	0	0	0	0	0	0	0	1	0	212	952
8:30 PM	0	110	0	0	0	124	0	0	0	0	0	0	0	0	0	0	234	940
8:45 PM	0	98	0	0	0	86	0	0	0	0	0	0	0	0	0	0	184	870
9:00 PM	0	124	0	0	0	91	0	0	0	0	0	0	0	0	0	0	215	845
9:15 PM	0	90	0	0	0	101	0	0	0	0	0	0	0	0	0	0	191	824
9:30 PM	0	86	0	0	0	81	0	0	0	0	0	0	0	0	0	0	167	757
9:45 PM	0	81	0	0	0	76	0	0	0	0	0	0	0	0	0	0	157	730
10:00 PM	0	80	0	0	0	75	0	0	0	0	0	0	0	0	0	0	155	670
10:15 PM	0	58	0	0	0	81	0	0	0	0	0	0	0	0	0	0	139	618
10:30 PM	0	44	0	0	0	65	0	0	0	0	0	0	0	0	0	0	109	560
10:45 PM	0	27	0	0	0	46	0	0	0	0	0	0	0	0	0	0	73	476
11:00 PM	0	20	0	0	0	56	0	0	0	0	0	0	0	0	0	0	76	397
11:15 PM	0	32	0	0	0	52	0	0	0	0	0	0	0	0	0	0	84	342
11:30 PM	0	13	0	0	0	28	0	0	0	0	0	0	0	0	0	0	41	274
11:45 PM	0	11	0	0	0	24	0	0	0	0	0	0	0	0	0	0	35	236
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1216	0	0	0	1192	0	0	0	0	0	0	0	0	20	0	2428	
Heavy Trucks	0	20	0	0	0	36	0	0	0	0	0	0	0	0	0	0	56	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
Comments:																		

Report generated on 6/23/2023 8:30 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212







## Appendix B

### Existing Intersection Operations

### Synchro Worksheets

HCM 6th TWSC  
1: Honoapiilani Hwy /Honoapiilani Hwy & Olowalu RRCC

Existing AM  
07/10/2023

Intersection						
Int Delay, s/veh	0.6					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	16	1028	961	5	8	20
Future Vol, veh/h	16	1028	961	5	8	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	190	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	13	3	7	0	0	5
Mvmt Flow	17	1071	1001	5	8	21
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1006	0	-	0	2109	1004
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	1105	-
Critical Hdwy	4.23	-	-	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.317	-	-	-	3.5	3.345
Pot Cap-1 Maneuver	647	-	-	-	57	290
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	320	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	647	-	-	-	56	290
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	320	-
Approach	SE	NW		SW		
HCM Control Delay, s	0.2	0		39.8		
HCM LOS	E					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	647	-	132
HCM Lane V/C Ratio		-	-	0.026	-	0.221
HCM Control Delay (s)		-	-	10.7	-	39.8
HCM Lane LOS		-	-	B	-	E
HCM 95th %tile Q(veh)		-	-	0.1	-	0.8






HCM 6th TWSC  
2: Honoapiilani Hwy & Olowalu Gen Store N Dr 1

Existing AM  
07/10/2023

Intersection




Int Delay, s/veh 0.4

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	6	1042	942	5	5	17
Future Vol, veh/h	6	1042	942	5	5	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	6	1085	981	5	5	18

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	986	0	0 2081 984
Stage 1	-	-	- 984 -
Stage 2	-	-	- 1097 -
Critical Hdwy	4.27	-	- 6.4 6.5
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.353	-	- 3.5 3.57
Pot Cap-1 Maneuver	645	-	- 59 267
Stage 1	-	-	- 365 -
Stage 2	-	-	- 323 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	645	-	- 58 267
Mov Cap-2 Maneuver	-	-	- 58 -
Stage 1	-	-	- 357 -
Stage 2	-	-	- 323 -








Approach	SE	NW	SW
HCM Control Delay, s	0.1	0	34
HCM LOS			D

Minor Lane/Major Mvmt	NWT	NWR	SEL	SETSWLn1
Capacity (veh/h)	-	-	645	- 147
HCM Lane V/C Ratio	-	-	0.01	- 0.156
HCM Control Delay (s)	-	-	10.6	0 34
HCM Lane LOS	-	-	B	A D
HCM 95th %tile Q(veh)	-	-	0	- 0.5

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1043	958	5	5	9
Future Vol, veh/h	5	1043	958	5	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	1086	998	5	5	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1003	0	-	0	1554	1001
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	553	-
Critical Hdwy	4.1	-	-	-	7.35	6.365
Critical Hdwy Stg 1	-	-	-	-	6.15	-
Critical Hdwy Stg 2	-	-	-	-	6.55	-
Follow-up Hdwy	2.2	-	-	-	3.975	3.4045
Pot Cap-1 Maneuver	698	-	-	-	79	279
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	698	-	-	-	78	279
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	442	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.1	0		32.6		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1		
Capacity (veh/h)	698	-	-	- 145		
HCM Lane V/C Ratio	0.007	-	-	- 0.101		
HCM Control Delay (s)	10.2	0.1	-	- 32.6		
HCM Lane LOS	B	A	-	- D		
HCM 95th %tile Q(veh)	0	-	-	- 0.3		

## Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1022	5	28	924	5	14	5	13	5	5	16
Future Vol, veh/h	8	1022	5	28	924	5	14	5	13	5	5	16
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	8	1065	5	29	963	5	15	5	14	5	5	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	968	0	0	1065	0	0	2116	2107	1065	2115	2105	966
Stage 1	-	-	-	-	-	-	1081	1081	-	1024	1024	-
Stage 2	-	-	-	-	-	-	1035	1026	-	1091	1081	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	669	-	-	636	-	-	37	52	273	37	52	294
Stage 1	-	-	-	-	-	-	266	296	-	286	315	-
Stage 2	-	-	-	-	-	-	282	315	-	263	296	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	669	-	-	636	-	-	31	49	273	31	49	294
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	49	-	31	49	-
Stage 1	-	-	-	-	-	-	263	292	-	283	301	-
Stage 2	-	-	-	-	-	-	249	301	-	243	292	-







Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			151.3			69.2		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	53	669	-	-	636	-	-	82
HCM Lane V/C Ratio	0.629	0.012	-	-	0.046	-	-	0.33
HCM Control Delay (s)	151.3	10.4	-	-	10.9	-	-	69.2
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2.5	0	-	-	0.1	-	-	1.3

HCM 6th TWSC  
5: Honoapiilani Hwy & Olowalu Gen Store S Dr

Existing AM  
07/10/2023




Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	1031	940	26	0	14
Future Vol, veh/h	0	1031	940	26	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	0	1074	979	27	0	15
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	993
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.363
Pot Cap-1 Maneuver	0	-	-	-	0	291
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	291
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		18		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	291		
HCM Lane V/C Ratio	-	-	-	0.05		
HCM Control Delay (s)	-	-	-	18		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.2		

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1014	973	9	11	5
Future Vol, veh/h	13	1014	973	9	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	14	1056	1014	9	11	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1014	0	-	0	2098	1014
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1084	-
Critical Hdwy	4.1	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.2	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	692	-	-	-	55	292
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	315	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	692	-	-	-	54	292
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	333	-
Stage 2	-	-	-	-	315	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		24.3		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	692	-	-	-	172	292
HCM Lane V/C Ratio	0.02	-	-	-	0.067	0.018
HCM Control Delay (s)	10.3	-	-	-	27.4	17.6
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.1






HCM 6th TWSC  
7: Honoapiilani Hwy & Olowalu Village Mid







Existing AM  
07/10/2023







Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1027	977	5	5	5
Future Vol, veh/h	5	1027	977	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	1070	1018	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1023	0	-	0	2101	1021
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1080	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	686	-	-	-	58	289
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	329	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	686	-	-	-	57	289
Mov Cap-2 Maneuver	-	-	-	-	57	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	329	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		47.5		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	686	-	-	-	95	
HCM Lane V/C Ratio	0.008	-	-	-	0.11	
HCM Control Delay (s)	10.3	0	-	-	47.5	
HCM Lane LOS	B	A	-	-	E	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	




HCM 6th TWSC  
8: Honoapiilani Hwy & Olowalu Village S

Existing AM  
07/10/2023

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1025	979	5	5	5
Future Vol, veh/h	5	1025	979	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	1068	1020	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1025	0	-	0	2101	1023
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1078	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	685	-	-	-	58	289
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	330	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	685	-	-	-	57	289
Mov Cap-2 Maneuver	-	-	-	-	57	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	330	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		47.5		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	685	-	-	-	95	
HCM Lane V/C Ratio	0.008	-	-	-	0.11	
HCM Control Delay (s)	10.3	0	-	-	47.5	
HCM Lane LOS	B	A	-	-	E	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	





Intersection						
Int Delay, s/veh	0.1					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1020	955	5	5	5
Future Vol, veh/h	5	1020	955	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	5	8	25	50	0
Mvmt Flow	5	1063	995	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	995	0	-	0	2068	995
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	1073	-
Critical Hdwy	4.1	-	-	-	6.9	6.2
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.2	-	-	-	3.95	3.3
Pot Cap-1 Maneuver	703	-	-	-	44	300
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	267	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	703	-	-	-	44	300
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	267	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SETSWLn1	SWLn2
Capacity (veh/h)		-	-	703	-	147 300
HCM Lane V/C Ratio		-	-	0.007	-	0.035 0.017
HCM Control Delay (s)		-	-	10.2	-	30.4 17.2
HCM Lane LOS		-	-	B	-	D C
HCM 95th %tile Q(veh)		-	-	0	-	0.1 0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1026	904	6	5	5
Future Vol, veh/h	5	1026	904	6	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	1069	942	6	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	942	0	-	0	2021	942
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	1079	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	736	-	-	-	65	322
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	329	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	736	-	-	-	65	322
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	329	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		20.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	736	-	-	-	190	322
HCM Lane V/C Ratio	0.007	-	-	-	0.027	0.016
HCM Control Delay (s)	9.9	-	-	-	24.5	16.4
HCM Lane LOS	A	-	-	-	C	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0




Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1018	955	5	5	5
Future Vol, veh/h	5	1018	955	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	5	1060	995	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1000	0	-	0	2068	998
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	1070	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	700	-	-	-	60	299
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	332	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	700	-	-	-	59	299
Mov Cap-2 Maneuver	-	-	-	-	59	-
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	332	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		45.6		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	700	-	-	-	99	
HCM Lane V/C Ratio	0.007	-	-	-	0.105	
HCM Control Delay (s)	10.2	0	-	-	45.6	
HCM Lane LOS	B	A	-	-	E	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

HCM 6th TWSC  
1: Honoapiilani Hwy /Honoapiilani Hwy & Olowalu RRCC

Existing PM  
07/10/2023




Intersection						
Int Delay, s/veh	0.3					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1152	1133	5	5	5
Future Vol, veh/h	5	1152	1133	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	190	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1213	1193	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1198	0	-	0	2419	1196
Stage 1	-	-	-	-	1196	-
Stage 2	-	-	-	-	1223	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	590	-	-	-	36	229
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	281	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	590	-	-	-	36	229
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	281	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		74.6		
HCM LOS	F					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	590	-	62
HCM Lane V/C Ratio		-	-	0.009	-	0.17
HCM Control Delay (s)		-	-	11.2	-	74.6
HCM Lane LOS		-	-	B	-	F
HCM 95th %tile Q(veh)		-	-	0	-	0.6










Intersection						
Int Delay, s/veh	0.7					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	12	1131	1142	7	5	31
Future Vol, veh/h	12	1131	1142	7	5	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	13	1191	1202	7	5	33
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1209	0	-	0	2423	1206
Stage 1	-	-	-	-	1206	-
Stage 2	-	-	-	-	1217	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	584	-	-	-	36	226
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	283	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	584	-	-	-	34	226
Mov Cap-2 Maneuver	-	-	-	-	34	-
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	283	-
Approach	SE	NW		SW		
HCM Control Delay, s	0.1	0		45		
HCM LOS				E		
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	584	-	127	
HCM Lane V/C Ratio	-	-	0.022	-	0.298	
HCM Control Delay (s)	-	-	11.3	0	45	
HCM Lane LOS	-	-	B	A	E	
HCM 95th %tile Q(veh)	-	-	0.1	-	1.2	

HCM 6th TWSC  
3: Honoapiilani Hwy & N Dr 2

Existing PM  
07/10/2023

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1135	1155	6	5	30
Future Vol, veh/h	5	1135	1155	6	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1195	1216	6	5	32
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1222	0	-	0	1827	1219
Stage 1	-	-	-	-	1219	-
Stage 2	-	-	-	-	608	-
Critical Hdwy	4.1	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	578	-	-	-	77	222
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	512	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	578	-	-	-	75	222
Mov Cap-2 Maneuver	-	-	-	-	75	-
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	512	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.1	0		31.4		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WB	SWLn1	
Capacity (veh/h)	578	-	-	-	-	173
HCM Lane V/C Ratio	0.009	-	-	-	-	0.213
HCM Control Delay (s)	11.3	0.1	-	-	-	31.4
HCM Lane LOS	B	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	-	0.8

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1083	15	16	1120	22	5	5	14	10	5	15
Future Vol, veh/h	23	1083	15	16	1120	22	5	5	14	10	5	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	24	1140	16	17	1179	23	5	5	15	11	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1202	0	0	1140	0	0	2423	2424	1140	2423	2413	1191
Stage 1	-	-	-	-	-	-	1188	1188	-	1225	1225	-
Stage 2	-	-	-	-	-	-	1235	1236	-	1198	1188	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	588	-	-	620	-	-	23	33	247	23	33	231
Stage 1	-	-	-	-	-	-	232	264	-	221	254	-
Stage 2	-	-	-	-	-	-	218	250	-	229	264	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	588	-	-	620	-	-	18	31	247	18	31	231
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	31	-	18	31	-
Stage 1	-	-	-	-	-	-	222	253	-	212	247	-
Stage 2	-	-	-	-	-	-	193	243	-	202	253	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			144.1			253.7		
HCM LOS							F			F		







  

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	48	588	-	-	620	-	-	38
HCM Lane V/C Ratio	0.526	0.041	-	-	0.027	-	-	0.831
HCM Control Delay (s)	144.1	11.4	-	-	11	-	-	253.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2	0.1	-	-	0.1	-	-	3.1

HCM 6th TWSC  
5: Honoapiilani Hwy & Olowalu Gen Store S Dr




Existing PM  
07/10/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	1110	1138	31	0	29
Future Vol, veh/h	0	1110	1138	31	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	1168	1198	33	0	31
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	1215
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	223
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	223
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		23.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	223		
HCM Lane V/C Ratio	-	-	-	0.137		
HCM Control Delay (s)	-	-	-	23.7		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.5		

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	1099	1168	5	27	9
Future Vol, veh/h	14	1099	1168	5	27	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	15	1157	1229	5	28	9
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1229	0	-	0	2416	1229
Stage 1	-	-	-	-	1229	-
Stage 2	-	-	-	-	1187	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	574	-	-	-	36	219
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	574	-	-	-	35	219
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	292	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		32.6	
HCM LOS					D	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	574	-	-	-	144	219
HCM Lane V/C Ratio	0.026	-	-	-	0.197	0.043
HCM Control Delay (s)	11.4	-	-	-	36	22.2
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.1

HCM 6th TWSC  
7: Honoapiilani Hwy & Olowalu Village Mid




Existing PM  
07/10/2023







Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1122	1169	5	5	5
Future Vol, veh/h	5	1122	1169	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1181	1231	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1236	0	-	0	2425	1234
Stage 1	-	-	-	-	1234	-
Stage 2	-	-	-	-	1191	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	571	-	-	-	36	218
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	291	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	571	-	-	-	35	218
Mov Cap-2 Maneuver	-	-	-	-	35	-
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	291	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		77.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	571	-	-	-	60	
HCM Lane V/C Ratio	0.009	-	-	-	0.175	
HCM Control Delay (s)	11.4	0	-	-	77.4	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	



HCM 6th TWSC  
8: Honoapiilani Hwy & Olowalu Village S







Existing PM  
07/10/2023

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1118	1166	5	5	5
Future Vol, veh/h	5	1118	1166	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	1177	1227	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1232	0	-	0	2417	1230
Stage 1	-	-	-	-	1230	-
Stage 2	-	-	-	-	1187	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	573	-	-	-	36	217
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	573	-	-	-	35	217
Mov Cap-2 Maneuver	-	-	-	-	35	-
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	292	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		77.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	573	-	-	-	60	
HCM Lane V/C Ratio	0.009	-	-	-	0.175	
HCM Control Delay (s)	11.3	0	-	-	77.4	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Intersection						
Int Delay, s/veh	0.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1136	1174	5	5	9
Future Vol, veh/h	5	1136	1174	5	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	92
Heavy Vehicles, %	0	37	7	0	0	0
Mvmt Flow	5	1196	1236	5	5	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1236	0	-	0	2442	1236
Stage 1	-	-	-	-	1236	-
Stage 2	-	-	-	-	1206	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	571	-	-	-	35	217
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	286	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	571	-	-	-	35	217
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	286	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		25.4		
HCM LOS	D					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	SWLn2
Capacity (veh/h)	-	-	571	-	144	217
HCM Lane V/C Ratio	-	-	0.009	-	0.037	0.045
HCM Control Delay (s)	-	-	11.4	-	30.9	22.4
HCM Lane LOS	-	-	B	-	D	C
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.1

HCM 6th TWSC  
10: Honoapiilani Hwy & Pohaku Aeko St

Existing PM  
07/10/2023

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	1140	1157	5	5	5
Future Vol, veh/h	6	1140	1157	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	6	1200	1218	5	5	5




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1218	0	0 2430 1218
Stage 1	-	-	- 1218 -
Stage 2	-	-	- 1212 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	580	-	- 36 222
Stage 1	-	-	- 282 -
Stage 2	-	-	- 284 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	580	-	- 36 222
Mov Cap-2 Maneuver	-	-	- 145 -
Stage 1	-	-	- 279 -
Stage 2	-	-	- 284 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	26.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	580	-	-	-	145	222
HCM Lane V/C Ratio	0.011	-	-	-	0.036	0.024
HCM Control Delay (s)	11.3	-	-	-	30.8	21.6
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

HCM 6th TWSC  
11: Honoapiilani Hwy & Ukumehame Firing Rnge

Existing PM  
07/10/2023

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1125	1176	5	5	5
Future Vol, veh/h	5	1125	1176	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	1184	1238	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1243	0	-	0	2435	1241
Stage 1	-	-	-	-	1241	-
Stage 2	-	-	-	-	1194	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	567	-	-	-	35	213
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	290	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	567	-	-	-	34	213
Mov Cap-2 Maneuver	-	-	-	-	34	-
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	290	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		78.8		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	567	-	-	-	59	
HCM Lane V/C Ratio	0.009	-	-	-	0.178	
HCM Control Delay (s)	11.4	0	-	-	78.8	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	



## Appendix C

### Traffic Accident Data

Crash Data 1/2																	
C000 Report No	C002 County	C025 Prim City	C006 Occur Date	C006 Occur Day	C007 Occur Time	C009 MV Total Inv	C009 MC Total Inv	C009 MOP Total Inv	C009 BC Total Inv	C009 PED Total Inv	C027 Prim Route No	C028 Prim Milepost	C024 Prim St Hwy Name	C009 Refer Dist	C029 Refer Dist Unit	C029 Refer Direction	C030 Refer Name
20-023355	MAU	LAHAINA	3/7/2020	FR	14:48	2	0	0	0	0	30	11	HONOAPIILANI HWY	0.63	MI	NW	TUNNEL N PORT
21-043740	MAU	LAHAINA	13-12-2021	MO	18:42	0	0	1	0	0	30	11.004	HONOAPIILANI HWY	3744	FT	SE	UKUMEHAME RANGE ENT
20-017684	MAU	LAHAINA	19-05-2020	TU	5:08	2	0	0	0	0	30	11.2	HONOAPIILANI HWY	0.54	MI	E	UKUMEHAME RANGE ENT
19-046542	MAU	LAHAINA	12/11/2019	TU	18:27	1	0	0	0	0	30	11.2	HONOAPIILANI HWY	0.46	MI	S	UKUMEHAME RANGE ENT
21-019932	MAU	LAHAINA	7/6/2021	MO	13:16	2	0	0	0	0	30	11.21	HONOAPIILANI HWY	2655	FT	SE	UKUMEHAME RANGE ENT
20-023313	MAU	LAHAINA	3/7/2020	FR	6:19	1	0	0	0	0	30	11.3	HONOAPIILANI HWY	0.4	MI	SE	UKUMEHAME RANGE ENT
19-037413	MAU	LAHAINA	11/9/2019	WE	4:23	1	0	0	0	0	30	11.4	HONOAPIILANI HWY	0.25	MI	E	UKUMEHAME RANGE ENT
20-009910	MAU	LAHAINA	12/3/2020	TH	17:41	3	0	0	0	0	30	11.5	HONOAPIILANI HWY	0.24	MI	SE	UKUMEHAME RANGE ENT
20-024074	MAU	LAHAINA	9/7/2020	TH	6:07	1	0	0	0	0	30	11.6	HONOAPIILANI HWY	0.11	MI	SE	UKUMEHAME RANGE ENT
20-020064	MAU	LAHAINA	7/6/2020	SU	6:50	2	0	0	0	0	30	11.7	HONOAPIILANI HWY	174	FT	E	UKUMEHAME RANGE ENT
19-032658	MAU	LAHAINA	10/8/2019	SA	16:43	2	0	0	0	0	30	11.7	HONOAPIILANI HWY	82	FT	E	UKUMEHAME RANGE ENT
19-023843	MAU	LAHAINA	10/6/2019	MO	17:26	2	0	0	0	0	30	11.8	HONOAPIILANI HWY	294	FT	NW	UKUMEHAME RANGE ENT
20-029645	MAU	LAHAINA	21-08-2020	FR	18:28	2	0	0	0	0	30	12	HONOAPIILANI HWY	0.09	MI	SE	UKUMEHAME BCH PK ENT
19-012866	MAU	LAHAINA	29-03-2019	FR	23:32	2	0	0	0	0	30	12	HONOAPIILANI HWY	0.1	MI	S	UKUMEHAME BCH PK ENT
19-051801	MAU	LAHAINA	19-12-2019	TH	9:57	3	0	0	0	0	30	12.4	HONOAPIILANI HWY	247	FT	S	POHAKU AEKO ST
21-027371	MAU	LAHAINA	6/8/2021	FR	12:38	2	0	0	0	0	30	12.506	HONOAPIILANI HWY	5	FT	SE	POHAKU AEKO ST
19-029347	MAU	LAHAINA	18-07-2019	TH	17:07	2	0	0	0	0	30	12.6	HONOAPIILANI HWY	0.1	MI	N	POHAKU AEKO ST
20-022731	MAU	LAHAINA	28-06-2020	SU	10:32	0	1	0	0	0	30	12.8	HONOAPIILANI HWY	0.31	MI	NW	POHAKU AEKO ST
19-002403	MAU	LAHAINA	16-01-2019	WE	15:58	1	0	0	0	1	30	12.8	HONOAPIILANI HWY	0.37	MI	S	EHEHENE ST
20-017390	MAU	LAHAINA	16-05-2020	SA	12:51	3	0	0	0	0	30	13.5	HONOAPIILANI HWY	0.31	MI	NW	EHEHENE ST
21-034194	MAU	LAHAINA	29-09-2021	WE	15:23	2	0	0	0	0	30	13.522	HONOAPIILANI HWY	1779	FT	NW	EHEHENE ST
21-024137	MAU	LAHAINA	10/7/2021	SA	9:34	3	0	0	0	0	30	13.581	HONOAPIILANI HWY	2089	FT	NW	EHEHENE ST
19-044850	MAU	LAHAINA	1/11/2019	FR	1:54	2	0	0	0	0	30	13.9	HONOAPIILANI HWY	0.41	MI	SE	OLOWALU VILLAGE RD A
20-023360	MAU	LAHAINA	3/7/2020	FR	15:52	3	0	0	0	0	30	13.9	HONOAPIILANI HWY	0.41	MI	SE	OLOWALU VILLAGE RD A
21-019237	MAU	LAHAINA	2/6/2021	WE	3:56	1	0	0	0	0	30	13.994	HONOAPIILANI HWY	1608	FT	SE	OLOWALU VILLAGE RD A
21-020499	MAU	OLOWALU	11/6/2021	FR	22:46	2	0	0	0	0	30	14	HONOAPIILANI HWY	1577	FT	SE	OLOWALU VILLAGE RD A
19-032688	MAU	LAHAINA	10/8/2019	SA	21:55	3	0	0	0	0	30	14	HONOAPIILANI HWY	0.27	MI	SE	OLOWALU VILLAGE RD A
19-012980	MAU	LAHAINA	30-03-2019	SA	21:56	3	0	0	0	0	30	14	HONOAPIILANI HWY	0.32	MI	E	OLOWALU VILLAGE RD A
19-030713	MAU	LAHAINA	28-07-2019	SU	10:22	1	1	0	0	0	30	14.1	HONOAPIILANI HWY	0.21	MI	SE	OLOWALU VILLAGE RD A
19-021792	MAU	LAHAINA	27-05-2019	MO	10:22	2	0	0	0	0	30	14.2	HONOAPIILANI HWY	0.25	MI	S	LUAWAI ST
19-008087	MAU	LAHAINA	24-02-2019	SU	14:31	3	0	0	0	0	30	14.3	HONOAPIILANI HWY	100	FT	E	OLOWALU VILLAGE RD A
19-052811	MAU	LAHAINA	27-12-2019	FR	6:22	2	0	0	0	0	30	14.4	HONOAPIILANI HWY	51	FT	E	OLOWALU VILLAGE RD B
19-026404	MAU	LAHAINA	28-06-2019	FR	15:26	1	1	0	0	0	30	14.4	HONOAPIILANI HWY	0.1	MI	E	LUAWAI ST
20-007206	MAU	LAHAINA	22-02-2020	SA	0:13	2	0	0	0	0	30	15	HONOAPIILANI HWY	83	FT	N	OLOWALU STORE (E)
20-019587	MAU	LAHAINA	3/6/2020	WE	10:57	1	0	0	0	0	30	15.1	HONOAPIILANI HWY	76	FT	N	OLOWALU STORE (W)
19-024471	MAU	LAHAINA	14-06-2019	FR	17:23	1	0	0	0	0	30	15.5	HONOAPIILANI HWY	0.8	MI	S	OLOWALU DUMP RD
20-003398	MAU	LAHAINA	25-01-2020	SA	10:14	2	0	0	0	0	30	15.5	HONOAPIILANI HWY	0.79	MI	S	OLOWALU DUMP RD
20-031144	MAU	LAHAINA	2/9/2020	WE	2:43	2	0	0	0	0	30	15.6	HONOAPIILANI HWY	0.47	MI	NW	OLOWALU STORE (W)
19-020961	MAU	LAHAINA	21-05-2019	TU	17:18	1	1	0	0	0	30	15.6	HONOAPIILANI HWY	0.45	MI	NW	OLOWALU STORE (W)
19-052557	MAU	WAILUKU	24-12-2019	TU	21:47	3	0	0	0	0	30	16	HONOAPIILANI HWY	0.28	MI	SE	OLOWALU DUMP RD
20-021737	MAU	LAHAINA	20-06-2020	SA	10:56	2	0	0	0	0	30	16.1	HONOAPIILANI HWY	0.17	MI	SE	OLOWALU DUMP RD
19-020740	MAU	LAHAINA	20-05-2019	MO	9:15	2	0	0	0	0	30	16.7	HONOAPIILANI HWY	0.42	MI	NW	OLOWALU DUMP RD
19-007944	MAU	LAHAINA	23-02-2019	SA	14:05	4	0	0	0	0	30	16.7	HONOAPIILANI HWY	0.44	MI	NW	OLOWALU DUMP RD
19-024235	MAU	LAHAINA	13-06-2019	TH	10:30	0	1	0	0	0	30	16.9	HONOAPIILANI HWY	0.61	MI	NW	OLOWALU DUMP RD

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The State of Hawaii, Department of Transportation, has provided this traffic crash information under the protection of 23 USC 407.

This information may not be used in any federal or State court proceeding in any action for damages arising from any occurrence at a location mentioned or addressed in the information provided.



## Crash Data 2/2





CO00 Prim Jurisdct	CO31A Loc First Harm	CF027 Intersectionrelated	CF031B Crashesactions	CO23 GPS Latitude	CO23 GPS Longitude	CF021 Runoffroad	CF024 Lanedeparture	CF022 Crosscenterlinefirst	CF023 Crosscenterlineany	CF136 Involvedguardrail	CF010 Involvedspeed	CF004 Involveddistraction	CF005 Involvedelectronicdistraction	CF020 Involveddisregardtraffic	CF007 Alcoholinvolved	CF009 Drugsinvolved	CO19 Lighting	CF031 Timenight	CO18 Weather Cond 1	CO18 Weather Cond 2	CF134 Involvedwetroad	CF156 Numberkilled	CF158 Numberseriousinjuries	CF157 Numberinjured	DB Crash Year
S3R	14	N	39, 02, 102	20.79244	-156.5659	Y	Y	N	N	N	N	N	N	N	N	N	1	N	1	1	N	0	0	0	2020
S3R	23	N	8	20.79254	-156.565386	N	N	N	N	N	N	N	N	N	N	N	7	Y	1	-	N	0	0	1	2021
S3R	12	N	81	20.79316	-156.56785	N	N	N	N	N	Y	N	N	N	N	N	2	Y	1	1	N	0	1	1	2020
S3R	21	N	2	20.79325	-156.56923	Y	Y	N	N	N	N	N	N	N	N	N	7	Y	1	-	N	0	0	1	2019
S3R	12	N	81	20.793236	-156.56845	N	N	N	N	N	N	N	N	N	N	N	1	N	1	-	N	0	0	0	2021
S3R	10	N	06, 39	20.79348	-156.56999	Y	Y	N	N	N	Y	N	N	N	N	N	1	N	1	1	N	0	0	1	2020
S3R	12	N	06, 02	20.79372	-156.57222	Y	Y	N	N	N	Y	N	N	N	N	N	3	Y	1	-	N	0	0	0	2019
S3R	11	N	81, 81	20.79371	-156.57252	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	-	N	0	0	0	2020
S3R	22	N	11, 39	20.7939	-156.5745	N	Y	Y	Y	N	Y	N	N	N	N	N	1	N	1	1	Y	0	0	1	2020
S3R	23	N	102	20.79403	-156.57565	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	1	Y	0	0	1	2020
S3R	12	N	11, 83, 39, 02	20.79415	-156.57588	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	-	N	1	0	0	2019
S3R	12	N	81	20.79432	-156.57707	N	N	N	N	N	Y	Y	N	N	N	N	1	N	1	1	N	0	0	2	2019
S3R	11	N	81	20.79474	-156.58058	N	N	N	N	N	N	N	N	N	N	N	3	Y	1	1	N	0	0	1	2020
S3R	12	N	81	20.79469	-156.58047	N	N	N	N	N	Y	N	N	N	N	N	7	Y	1	1	N	0	0	0	2019
S3R	12	N	81, 81	20.7971	-156.58708	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	-	N	0	0	1	2019
S3R	1	Y	87, 06, 24, 34	20.797518	-156.587761	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	-	N	0	0	4	2021
S3R	12	N	81	20.79816	-156.58924	N	N	N	N	N	N	N	N	N	N	N	1	N	1	1	N	0	0	1	2019
S3R	11	N	8	20.8	-156.59184	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	1	N	0	0	1	2020
S3R	12	N	54	20.79989	-156.59176	N	N	N	N	N	N	N	N	N	N	N	1	N	1	99	N	0	0	1	2019
S3R	12	N	81, 11, 85	20.80634	-156.59969	N	N	N	Y	N	N	Y	N	N	N	N	1	N	1	1	N	0	0	5	2020
S3R	10	N	85	20.806563	-156.600106	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	-	N	0	0	2	2021
S3R	12	N	81, 81	20.806942	-156.600919	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	-	N	0	0	1	2021
S3R	12	N	81	20.80901	-156.60512	N	N	N	N	N	N	N	N	N	Y	N	7	Y	1	-	N	0	0	0	2019
S3R	11	N	81, 81	20.80899	-156.60507	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	1	Y	0	0	2	2020
S3R	23	N	2	20.809735	-156.606527	Y	Y	N	N	N	N	N	N	N	N	N	7	Y	1	-	N	0	0	0	2021
S3R	12	N	87	20.809687	-156.606646	N	N	N	N	N	N	N	N	N	N	N	7	Y	1	-	N	0	0	1	2021
S3R	10	N	81, 81	20.80982	-156.60704	N	N	N	N	N	N	N	N	N	N	N	3	Y	1	1	N	0	0	6	2019
S3R	12	N	11, 80, 80	20.80946	-156.60602	N	Y	Y	Y	N	N	Y	Y	N	N	N	7	Y	1	99	N	0	0	2	2019
S3R	10	N	81	20.81009	-156.60786	N	N	N	N	N	N	N	N	N	N	N	1	N	1	-	N	0	0	1	2019
S3R	11	N	85	20.81038	-156.61085	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	1	N	0	0	2	2019
S3R	12	N	11, 83, 80	20.8104	-156.61082	N	Y	Y	Y	N	N	Y	N	Y	N	N	1	N	1	1	N	0	9	5	2019
S3R	11	Y	81	20.8104	-156.61247	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	-	N	0	0	1	2019
S3R	12	N	81	20.81035	-156.61318	N	N	N	N	N	N	N	N	N	N	N	1	N	1	1	N	0	0	1	2019
S3R	12	N	21, 39, 13	20.81122	-156.62216	Y	Y	N	N	Y	N	N	N	N	N	N	7	Y	1	-	N	0	0	0	2020
S3R	11	N	21	20.81154	-156.62269	Y	Y	N	N	Y	N	N	N	N	N	N	1	N	1	1	N	0	0	0	2020
S3R	20	N	11, 22	20.81654	-156.62715	N	Y	Y	Y	Y	N	N	N	N	N	N	1	N	1	99	N	0	0	0	2019
S3R	12	N	11, 83	20.81666	-156.62721	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	-	N	0	0	2	2020
S3R	12	N	81	20.81667	-156.62722	N	N	N	N	N	N	N	N	N	N	N	5	Y	1	-	N	0	0	1	2020
S3R	12	N	84	20.81628	-156.62701	N	N	N	N	N	N	N	N	N	N	N	1	N	1	1	N	0	0	1	2019
S3R	12	N	11, 80, 11, 80	20.82338	-156.63066	N	Y	Y	Y	N	N	N	N	N	N	N	7	Y	1	-	N	0	1	2	2019
S3R	12	N	81	20.82471	-156.63152	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	1	N	0	0	0	2020
S3R	12	N	11, 80	20.83084	-156.63809	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	99	N	1	0	1	2019
S3R	12	N	11, 80, 83, 81	20.83103	-156.63828	N	Y	Y	Y	N	N	N	N	N	N	N	1	N	1	1	N	0	2	5	2019
S3R	12	N	08, 43	20.83258	-156.64028	N	N	N	N	N	Y	N	N	N	N	N	1	N	1	99	N	0	0	1	2019









# Appendix D

## Future Year 2045 Intersection Operations

### Synchro Worksheets









Intersection						
Int Delay, s/veh	0.9					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	16	1209	1131	5	8	20
Future Vol, veh/h	16	1209	1131	5	8	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	190	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	13	3	7	0	0	5
Mvmt Flow	17	1259	1178	5	8	21
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1183	0	-	0	2474	1181
Stage 1	-	-	-	-	1181	-
Stage 2	-	-	-	-	1293	-
Critical Hdwy	4.23	-	-	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.317	-	-	-	3.5	3.345
Pot Cap-1 Maneuver	553	-	-	-	33	228
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	553	-	-	-	32	228
Mov Cap-2 Maneuver	-	-	-	-	32	-
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	260	-
Approach	SE	NW		SW		
HCM Control Delay, s	0.2	0		70.2		
HCM LOS	F					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	553	-	83
HCM Lane V/C Ratio		-	-	0.03	-	0.351
HCM Control Delay (s)		-	-	11.7	-	70.2
HCM Lane LOS		-	-	B	-	F
HCM 95th %tile Q(veh)		-	-	0.1	-	1.4

Intersection						
Int Delay, s/veh	0.6					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	6	1211	1119	5	5	17
Future Vol, veh/h	6	1211	1119	5	5	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	6	1261	1166	5	5	18
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1171	0	-	0	2442	1169
Stage 1	-	-	-	-	1169	-
Stage 2	-	-	-	-	1273	-
Critical Hdwy	4.27	-	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	3.57
Pot Cap-1 Maneuver	546	-	-	-	35	206
Stage 1	-	-	-	-	298	-
Stage 2	-	-	-	-	266	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	546	-	-	-	34	206
Mov Cap-2 Maneuver	-	-	-	-	34	-
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	266	-
Approach	SE	NW		SW		
HCM Control Delay, s	0.1	0		53.9		
HCM LOS	F					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	546	-	96	
HCM Lane V/C Ratio	-	-	0.011	-	0.239	
HCM Control Delay (s)	-	-	11.7	0	53.9	
HCM Lane LOS	-	-	B	A	F	
HCM 95th %tile Q(veh)	-	-	0	-	0.9	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1208	1115	5	5	9
Future Vol, veh/h	5	1208	1115	5	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	1258	1161	5	5	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1166	0	-	0	1803	1164
Stage 1	-	-	-	-	1164	-
Stage 2	-	-	-	-	639	-
Critical Hdwy	4.1	-	-	-	7.35	6.365
Critical Hdwy Stg 1	-	-	-	-	6.15	-
Critical Hdwy Stg 2	-	-	-	-	6.55	-
Follow-up Hdwy	2.2	-	-	-	3.975	3.4045
Pot Cap-1 Maneuver	606	-	-	-	53	223
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	606	-	-	-	52	223
Mov Cap-2 Maneuver	-	-	-	-	52	-
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	395	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.1	0		45.6		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WB	SWLn1	
Capacity (veh/h)	606	-	-	-	-	103
HCM Lane V/C Ratio	0.009	-	-	-	-	0.142
HCM Control Delay (s)	11	0.1	-	-	-	45.6
HCM Lane LOS	B	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	-	0.5

## Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1199	5	28	1089	5	14	5	13	5	5	16
Future Vol, veh/h	8	1199	5	28	1089	5	14	5	13	5	5	16
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	8	1249	5	29	1134	5	15	5	14	5	5	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1139	0	0	1249	0	0	2471	2462	1249	2470	2460	1137
Stage 1	-	-	-	-	-	-	1265	1265	-	1195	1195	-
Stage 2	-	-	-	-	-	-	1206	1197	-	1275	1265	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	575	-	-	540	-	-	21	31	213	21	31	233
Stage 1	-	-	-	-	-	-	210	243	-	230	262	-
Stage 2	-	-	-	-	-	-	226	261	-	207	243	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	575	-	-	540	-	-	16	29	213	16	29	233
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	29	-	16	29	-
Stage 1	-	-	-	-	-	-	207	240	-	227	248	-
Stage 2	-	-	-	-	-	-	194	247	-	187	240	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	\$ 418.4	156.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	29	575	-	-	540	-	-	47
HCM Lane V/C Ratio	1.149	0.014	-	-	0.054	-	-	0.576
HCM Control Delay (s)	\$ 418.4	11.4	-	-	12	-	-	156.4
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	3.8	0	-	-	0.2	-	-	2.2

## Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon












Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	1213	1106	26	0	14
Future Vol, veh/h	0	1213	1106	26	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	0	1264	1152	27	0	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 1166
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.27
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.363
Pot Cap-1 Maneuver	0	-	- 0 231
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 231
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	231
HCM Lane V/C Ratio	-	-	-	0.063
HCM Control Delay (s)	-	-	-	21.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2




Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1200	1129	9	11	5
Future Vol, veh/h	13	1200	1129	9	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	14	1250	1176	9	11	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1176	0	-	0	2454	1176
Stage 1	-	-	-	-	1176	-
Stage 2	-	-	-	-	1278	-
Critical Hdwy	4.1	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.2	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	601	-	-	-	32	235
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	253	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	601	-	-	-	31	235
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	253	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		29.9		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	601	-	-	-	135	235
HCM Lane V/C Ratio	0.023	-	-	-	0.085	0.022
HCM Control Delay (s)	11.1	-	-	-	34.1	20.7
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1







Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1211	1138	5	5	5
Future Vol, veh/h	5	1211	1138	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	1261	1185	5	5	5







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1190	0	0 2459 1188
Stage 1	-	-	- 1188 -
Stage 2	-	-	- 1271 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	594	-	- 34 231
Stage 1	-	-	- 292 -
Stage 2	-	-	- 266 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	594	-	- 33 231
Mov Cap-2 Maneuver	-	-	- 33 -
Stage 1	-	-	- 284 -
Stage 2	-	-	- 266 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	80.2
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	594	-	-	-	58
HCM Lane V/C Ratio	0.009	-	-	-	0.18
HCM Control Delay (s)	11.1	0	-	-	80.2
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.6





Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1212	1136	5	5	5
Future Vol, veh/h	5	1212	1136	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	1263	1183	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1188	0	-	0	2459	1186
Stage 1	-	-	-	-	1186	-
Stage 2	-	-	-	-	1273	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	595	-	-	-	34	232
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	266	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	595	-	-	-	33	232
Mov Cap-2 Maneuver	-	-	-	-	33	-
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	266	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		80.2		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	595	-	-	-	58	
HCM Lane V/C Ratio	0.009	-	-	-	0.18	
HCM Control Delay (s)	11.1	0	-	-	80.2	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	




Intersection						
Int Delay, s/veh	0.1					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1210	1133	5	5	5
Future Vol, veh/h	5	1210	1133	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	5	8	25	50	0
Mvmt Flow	5	1260	1180	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1180	0	-	0	2450	1180
Stage 1	-	-	-	-	1180	-
Stage 2	-	-	-	-	1270	-
Critical Hdwy	4.1	-	-	-	6.9	6.2
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.2	-	-	-	3.95	3.3
Pot Cap-1 Maneuver	599	-	-	-	24	234
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	211	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	599	-	-	-	24	234
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	211	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		29.7		
HCM LOS	D					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SETSWLn1	SWLn2
Capacity (veh/h)		-	-	599	-	112 234
HCM Lane V/C Ratio		-	-	0.009	-	0.047 0.022
HCM Control Delay (s)		-	-	11.1	-	38.7 20.7
HCM Lane LOS		-	-	B	-	E C
HCM 95th %tile Q(veh)		-	-	0	-	0.1 0.1




Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1211	1135	6	5	5
Future Vol, veh/h	5	1211	1135	6	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	1261	1182	6	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1182	0	-	0	2453	1182
Stage 1	-	-	-	-	1182	-
Stage 2	-	-	-	-	1271	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	598	-	-	-	34	233
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	266	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	598	-	-	-	34	233
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	266	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		25.9		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	598	-	-	-	143	233
HCM Lane V/C Ratio	0.009	-	-	-	0.036	0.022
HCM Control Delay (s)	11.1	-	-	-	31.1	20.8
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1












Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1212	1141	5	5	5
Future Vol, veh/h	5	1212	1141	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	5	1263	1189	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1194	0	-	0	2465	1192
Stage 1	-	-	-	-	1192	-
Stage 2	-	-	-	-	1273	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	592	-	-	-	34	230
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	266	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	592	-	-	-	33	230
Mov Cap-2 Maneuver	-	-	-	-	33	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	266	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		80.2		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	592	-	-	-	58	
HCM Lane V/C Ratio	0.009	-	-	-	0.18	
HCM Control Delay (s)	11.1	0	-	-	80.2	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Intersection						
Int Delay, s/veh	0.5					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1352	1330	5	5	5
Future Vol, veh/h	5	1352	1330	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	190	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1423	1400	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1405	0	-	0	2836	1403
Stage 1	-	-	-	-	1403	-
Stage 2	-	-	-	-	1433	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	492	-	-	-	20	173
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	222	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	492	-	-	-	20	173
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	222	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		142		
HCM LOS	F					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	492	-	36
HCM Lane V/C Ratio		-	-	0.011	-	0.292
HCM Control Delay (s)		-	-	12.4	-	142
HCM Lane LOS		-	-	B	-	F
HCM 95th %tile Q(veh)		-	-	0	-	1

Intersection						
Int Delay, s/veh	1.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	12	1341	1301	7	5	31
Future Vol, veh/h	12	1341	1301	7	5	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	13	1412	1369	7	5	33
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1376	0	-	0	2811	1373
Stage 1	-	-	-	-	1373	-
Stage 2	-	-	-	-	1438	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	505	-	-	-	20	180
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	221	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	505	-	-	-	18	180
Mov Cap-2 Maneuver	-	-	-	-	18	-
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	221	-
Approach	SE	NW		SW		
HCM Control Delay, s	0.1	0		85.3		
HCM LOS				F		
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	505	-	80
HCM Lane V/C Ratio		-	-	0.025	-	0.474
HCM Control Delay (s)		-	-	12.3	0	85.3
HCM Lane LOS		-	-	B	A	F
HCM 95th %tile Q(veh)		-	-	0.1	-	2

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1341	1278	6	5	30
Future Vol, veh/h	5	1341	1278	6	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1412	1345	6	5	32
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1351	0	-	0	2064	1348
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	716	-
Critical Hdwy	4.1	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	516	-	-	-	54	186
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	516	-	-	-	52	186
Mov Cap-2 Maneuver	-	-	-	-	52	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	450	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.3	0		41		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WB	SWLn1	
Capacity (veh/h)	516	-	-	-	-	136
HCM Lane V/C Ratio	0.01	-	-	-	-	0.271
HCM Control Delay (s)	12	0.3	-	-	-	41
HCM Lane LOS	B	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	-	1

Intersection												
Int Delay, s/veh	13											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1306	15	16	1264	22	5	5	14	10	5	15
Future Vol, veh/h	23	1306	15	16	1264	22	5	5	14	10	5	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	24	1375	16	17	1331	23	5	5	15	11	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1354	0	0	1375	0	0	2810	2811	1375	2810	2800	1343
Stage 1	-	-	-	-	-	-	1423	1423	-	1377	1377	-
Stage 2	-	-	-	-	-	-	1387	1388	-	1433	1423	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	515	-	-	505	-	-	12	18	180	12	19	188
Stage 1	-	-	-	-	-	-	170	204	-	181	214	-
Stage 2	-	-	-	-	-	-	179	212	-	168	204	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	515	-	-	505	-	-	8	17	180	~ 8	17	188
Mov Cap-2 Maneuver	-	-	-	-	-	-	8	17	-	~ 8	17	-
Stage 1	-	-	-	-	-	-	162	194	-	172	207	-
Stage 2	-	-	-	-	-	-	154	205	-	143	194	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	\$ 433.7	\$ 806.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	24	515	-	-	505	-	-	18
HCM Lane V/C Ratio	1.053	0.047	-	-	0.033	-	-	1.754
HCM Control Delay (s)	\$ 433.7	12.3	-	-	12.4	-	-	\$ 806.8
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	3.2	0.1	-	-	0.1	-	-	4.4

Notes												
-: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				







Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	1330	1273	31	0	29
Future Vol, veh/h	0	1330	1273	31	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	1400	1340	33	0	31




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 1357
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.2
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.3
Pot Cap-1 Maneuver	0	-	- 0 184
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 184
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -




Approach	EB	WB	SB
HCM Control Delay, s	0	0	28.4
HCM LOS			D







Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	184
HCM Lane V/C Ratio	-	-	-	0.166
HCM Control Delay (s)	-	-	-	28.4
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	0.6












Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	1316	1295	5	27	9
Future Vol, veh/h	14	1316	1295	5	27	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	15	1385	1363	5	28	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1363	0	-	0	2778	1363
Stage 1	-	-	-	-	1363	-
Stage 2	-	-	-	-	1415	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	511	-	-	-	~ 21	183
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	227	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	511	-	-	-	~ 20	183
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	227	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		41.5		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	511	-	-	-	114	183
HCM Lane V/C Ratio	0.029	-	-	-	0.249	0.052
HCM Control Delay (s)	12.3	-	-	-	46.8	25.7
HCM Lane LOS	B	-	-	-	E	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.2
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1343	1298	5	5	5
Future Vol, veh/h	5	1343	1298	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	1414	1366	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1371	0	-	0	2793	1369
Stage 1	-	-	-	-	1369	-
Stage 2	-	-	-	-	1424	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	507	-	-	-	21	181
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	224	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	507	-	-	-	20	181
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	224	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		142		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	507	-	-	-	36	
HCM Lane V/C Ratio	0.01	-	-	-	0.292	
HCM Control Delay (s)	12.2	0	-	-	142	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	1	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1343	1296	5	5	5
Future Vol, veh/h	5	1343	1296	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	1414	1364	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1369	0	-	0	2791	1367
Stage 1	-	-	-	-	1367	-
Stage 2	-	-	-	-	1424	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	508	-	-	-	21	180
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	224	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	508	-	-	-	20	180
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	224	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		142		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	508	-	-	-	36	
HCM Lane V/C Ratio	0.01	-	-	-	0.292	
HCM Control Delay (s)	12.2	0	-	-	142	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	1	























Intersection						
Int Delay, s/veh	0.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	1339	1292	5	5	9
Future Vol, veh/h	5	1339	1292	5	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	92
Heavy Vehicles, %	0	37	7	0	0	0
Mvmt Flow	5	1409	1360	5	5	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1360	0	-	0	2779	1360
Stage 1	-	-	-	-	1360	-
Stage 2	-	-	-	-	1419	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	512	-	-	-	21	183
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	226	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	512	-	-	-	21	183
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	226	-
Approach	SE	NW		SW		
HCM Control Delay, s	0	0		29.9		
HCM LOS	D					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SETSWLn1	SWLn2
Capacity (veh/h)		-	-	512	-	116 183
HCM Lane V/C Ratio		-	-	0.01	-	0.045 0.053
HCM Control Delay (s)		-	-	12.1	-	37.5 25.8
HCM Lane LOS		-	-	B	-	E D
HCM 95th %tile Q(veh)		-	-	0	-	0.1 0.2

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	1334	1294	5	5	5
Future Vol, veh/h	6	1334	1294	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	6	1404	1362	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1362	0	-	0	2778	1362
Stage 1	-	-	-	-	1362	-
Stage 2	-	-	-	-	1416	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	511	-	-	-	21	183
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	226	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	511	-	-	-	21	183
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	226	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		31.6		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	511	-	-	-	115	183
HCM Lane V/C Ratio	0.012	-	-	-	0.046	0.029
HCM Control Delay (s)	12.1	-	-	-	37.8	25.3
HCM Lane LOS	B	-	-	-	E	D
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1





Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1336	1298	5	5	5
Future Vol, veh/h	5	1336	1298	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	1406	1366	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1371	0	-	0	2785	1369
Stage 1	-	-	-	-	1369	-
Stage 2	-	-	-	-	1416	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	507	-	-	-	21	179
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	226	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	507	-	-	-	20	179
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	226	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		142		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	507	-	-	-	36	
HCM Lane V/C Ratio	0.01	-	-	-	0.292	
HCM Control Delay (s)	12.2	0	-	-	142	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	1	

# HCM 6th Signalized Intersection Summary 14: Honoapiilani Hwy & Olowalu General

2045\_Alt1\_AM\_Signal  
09/21/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1196	21	66	1066	5	70	5	18	5	5	5
Future Volume (veh/h)	5	1196	21	66	1066	5	70	5	18	5	5	5
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1246	0	69	1110	0	73	5	0	5	5	0
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	12	1372		89	1453		167	6		101	79	
Arrive On Green	0.01	0.73	0.00	0.05	0.78	0.00	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1366	94	1585	634	1153	1585
Grp Volume(v), veh/h	5	1246	0	69	1110	0	78	0	0	10	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1460	0	1585	1787	0	1585
Q Serve(g_s), s	0.3	50.1	0.0	3.6	30.7	0.0	4.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	50.1	0.0	3.6	30.7	0.0	4.9	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.50		1.00
Lane Grp Cap(c), veh/h	12	1372		89	1453		174	0		179	0	
V/C Ratio(X)	0.43	0.91		0.78	0.76		0.45	0.00		0.06	0.00	
Avail Cap(c_a), veh/h	94	2202		113	2222		365	0		394	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.7	10.0	0.0	44.3	5.8	0.0	43.2	0.0	0.0	41.1	0.0	0.0
Incr Delay (d2), s/veh	23.3	3.8	0.0	22.5	0.9	0.0	1.8	0.0	0.0	0.1	0.0	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	0.2	14.3	0.0	2.1	6.6	0.0	1.9	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	13.8	0.0	66.7	6.6	0.0	45.0	0.0	0.0	41.3	0.0	0.0
LnGrp LOS	E	B		E	A		D	A		D	A	
Approach Vol, veh/h	1251				1179				78		10	
Approach Delay, s/veh	14.1				10.2				45.0		41.3	
Approach LOS	B				B				D		D	
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	10.4		9.7	74.1		10.4		5.6	78.2			
Change Period (Y+Rc), s	4.0		5.0	5.0		4.0		5.0	5.0			
Max Green Setting (Gmax), s	19.0		6.0	111.0		19.0		5.0	112.0			
Max Q Clear Time (g_c+l1), s	6.9		5.6	52.1		2.5		2.3	32.7			
Green Ext Time (p_c), s	0.2		0.0	17.0		0.0		0.0	12.7			
Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									
Notes												



Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	1131	5	0	16
Future Vol, veh/h	8	0	1131	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	8	0	1191	5	0	17
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1208	-	0	0	-	-
Stage 1	1191	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	202	0	-	-	0	-
Stage 1	288	0	-	-	0	-
Stage 2	1006	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	202	-	-	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.6	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	202		-		
HCM Lane V/C Ratio	-	0.042		-		
HCM Control Delay (s)	-	23.6		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt1\_AM  
12/17/2023





Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1136	5	0	5
Future Vol, veh/h	5	0	1136	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1196	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1201	-	0	0	-	-
Stage 1	1196	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	204	0	-	-	0	-
Stage 1	287	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	204	-	-	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.1	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	204		-		
HCM Lane V/C Ratio	-	0.026		-		
HCM Control Delay (s)	-	23.1		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC  
9: Honoapiilani Hwy & Luawai St

Alt1\_AM  
12/17/2023

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	0	1127	9	0	13
Future Vol, veh/h	11	0	1127	9	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	12	0	1186	9	0	14





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1200	-	0
Stage 1	1186	-	-
Stage 2	14	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	204	0	-
Stage 1	290	0	-
Stage 2	1009	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	204	-	-
Mov Cap-2 Maneuver	204	-	-
Stage 1	290	-	-
Stage 2	1009	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	204
HCM Lane V/C Ratio	-	-	0.057
HCM Control Delay (s)	-	-	23.7
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.2

Intersection





Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1133	5	0	5
Future Vol, veh/h	5	0	1133	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1193	5	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1198	-	0
Stage 1	1193	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	205	0	-
Stage 1	288	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	205	-	-
Mov Cap-2 Maneuver	205	-	-
Stage 1	288	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	205
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	23
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1135	6	0	5
Future Vol, veh/h	5	0	1135	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1195	6	0	5
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1200	-	0	0	-	-
Stage 1	1195	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	204	0	-	-	0	-
Stage 1	287	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	-	-	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	23.1		0		0	
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1		SBT	
Capacity (veh/h)		-	-	204	-	
HCM Lane V/C Ratio		-	-	0.026	-	
HCM Control Delay (s)		-	-	23.1	-	
HCM Lane LOS		-	-	C	-	
HCM 95th %tile Q(veh)		-	-	0.1	-	

## Intersection

Int Delay, s/veh 4

Movement	SEL	SET	NWT	NWR	SWL	SWR
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Lane Configurations

Traffic Vol, veh/h 5 5 5 5 5 5

Future Vol, veh/h 5 5 5 5 5 5

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

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 5 5 5 5 5 5

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All 10 0 - 0 23 8

Stage 1 - - - - 8 -

Stage 2 - - - - 15 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1610 - - - 993 1074

Stage 1 - - - - 1015 -

Stage 2 - - - - 1008 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1610 - - - 990 1074

Mov Cap-2 Maneuver - - - - 990 -

Stage 1 - - - - 1012 -

Stage 2 - - - - 1008 -

Approach	SE	NW	SW
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HCM Control Delay, s 3.6 0 8.5

HCM LOS A

Minor Lane/Major Mvmt	NWT	NWR	SEL	SETSWLn1
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Capacity (veh/h) - - 1610 - 1030

HCM Lane V/C Ratio - - 0.003 - 0.01




HCM Control Delay (s) - - 7.2 0 8.5

HCM Lane LOS - - A A A

HCM 95th %tile Q(veh) - - 0 - 0








Intersection						
Int Delay, s/veh	4					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	SE	NW		SW		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	1623	-	1036	
HCM Lane V/C Ratio	-	-	0.003	-	0.01	
HCM Control Delay (s)	-	-	7.2	0	8.5	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0	



Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	21	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	4.1	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	1000	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	997	1080
Mov Cap-2 Maneuver	-	-	-	-	997	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1014	-
Approach	EB	WB		SW		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	
Capacity (veh/h)	1623	-	-	-	1037	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

## Intersection

Int Delay, s/veh 7.4







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	5	5	5	5	5	30	5	5	31	5
Future Vol, veh/h	5	5	5	5	5	5	5	30	5	5	31	5
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	5	5	5	5	5	5	5	31	5	5	32	5




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	10	0	0	5	0	0	51	35	5	51	33	8
Stage 1	-	-	-	-	-	-	15	15	-	18	18	-
Stage 2	-	-	-	-	-	-	36	20	-	33	15	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1623	-	-	1630	-	-	953	861	1084	953	864	1080
Stage 1	-	-	-	-	-	-	1010	887	-	1006	884	-
Stage 2	-	-	-	-	-	-	985	883	-	988	887	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1623	-	-	1630	-	-	917	856	1084	918	859	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	917	856	-	918	859	-
Stage 1	-	-	-	-	-	-	1007	884	-	1003	881	-
Stage 2	-	-	-	-	-	-	941	880	-	946	884	-




Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			2.4			9.3			9.3		
HCM LOS							A			A		







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	887	1623	-	-	1630	-	-	888
HCM Lane V/C Ratio	0.047	0.003	-	-	0.003	-	-	0.048
HCM Control Delay (s)	9.3	7.2	-	-	7.2	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	5	5	5	0	5
Future Vol, veh/h	0	5	5	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	5	5	5	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	8
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	1080
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		8.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	1080		
HCM Lane V/C Ratio	-	-	-	0.005		
HCM Control Delay (s)	-	-	-	8.3		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	0		







Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0




Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4.1					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	37	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	SE	NW		SW		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	SWLn2
Capacity (veh/h)	-	-	1630	-	920	1084
HCM Lane V/C Ratio	-	-	0.003	-	0.006	0.005
HCM Control Delay (s)	-	-	7.2	-	8.9	8.3
HCM Lane LOS	-	-	A	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0	0

























Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

# HCM 6th Signalized Intersection Summary 14: Honoapiilani Hwy & Olowalu General

2045\_Alt1\_PM\_Signal  
09/21/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1302	51	82	1222	5	110	5	28	5	5	5
Future Volume (veh/h)	5	1302	51	82	1222	5	110	5	28	5	5	5
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
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1371	0	86	1286	0	116	5	0	5	5	0
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	11	1395		106	1494		184	6		112	100	
Arrive On Green	0.01	0.75	0.00	0.06	0.80	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1384	60	1585	766	1032	1585
Grp Volume(v), veh/h	5	1371	0	86	1286	0	121	0	0	10	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1444	0	1585	1798	0	1585
Q Serve(g_s), s	0.4	100.3	0.0	6.9	63.5	0.0	11.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	100.3	0.0	6.9	63.5	0.0	11.8	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.96		1.00	0.50		1.00
Lane Grp Cap(c), veh/h	11	1395		106	1494		190	0		213	0	
V/C Ratio(X)	0.45	0.98		0.81	0.86		0.64	0.00		0.05	0.00	
Avail Cap(c_a), veh/h	87	1407		112	1494		239	0		269	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	71.1	17.4	0.0	66.7	9.3	0.0	63.8	0.0	0.0	58.8	0.0	0.0
Incr Delay (d2), s/veh	25.3	19.9	0.0	33.2	5.4	0.0	3.7	0.0	0.0	0.1	0.0	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	0.3	45.1	0.0	4.1	23.4	0.0	4.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	37.3	0.0	99.9	14.6	0.0	67.5	0.0	0.0	58.9	0.0	0.0
LnGrp LOS	F	D		F	B		E	A		E	A	
Approach Vol, veh/h	1376				1372				121			
Approach Delay, s/veh	37.6				20.0				67.5			
Approach LOS	D				B				E			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	18.0		13.6	112.1		18.0	5.9	119.7				
Change Period (Y+Rc), s	4.0		5.0	5.0		4.0	5.0	5.0				
Max Green Setting (Gmax), s	19.0		9.0	108.0		19.0	7.0	110.0				
Max Q Clear Time (g_c+l1), s	13.8		8.9	102.3		2.7	2.4	65.5				
Green Ext Time (p_c), s	0.2		0.0	4.8		0.0	0.0	20.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.5									
HCM 6th LOS			C									
Notes												





Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↰		↱
Traffic Vol, veh/h	5	0	1330	5	0	5
Future Vol, veh/h	5	0	1330	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1385	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1390	-	0	0	-	-
Stage 1	1385	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	157	0	-	-	0	-
Stage 1	232	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	157	-	-	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	28.7	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	157		-		
HCM Lane V/C Ratio	-	0.033		-		
HCM Control Delay (s)	-	28.7		-		
HCM Lane LOS	-	D		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt1\_PM  
12/17/2023

Intersection





Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1335	5	0	5
Future Vol, veh/h	5	0	1335	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1391	5	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1396	-	0
Stage 1	1391	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	156	0	-
Stage 1	231	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	156	-	-
Mov Cap-2 Maneuver	156	-	-
Stage 1	231	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	156
HCM Lane V/C Ratio	-	-	0.033
HCM Control Delay (s)	-	-	28.9
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1





Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	0	1291	5	0	14
Future Vol, veh/h	27	0	1291	5	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	28	0	1345	5	0	15
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1360	-	0	0	-	-
Stage 1	1345	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	164	0	-	-	0	-
Stage 1	243	0	-	-	0	-
Stage 2	1008	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	164	-	-	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	243	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	31.4	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 164		-		
HCM Lane V/C Ratio	-	- 0.171		-		
HCM Control Delay (s)	-	- 31.4		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.6		-		

HCM 6th TWSC  
10: Honoapiilani Hwy & Ehehene St

Alt1\_PM  
12/17/2023

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1292	5	0	5
Future Vol, veh/h	5	0	1292	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1346	5	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1351	-	0
Stage 1	1346	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	166	0	-
Stage 1	242	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	166	-	-
Mov Cap-2 Maneuver	166	-	-
Stage 1	242	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	166
HCM Lane V/C Ratio	-	-	0.031
HCM Control Delay (s)	-	-	27.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1



Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↱		↱
Traffic Vol, veh/h	5	0	1293	5	0	6
Future Vol, veh/h	5	0	1293	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1347	5	0	6
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1353	-	0	0	-	-
Stage 1	1347	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1017	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

**Intersection**

Int Delay, s/veh 4

**Movement** SEL SET NWT NWR SWL SWRLane Configurations 

Traffic Vol, veh/h 5 5 5 5 5 5

Future Vol, veh/h 5 5 5 5 5 5

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

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 5 5 5 5 5 5

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All 10 0 - 0 23 8

Stage 1 - - - - 8 -

Stage 2 - - - - 15 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1610 - - - 993 1074

Stage 1 - - - - 1015 -

Stage 2 - - - - 1008 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1610 - - - 990 1074

Mov Cap-2 Maneuver - - - - 990 -

Stage 1 - - - - 1012 -

Stage 2 - - - - 1008 -

**Approach** SE NW SW

HCM Control Delay, s 3.6 0 8.5

HCM LOS A

**Minor Lane/Major Mvmt** NWT NWR SEL SETSWLn1




Capacity (veh/h) - - 1610 - 1030

HCM Lane V/C Ratio - - 0.003 - 0.01

HCM Control Delay (s) - - 7.2 0 8.5




HCM Lane LOS - - A A A

HCM 95th %tile Q(veh) - - 0 - 0

Intersection						
Int Delay, s/veh	4.1					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.27	-	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	3.57
Pot Cap-1 Maneuver	1517	-	-	-	998	998
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	995	998
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	SE	NW		SW		
HCM Control Delay, s	3.7	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	1517	-	996	
HCM Lane V/C Ratio	-	-	0.003	-	0.011	
HCM Control Delay (s)	-	-	7.4	0	8.7	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0	

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	5	5	5	5	5








Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	10	0	0 21 8
Stage 1	-	-	- 8 -
Stage 2	-	-	- 13 -
Critical Hdwy	4.1	-	- 7.35 6.365
Critical Hdwy Stg 1	-	-	- 6.15 -
Critical Hdwy Stg 2	-	-	- 6.55 -
Follow-up Hdwy	2.2	-	- 3.975 3.4045
Pot Cap-1 Maneuver	1623	-	- 878 1047
Stage 1	-	-	- 897 -
Stage 2	-	-	- 891 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1623	-	- 875 1047
Mov Cap-2 Maneuver	-	-	- 875 -
Stage 1	-	-	- 894 -
Stage 2	-	-	- 891 -

Approach	EB	WB	SW
HCM Control Delay, s	3.6	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1623	-	-	-	953
HCM Lane V/C Ratio	0.003	-	-	-	0.011
HCM Control Delay (s)	7.2	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

## 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	5	5	5	5	5	5	5	19	5	5	31	5
Future Vol, veh/h	5	5	5	5	5	5	5	19	5	5	31	5
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	5	5	5	5	5	5	5	20	5	5	33	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	10	0	0	5	0	0	52	35	5	46	33	8
Stage 1	-	-	-	-	-	-	15	15	-	18	18	-
Stage 2	-	-	-	-	-	-	37	20	-	28	15	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	1541	-	-	1584	-	-	952	861	1084	961	864	1043
Stage 1	-	-	-	-	-	-	1010	887	-	1006	884	-
Stage 2	-	-	-	-	-	-	984	883	-	994	887	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1541	-	-	1584	-	-	915	856	1084	935	859	1043
Mov Cap-2 Maneuver	-	-	-	-	-	-	915	856	-	935	859	-
Stage 1	-	-	-	-	-	-	1007	884	-	1003	881	-
Stage 2	-	-	-	-	-	-	940	880	-	964	884	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			2.4			9.1			9.3		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	899	1541	-	-	1584	-	-	887
HCM Lane V/C Ratio	0.034	0.003	-	-	0.003	-	-	0.049
HCM Control Delay (s)	9.1	7.3	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2




Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	5	5	5	0	5
Future Vol, veh/h	0	5	5	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	0	5	5	5	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	8
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.363
Pot Cap-1 Maneuver	0	-	-	-	0	1060
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	1060
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		8.4		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	1060		
HCM Lane V/C Ratio	-	-	-	0.005		
HCM Control Delay (s)	-	-	-	8.4		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	0		

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.2	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1630	-	-	-	979	1084
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	976	1084
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	990	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	899	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0



**Intersection**




Int Delay, s/veh 4







Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	10	0	23
Stage 1	-	-	8
Stage 2	-	-	15
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1623	-	998
Stage 1	-	-	1020
Stage 2	-	-	1013
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1623	-	995
Mov Cap-2 Maneuver	-	-	995
Stage 1	-	-	1017
Stage 2	-	-	1013

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	8	25	50	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.9	6.2
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.2	-	-	-	3.95	3.3
Pot Cap-1 Maneuver	1630	-	-	-	887	1084
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	884	1084
Mov Cap-2 Maneuver	-	-	-	-	814	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	897	-
Approach	SE	NW		SW		
HCM Control Delay, s	3.6	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	SWLn2
Capacity (veh/h)	-	-	1630	-	814	1084
HCM Lane V/C Ratio	-	-	0.003	-	0.006	0.005
HCM Control Delay (s)	-	-	7.2	-	9.5	8.3
HCM Lane LOS	-	-	A	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0	0

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection

Int Delay, s/veh 4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	5	5	5	5	5	5























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	10	0	23
Stage 1	-	-	8
Stage 2	-	-	15
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1623	-	998
Stage 1	-	-	1020
Stage 2	-	-	1013
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1623	-	995
Mov Cap-2 Maneuver	-	-	995
Stage 1	-	-	1017
Stage 2	-	-	1013





Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy

2045\_Alt2\_AM\_Signal  
09/21/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	9
Future Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	9
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1239	0	46	1128	0	51	5	0	11	5	0
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	30	1385		70	1428		152	7		121	40	
Arrive On Green	0.02	0.74	0.00	0.04	0.76	0.00	0.05	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1365	134	1585	942	800	1585
Grp Volume(v), veh/h	14	1239	0	46	1128	0	56	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1499	0	1585	1742	0	1585
Q Serve(g_s), s	0.6	42.0	0.0	2.1	29.7	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	42.0	0.0	2.1	29.7	0.0	3.0	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.91		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	30	1385		70	1428		159	0		161	0	
V/C Ratio(X)	0.47	0.89		0.65	0.79		0.35	0.00		0.10	0.00	
Avail Cap(c_a), veh/h	108	2514		129	2537		418	0		436	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.2	8.2	0.0	39.1	5.8	0.0	38.6	0.0	0.0	37.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	2.3	0.0	9.8	1.0	0.0	1.3	0.0	0.0	0.3	0.0	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	0.4	9.7	0.0	1.1	5.7	0.0	1.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	10.5	0.0	48.9	6.8	0.0	39.9	0.0	0.0	37.8	0.0	0.0
LnGrp LOS	D	B		D	A		D	A		D	A	
Approach Vol, veh/h		1253			1174			56			16	
Approach Delay, s/veh		11.0			8.5			39.9			37.8	
Approach LOS		B			A			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.2	8.3	66.1		8.2	6.4	68.0				
Change Period (Y+Rc), s		4.0	5.0	5.0		4.0	5.0	5.0				
Max Green Setting (Gmax), s		19.0	6.0	111.0		19.0	5.0	112.0				
Max Q Clear Time (g_c+I1), s		5.0	4.1	44.0		2.7	2.6	31.7				
Green Ext Time (p_c), s		0.2	0.0	17.1		0.0	0.0	13.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									
<b>Notes</b>												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	1108	5	0	16
Future Vol, veh/h	8	0	1108	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	8	0	1166	5	0	17
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1183	-	0	0	-	-
Stage 1	1166	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	209	0	-	-	0	-
Stage 1	296	0	-	-	0	-
Stage 2	1006	0	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	209	-	-	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	296	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	22.9		0		0	
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1		SBT	
Capacity (veh/h)		-	-	209	-	
HCM Lane V/C Ratio		-	-	0.04	-	
HCM Control Delay (s)		-	-	22.9	-	
HCM Lane LOS		-	-	C	-	
HCM 95th %tile Q(veh)		-	-	0.1	-	







HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt2\_AM  
12/17/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1125	5	0	5
Future Vol, veh/h	5	0	1125	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1184	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1189	-	0	0	-	-
Stage 1	1184	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	208	0	-	-	0	-
Stage 1	290	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	208	-	-	-	-	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 208		-		
HCM Lane V/C Ratio	-	- 0.025		-		
HCM Control Delay (s)	-	- 22.8		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		





HCM 6th TWSC  
10: Honoapiilani Hwy & Ehehene St




Alt2\_AM  
12/17/2023




Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1133	5	0	5
Future Vol, veh/h	5	0	1133	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1193	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1198	-	0	0	-	-
Stage 1	1193	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	205	0	-	-	0	-
Stage 1	288	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	205	-	-	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 205		-		
HCM Lane V/C Ratio	-	- 0.026		-		
HCM Control Delay (s)	-	- 23		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↰		↱
Traffic Vol, veh/h	5	0	1135	6	0	5
Future Vol, veh/h	5	0	1135	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1195	6	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1200	-	0	0	-	-
Stage 1	1195	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	204	0	-	-	0	-
Stage 1	287	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	204	-	-	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.1	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	204		-		
HCM Lane V/C Ratio	-	0.026		-		
HCM Control Delay (s)	-	23.1		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.1		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↰		↱
Traffic Vol, veh/h	5	0	1141	5	0	5
Future Vol, veh/h	5	0	1141	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1201	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1206	-	0	0	-	-
Stage 1	1201	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	203	0	-	-	0	-
Stage 1	285	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	203	-	-	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	203		-		
HCM Lane V/C Ratio	-	0.026		-		
HCM Control Delay (s)	-	23.2		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.1		-		

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	5	5	29	5	5
Future Vol, veh/h	29	5	5	29	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	5	7	0	13	3
Mvmt Flow	30	5	5	30	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	35	20	0	0	35	0
Stage 1	20	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.23	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.317	-
Pot Cap-1 Maneuver	983	1049	-	-	1508	-
Stage 1	1008	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1049	-	-	1508	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	990	1508	-	
HCM Lane V/C Ratio	-	-	0.036	0.003	-	
HCM Control Delay (s)	-	-	8.8	7.4	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	








Intersection						
Int Delay, s/veh	2.5					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	25	23	7	12	6
Future Vol, veh/h	5	25	23	7	12	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	5	26	24	7	13	6
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	31	0	-	0	64	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	4.27	-	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	3.57
Pot Cap-1 Maneuver	1490	-	-	-	947	972
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1490	-	-	-	944	972
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	992	-
Approach	SE	NW		SW		
HCM Control Delay, s	1.2	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	1490	-	953
HCM Lane V/C Ratio		-	-	0.003	-	0.02
HCM Control Delay (s)		-	-	7.4	0	8.9
HCM Lane LOS		-	-	A	A	A
HCM 95th %tile Q(veh)		-	-	0	-	0.1

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	34	26	5	7	5
Future Vol, veh/h	5	34	26	5	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	35	27	5	7	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	32	0	-	0	58	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.1	-	-	-	7.35	6.365
Critical Hdwy Stg 1	-	-	-	-	6.15	-
Critical Hdwy Stg 2	-	-	-	-	6.55	-
Follow-up Hdwy	2.2	-	-	-	3.975	3.4045
Pot Cap-1 Maneuver	1593	-	-	-	831	1017
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	829	1017
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	874	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.9	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	
Capacity (veh/h)	1593	-	-	-	-	898
HCM Lane V/C Ratio	0.003	-	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	-	9.1
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0



## Intersection




Int Delay, s/veh 4.9







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
Future Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	5	28	10	22	17	7	9	5	19	11	5	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	28	0	0	108	106	28	115	103	21
Stage 1	-	-	-	-	-	-	38	38	-	65	65	-
Stage 2	-	-	-	-	-	-	70	68	-	50	38	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	1522	-	-	1554	-	-	876	788	1053	867	791	1026
Stage 1	-	-	-	-	-	-	982	867	-	951	845	-
Stage 2	-	-	-	-	-	-	945	842	-	968	867	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1522	-	-	1554	-	-	855	775	1053	836	778	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	855	775	-	836	778	-
Stage 1	-	-	-	-	-	-	979	864	-	948	833	-
Stage 2	-	-	-	-	-	-	920	830	-	942	864	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	3.5	9	9.3
HCM LOS			A	A




Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1522	-	-	1554	-	-	865
HCM Lane V/C Ratio	0.035	0.003	-	-	0.014	-	-	0.026
HCM Control Delay (s)	9	7.4	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	47	39	17	9	5
Future Vol, veh/h	9	47	39	17	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	9	49	41	18	9	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	59	0	-	0	117	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.363
Pot Cap-1 Maneuver	1558	-	-	-	884	1004
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	879	1004
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	961	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1558	-	-	-	920	
HCM Lane V/C Ratio	0.006	-	-	-	0.016	
HCM Control Delay (s)	7.3	0	-	-	9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	58	5	5	5	5	58
Future Vol, veh/h	58	5	5	5	5	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	60	5	5	5	5	60
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	130	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	4.1	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.2	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1630	-	-	-	848	1084
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	817	1084
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	884	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.7	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	788	1084
HCM Lane V/C Ratio	0.037	-	-	-	0.007	0.056
HCM Control Delay (s)	7.3	-	-	-	9.6	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2

## Intersection




Int Delay, s/veh 4







Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	10	0	23
Stage 1	-	-	8
Stage 2	-	-	15
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1623	-	998
Stage 1	-	-	1020
Stage 2	-	-	1013
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1623	-	995
Mov Cap-2 Maneuver	-	-	995
Stage 1	-	-	1017
Stage 2	-	-	1013

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	























Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	50	0	8	25	0	5
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.9	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	887	1084	-	-	1630	-
Stage 1	906	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1084	-	-	1630	-
Mov Cap-2 Maneuver	813	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	3.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	813	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	9.5	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-





Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	425	-	-	350	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0



# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy





2045\_Alt2\_PM\_Signal  
09/21/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	5
Future Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1365	0	63	1301	0	81	5	0	28	5	0
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	29	1442		81	1496		158	6		153	23	
Arrive On Green	0.02	0.77	0.00	0.05	0.80	0.00	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1429	88	1585	1392	324	1585
Grp Volume(v), veh/h	15	1365	0	63	1301	0	86	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1518	0	1585	1715	0	1585
Q Serve(g_s), s	1.0	77.1	0.0	4.4	56.9	0.0	4.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	77.1	0.0	4.4	56.9	0.0	6.8	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	29	1442		81	1496		165	0		176	0	
V/C Ratio(X)	0.52	0.95		0.78	0.87		0.52	0.00		0.19	0.00	
Avail Cap(c_a), veh/h	72	1653		115	1698		269	0		283	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	60.7	12.1	0.0	58.8	8.2	0.0	56.7	0.0	0.0	54.6	0.0	0.0
Incr Delay (d2), s/veh	13.6	11.1	0.0	19.4	4.7	0.0	2.6	0.0	0.0	0.5	0.0	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	0.6	26.5	0.0	2.4	16.4	0.0	2.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	23.2	0.0	78.2	12.9	0.0	59.2	0.0	0.0	55.2	0.0	0.0
LnGrp LOS	E	C		E	B		E	A		E	A	
Approach Vol, veh/h		1380			1364			86			33	
Approach Delay, s/veh		23.7			15.9			59.2			55.2	
Approach LOS		C			B			E			E	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	10.6	100.9		12.9	7.0	104.5				
Change Period (Y+Rc), s		4.0	5.0	5.0		4.0	5.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	110.0		18.0	5.0	113.0				
Max Q Clear Time (g_c+l1), s		8.8	6.4	79.1		4.2	3.0	58.9				
Green Ext Time (p_c), s		0.2	0.0	16.8		0.1	0.0	18.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									
<b>Notes</b>												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1293	5	0	5
Future Vol, veh/h	5	0	1293	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1347	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1352	-	0	0	-	-
Stage 1	1347	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		





HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt2\_PM  
12/17/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1215	5	0	5
Future Vol, veh/h	5	0	1215	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1266	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1271	-	0	0	-	-
Stage 1	1266	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	185	0	-	-	0	-
Stage 1	265	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	185	-	-	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	25	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 185		-		
HCM Lane V/C Ratio	-	- 0.028		-		
HCM Control Delay (s)	-	- 25		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1292	5	0	5
Future Vol, veh/h	5	0	1292	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1346	5	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1351	-	0
Stage 1	1346	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	166	0	-
Stage 1	242	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	166	-	-
Mov Cap-2 Maneuver	166	-	-
Stage 1	242	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	166
HCM Lane V/C Ratio	-	-	0.031
HCM Control Delay (s)	-	-	27.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1




Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↱		↱
Traffic Vol, veh/h	5	0	1294	5	0	6
Future Vol, veh/h	5	0	1294	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1348	5	0	6
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1354	-	0	0	-	-
Stage 1	1348	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1017	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↰		↱
Traffic Vol, veh/h	5	0	1298	5	0	5
Future Vol, veh/h	5	0	1298	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1352	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1357	-	0	0	-	-
Stage 1	1352	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	164	0	-	-	0	-
Stage 1	241	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	164	-	-	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.7	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	164		-		
HCM Lane V/C Ratio	-	0.032		-		
HCM Control Delay (s)	-	27.7		-		
HCM Lane LOS	-	D		-		
HCM 95th %tile Q(veh)	-	0.1		-		

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	5	5	46	5	5
Future Vol, veh/h	44	5	5	46	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	4
Mvmt Flow	46	5	5	48	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	44	29	0	0	53	0
Stage 1	29	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	972	1052	-	-	1566	-
Stage 1	999	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	969	1052	-	-	1566	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.9	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	977	1566	-	
HCM Lane V/C Ratio	-	-	0.053	0.003	-	
HCM Control Delay (s)	-	-	8.9	7.3	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Intersection

Int Delay, s/veh 2.7

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	6	38	35	13	21	11
Future Vol, veh/h	6	38	35	13	21	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	6	40	37	14	22	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	51	0	96
Stage 1	-	-	44
Stage 2	-	-	52
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1568	-	908
Stage 1	-	-	984
Stage 2	-	-	976
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1568	-	904
Mov Cap-2 Maneuver	-	-	904
Stage 1	-	-	980
Stage 2	-	-	976




Approach	SE	NW	SW
HCM Control Delay, s	1	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NWT	NWR	SEL	SETSWLn1
Capacity (veh/h)	-	-	1568	944
HCM Lane V/C Ratio	-	-	0.004	0.036
HCM Control Delay (s)	-	-	7.3	9
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1



Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	57	37	5	22	11
Future Vol, veh/h	5	57	37	5	22	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	60	39	5	23	12








Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	44	0	82
Stage 1	-	-	42
Stage 2	-	-	40
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1577	-	921
Stage 1	-	-	986
Stage 2	-	-	983
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1577	-	918
Mov Cap-2 Maneuver	-	-	918
Stage 1	-	-	983
Stage 2	-	-	983

Approach	EB	WB	SW
HCM Control Delay, s	0.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1577	-	-	-	954
HCM Lane V/C Ratio	0.003	-	-	-	0.036
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

## Intersection




Int Delay, s/veh 3.7







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
Future Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	16	57	11	22	29	32	6	5	14	18	5	8




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	61	0	0	57	0	0	185	194	57	188	178	45
Stage 1	-	-	-	-	-	-	89	89	-	89	89	-
Stage 2	-	-	-	-	-	-	96	105	-	99	89	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1555	-	-	1560	-	-	780	705	1015	777	719	1031
Stage 1	-	-	-	-	-	-	923	825	-	923	825	-
Stage 2	-	-	-	-	-	-	916	812	-	912	825	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1555	-	-	1560	-	-	755	688	1015	748	702	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	688	-	748	702	-
Stage 1	-	-	-	-	-	-	914	817	-	914	813	-
Stage 2	-	-	-	-	-	-	890	801	-	885	817	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	2	9.3	9.7
HCM LOS			A	A







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	856	1555	-	-	1560	-	-	798
HCM Lane V/C Ratio	0.03	0.01	-	-	0.014	-	-	0.04
HCM Control Delay (s)	9.3	7.3	-	-	7.3	-	-	9.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1







Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	74	69	21	19	10
Future Vol, veh/h	10	74	69	21	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	11	78	73	22	20	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	95	0	-	0	184	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1512	-	-	-	810	981
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	804	981
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	929	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		9.4		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1512	-	-	-	857	
HCM Lane V/C Ratio	0.007	-	-	-	0.036	
HCM Control Delay (s)	7.4	0	-	-	9.4	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	5	5	5	5	89
Future Vol, veh/h	92	5	5	5	5	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	97	5	5	5	5	94
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	204	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	789	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	742	1084
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	839	-
Approach	EB	WB		SB		
HCM Control Delay, s	7	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	739	1084
HCM Lane V/C Ratio	0.059	-	-	-	0.007	0.086
HCM Control Delay (s)	7.3	-	-	-	9.9	8.6
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0	0.3

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	5	5	5	5
Future Vol, veh/h	5	6	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	6	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	24	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	997	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	994	1080
Mov Cap-2 Maneuver	-	-	-	-	994	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1012	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.3	0		8.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1035	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	























Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	7	0	0	37
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1002	1084	-	-	1630	-
Stage 1	1023	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	999	1084	-	-	1630	-
Mov Cap-2 Maneuver	919	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.6	0	3.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	919	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	8.9	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-





Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	425	-	-	350	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0



# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy

2045\_Alt3\_AM\_Signal  
09/22/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
Future Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1239	0	46	1128	0	51	5	0	11	5	0
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	30	1385		70	1428		152	7		121	40	
Arrive On Green	0.02	0.74	0.00	0.04	0.76	0.00	0.05	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1365	134	1585	942	800	1585
Grp Volume(v), veh/h	14	1239	0	46	1128	0	56	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1499	0	1585	1742	0	1585
Q Serve(g_s), s	0.6	42.0	0.0	2.1	29.7	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	42.0	0.0	2.1	29.7	0.0	3.0	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.91		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	30	1385		70	1428		159	0		161	0	
V/C Ratio(X)	0.47	0.89		0.65	0.79		0.35	0.00		0.10	0.00	
Avail Cap(c_a), veh/h	108	2514		129	2537		418	0		436	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.2	8.2	0.0	39.1	5.8	0.0	38.6	0.0	0.0	37.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	2.3	0.0	9.8	1.0	0.0	1.3	0.0	0.0	0.3	0.0	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	0.4	9.7	0.0	1.1	5.7	0.0	1.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	10.5	0.0	48.9	6.8	0.0	39.9	0.0	0.0	37.8	0.0	0.0
LnGrp LOS	D	B		D	A		D	A		D	A	
Approach Vol, veh/h	1253		1174				56		16			
Approach Delay, s/veh	11.0		8.5				39.9		37.8			
Approach LOS	B		A				D		D			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	8.2		8.3		66.1		8.2		6.4		68.0	
Change Period (Y+Rc), s	4.0		5.0		5.0		4.0		5.0		5.0	
Max Green Setting (Gmax), s	19.0		6.0		111.0		19.0		5.0		112.0	
Max Q Clear Time (g_c+l1), s	5.0		4.1		44.0		2.7		2.6		31.7	
Green Ext Time (p_c), s	0.2		0.0		17.1		0.0		0.0		13.3	
Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									
Notes												





Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	1108	5	0	16
Future Vol, veh/h	8	0	1108	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	8	0	1166	5	0	17
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1183	-	0	0	-	-
Stage 1	1166	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	209	0	-	-	0	-
Stage 1	296	0	-	-	0	-
Stage 2	1006	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	209	-	-	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	296	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22.9	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	209		-		
HCM Lane V/C Ratio	-	0.04		-		
HCM Control Delay (s)	-	22.9		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt3\_AM  
12/17/2023

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1125	5	0	5
Future Vol, veh/h	5	0	1125	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1184	5	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1189	-	0
Stage 1	1184	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	208	0	-
Stage 1	290	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	208	-	-
Mov Cap-2 Maneuver	208	-	-
Stage 1	290	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	208
HCM Lane V/C Ratio	-	-	0.025
HCM Control Delay (s)	-	-	22.8
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1133	5	0	5
Future Vol, veh/h	5	0	1133	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1193	5	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1198	-	0
Stage 1	1193	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	205	0	-
Stage 1	288	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	205	-	-
Mov Cap-2 Maneuver	205	-	-
Stage 1	288	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	205
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	23
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1135	6	0	5
Future Vol, veh/h	5	0	1135	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1195	6	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1200	-	0
Stage 1	1195	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	204	0	-
Stage 1	287	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	204	-	-
Mov Cap-2 Maneuver	204	-	-
Stage 1	287	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	204
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	23.1
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1

Intersection





Int Delay, s/veh 0.1




Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1141	5	0	5
Future Vol, veh/h	5	0	1141	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1201	5	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1206	-	0
Stage 1	1201	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	203	0	-
Stage 1	285	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	203	-	-
Mov Cap-2 Maneuver	203	-	-
Stage 1	285	-	-
Stage 2	1018	-	-




Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	203
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	23.2
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	5	5	29	5	5
Future Vol, veh/h	29	5	5	29	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	5	7	0	13	3
Mvmt Flow	30	5	5	30	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	35	20	0	0	35	0
Stage 1	20	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.23	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.317	-
Pot Cap-1 Maneuver	983	1049	-	-	1508	-
Stage 1	1008	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1049	-	-	1508	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	990	1508	-	
HCM Lane V/C Ratio	-	-	0.036	0.003	-	
HCM Control Delay (s)	-	-	8.8	7.4	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	








Intersection						
Int Delay, s/veh	2.5					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	25	23	7	12	6
Future Vol, veh/h	5	25	23	7	12	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	5	26	24	7	13	6
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	31	0	-	0	64	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	4.27	-	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	3.57
Pot Cap-1 Maneuver	1490	-	-	-	947	972
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1490	-	-	-	944	972
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	992	-
Approach	SE	NW		SW		
HCM Control Delay, s	1.2	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)		-	-	1490	-	953
HCM Lane V/C Ratio		-	-	0.003	-	0.02
HCM Control Delay (s)		-	-	7.4	0	8.9
HCM Lane LOS		-	-	A	A	A
HCM 95th %tile Q(veh)		-	-	0	-	0.1



Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	34	26	5	7	5
Future Vol, veh/h	5	34	26	5	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	35	27	5	7	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	32	0	-	0	58	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.1	-	-	-	7.35	6.365
Critical Hdwy Stg 1	-	-	-	-	6.15	-
Critical Hdwy Stg 2	-	-	-	-	6.55	-
Follow-up Hdwy	2.2	-	-	-	3.975	3.4045
Pot Cap-1 Maneuver	1593	-	-	-	831	1017
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	829	1017
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	874	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.9	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	
Capacity (veh/h)	1593	-	-	-	-	898
HCM Lane V/C Ratio	0.003	-	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	-	9.1
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0

## Intersection




Int Delay, s/veh 4.9







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
Future Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	5	28	10	22	17	7	9	5	19	11	5	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	28	0	0	108	106	28	115	103	21
Stage 1	-	-	-	-	-	-	38	38	-	65	65	-
Stage 2	-	-	-	-	-	-	70	68	-	50	38	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	1522	-	-	1554	-	-	876	788	1053	867	791	1026
Stage 1	-	-	-	-	-	-	982	867	-	951	845	-
Stage 2	-	-	-	-	-	-	945	842	-	968	867	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1522	-	-	1554	-	-	855	775	1053	836	778	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	855	775	-	836	778	-
Stage 1	-	-	-	-	-	-	979	864	-	948	833	-
Stage 2	-	-	-	-	-	-	920	830	-	942	864	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	3.5	9	9.3
HCM LOS			A	A




Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1522	-	-	1554	-	-	865
HCM Lane V/C Ratio	0.035	0.003	-	-	0.014	-	-	0.026
HCM Control Delay (s)	9	7.4	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	47	39	17	9	5
Future Vol, veh/h	9	47	39	17	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	9	49	41	18	9	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	59	0	-	0	117	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.363
Pot Cap-1 Maneuver	1558	-	-	-	884	1004
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	879	1004
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	961	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1558	-	-	-	920	
HCM Lane V/C Ratio	0.006	-	-	-	0.016	
HCM Control Delay (s)	7.3	0	-	-	9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	58	5	5	5	5	58
Future Vol, veh/h	58	5	5	5	5	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	250	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	60	5	5	5	5	60
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	130	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	4.1	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.2	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1630	-	-	-	848	1084
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	817	1084
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	884	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.7	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	788	1084
HCM Lane V/C Ratio	0.037	-	-	-	0.007	0.056
HCM Control Delay (s)	7.3	-	-	-	9.6	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2

## Intersection




Int Delay, s/veh 4







Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	10	0	23
Stage 1	-	-	8
Stage 2	-	-	15
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1623	-	998
Stage 1	-	-	1020
Stage 2	-	-	1013
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1623	-	995
Mov Cap-2 Maneuver	-	-	995
Stage 1	-	-	1017
Stage 2	-	-	1013

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	























Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	75	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	50	0	8	25	0	5
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.9	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	887	1084	-	-	1630	-
Stage 1	906	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1084	-	-	1630	-
Mov Cap-2 Maneuver	813	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.9	0		3.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	813	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	9.5	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-





Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	250	-	-	250	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0



# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy





2045\_Alt3\_PM\_Signal  
09/22/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
Future Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1365	0	63	1301	0	81	5	0	28	5	0
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	29	1442		81	1496		158	6		153	23	
Arrive On Green	0.02	0.77	0.00	0.05	0.80	0.00	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1429	88	1585	1392	324	1585
Grp Volume(v), veh/h	15	1365	0	63	1301	0	86	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1518	0	1585	1715	0	1585
Q Serve(g_s), s	1.0	77.1	0.0	4.4	56.9	0.0	4.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	77.1	0.0	4.4	56.9	0.0	6.8	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	29	1442		81	1496		165	0		176	0	
V/C Ratio(X)	0.52	0.95		0.78	0.87		0.52	0.00		0.19	0.00	
Avail Cap(c_a), veh/h	72	1653		115	1698		269	0		283	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	60.7	12.1	0.0	58.8	8.2	0.0	56.7	0.0	0.0	54.6	0.0	0.0
Incr Delay (d2), s/veh	13.6	11.1	0.0	19.4	4.7	0.0	2.6	0.0	0.0	0.5	0.0	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	0.6	26.5	0.0	2.4	16.4	0.0	2.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	23.2	0.0	78.2	12.9	0.0	59.2	0.0	0.0	55.2	0.0	0.0
LnGrp LOS	E	C		E	B		E	A		E	A	
Approach Vol, veh/h		1380			1364			86			33	
Approach Delay, s/veh		23.7			15.9			59.2			55.2	
Approach LOS		C			B			E			E	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	10.6	100.9		12.9	7.0	104.5				
Change Period (Y+Rc), s		4.0	5.0	5.0		4.0	5.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	110.0		18.0	5.0	113.0				
Max Q Clear Time (g_c+l1), s		8.8	6.4	79.1		4.2	3.0	58.9				
Green Ext Time (p_c), s		0.2	0.0	16.8		0.1	0.0	18.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									
<b>Notes</b>												
Unsignalized Delay for [NER, EBR, WBR, SWR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1293	5	0	5
Future Vol, veh/h	5	0	1293	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1347	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1352	-	0	0	-	-
Stage 1	1347	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		





HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt3\_PM  
12/17/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1215	5	0	5
Future Vol, veh/h	5	0	1215	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1266	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1271	-	0	0	-	-
Stage 1	1266	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	185	0	-	-	0	-
Stage 1	265	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	185	-	-	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	25	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 185		-		
HCM Lane V/C Ratio	-	- 0.028		-		
HCM Control Delay (s)	-	- 25		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection

Int Delay, s/veh 0.1





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1292	5	0	5
Future Vol, veh/h	5	0	1292	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1346	5	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1351	-	0
Stage 1	1346	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	166	0	-
Stage 1	242	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	166	-	-
Mov Cap-2 Maneuver	166	-	-
Stage 1	242	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	166
HCM Lane V/C Ratio	-	-	0.031
HCM Control Delay (s)	-	-	27.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1




Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↱		↱
Traffic Vol, veh/h	5	0	1294	5	0	6
Future Vol, veh/h	5	0	1294	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1348	5	0	6
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1354	-	0	0	-	-
Stage 1	1348	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1017	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1298	5	0	5
Future Vol, veh/h	5	0	1298	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1352	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1357	-	0	0	-	-
Stage 1	1352	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	164	0	-	-	0	-
Stage 1	241	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	164	-	-	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.7	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 164		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.7		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	5	5	46	5	5
Future Vol, veh/h	44	5	5	46	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	4
Mvmt Flow	46	5	5	48	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	44	29	0	0	53	0
Stage 1	29	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	972	1052	-	-	1566	-
Stage 1	999	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	969	1052	-	-	1566	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.9	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 977		1566	-	
HCM Lane V/C Ratio	-	- 0.053		0.003	-	
HCM Control Delay (s)	-	- 8.9		7.3	-	
HCM Lane LOS	-	- A		A	-	
HCM 95th %tile Q(veh)	-	- 0.2		0	-	

Intersection

Int Delay, s/veh 2.7




Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	6	38	35	13	21	11
Future Vol, veh/h	6	38	35	13	21	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	6	40	37	14	22	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	51	0	96
Stage 1	-	-	44
Stage 2	-	-	52
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1568	-	908
Stage 1	-	-	984
Stage 2	-	-	976
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1568	-	904
Mov Cap-2 Maneuver	-	-	904
Stage 1	-	-	980
Stage 2	-	-	976

Approach	SE	NW	SW
HCM Control Delay, s	1	0	9
HCM LOS			A








Minor Lane/Major Mvmt	NWT	NWR	SEL	SETSWLn1
Capacity (veh/h)	-	-	1568	944
HCM Lane V/C Ratio	-	-	0.004	0.036
HCM Control Delay (s)	-	-	7.3	9
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1



Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	57	37	5	22	11
Future Vol, veh/h	5	57	37	5	22	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	60	39	5	23	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	44	0	-	0	82	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	4.1	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1577	-	-	-	921	1034
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1577	-	-	-	918	1034
Mov Cap-2 Maneuver	-	-	-	-	918	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.6	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WB	SWLn1	
Capacity (veh/h)	1577	-	-	-	-	954
HCM Lane V/C Ratio	0.003	-	-	-	-	0.036
HCM Control Delay (s)	7.3	0	-	-	-	8.9
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1

## Intersection




Int Delay, s/veh 3.7







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
Future Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	16	57	11	22	29	32	6	5	14	18	5	8




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	61	0	0	57	0	0	185	194	57	188	178	45
Stage 1	-	-	-	-	-	-	89	89	-	89	89	-
Stage 2	-	-	-	-	-	-	96	105	-	99	89	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1555	-	-	1560	-	-	780	705	1015	777	719	1031
Stage 1	-	-	-	-	-	-	923	825	-	923	825	-
Stage 2	-	-	-	-	-	-	916	812	-	912	825	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1555	-	-	1560	-	-	755	688	1015	748	702	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	688	-	748	702	-
Stage 1	-	-	-	-	-	-	914	817	-	914	813	-
Stage 2	-	-	-	-	-	-	890	801	-	885	817	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	2	9.3	9.7
HCM LOS			A	A







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	856	1555	-	-	1560	-	-	798
HCM Lane V/C Ratio	0.03	0.01	-	-	0.014	-	-	0.04
HCM Control Delay (s)	9.3	7.3	-	-	7.3	-	-	9.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1







Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	74	69	21	19	10
Future Vol, veh/h	10	74	69	21	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	11	78	73	22	20	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	95	0	-	0	184	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1512	-	-	-	810	981
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	804	981
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	929	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		9.4		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1512	-	-	-	857	
HCM Lane V/C Ratio	0.007	-	-	-	0.036	
HCM Control Delay (s)	7.4	0	-	-	9.4	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	5	5	5	5	89
Future Vol, veh/h	92	5	5	5	5	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	250	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	97	5	5	5	5	94
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	204	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	789	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	742	1084
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	839	-
Approach	EB	WB		SB		
HCM Control Delay, s	7	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	739	1084
HCM Lane V/C Ratio	0.059	-	-	-	0.007	0.086
HCM Control Delay (s)	7.3	-	-	-	9.9	8.6
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0	0.3

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	5	5	5	5
Future Vol, veh/h	5	6	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	6	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	24	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	997	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	994	1080
Mov Cap-2 Maneuver	-	-	-	-	994	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1012	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.3	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1035	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	























Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	75	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	7	0	0	37
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1002	1084	-	-	1630	-
Stage 1	1023	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	999	1084	-	-	1630	-
Mov Cap-2 Maneuver	919	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		3.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	919	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	8.9	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-





Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	250	-	-	250	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0



# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy





2045\_Alt4\_AM\_Signal  
09/22/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
Future Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1239	0	46	1128	0	51	5	0	11	5	0
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	29	1379		69	1420		163	8		129	45	
Arrive On Green	0.02	0.74	0.00	0.04	0.76	0.00	0.06	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1356	133	1585	958	745	1585
Grp Volume(v), veh/h	14	1239	0	46	1128	0	56	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1489	0	1585	1703	0	1585
Q Serve(g_s), s	0.7	44.3	0.0	2.2	31.4	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	44.3	0.0	2.2	31.4	0.0	3.1	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.91		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	29	1379		69	1420		171	0		175	0	
V/C Ratio(X)	0.48	0.90		0.67	0.79		0.33	0.00		0.09	0.00	
Avail Cap(c_a), veh/h	104	2418		124	2440		402	0		420	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	8.8	0.0	40.7	6.3	0.0	39.2	0.0	0.0	38.2	0.0	0.0
Incr Delay (d2), s/veh	11.4	2.6	0.0	10.5	1.0	0.0	1.1	0.0	0.0	0.2	0.0	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	0.4	11.0	0.0	1.1	6.6	0.0	1.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	11.4	0.0	51.2	7.3	0.0	40.3	0.0	0.0	38.4	0.0	0.0
LnGrp LOS	D	B		D	A		D	A		D	A	
Approach Vol, veh/h	1253			1174			56			16		
Approach Delay, s/veh	11.8			9.0			40.3			38.4		
Approach LOS	B			A			D			D		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	9.2		8.3	68.3		9.2	6.4	70.2				
Change Period (Y+Rc), s	4.0		5.0	5.0		4.0	5.0	5.0				
Max Green Setting (Gmax), s	19.0		6.0	111.0		19.0	5.0	112.0				
Max Q Clear Time (g_c+l1), s	5.1		4.2	46.3		2.7	2.7	33.4				
Green Ext Time (p_c), s	0.2		0.0	17.0		0.0	0.0	13.3				
Intersection Summary												
HCM 6th Ctrl Delay			11.3									
HCM 6th LOS			B									
Notes												

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	1108	5	0	16
Future Vol, veh/h	8	0	1108	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	8	0	1166	5	0	17
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1183	-	0	0	-	-
Stage 1	1166	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	209	0	-	-	0	-
Stage 1	296	0	-	-	0	-
Stage 2	1006	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	209	-	-	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	296	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22.9	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 209		-		
HCM Lane V/C Ratio	-	- 0.04		-		
HCM Control Delay (s)	-	- 22.9		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		





HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt4\_AM  
12/17/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1125	5	0	5
Future Vol, veh/h	5	0	1125	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1184	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1189	-	0	0	-	-
Stage 1	1184	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	208	0	-	-	0	-
Stage 1	290	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	208	-	-	-	-	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 208		-		
HCM Lane V/C Ratio	-	- 0.025		-		
HCM Control Delay (s)	-	- 22.8		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		





HCM 6th TWSC  
10: Honoapiilani Hwy & Ehehene St





Alt4\_AM  
12/17/2023




Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1133	5	0	5
Future Vol, veh/h	5	0	1133	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1193	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1198	-	0	0	-	-
Stage 1	1193	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	205	0	-	-	0	-
Stage 1	288	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	205	-	-	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 205		-		
HCM Lane V/C Ratio	-	- 0.026		-		
HCM Control Delay (s)	-	- 23		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

HCM 6th TWSC  
12: Honoapiilani Hwy & Pohaku Aeko St

Alt4\_AM  
12/17/2023




Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1135	6	0	5
Future Vol, veh/h	5	0	1135	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1195	6	0	5
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1200	-	0	0	-	-
Stage 1	1195	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	204	0	-	-	0	-
Stage 1	287	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	-	-	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	23.1		0		0	
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1		SBT	
Capacity (veh/h)		-	-	204	-	
HCM Lane V/C Ratio		-	-	0.026	-	
HCM Control Delay (s)		-	-	23.1	-	
HCM Lane LOS		-	-	C	-	
HCM 95th %tile Q(veh)		-	-	0.1	-	

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	5	5	29	5	5
Future Vol, veh/h	29	5	5	29	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	5	7	0	13	3
Mvmt Flow	30	5	5	30	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	35	20	0	0	35	0
Stage 1	20	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.23	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.317	-
Pot Cap-1 Maneuver	983	1049	-	-	1508	-
Stage 1	1008	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1049	-	-	1508	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	990	1508	-	
HCM Lane V/C Ratio	-	-	0.036	0.003	-	
HCM Control Delay (s)	-	-	8.8	7.4	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection						
Int Delay, s/veh	2.5					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	25	23	7	12	6
Future Vol, veh/h	5	25	23	7	12	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	3	6	0	0	30
Mvmt Flow	5	26	24	7	13	6
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	31	0	-	0	64	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	4.27	-	-	-	6.4	6.5
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	3.57
Pot Cap-1 Maneuver	1490	-	-	-	947	972
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1490	-	-	-	944	972
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	992	-
Approach	SE	NW		SW		
HCM Control Delay, s	1.2	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1	
Capacity (veh/h)	-	-	1490	-	953	
HCM Lane V/C Ratio	-	-	0.003	-	0.02	
HCM Control Delay (s)	-	-	7.4	0	8.9	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0.1	

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	34	26	5	7	5
Future Vol, veh/h	5	34	26	5	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	25	50	11
Mvmt Flow	5	35	27	5	7	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	32	0	0 58 30
Stage 1	-	-	- 30 -
Stage 2	-	-	- 28 -
Critical Hdwy	4.1	-	- 7.35 6.365
Critical Hdwy Stg 1	-	-	- 6.15 -
Critical Hdwy Stg 2	-	-	- 6.55 -
Follow-up Hdwy	2.2	-	- 3.975 3.4045
Pot Cap-1 Maneuver	1593	-	- 831 1017
Stage 1	-	-	- 875 -
Stage 2	-	-	- 874 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1593	-	- 829 1017
Mov Cap-2 Maneuver	-	-	- 829 -
Stage 1	-	-	- 872 -
Stage 2	-	-	- 874 -








Approach	EB	WB	SW
HCM Control Delay, s	0.9	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1593	-	-	-	898
HCM Lane V/C Ratio	0.003	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



## Intersection




Int Delay, s/veh 4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
Future Vol, veh/h	5	27	10	21	16	7	9	5	18	11	5	6
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	13	3	0	7	6	0	0	0	0	0	0	13
Mvmt Flow	5	28	10	22	17	7	9	5	19	11	5	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	28	0	0	108	106	28	115	103	21
Stage 1	-	-	-	-	-	-	38	38	-	65	65	-
Stage 2	-	-	-	-	-	-	70	68	-	50	38	-
Critical Hdwy	4.23	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.317	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.417
Pot Cap-1 Maneuver	1522	-	-	1554	-	-	876	788	1053	867	791	1026
Stage 1	-	-	-	-	-	-	982	867	-	951	845	-
Stage 2	-	-	-	-	-	-	945	842	-	968	867	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1522	-	-	1554	-	-	855	775	1053	836	778	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	855	775	-	836	778	-
Stage 1	-	-	-	-	-	-	979	864	-	948	833	-
Stage 2	-	-	-	-	-	-	920	830	-	942	864	-







Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	3.5	9	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1522	-	-	1554	-	-	865
HCM Lane V/C Ratio	0.035	0.003	-	-	0.014	-	-	0.026
HCM Control Delay (s)	9	7.4	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	47	39	17	9	5
Future Vol, veh/h	9	47	39	17	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	6	23	0	7
Mvmt Flow	9	49	41	18	9	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	59	0	-	0	117	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.363
Pot Cap-1 Maneuver	1558	-	-	-	884	1004
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	879	1004
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	961	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1558	-	-	-	920	
HCM Lane V/C Ratio	0.006	-	-	-	0.016	
HCM Control Delay (s)	7.3	0	-	-	9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection




Int Delay, s/veh 7.1




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	58	5	5	5	5	58
Future Vol, veh/h	58	5	5	5	5	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	9	0
Mvmt Flow	60	5	5	5	5	60







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	5	0	0 130 5
Stage 1	-	-	- 5 -
Stage 2	-	-	- 125 -
Critical Hdwy	4.1	-	- 6.49 6.2
Critical Hdwy Stg 1	-	-	- 5.49 -
Critical Hdwy Stg 2	-	-	- 5.49 -
Follow-up Hdwy	2.2	-	- 3.581 3.3
Pot Cap-1 Maneuver	1630	-	- 848 1084
Stage 1	-	-	- 1000 -
Stage 2	-	-	- 884 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1630	-	- 817 1084
Mov Cap-2 Maneuver	-	-	- 788 -
Stage 1	-	-	- 963 -
Stage 2	-	-	- 884 -







Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	8.6
HCM LOS			A




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	788	1084
HCM Lane V/C Ratio	0.037	-	-	-	0.007	0.056
HCM Control Delay (s)	7.3	-	-	-	9.6	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	75	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	50	0	8	25	0	5
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.9	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	887	1084	-	-	1630	-
Stage 1	906	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1084	-	-	1630	-
Mov Cap-2 Maneuver	813	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	3.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	813	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	9.5	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-























Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	7	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SW		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0





Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1036	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	



# HCM 6th Signalized Intersection Summary 14: Luawai St & Honoapiilani Hwy

2045\_Alt4\_PM\_Signal  
09/22/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
Future Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1365	0	63	1301	0	81	5	0	28	5	0
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	29	1442		81	1496		158	6		153	23	
Arrive On Green	0.02	0.77	0.00	0.05	0.80	0.00	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1430	88	1585	1392	324	1585
Grp Volume(v), veh/h	15	1365	0	63	1301	0	86	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1518	0	1585	1716	0	1585
Q Serve(g_s), s	1.0	77.0	0.0	4.4	56.9	0.0	4.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	77.0	0.0	4.4	56.9	0.0	6.8	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	29	1442		81	1496		164	0		176	0	
V/C Ratio(X)	0.52	0.95		0.78	0.87		0.52	0.00		0.19	0.00	
Avail Cap(c_a), veh/h	72	1654		115	1699		269	0		283	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	60.7	12.1	0.0	58.8	8.2	0.0	56.6	0.0	0.0	54.6	0.0	0.0
Incr Delay (d2), s/veh	13.6	11.1	0.0	19.4	4.7	0.0	2.6	0.0	0.0	0.5	0.0	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	0.6	26.5	0.0	2.4	16.3	0.0	2.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	23.2	0.0	78.1	12.9	0.0	59.2	0.0	0.0	55.2	0.0	0.0
LnGrp LOS	E	C		E	B		E	A		E	A	
Approach Vol, veh/h	1380			1364			86			33		
Approach Delay, s/veh	23.7			15.9			59.2			55.2		
Approach LOS	C			B			E			E		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	12.9		10.6	100.9		12.9		7.0	104.5			
Change Period (Y+Rc), s	4.0		5.0	5.0		4.0		5.0	5.0			
Max Green Setting (Gmax), s	18.0		8.0	110.0		18.0		5.0	113.0			
Max Q Clear Time (g_c+l1), s	8.8		6.4	79.0		4.2		3.0	58.9			
Green Ext Time (p_c), s	0.2		0.0	16.9		0.1		0.0	18.9			
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									
Notes												





Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1293	5	0	5
Future Vol, veh/h	5	0	1293	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1347	5	0	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1352	-	0	0	-	-
Stage 1	1347	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1018	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

HCM 6th TWSC  
4: Honoapiilani Hwy & North Rd

Alt4\_PM  
12/17/2023

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1215	5	0	5
Future Vol, veh/h	5	0	1215	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1266	5	0	5





Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1271	-	0
Stage 1	1266	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	185	0	-
Stage 1	265	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	185	-	-
Mov Cap-2 Maneuver	185	-	-
Stage 1	265	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	185
HCM Lane V/C Ratio	-	-	0.028
HCM Control Delay (s)	-	-	25
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.1





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	1292	5	0	5
Future Vol, veh/h	5	0	1292	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1346	5	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1351	-	0
Stage 1	1346	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	-	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	-	-
Pot Cap-1 Maneuver	166	0	-
Stage 1	242	0	-
Stage 2	1018	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	166	-	-
Mov Cap-2 Maneuver	166	-	-
Stage 1	242	-	-
Stage 2	1018	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0
HCM LOS	D		




Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	166
HCM Lane V/C Ratio	-	-	0.031
HCM Control Delay (s)	-	-	27.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↱	↱		↱
Traffic Vol, veh/h	5	0	1293	5	0	6
Future Vol, veh/h	5	0	1293	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
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	5	0	1347	5	0	6
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1353	-	0	0	-	-
Stage 1	1347	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-	-
Pot Cap-1 Maneuver	165	0	-	-	0	-
Stage 1	242	0	-	-	0	-
Stage 2	1017	0	-	-	0	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	165	-	-	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 165		-		
HCM Lane V/C Ratio	-	- 0.032		-		
HCM Control Delay (s)	-	- 27.5		-		
HCM Lane LOS	-	- D		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	5	5	46	5	5
Future Vol, veh/h	44	5	5	46	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	4
Mvmt Flow	46	5	5	48	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	44	29	0	0	53	0
Stage 1	29	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	972	1052	-	-	1566	-
Stage 1	999	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	969	1052	-	-	1566	-
Mov Cap-2 Maneuver	969	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.9	0		3.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	977	1566	-	
HCM Lane V/C Ratio	-	-	0.053	0.003	-	
HCM Control Delay (s)	-	-	8.9	7.3	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Intersection

Int Delay, s/veh 2.7

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	6	38	35	13	21	11
Future Vol, veh/h	6	38	35	13	21	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	6	40	37	14	22	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	51	0	96
Stage 1	-	-	44
Stage 2	-	-	52
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1568	-	908
Stage 1	-	-	984
Stage 2	-	-	976
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1568	-	904
Mov Cap-2 Maneuver	-	-	904
Stage 1	-	-	980
Stage 2	-	-	976

Approach	SE	NW	SW
HCM Control Delay, s	1	0	9
HCM LOS			A








Minor Lane/Major Mvmt	NWT	NWR	SEL	SETSWLn1
Capacity (veh/h)	-	-	1568	944
HCM Lane V/C Ratio	-	-	0.004	0.036
HCM Control Delay (s)	-	-	7.3	9
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↕↕	↕		↕↕	
Traffic Vol, veh/h	5	57	37	5	22	11
Future Vol, veh/h	5	57	37	5	22	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	60	39	5	23	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	44	0	-	0	82	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	4.1	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1577	-	-	-	921	1034
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1577	-	-	-	918	1034
Mov Cap-2 Maneuver	-	-	-	-	918	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		SW		
HCM Control Delay, s	0.6	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WB	SWLn1	
Capacity (veh/h)	1577	-	-	-	-	954
HCM Lane V/C Ratio	0.003	-	-	-	-	0.036
HCM Control Delay (s)	7.3	0	-	-	-	8.9
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1



## Intersection




Int Delay, s/veh 3.7







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
Future Vol, veh/h	15	54	10	21	28	30	6	5	13	17	5	8
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	400	-	-	-	-	-	-	-	-
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, %	0	4	7	0	2	0	0	0	0	0	0	0
Mvmt Flow	16	57	11	22	29	32	6	5	14	18	5	8




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	61	0	0	57	0	0	185	194	57	188	178	45
Stage 1	-	-	-	-	-	-	89	89	-	89	89	-
Stage 2	-	-	-	-	-	-	96	105	-	99	89	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1555	-	-	1560	-	-	780	705	1015	777	719	1031
Stage 1	-	-	-	-	-	-	923	825	-	923	825	-
Stage 2	-	-	-	-	-	-	916	812	-	912	825	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1555	-	-	1560	-	-	755	688	1015	748	702	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	688	-	748	702	-
Stage 1	-	-	-	-	-	-	914	817	-	914	813	-
Stage 2	-	-	-	-	-	-	890	801	-	885	817	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	2	9.3	9.7
HCM LOS			A	A







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	856	1555	-	-	1560	-	-	798
HCM Lane V/C Ratio	0.03	0.01	-	-	0.014	-	-	0.04
HCM Control Delay (s)	9.3	7.3	-	-	7.3	-	-	9.7
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1







Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	74	69	21	19	10
Future Vol, veh/h	10	74	69	21	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	11	78	73	22	20	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	95	0	-	0	184	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1512	-	-	-	810	981
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	804	981
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	929	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		9.4		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1512	-	-	-	857	
HCM Lane V/C Ratio	0.007	-	-	-	0.036	
HCM Control Delay (s)	7.4	0	-	-	9.4	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	




Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	5	5	5	5	89
Future Vol, veh/h	92	5	5	5	5	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	275	-	-	225	0	65
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	97	5	5	5	5	94
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	204	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	789	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	742	1084
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	839	-
Approach	EB	WB		SB		
HCM Control Delay, s	7	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1630	-	-	-	739	1084
HCM Lane V/C Ratio	0.059	-	-	-	0.007	0.086
HCM Control Delay (s)	7.3	-	-	-	9.9	8.6
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0	0.3

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	5	5	5	5
Future Vol, veh/h	5	6	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	6	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	24	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	997	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	994	1080
Mov Cap-2 Maneuver	-	-	-	-	994	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1012	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.3	0		8.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1035	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	75	-	350	425	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	7	0	0	37
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	20	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1002	1084	-	-	1630	-
Stage 1	1023	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	999	1084	-	-	1630	-
Mov Cap-2 Maneuver	919	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		3.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	919	1084	1630	-
HCM Lane V/C Ratio	-	-	0.006	0.005	0.003	-
HCM Control Delay (s)	-	-	8.9	8.3	7.2	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	425	-	-	350	0	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	999	1084
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SW		
HCM Control Delay, s	3.6	0		8.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	1630	-	-	-	920	1084
HCM Lane V/C Ratio	0.003	-	-	-	0.006	0.005
HCM Control Delay (s)	7.2	-	-	-	8.9	8.3
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	2	0	0	2
Mvmt Flow	5	5	5	5	5	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1623	-	-	-	998	1074
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1074
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		8.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1623	-	-	-	1033	
HCM Lane V/C Ratio	0.003	-	-	-	0.01	
HCM Control Delay (s)	7.2	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

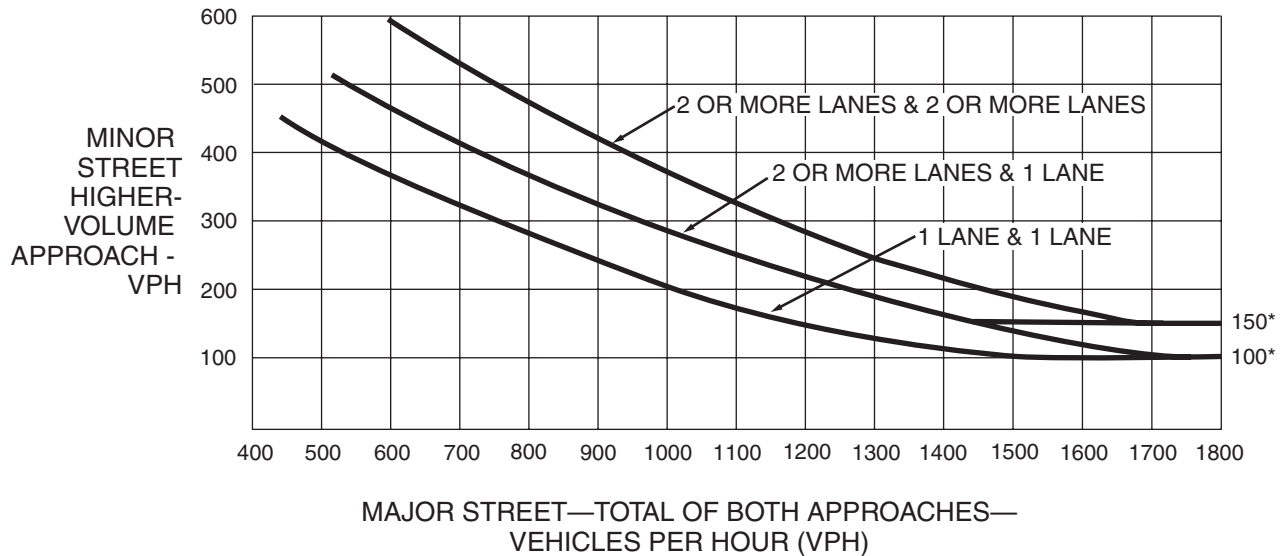




## Appendix E

### Traffic Signal Warrant Worksheets

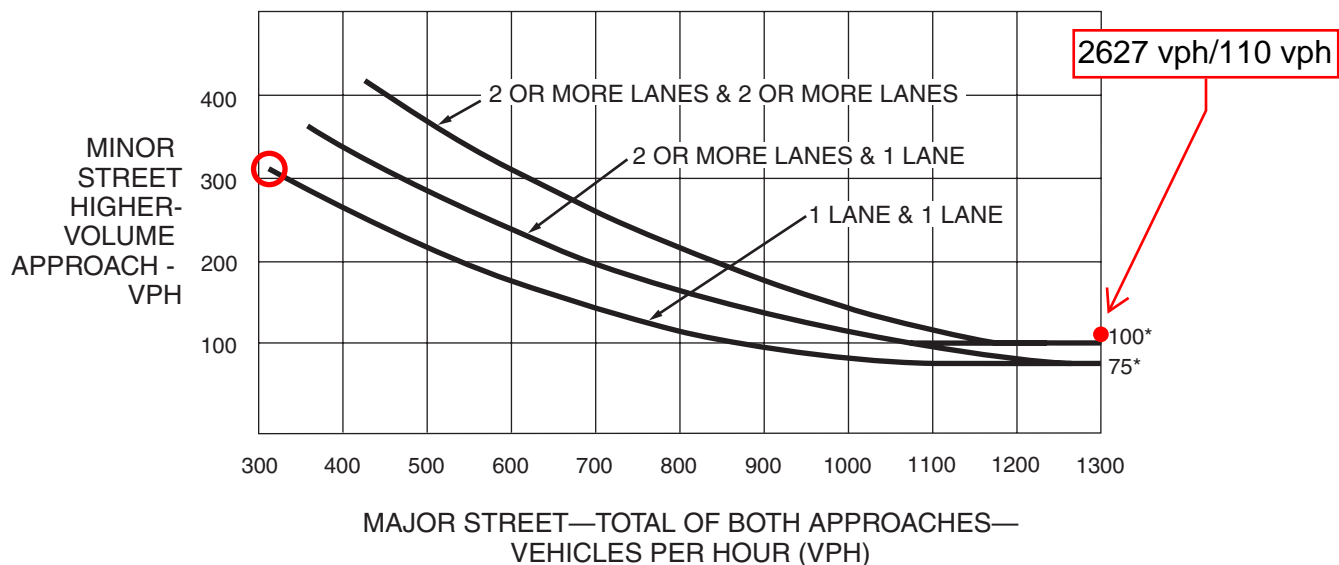
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

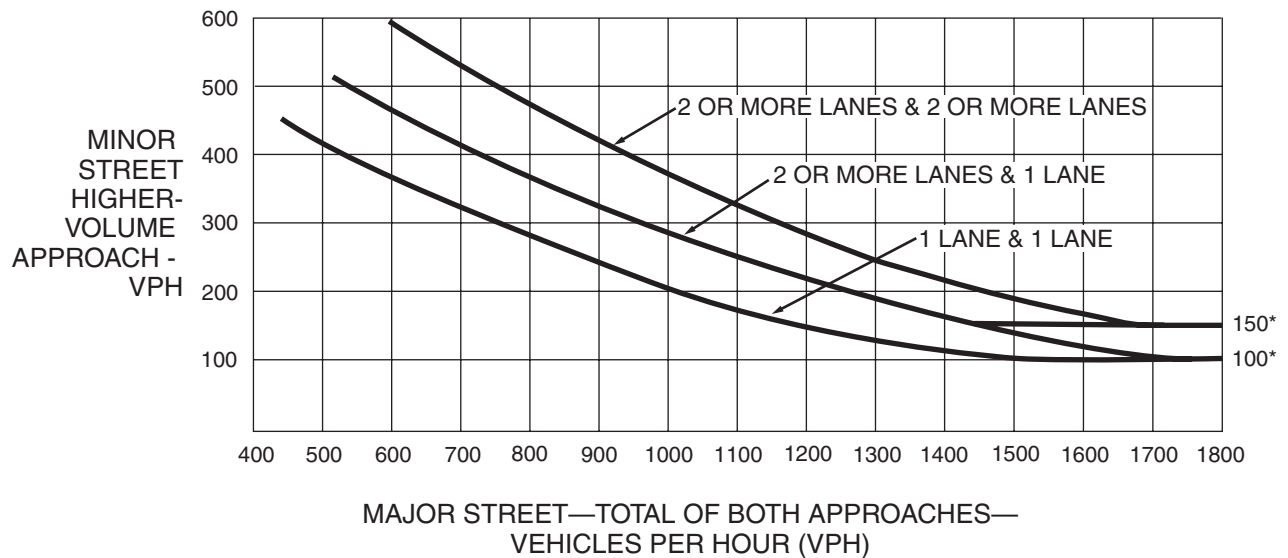
70% Factor Used

Major Street: 2627 vph, Minor Street: 110 vph (left turn only)

Major Street considered 1 lane based on low left and right turn demand.

Minor Street 75 vph threshold chosen based on left turn volume from left turn lane.

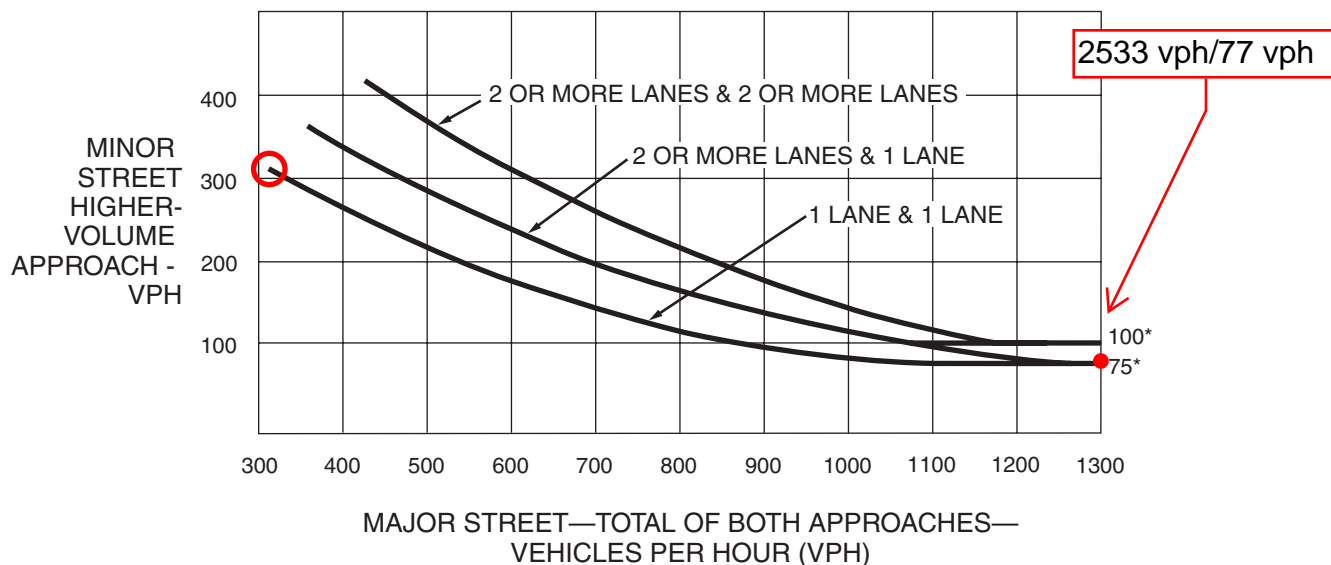
Peak Hour Warrant Threshold is Met.

**Figure 4C-3. Warrant 3, Peak Hour**

\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

70% Factor Used

Major Street: 2533 vph, Minor Street: 77 vph (left turn only)

Major Street considered 1 lane based on low left and right turn demand.

Minor Street 75 vph threshold chosen based on left turn volume from left turn lane.

Peak Hour Warrant Threshold is Met.



# **WSP USA, Inc.**

## **Supplemental Transportation Evaluation Report**

HONOAPI'ILANI HIGHWAY IMPROVEMENTS PROJECT,  
WEST MAUI: UKUMEHAME TO LAUNIUPOKO

# Traffic Evaluation Memo

FINAL ENVIRONMENTAL IMPACT STATEMENT

July 2025

*Prepared for*





# Introduction

This technical memo supplements the transportation evaluation conducted as part of the Draft EIS for the proposed improvements of Honoapiʻilani Highway (State Route No. 30) between Ukumehame and Launiupoko in West Maui, Maui Island. The Honoapiʻilani Highway Improvements Project (Project) proposes to realign the existing Honoapiʻilani Highway between Ukumehame and Launiupoko in west Maui, Hawaiʻi further inland. Honoapiʻilani Highway is under the jurisdiction of the State of Hawaii Department of Transportation (HDOT).

The Project is in the area of West Maui served by the existing Honoapiʻilani Highway between milepost 11 and milepost 17. Honoapiʻilani Highway is part of Maui's Belt Road system, a two-lane principal arterial highway that provides the sole access between communities along the west coast of Maui and the rest of the island. The proposed southeastern terminus at milepost 11 is in Ukumehame in the vicinity of Pāpalaua Wayside Park, and the northwestern terminus of the project is at milepost 17 in Launiupoko, where Honoapiʻilani Highway currently intersects the southern terminus of the Lāhainā Bypass. **FIGURE 1** shows the Project's study area.

As described in the Draft EIS, the Project is a new two-lane, divided highway that would replace the existing two-lane, undivided highway as the primary regional arterial roadway. The existing Honoapiʻilani Highway would remain in place and be accessible from the new highway via cross streets that intersect the Build Alternatives. The existing highway would continue to provide access to adjacent properties and the beaches.

A Preferred Alternative was presented at a public hearing on the Draft EIS. Based on public comments received during this public hearing, several refinements were made to the Preferred Alternative and analyzed in the Final EIS and in this transportation technical memorandum. These refinements include:

- Provision of a shared-use path along the new Honoapiʻilani Highway as an addition to the currently proposed paved shoulders. The proposed shared-use path would augment the proposed *West Maui Greenway Plan* being developed by the Maui County Department of Parks and Recreation, which includes concepts of a greenway trail that would roughly parallel the existing Honoapiʻilani Highway providing opportunities for new bicycle and pedestrian facilities.
- Public comments at the hearing addressed the need for safe pedestrian and bicycle crossings of the new Honoapiʻilani Highway, including opinions that only one protected crossing at Luawai Street was not sufficient. The Draft EIS originally proposed signalizing the new Honoapiʻilani Highway/Luawai Street intersection. As a result of the public hearing, an additional intersection is proposed to be signalized at the intersection of the new Honoapiʻilani Highway and Ehehene Street.
- Passing lanes were examined as an optional feature for the Preferred Alternative and, if included in the Project, would most likely be located centrally between Ehehene Street and Luawai Street.



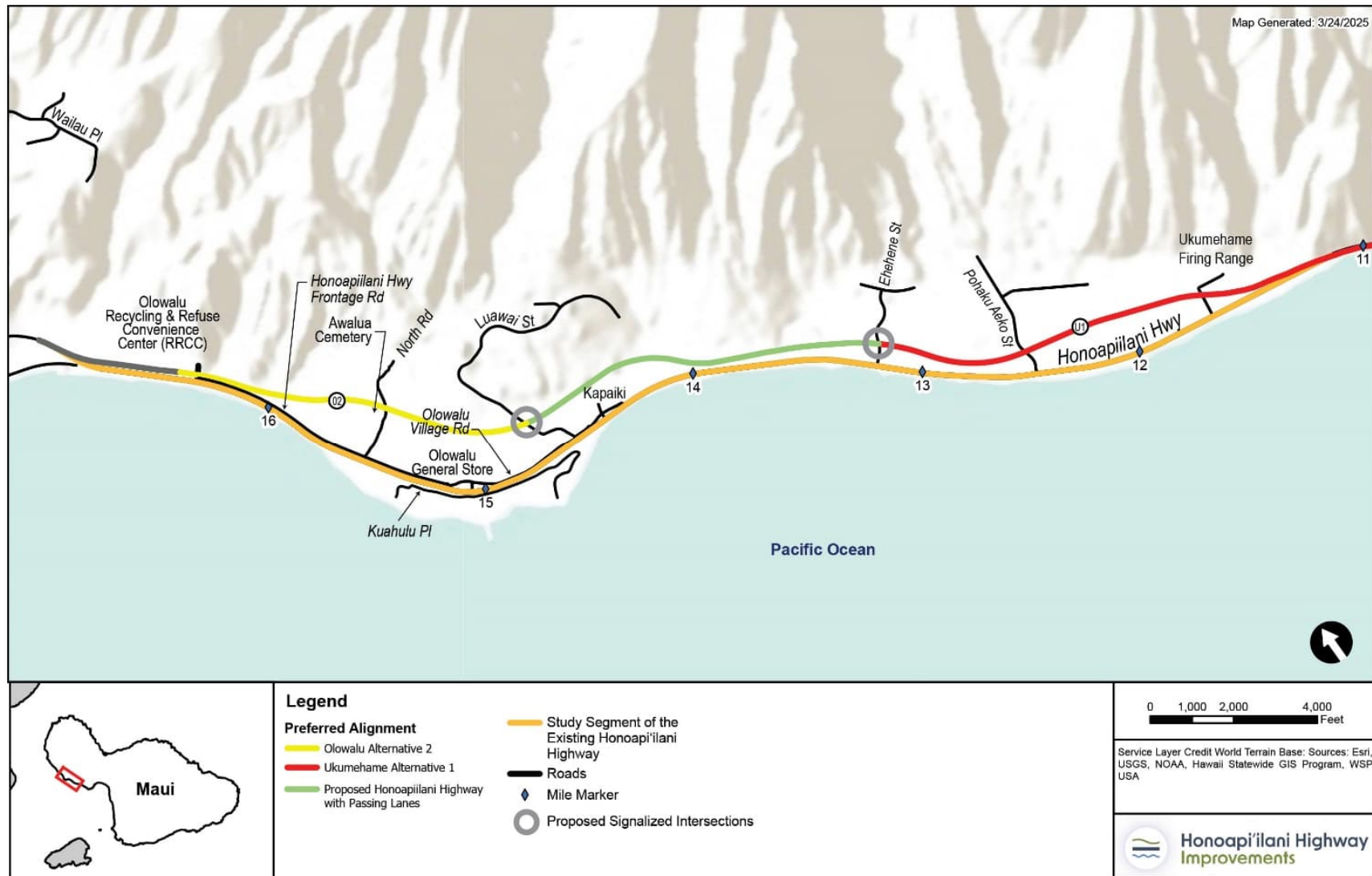
The configuration and exact location would be determined during final design by the design-build contractor.

This technical memo focuses on the following:

- An updated evaluation of intersection operations on the Preferred Alternative (new, realigned Honoapi'ilani Highway) at the Luawai Street and Ehehene Street intersections for the Future Year 2045 analysis incorporating the following design refinements:
  - Signalized intersections at both intersections, depicted in grey in **FIGURE 1**.
  - The potential for passing lanes in both directions on Honoapi'ilani Highway which would generally be anticipated to be located between Luawai Street and Ehehene Street as depicted in green in **FIGURE 1**.
- An evaluation of other potential methods for traffic control:
  - Qualitative assessment of roundabouts and other traffic-control configurations at the Luawai Street and Ehehene Street intersections, as traffic-control alternatives to signalization.



FIGURE 1. Preferred Alternative Components







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## INTERSECTION OPERATIONAL ANALYSIS

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### Future Roadway Network

The Preferred Alternative (new, realigned Honoapi'ilani Highway) remains the same as described in the Draft EIS with the exception of the refinements described above.

Luawai Street and Ehehene Street are paved, two-lane, mauka-makai roads originating at Honoapi'ilani Highway in the vicinity of Olowalu Village and in the Ukumehame area, respectively. They provide access to agricultural, residential, and cultural land uses.

### Traffic Operations Analysis

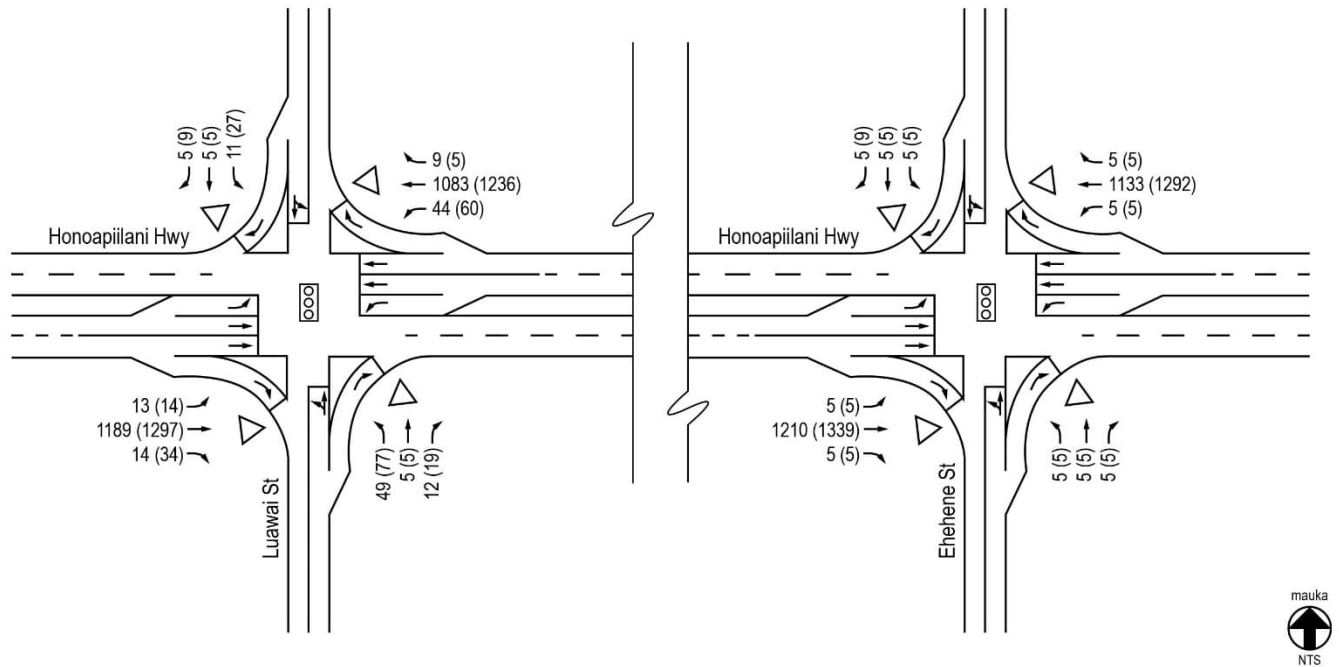
The following assumptions served as the basis for the traffic operations analysis:

- Future Year 2045 AM and PM peak-hour traffic turning movement volumes remain unchanged from those documented in the Draft EIS.
  - Per the proposed revision to the Preferred Alternative, both Luawai Street and Ehehene Street intersections were studied as signalized intersections with the following configuration:
    - Leading exclusive left-turn phasing for the mainline left turn
    - Pedestrian phase provided on all approaches with appropriate minimum crossing green and clearance times for a crossing distance of up to 72 feet assuming a 3.5 feet/second walking speed
    - 120-second signal cycle length providing a balance between serving the mainline through demand and providing side-street needs
- Left-turn storage lanes and channelized right-turn lanes remain unchanged from the pre-revision Preferred Alternative.
- Per the proposed refinement to the Preferred Alternative, passing lanes would be provided in both directions on the new Honoapi'ilani Highway, resulting in two through lanes at the mainline approaches to the intersections.

**FIGURE 2** conceptualizes the lane configurations and projected Year 2045 AM and PM turning movements.



FIGURE 2. Projected Year 2045 Peak-Hour Traffic Volumes and Lane Configurations



### Intersection Operational Analyses

The two intersections were analyzed using the methodologies for signalized intersections outlined in the *Highway Capacity Manual 6<sup>th</sup> Edition (HCM6)* and implemented in the Synchro 11 software. Operating conditions at an intersection by approach are expressed as a qualitative measure known as Level of Service (LOS) ranging from A to F. LOS A represents operations with low vehicular delay, while LOS F represents conditions with relatively high vehicular delay. The overall intersection LOS is a weighted average of the LOS of individual traffic movement groups. Attachment A contains the Synchro worksheets as well as LOS thresholds for signalized and unsignalized intersections and arterials. **TABLE 1** displays the projected Year 2045 conditions LOS for the two study intersections with the refined configurations and traffic control and compares these to the originally projected LOS for the Preferred Alternative.

TABLE 1. Projected Year 2045 Intersection Level of Service: Refined Preferred Alternative

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
	LOS	Delay (seconds)	LOS	Delay (seconds)
Honoapi'ilani Highway at Luawai Street				
Original Draft EIS-Overall Signalized Control	B	10.6	C	21.4
Adjusted Config.-Overall Signalized Control	A	7.1	A	8.1
Honoapi'ilani Highway at Ekehene Street				
Original Draft EIS -Highest Unsignalized Delay Movement	C	23.0	D	27.4
Adjusted Config-Overall Signalized Control	A	5.2	A	5.1



As shown in **TABLE 1**, both intersections are projected to operate at LOS A overall during both peak hours (AM and PM) with the refined Preferred Alternative. This condition is an improvement over the operational levels documented in the original Draft EIS and is attributable primarily to signalization—in the case of Ehehene Street—and to the added through lanes on the new Honoapi'ilani Highway provided by the passing lanes between Luawai Street and Ehehene Street. Mainline movements are projected to operate at LOS A. Mainline left turns and minor street movements are projected to operate at LOS D or better.

### **Arterial Roadway Segment Analyses**

Per the methodology used in the original Draft EIS, maximum directional traffic volumes for the proposed type of roadway facility were compared to the projected Future Year 2045 traffic volumes to determine the roadway segment LOS. Both AM and PM projected peak-hour Future Year 2045 volumes on the new Honoapi'ilani Highway were found to be less than the maximum directional operational volume for new Honoapi'ilani Highway. The maximum directional operational volume is estimated at 1,900 vph. The ratio of Future Year 2045 demand volume to the maximum directional operational volume is analogous to a volume/capacity (V/C) ratio.

The Draft EIS used projected Future Year 2045 traffic volumes and the maximum directional operational volume for the new Honoapi'ilani Highway, the generalized segment V/C for the Preferred Alternative was estimated at 0.76 with a LOS of C. With the potential addition of passing lanes, the specific segment analysis indicates that the V/C would drop to 0.42 with a LOS A.



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## ALTERNATIVE TRAFFIC-CONTROL EVALUATION: ROUNDABOUTS AND OTHER NON-SIGNALIZED CONTROLS

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One HDOT response to public comments received during the Draft EIS public hearing was to refine the Preferred Alternative to include a shared-use bicycle/pedestrian facility. Key public concerns related to this were to provide controlled and safe crossings of the highway for bicycles and pedestrians. The currently proposed adjustment to the design configuration documented in the original Draft EIS is to add another signalized intersection at Ehehene Street; this is in addition to the already proposed signalized intersection at Luawai Street.

This section identifies alternative traffic-control configurations and qualitatively discusses their ability to provide safe crossings of the new Honoapiʻilani Highway, a major regional arterial roadway. Crossing a high-volume, high-speed arterial highway is a challenge for these modes, and traffic control that preserves a safe crossing environment is a critical evaluation factor.

Several alternative intersection traffic-control alternatives were considered:

- Unsignalized, two-way STOP control on the minor approaches with Rectangular Rapid Flashing Beacons (RRFBs) for the crosswalks on new Honoapiʻilani Highway
- High Intensity Activated Crosswalk (HAWK) Signal traffic-control device designed to help pedestrians safely cross busy streets, especially at mid-block crossings, by activating only when a pedestrian needs to cross and alerting drivers to stop
- Roundabout in a configuration appropriate for a high-volume, high-speed arterial highway
- Grade-separated crossing of the new Honoapiʻilani Highway

Unsignalized, two-way STOP control is the originally proposed configuration at Ehehene Street and had already been deemed unsuitable at Luawai Street. Given the key evaluation factor of pedestrian and bicycle safety for crossing the new Honoapiʻilani Highway, unsignalized, two-way STOP control is also unsuitable for Ehehene Street. Supplementing the unsignalized control with RRFBs improves safety by increasing driver awareness of the crossing activity but still leaves pedestrians and bicyclists vulnerable to the high-speed and high-volume traffic on the new Honoapiʻilani Highway.

A HAWK signal is typically implemented at mid-block locations on a highway. But in this case, the HAWK would be atypically implemented at intersections. Also, given the high-volume, higher-speed configuration of the new Honoapiʻilani Highway, a HAWK would be inappropriate because it leaves travelers who are crossing the corridor vulnerable since having an isolated traffic signal operate only when activated can lead to driver inattention to the unexpected change. A high number of tourists currently and would continue to utilize this travel corridor and their unfamiliarity with the area makes this an important consideration.

A roundabout with an appropriate multilane, large diameter configuration could work from a traffic operations perspective but would not adequately address bicycle and pedestrian safety when crossing



the new Honoapi'ilani Highway without introducing significant disruption to its capacity and throughput. A roundabout of appropriate size would have a roughly 200-foot diameter, which would require more right-of-way to implement than a signalized intersection. If HDOT were to consider a roundabout option during the design-build process, the design specifications and transportation effects would have to be further analyzed to ensure it is appropriate. In addition, the potential design would likely exceed the physical right-of-way analyzed in this Final EIS which could require NEPA re-evaluation of potential impacts.

Grade-separated crossings would provide a safe crossing of the new Honoapi'ilani Highway, but there are key issues to consider, including access to the local roadway network, cost, view plane obstruction, and typically low acceptance by intended users.

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## SUMMARY

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This supplemental evaluation of proposed refinements to the Preferred Alternative for the new Honoapi'ilani Highway improvements determined the following:

- The signalization of Ehehene Street would improve its intersection operational LOS. Because of the added through lanes provided by the proposed passing lanes, intersection operational LOS at Luawai Street would also improve.
- The potential inclusion of passing lanes would improve the segment LOS on the new Honoapi'ilani Highway where the lanes would be added.
- A review of alternative intersection control strategies determined that two signalized intersections would be the most effective way to provide safe pedestrian and bicycle crossings of the new Honoapi'ilani Highway with the least impact in terms of cost, right-of-way, and potential environmental impacts. A roundabout would remain a feasible option but if considered would require additional design and environmental assessment.

This supplemental evaluation of the refined Preferred Alternative recommends that the proposed refinements (signalized intersections, shared-use path, and passing lanes) are appropriate, would improve traffic operations, and would achieve the goal of providing safe multimodal crossings of the new Honoapi'ilani Highway.

























## Attachment A: Synchro Worksheets

# HCM 6th Signalized Intersection Summary

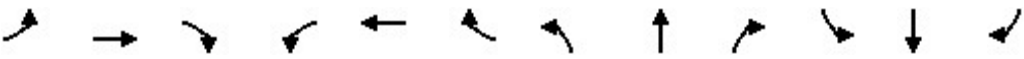
## 14: Luawai St & Honoapiilani Hwy

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
Future Volume (veh/h)	13	1189	14	44	1083	9	49	5	12	11	5	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1239	0	46	1128	0	51	5	0	11	5	0
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	32	1967		88	2078		253	9		211	46	
Arrive On Green	0.02	0.55	0.00	0.05	0.58	0.00	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1352	133	1585	1008	676	1585
Grp Volume(v), veh/h	14	1239	0	46	1128	0	56	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1484	0	1585	1684	0	1585
Q Serve(g_s), s	0.3	10.1	0.0	1.1	8.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	10.1	0.0	1.1	8.2	0.0	1.5	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.91		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	32	1967		88	2078		262	0		257	0	
V/C Ratio(X)	0.44	0.63		0.52	0.54		0.21	0.00		0.06	0.00	
Avail Cap(c_a), veh/h	210	5693		420	6112		1117	0		1162	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.6	6.5	0.0	19.7	5.4	0.0	19.1	0.0	0.0	18.6	0.0	0.0
Incr Delay (d2), s/veh	9.2	0.3	0.0	4.8	0.2	0.0	0.4	0.0	0.0	0.1	0.0	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	0.2	1.7	0.0	0.5	1.2	0.0	0.5	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	6.8	0.0	24.5	5.6	0.0	19.5	0.0	0.0	18.7	0.0	0.0
LnGrp LOS	C	A		C	A		B	A		B	A	
Approach Vol, veh/h		1253			1174			56			16	
Approach Delay, s/veh		7.1			6.3			19.5			18.7	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	29.8		6.9	7.1	28.5		6.9				
Change Period (Y+Rc), s	5.0	5.0		4.0	5.0	5.0		4.0				
Max Green Setting (Gmax), s	5.0	73.0		28.0	10.0	68.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	10.2		3.5	3.1	12.1		2.3				
Green Ext Time (p_c), s	0.0	9.8		0.2	0.0	11.3		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			7.1									
HCM 6th LOS			A									
<b>Notes</b>												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

# HCM 6th Signalized Intersection Summary 15: Honoapiilani Hwy & Ehehene St

03/14/2025























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↗	↕	↗	↗	↕	↗
Traffic Volume (veh/h)	5	5	5	5	5	5	5	1133	5	5	1210	5
Future Volume (veh/h)	5	5	5	5	5	5	5	1133	5	5	1210	5
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	5	0	5	5	0	5	1180	0	5	1260	0
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	166	21		166	21		12	2106		12	2106	
Arrive On Green	0.03	0.03	0.00	0.03	0.03	0.00	0.01	0.59	0.00	0.01	0.59	0.00
Sat Flow, veh/h	827	827	1585	827	827	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	10	0	0	10	0	0	5	1180	0	5	1260	0
Grp Sat Flow(s),veh/h/ln	1655	0	1585	1655	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.6	0.0	0.1	8.3	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.2	0.0	0.0	0.1	7.6	0.0	0.1	8.3	0.0
Prop In Lane	0.50		1.00	0.50		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	0		186	0		12	2106		12	2106	
V/C Ratio(X)	0.05	0.00		0.05	0.00		0.41	0.56		0.41	0.60	
Avail Cap(c_a), veh/h	1354	0		1354	0		334	6765		334	6765	
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	17.8	0.0	0.0	17.8	0.0	0.0	18.4	4.6	0.0	18.4	4.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	21.2	0.2	0.0	21.2	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	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.6	0.0	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	0.0	17.9	0.0	0.0	39.6	4.9	0.0	39.6	5.1	0.0
LnGrp LOS	B	A		B	A		D	A		D	A	
Approach Vol, veh/h		10			10			1185			1265	
Approach Delay, s/veh		17.9			17.9			5.0			5.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	27.1		4.9	5.3	27.1		4.9				
Change Period (Y+Rc), s	5.0	5.0		4.0	5.0	5.0		4.0				
Max Green Setting (Gmax), s	7.0	71.0		28.0	7.0	71.0		28.0				
Max Q Clear Time (g_c+I1), s	2.1	9.6		2.2	2.1	10.3		2.2				
Green Ext Time (p_c), s	0.0	10.5		0.0	0.0	11.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			5.2									
HCM 6th LOS			A									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												



# HCM 6th Signalized Intersection Summary

## 14: Luawai St & Honoapiilani Hwy

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
Future Volume (veh/h)	14	1297	34	60	1236	5	77	5	19	27	5	9
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1365	0	63	1301	0	81	5	0	28	5	0
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	34	2044		104	2186		259	7		242	32	
Arrive On Green	0.02	0.58	0.00	0.06	0.62	0.00	0.08	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1417	87	1585	1296	392	1585
Grp Volume(v), veh/h	15	1365	0	63	1301	0	86	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1504	0	1585	1688	0	1585
Q Serve(g_s), s	0.4	13.1	0.0	1.7	11.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	13.1	0.0	1.7	11.0	0.0	2.7	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	34	2044		104	2186		266	0		274	0	
V/C Ratio(X)	0.45	0.67		0.60	0.60		0.32	0.00		0.12	0.00	
Avail Cap(c_a), veh/h	180	4965		325	5253		959	0		984	0	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	7.2	0.0	22.7	5.8	0.0	21.9	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	9.1	0.4	0.0	5.5	0.3	0.0	0.7	0.0	0.0	0.2	0.0	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	0.2	2.6	0.0	0.8	1.9	0.0	1.0	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	7.6	0.0	28.2	6.0	0.0	22.6	0.0	0.0	21.4	0.0	0.0
LnGrp LOS	C	A		C	A		C	A		C	A	
Approach Vol, veh/h	1380			1364			86			33		
Approach Delay, s/veh	7.9			7.1			22.6			21.4		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	35.4		8.1	7.9	33.4		8.1				
Change Period (Y+Rc), s	5.0	5.0		4.0	5.0	5.0		4.0				
Max Green Setting (Gmax), s	5.0	73.0		28.0	9.0	69.0		28.0				
Max Q Clear Time (g_c+I1), s	2.4	13.0		4.7	3.7	15.1		2.8				
Green Ext Time (p_c), s	0.0	12.4		0.4	0.0	13.3		0.1				

### Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A























### Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 15: Honoapiilani Hwy & Ehehene St

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	5	5	9	5	1292	5	5	1339	5
Future Volume (veh/h)	5	5	5	5	5	9	5	1292	5	5	1339	5
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	5	0	5	5	0	5	1360	0	5	1409	0
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	150	21		150	21		12	2249		12	2249	
Arrive On Green	0.02	0.02	0.00	0.02	0.02	0.00	0.01	0.63	0.00	0.01	0.63	0.00
Sat Flow, veh/h	828	828	1585	828	828	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	10	0	0	10	0	0	5	1360	0	5	1409	0
Grp Sat Flow(s),veh/h/ln	1655	0	1585	1655	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	9.5	0.0	0.1	10.1	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.2	0.0	0.0	0.1	9.5	0.0	0.1	10.1	0.0
Prop In Lane	0.50		1.00	0.50		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	0		170	0		12	2249		12	2249	
V/C Ratio(X)	0.06	0.00		0.06	0.00		0.42	0.60		0.42	0.63	
Avail Cap(c_a), veh/h	1210	0		1210	0		213	6218		213	6218	
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	19.9	0.0	0.0	19.9	0.0	0.0	20.6	4.6	0.0	20.6	4.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	21.3	0.3	0.0	21.3	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	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.9	0.0	0.1	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	0.0	20.1	0.0	0.0	42.0	4.8	0.0	42.0	4.9	0.0
LnGrp LOS	C	A		C	A		D	A		D	A	
Approach Vol, veh/h	10			10			1365			1414		
Approach Delay, s/veh	20.1			20.1			5.0			5.1		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	31.4		5.0	5.3	31.4		5.0				
Change Period (Y+Rc), s	5.0	5.0		4.0	5.0	5.0		4.0				
Max Green Setting (Gmax), s	5.0	73.0		28.0	5.0	73.0		28.0				
Max Q Clear Time (g_c+I1), s	2.1	11.5		2.2	2.1	12.1		2.2				
Green Ext Time (p_c), s	0.0	13.5		0.0	0.0	14.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	5.1											
HCM 6th LOS	A											
Notes												