

Freeway Management System, Phase 4, Unit 1

Traffic Management Plan

State of Hawaii Department of Transportation Highways Division
Project No. NH-0300(176)

July 9th, 2025

**TRANSPORTATION MANAGEMENT PLAN
FREEWAY MANAGEMENT SYSTEM
PHASE 4, UNIT 1**

Federal-Aid Project No. NH-0300(176)

Prepared for
State of Hawaii

Prepared by
AECOM
Honolulu, Hawaii

July 9th, 2025

Table of Contents

1.	Executive Summary.....	1
2.	Introduction.....	2
3.	Roles and Responsibilities	2
4.	Project Description	2
	Project Background.....	2
	Project Type	2
	Project Area/ Corridor.....	2
	Project Goals and Constraints.....	4
	Proposed Construction Phasing/Staging.....	4
	General Schedule and Timeline	4
	Related Project Information.....	4
5.	Existing and Construction Conditions.....	5
	Existing Roadway Characteristics	5
	Existing and Historical Traffic Data.....	5
	Existing Traffic Operations	5
	Construction Conditions	6
	Traffic Predictions During Construction	6
	CCTV Replacement	6
	CCTV Installation	7
	Fiber and Conduit Installation	13
	Incident and Crash Data	14
6.	Work Zone Impact Assessment Report	16
	Qualitative Summary of Anticipated Work Zone Impacts	16
	Impacts Assessment of Alternative Project Design and Management Strategies	16
	Traffic Analysis Results	16
7.	Selected Work Zone Impacts Management Strategies.....	16
8.	TMP Monitoring During Construction.....	17

Figures

Figure 1. CCTV and Conduit Location Map3

Tables

Table 1. CCTV Work Roadway Impacts9
Table 2. Fiber/Conduit Work Roadway Impacts 15

Appendices

- Appendix A - Determination of a Significant Highway Project
- Appendix B - Construction Schedule
- Appendix C - Traffic Data Summary

1. Executive Summary

The purpose of this Transportation Management Plan (TMP) is to provide a safe and effective plan through the implementation of a set of coordinated transportation management strategies and a description of how the strategies will be used to manage work zone traffic impacts. AECOM has prepared the TMP in accordance with Hawaii Department of Transportation (HDOT) Standard Specifications, the Transportation Research Board's Highway Capacity Manual, the Federal Highway Administration's Rule on Work Zone Safety and Mobility and the Manual on Uniform Traffic Control Devices.

Suggested transportation management strategies for the project work zones include adoption of standard HDOT temporary traffic control measures and devices, public information/outreach, and operational strategies.

2. Introduction

This project specific Transportation Management Plan (TMP) has been developed to manage traffic operations associated with the construction of the closed-circuit television (CCTV) upgrades and conduit installation to occur along segments of the H-3, H-201, H-1 Freeways and Pali Highway. According to criteria in the “Determination of a Significant Highway Project” flow chart, this project is determined to be a Level 1 project. The TMP Level of Determination is included in **Appendix A**.

3. Roles and Responsibilities

TMP Manager:	To be determined
Author:	AECOM
Stakeholder Review Committee:	To be determined
TMP Monitor:	To be determined
Emergency Contact(s):	To be determined

4. Project Description

Project Background

The project includes the installation of five (5) new CCTV cameras and associated power and communication infrastructure, the replacement of seventy-two (72) existing cameras, including cameras located within the Tetsuo Harano tunnel along the H-3 Freeway, the installation of a cable and conduit on the shoulder of a short stretch of H-1 Freeway between Kalihi Street on-ramps and Houghtailing Street. Of the five new cameras, two (2) new CCTV camera locations are to be installed along H-3 Freeway and the other three (3) CCTV camera locations will be on Pali Highway (Route 61). The project also includes the installation of fiber optic cable along the length the H-3 Freeway beginning within interchange area of the H-201 Freeway and extending to the intersection of Kamehameha Highway 83.

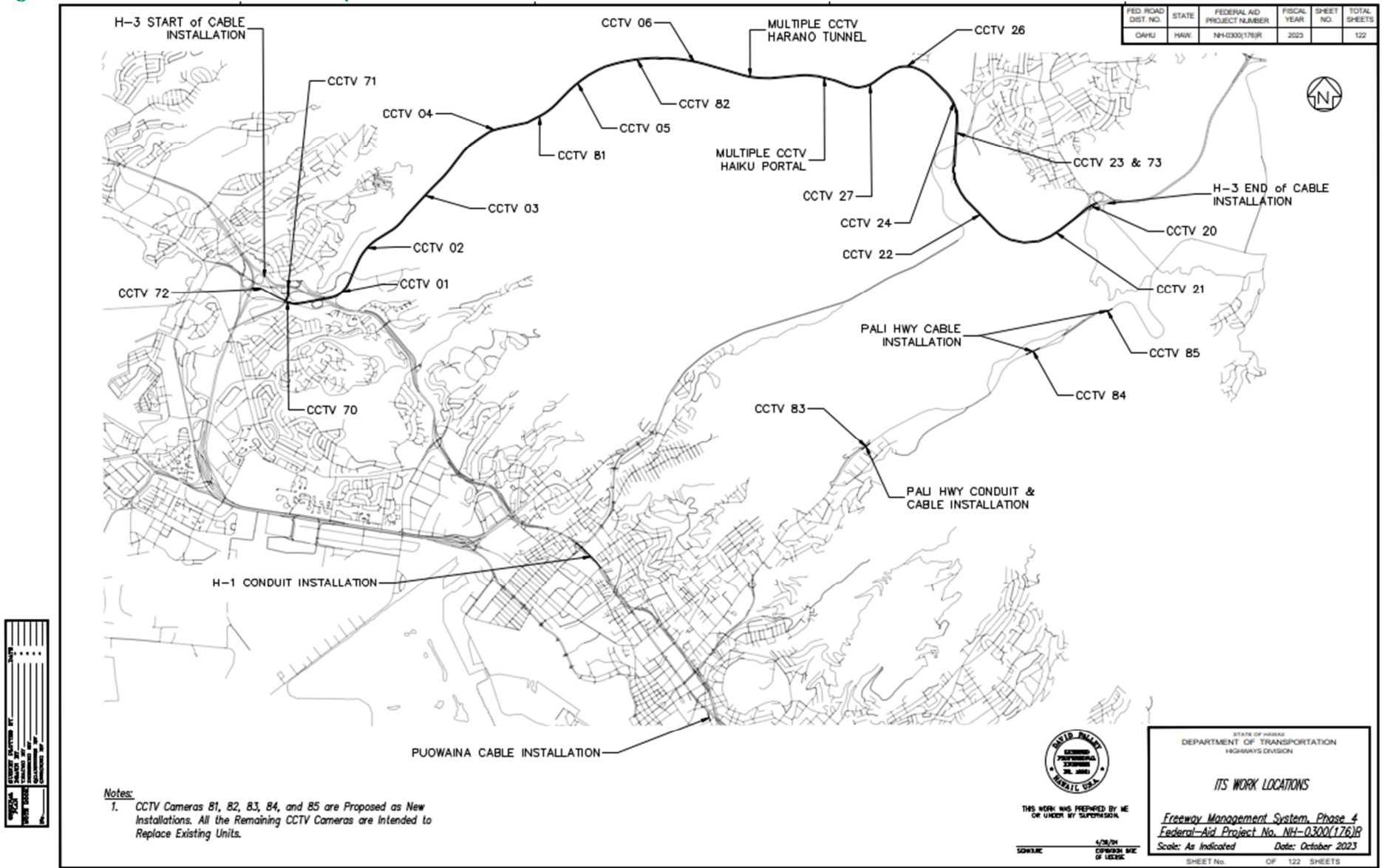
Project Type

This project is a Capital Improvement Program (CIP) using Federal Funds.

Project Area/ Corridor

The project involves the installation of CCTV cameras and conduit as shown in **Figure 1**.

Figure 1. CCTV and Conduit Location Map



Project Goals and Constraints

HDOT is upgrading and improving the operations of the current Freeway Management System (FMS) to improve the efficiency of current traffic operations on the Oahu freeways. The objectives of the proposed upgrades will enhance freeway operations to include:

- Monitoring the freeways so that incidents can be rapidly detected and be effectively managed
- Providing travelers with real time traffic information to aid decision making in using alternative traffic routes
- Reduce the impact and occurrence of recurring congestion on the freeways and approaches
- Minimize the duration and effects of non-recurring congestion on the freeways and approaches
- Maximize the operational efficiency for the traveling public while using the freeways
- Provide a means of aiding motorists who have encountered problems (crashes breakdowns confusion etc.) while traveling on the freeways
- Facilitate the effective utilization of the freeways by transit and HOV vehicles
- Enhance the coordination between transportation and emergency response agencies on the island

Proposed Construction Phasing/Staging

It is anticipated that the majority of the work for the CCTV cameras will occur within the existing shoulders and in the landscaped areas adjacent to the H-1 Freeway, H-3 Freeway, H-201 Freeway (Moanalua Freeway), and Pali Highway. During construction a combination of short-term and long-term lane closures will be required to support the necessary construction activities. Any necessary long-term lane closures will occur when the work requires more than the permitted 6 hours between the morning peak hour and evening peak hour traffic period (8:30 AM to 3:00 PM) or overnight (9:00 PM to 4:00 PM).

The fiber replacement and conduit installation along the Pali Highway, H-1 Freeway, H-3 Freeway, and H-201 Freeway installations will require the closure of the shoulder and the minor encroachment of a single travel lane. In addition, the work along these roads will involve installing cameras directly overhead. As such, short-term single lane closures along these freeways will need to occur concurrently to install the cameras. Some locations along the Pali Highway, H-3 Freeway, and H-201 Freeway installations will primarily be constructed outside of the travel way in adjacent grassed areas. In those situations, only shoulder closures will be required during non-peak period daytime working hours.

General Schedule and Timeline

This Project is expected to take approximately 12 months to complete. The construction schedule can be found in **Appendix B**.

Related Project Information

There are no known projects conflicting with this project.

5. Existing and Construction Conditions

Existing Roadway Characteristics

H-1 Freeway

The H-1 Freeway is an east-west, two-way, divided freeway. The project limits within H-1 Freeway will include the Kalihi Interchange between the Kalihi Street on-ramps and Houghtaling Street. The posted speed limit is 45 mph within the vicinity of the project.

H-3 Freeway (John A. Burns Freeway)

The H-3 Freeway is a north-south, two-way, divided freeway. The project limits within H-3 Freeway begin to the south near the H-1 Freeway westbound on-ramp from southbound H-3 Freeway and extend north to the interchange with Kamehameha Highway. Posted speed limits range from 45 to 60 mph within the vicinity of the project.

Pali Highway

The Pali Highway is a north-south, two-way, divided highway. The project limits within Pali Highway begin approximately 500 feet north of the Nu'uuanu Pali Tunnels and extend south to about 0.3 miles north of the intersection with Waokanaka Street and Nu'uuanu Pali Drive. This roadway serves as the main connection between Kailua to Honolulu. Posted speed limits range from 35 to 45 mph within the vicinity of the project.

H-201 Freeway (Moanalua Freeway)

The H-201 Freeway is an east-west, two-way, divided highway. The project limits within H-201 Freeway begin west near the westbound on-ramp from the H-1 Freeway and end east near the off-ramp to the northbound H-3 Freeway. Posted speed limit is 50 mph within the vicinity of the project.

Kahuapaani Street

Kahuapaani Street is a north-south, two-way, divided roadway. The project limits within Kahuapaani Street will include the eastbound on-ramp to the H-201 Freeway. Posted speed limit is 35 mph within the vicinity of the project.

Existing and Historical Traffic Data

24-hour ATR traffic count data was obtained from the online Traffic Data Map for the state of Hawaii provided by International Road Dynamics Inc. (www.hawaii-map.vi2m.irdinc.com) and not available for export.

Existing Traffic Operations

Special use HOV lanes are implemented within the project limits as described below.

H-201 Freeway (Moanalua Freeway)

The median lane in the eastbound direction is designated as an HOV lane starting at the off-ramp to H-3 Freeway southbound and ending before the off-ramp to Puuloa Road. The eastbound median lane operates as an HOV from 6:00 AM to 8:00 AM on weekdays, excluding holidays.

Construction Conditions

Traffic Predictions During Construction

The twenty-four-hour traffic count data obtained at the traffic count stations closest to the project sites were plotted by 15-minute increments. To minimize the impacts to motorists, a criterion was developed to determine when traffic volumes would be favorable to implement lane closures.

Most of the roadways in this report are classified as freeways. The following freeways are included in this study:

- H-1 Freeway (Lunalilo Freeway)
- H-3 Freeway (John A. Burns Freeway)
- Pali Highway (Route 61)
- H-201 Freeway (Moanalua Freeway)
- Kalihi Street/ Likelike Highway (Route 63)

For this type of facility, and for highways that operate similarly to freeways, the assessment criteria described in the Highway Capacity Manual (HCM) under the temporary short-term work zones section were used. The typical lane capacity is assumed to be 1,400 passenger cars per lane per hour (pc/ln/hr). The base value can be adjusted $\pm 10\%$ depending on the intensity of work activity, effects of heavy vehicles or the presence of ramps therefore, 1,300 pc/ln/hr was used as a threshold guideline at freeways to determine the most favorable work hours at each project site.

For the remaining roadway classifications, the criteria in the 2007 State of Hawaii Department of Transportation, Highways Division (HDOT), Transportation Management Plan Guidelines and the Work Zone Safety and Mobility Process was used. The document defines a significant project for HDOT is one where the existing traffic volume exceeds 1,000 pc/ln/hr during the normal working hours. Lane and shoulder closure recommendations are presented based on the available traffic data summarized in **Appendix C**.

CCTV Replacement

Each CCTV site will require the removal of an existing camera and associated equipment, and the installation of a camera, associated power and communication conduits onto existing camera poles or street light poles. Please refer to **Figure 1** for the CCTV location map. For a summary of the affected roadways and work hours see **Table 1**.

H-3 Freeway between H-1 Freeway interchange and Kamehameha Highway Interchange.

CCTV cameras will be replaced along both directions of the H-3 Freeway between the H-1 Freeway Interchange and the Kamehameha Highway Interchange.

Construction

Construction will take place during the day and will require a shoulder or lane closure along the H-3 Freeway. The most favorable work hours were determined to be on weekdays from 9:00 AM to 3:00 PM for the cameras to be replaced in the H-3 Traffic Operation Center (TOC), Maintenance Tunnels, and Maintenance and Operations (M+O) Buildings, and 8:30 AM to 3:00 PM for the remaining camera replacements along the H-3 Freeway.

CCTV Installation

Each CCTV site will require the installation of a camera, associated power and communication conduits onto existing street light poles. Please refer to **Figure 1** for the CCTV location map. For a summary of the affected roadways and work hours see **Table 1**.

Pali Highway between Waokanaka Street and Nu'uaniu Pali Drive

This CCTV camera will be installed along the northbound direction on the Pali Highway between the intersection with Waokanaka Street and Nuuanu Pali Drive approximately 2,600 feet north of the intersection with Waokanaka Street.

Construction

Construction will take place during the day and may only require a single lane closure along the Pali Highway in the northbound direction. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

Pali Highway between Pali Lookout Exit and the Nu'uaniu Pali Tunnels

This CCTV camera will be installed in the median landscaped area along the Pali Highway between the Pali Lookout Exit and the Nu'uaniu Pali Tunnels approximately 275 feet north of the off-ramp.

Construction

Construction will take place during the day and will require a shoulder closure along the Pali Highway in the northbound direction. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

Pali Highway at Nu'uaniu Pali Tunnel north entrance

This CCTV camera will be installed in the median landscaped area along the Pali Highway between the Nu'uaniu Pali Tunnels and the scenic point along Pali Highway.

Construction

Construction will take place during the day and will require a shoulder closure along the Pali Highway in the northbound direction. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

H-3 Freeway between South Halawa Valley CCTV #4 and Halawa Valley CCTV #5

This CCTV camera will be installed along the northbound direction on the H-3 Freeway between the Halawa Interchange and the Tetsuo Harano Tunnels approximately 5,500 feet (1.04 miles) south of the tunnel.

Construction

Construction will take place during the day and will require a shoulder closure along the H-3 Freeway in the northbound direction. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

H-3 Freeway between Halawa Valley CCTV #5 and Halawa Approach CCTV #6

This CCTV camera will be installed along the northbound direction on the H-3 Freeway between the Halawa Interchange and the Tetsuo Harano Tunnels approximately 9,900 feet (1.88 miles) south of the tunnel.

Construction

Construction will take place during the day and will require a shoulder closure along the H-3 Freeway in the northbound direction. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

Table 1. CCTV Work Roadway Impacts

Location	CCTV #	Affected Road	Affected Direction	Lanes Open (no construction)	Lanes Open (with construction)	Roadway Impact	Time	Closure Duration	Type of Work
H-201 at Kahuapani Street Interchange	71	H-201	EB	4	4	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
Pali Highway between Waokanaka Street and Nu'uaniu Pali Tunnel	83	Pali Highway	NB	3	2	One lane closure	8:30 AM to 3:00 PM	5	camera, power and communication
	84	Pali Highway	NB/SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	85	Pali Highway	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
H-3 Freeway between H-1 Freeway Interchange and Kamehameha Highway	81	H-3	NB	2	1	Shoulder closure and/or one lane closure	8:30 AM to 3:00 PM	5	camera, power and communication
	82	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	72	H-3 ramp	SB	1	1	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	70	H-3 ramp	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	1	H-3 ramp	NB	1	1	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	2	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	3	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	4	H-3	NB/SB	2	1	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	5	H-3	NB	2	1	Shoulder closure and/or one lane closure	8:30 AM to 3:00 PM	5	camera, power and communication
	6	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	7	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
	41	H-3 TOC	-	-	-	-	-	9:00 AM to 3:00 PM	n/a

74	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
56	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
56A	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
57	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
50	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
51	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
52	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
53	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
9	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
55	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
59	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
8	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
10	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
42	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
58	H-3 TOC	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
40	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
60	H-3 service building	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
61	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
11	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
39	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication

38	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
62	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
12	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
37	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
63	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
13	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
14	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
64	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
36	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
35	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
15	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
65	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
16	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
66	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
34	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
17	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
67	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
33	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
18	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
68	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
32	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication

31	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
69	H-3 Maint. Tunnel	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
19	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
30	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
29	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
54	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
53	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
52	H-3 M+O	-	-	-	-	9:00 AM to 3:00 PM	3	camera, power and communication
51	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
50	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
28	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
27	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
26	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
25	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
24	H-3	SB	2	1	One lane closure	8:30 AM to 3:00 PM	5	camera, power and communication
23	H-3	SB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
73	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
22	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
21	H-3	NB	2	2	Shoulder closure	8:30 AM to 3:00 PM	5	camera, power and communication
20	H-3	SB	2	1	One lane closure	8:30 AM to 3:00 PM	5	camera, power and communication

Fiber and Conduit Installation

The conduit installation sites will require trenching, backfilling, and restoring back to existing conditions unless noted otherwise. Fiber installation for much of the project is within existing conduits which will not require additional conduit or trench installation. Please refer to **Figure 1** for the conduit location. For a summary of the affected roadways and work hours, see **Table 2**.

H-1 Freeway between Kalihi Street Interchange and Houghtailing Street intersection

New conduits will be installed in the grass area between the Kalihi Street ramps of the westbound side of the H-1 Freeway. At that point, the conduit will cross over the westbound Likelike Off-ramp through existing LPR conduits, and connect to a new structure mounted pull box on the northwest corner of the Kalihi Street overpass. At the end of the wall, new conduit will be installed under the shoulder until it can be transitioned to the grass alongside Houghtailing Street. Fiber optic cables will then need to be pulled and terminated in the cabinets on either side of the new conduit.

Construction

Construction at Kalihi Interchange will require night work since the installation will cross over traffic within the interchange. The work will require the closure of the westbound shoulder and part of the off-ramp lane approximately 500 feet from the offramp gore and attenuators. From there the drop lane will also be closed to facilitate trench work. The most favorable work hours were determined to be on weekdays from 9:00 PM to 4:00 AM.

H-1 Freeway at Puowaina CCTV near Alapai Street pedestrian bridge.

Fiber optic cables will be pulled within existing conduits connecting the camera pole in the grass area along the H-1 Freeway eastbound on-ramp to the Honolulu Traffic Management Center.

Construction

Fiber optic cables will be pulled along the eastbound shoulder of the H-1 Freeway on-ramp and will require the closure of the shoulder only for access vehicle. The most favorable work hours were determined to be on weekdays from 9:30 AM to 3:00 PM.

H-3 Freeway between H-1 Freeway interchange and Kamehameha Highway Interchange.

Fiber optic cables will be pulled within existing conduits connecting the CCTV cameras and communication devices on the shoulder and in the grass median along both directions of the H-3 Freeway.

Construction

Fiber optic cables will be pulled along the entirety of the H-3 Freeway within project limits between all existing communication junction boxes. This work will require the closure of the shoulder. A single lane closure may be necessary in sections with a narrower shoulder. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

H-201 Freeway between H-1 Freeway interchange and H-3 Freeway Interchange.

Fiber optic cables will be pulled within existing conduits connecting the CCTV cameras and communication devices on the shoulder and in grass areas along eastbound H-201 Freeway (Moanalua Freeway).

Construction

Fiber optic cables will be pulled along the entirety of the H-3 Freeway within project limits in approximately 500- to 1000-foot-long sections and will require the closure of the shoulder. The most favorable work hours were determined to be on weekdays from 8:30 AM to 3:00 PM.

Incident and Crash Data

Crash analysis was not performed for this work because no long-term traffic control is required for proposed construction. Only short-term traffic control during off-peak periods is proposed.

Table 2. Fiber/Conduit Work Roadway Impacts

Location	Affected Road	Affected Direction	Lanes Open (no construction)	Lanes Open (with construction)	Roadway Impact	Time	Work Hours	Type of Work
500-foot-long sections on H-3 Freeway between H-1 Freeway ramps and Kamehameha Highway interchange	H-3	NB/SB	2	1	Shoulder closure and/or one lane closure	8:30 AM to 3:00 PM	7.5	cable installation
500-foot-long sections on H-201 Freeway between H-1 Freeway interchange and H-3 freeway interchange	H-201	EB	3	2	Shoulder closure and/or one lane closure	8:30 AM to 3:00 PM	7.5	cable installation
H-1 Freeway at Alapai Street pedestrian bridge	H-1 EB On-ramp	EB	2	2	Shoulder closure	9:30 AM to 3:00 PM	5	cable installation
H-1 Freeway between Kalihi Interchange and Houghtailing Street intersection	H-1	WB	5	4	Shoulder closure and/or one lane closure	9:00 PM to 4:00 AM	8	conduit installation

6. Work Zone Impact Assessment Report

Work zone traffic control used for this project is specified in the Plans and referenced in Section 645 of the Special Provisions. Penalties to the Contractor for non-compliance are outlined in Section 108 of the Special Provisions.

Qualitative Summary of Anticipated Work Zone Impacts

Should typical work zone traffic control occur during the commuter peak periods, significant delays to motorists would be anticipated. Therefore, traffic control will be implemented during the mid-day off peak periods or night to early morning periods prior to the AM peak period.

Impacts Assessment of Alternative Project Design and Management Strategies

Typical work zone traffic control will occur during mid-day off-peak periods or nights to early morning periods prior to the AM peak period to minimize impacts to commuters; traffic control will generally be set up and dismantled in a single day as described in the Plans and Special Provisions.

Traffic Analysis Results

The analysis is based on past experience and analysis of 24-hour traffic patterns against expected per-lane capacity from HCM. This methodology is selected because work zones will be limited to discreet portions of the project area at any given time, and work zones will not be active for longer periods than the following: The standard construction day work hours are 8:30 AM to 3:00 PM or 9:00 PM to 4:00 AM per Section 645, Section F. The day work hours were further adjusted to coincide when traffic volumes are lower.

7. Selected Work Zone Impacts Management Strategies

Temporary Traffic Control (TTC) Strategies

Traffic control elements are described in the Plans and in Section 645 of the Special Provisions. The closure schedule in the Traffic Predictions During Construction Section are meant for recurring travel patterns as it is recognized that fluctuations in traffic pattern will occur due to various non-recurring causes. The schedule in Tables 1 and 2 will be modified should congestion occur at the beginning or at the end of the time period in 1/2 hour increments.

Public Information

All public information will be handled by the Public Affairs Office, Construction Engineer (HWY-OC). Section 645 of the Standard Specifications outlines public information practices required for the project.

Transportation Operations

Applicable Work Zone Safety Management Strategies will be implemented during construction, including use of advisory speed limits and traffic control devices in accordance with MUTCD guidelines and as indicated in the plans and Section 645 of the Special Provisions.

8. TMP Monitoring During Construction

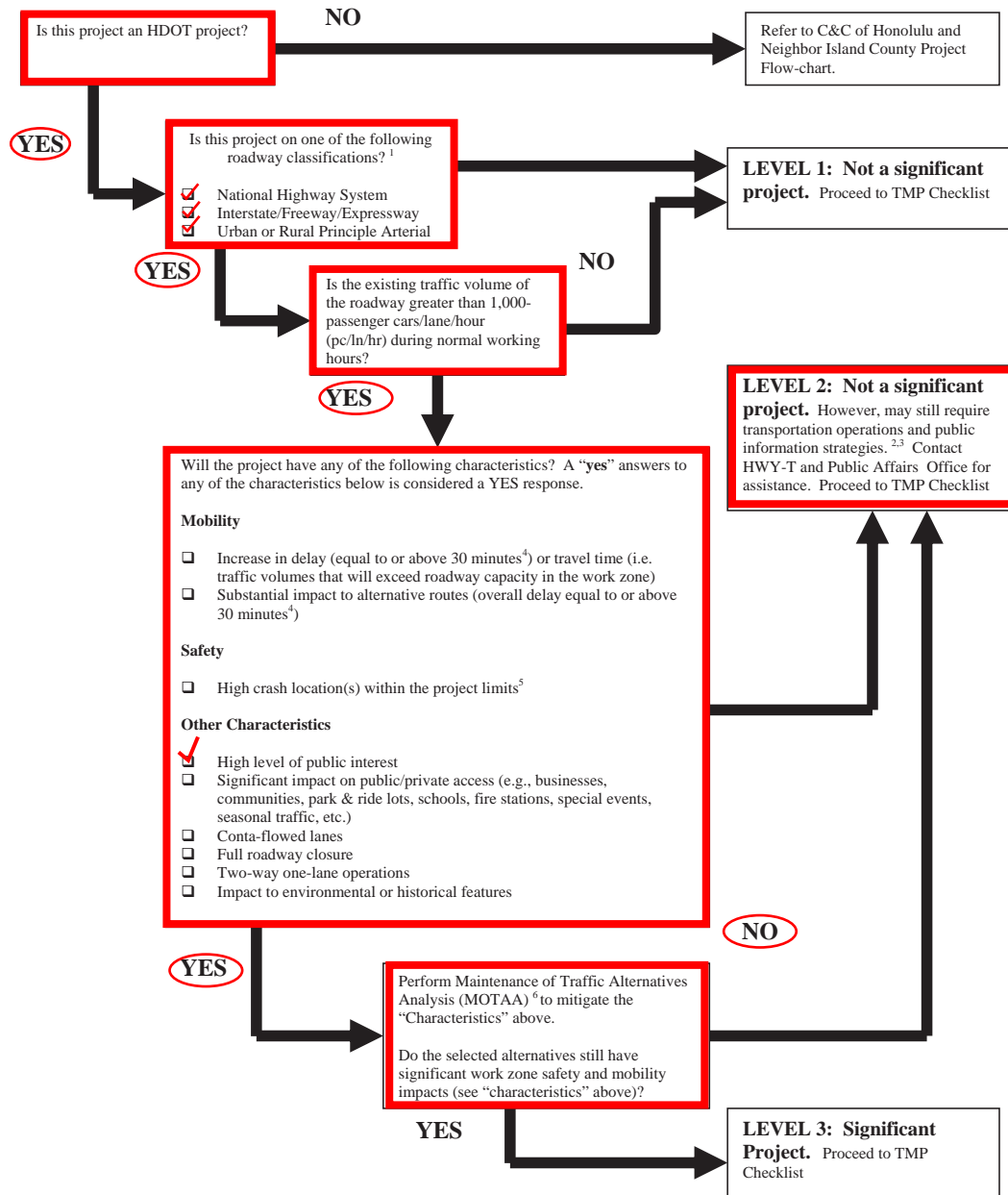
Evaluation Report of Failures of TMP

A request will be made of HWY-OC to implement and track the effectiveness of the TMP, for future use by other projects.

Appendix A:
Determination of a Significant Highway Project

DETERMINATION OF A SIGNIFICANT HIGHWAY PROJECT

Hawaii Department of Transportation Projects



Notes:

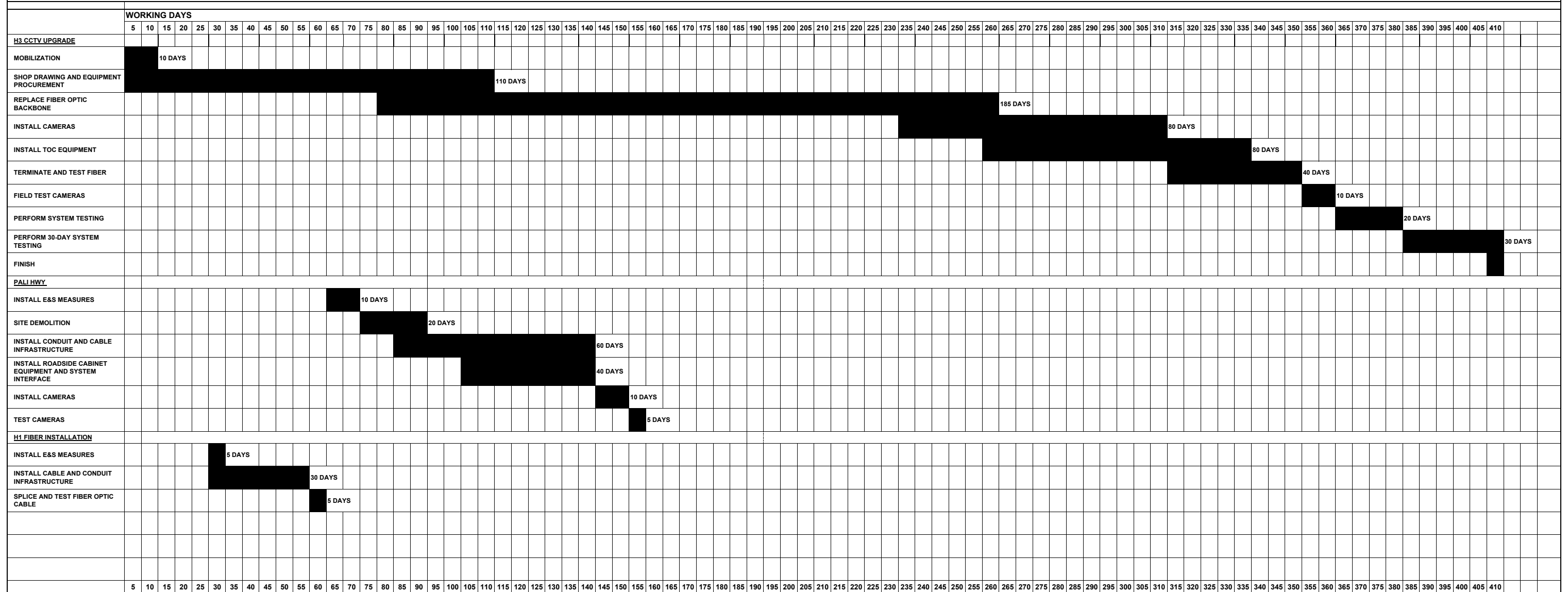
1. Roadway classification can be found on the Straight Line Diagram or contact HWY-P
 2. Some projects may not fall under the Significant Project definition, but may still benefit from transportation operations and/or public information strategies. For example, projects that impact a moderated number of travelers with moderated public interest, such as single lane closures in urban areas or commercial business districts. The preparation of a TMP should be considered for these types of projects.
 3. A project in the Interstate system that are within the boundaries of a designated Transportation Management Area (TMA) and occupies a location for more than three days with either intermittent or continuous lane closures will require the submittal of an exception request. Contact the Traffic Branch to determine if your project is within a TMA.
 4. Reference CalTrans Transportation Management Plan Guidelines, June 11, 2001.
 5. High crash locations are determined by requesting a crash analysis for the segment of roadway or intersection within the project limits. HWY-T should be contacted to perform the crash analysis.
 6. The Maintenance of Traffic Alternatives Analysis (MOTAA) is intended to develop and evaluate the best combination of construction phasing/staging, project design options, temporary traffic control, transportation operations strategies, public information, and outreach strategies. The MOTAA should be conducted during analysis of detailed alternatives, before each final alternative is selected to proceed to design. Each alternative's ability to conform to the Work Zone Mobility Process should be reviewed at this stage.
- Guidance on performing a MOTAA can be obtained from the HDOT - Design Branch or the Traffic Branch.

Appendix B:
Construction Schedule

WORKING DAYS CONSTRUTION BAR CHART

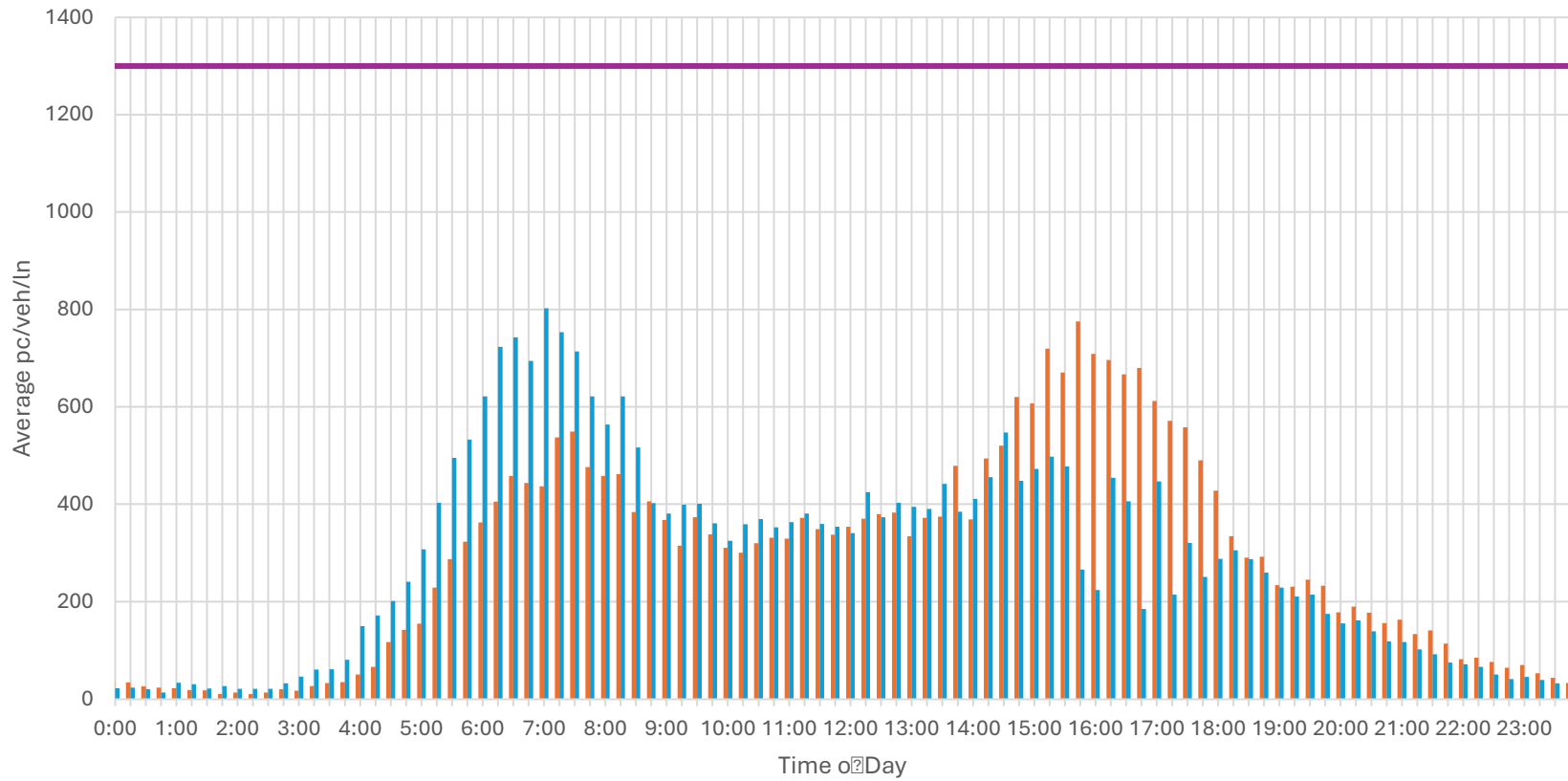
PROJECT: HDOT FMS PHASE 4
ISLAND OF OAHU

PROJECT NO. : FEDERAL AID PROJECT NO. NH-0300(176)R



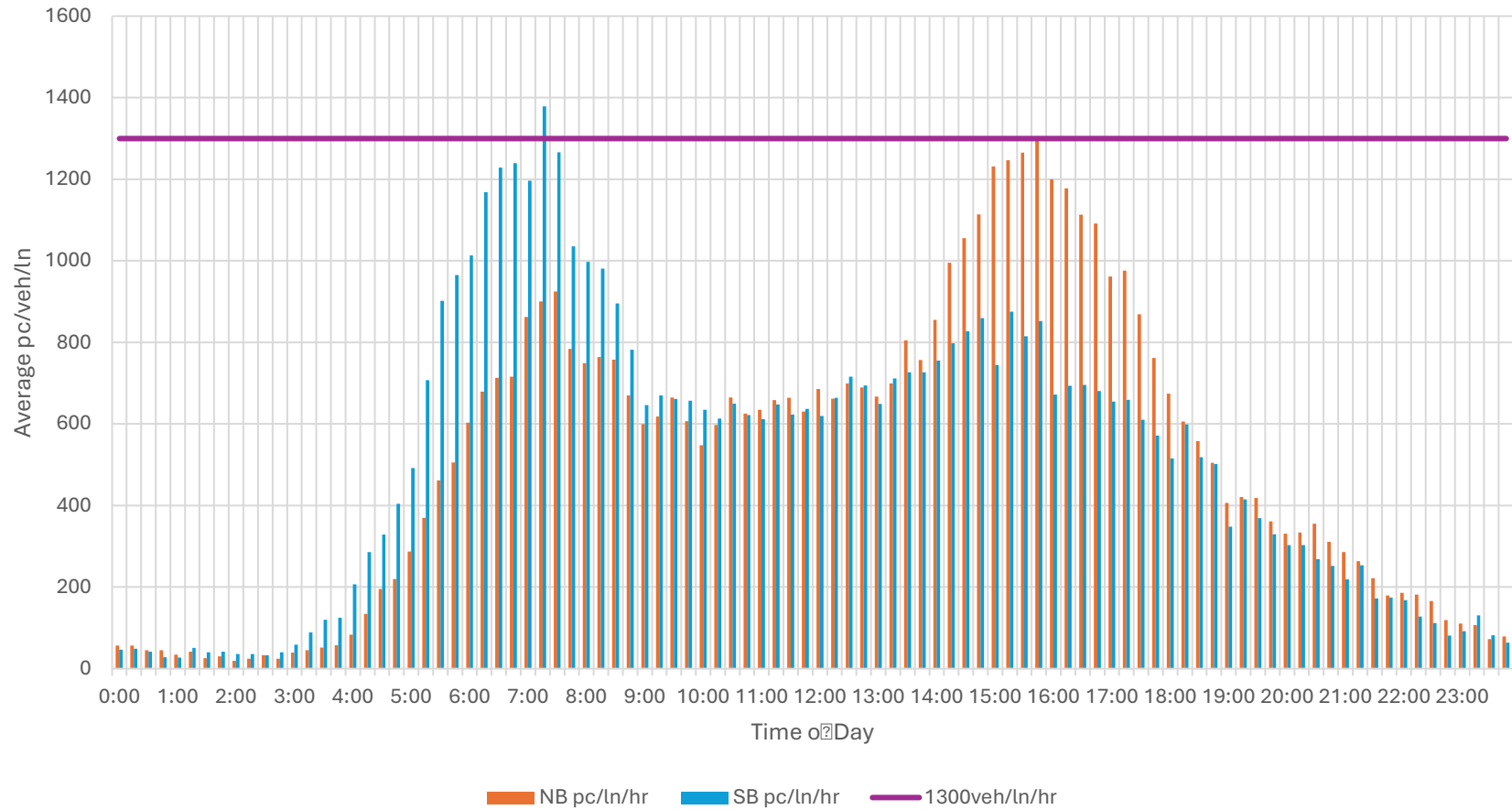
Appendix C:
Traffic Data Summary

H-3 Near Kaneohe Interchange 15-minute Interval pc/ln/hr Equivalentts

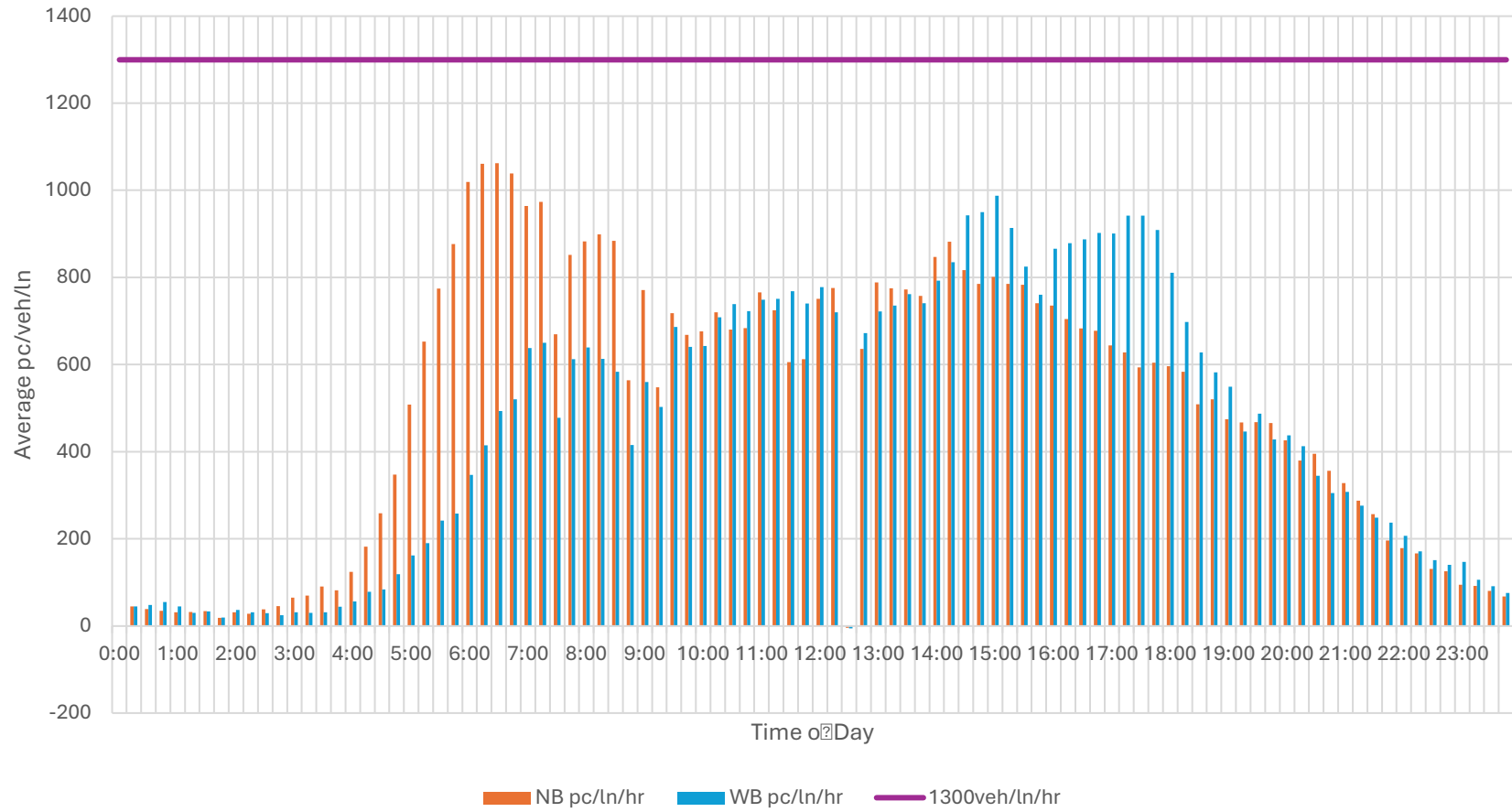


Average NB pc/ln/hr Average SB pc/ln/hr 1300 veh/ln/hr

H-3 Near Halekou Interchange 15-minute Interval pc/ln/hr Equivalentents

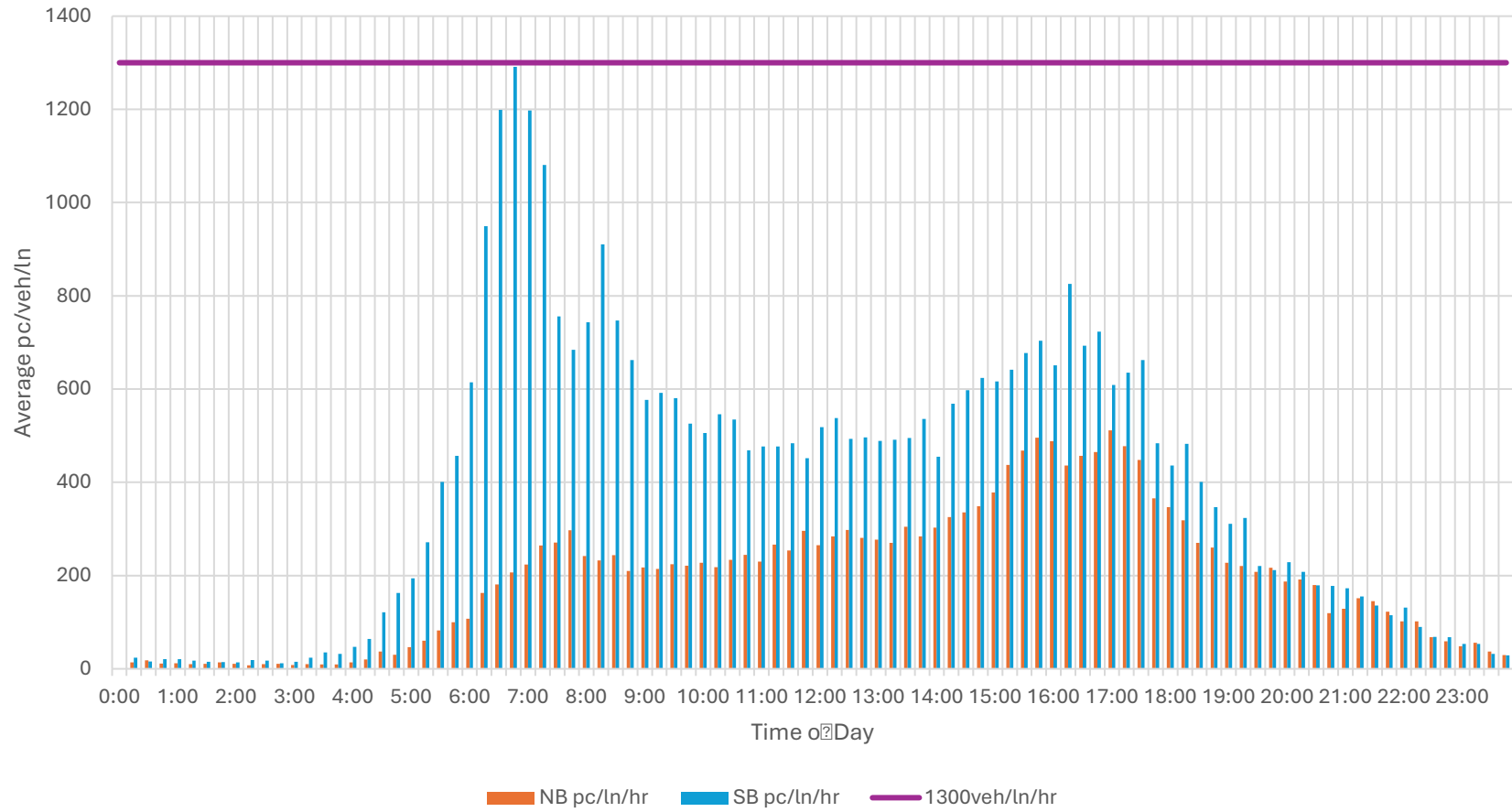


H-201 Near H-1 15-minute Interval pc/ln/hr Equivalentents



Pali Highway Near Tunnels

15-minute Interval pc/ln/hr Equivalentents



H-1 near Likelike Interchange 15-minute Interval pc/ln/hr Equivalentts

