Aloha

Welcome to the Hawaii Department of Transportation's

Community Informational Meeting

for the Master Plan Update for

Ellison Onizuka Kona International Airport at Keahole (KOA)

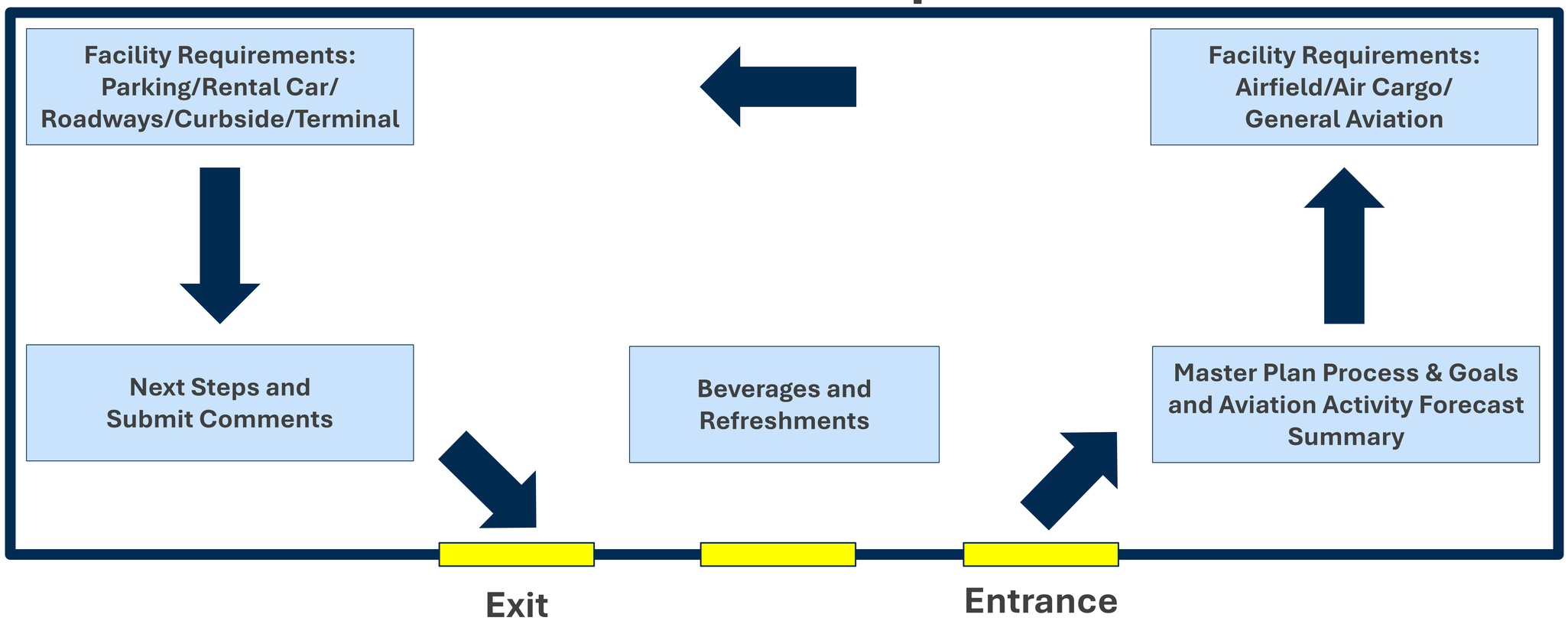
Ellison Onizuka Kona International Airport at Keahole

Master Plan Update

Instructions

Please sign in and proceed inside to learn about KOA's master plan update.

Exhibit Map



Scan the QR code to visit our project website!

Ellison Onizuka Kona International Airport at Keahole

Master Plan Update

Master Plan Process

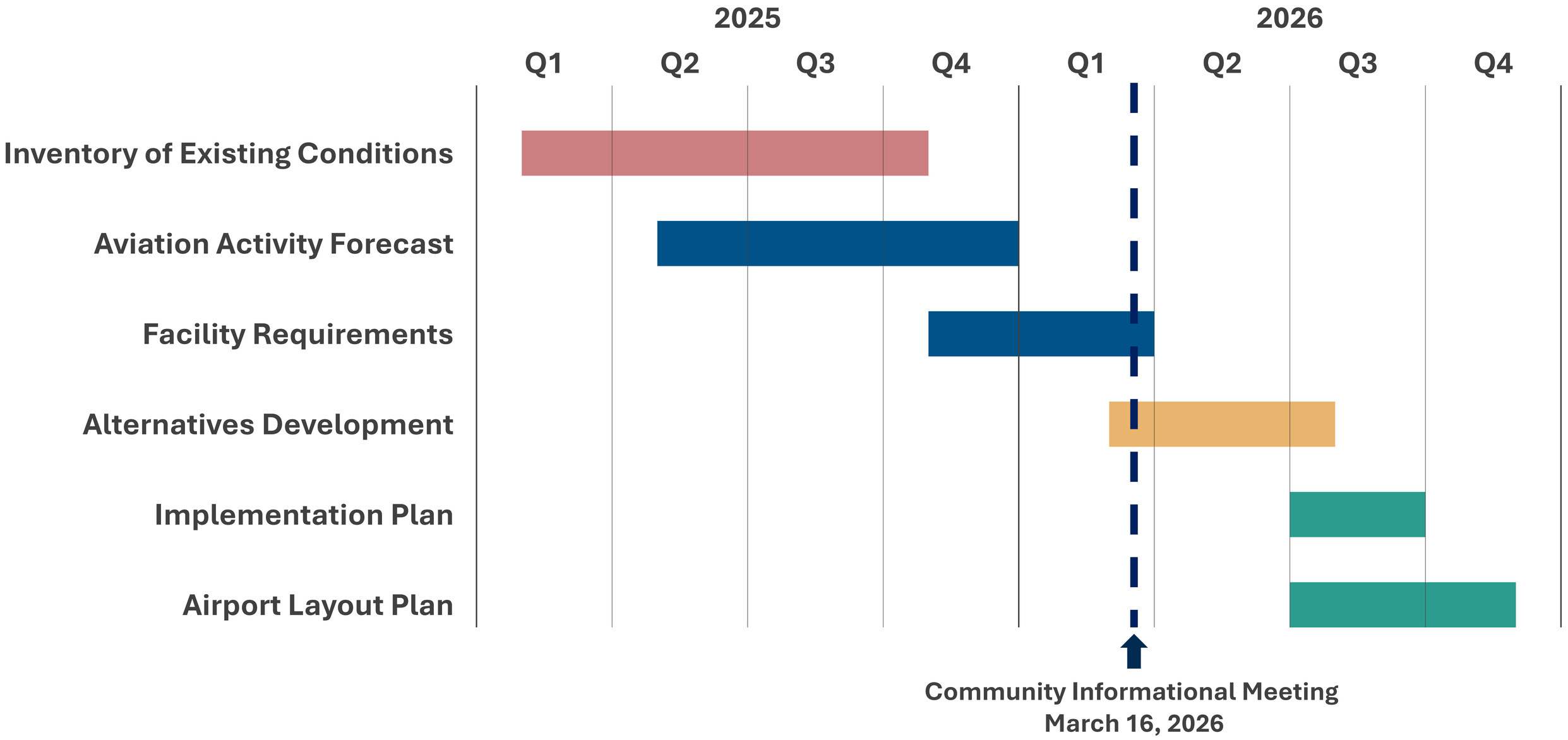
Inventory of Existing Conditions → Inventory and document existing airport facilities and operations to establish accurate baseline conditions

Forecast and Facility Requirements → Analyze projected growth in passengers, cargo, and aircraft operations to determine the types and sizes of facilities needed for future demand

Alternatives Development and Evaluation → Develop and compare multiple development alternatives to identify the most effective solution based on safety, cost, environmental impact, and community needs

Implementation Plan and Airport Layout Plan → An outline of a phased approach for constructing improvements to reflect the airport's long-term vision and ensure FAA compliance

Master Plan Schedule



Master Plan Goals

Develop strategies to enhance airfield safety and improve landside connectivity

Expand and modernize terminal facilities to accommodate projected air service demand while preserving Kona's sense of place

Maximize land use potential through strategic non-aeronautical development that drives sustainable revenue growth

Enhance airport infrastructure to improve readiness and response capabilities for weather disruptions

Develop a phased and feasible approach for master plan projects that allow flexibility for adjustments based on future growth projections

Engage with neighboring communities to ensure that the master plan supplements the Kona Community Development Plan

What is an Aviation Activity Forecast?

An aviation activity forecast estimates how many passengers, cargo tonnages, and aircraft operations (takeoffs and landings) the airport might see in the future. Key components of an aviation activity forecast include:

Passenger Enplanements

Air Cargo Tonnage

Aircraft Operations

Based Aircraft

What is the Purpose of a Forecast?

- **Plan for Future Demand:** Identify future airfield, terminal, and landside facility needs as part of the Master Plan Update
- **Submit Forecast to FAA for Approval:** As part of the Master Plan Update, the forecast is a critical component that requires formal approval by the Federal Aviation Administration (FAA)

The FAA has approved the aviation activity forecast, which was used to help determine the facility needs for the Master Plan Update.

Forecast of KOA Scheduled Passengers

Passenger demand is closely tied to the economy and how easy and affordable it is to fly. Since most domestic travelers to KOA are visitors from the U.S. mainland, national economic trends play a big role. For international travelers, exchange rates often influence how many visitors come to KOA and other U.S. destinations.

Domestic Travel Influences:

Airline Service

U.S. Economic Conditions

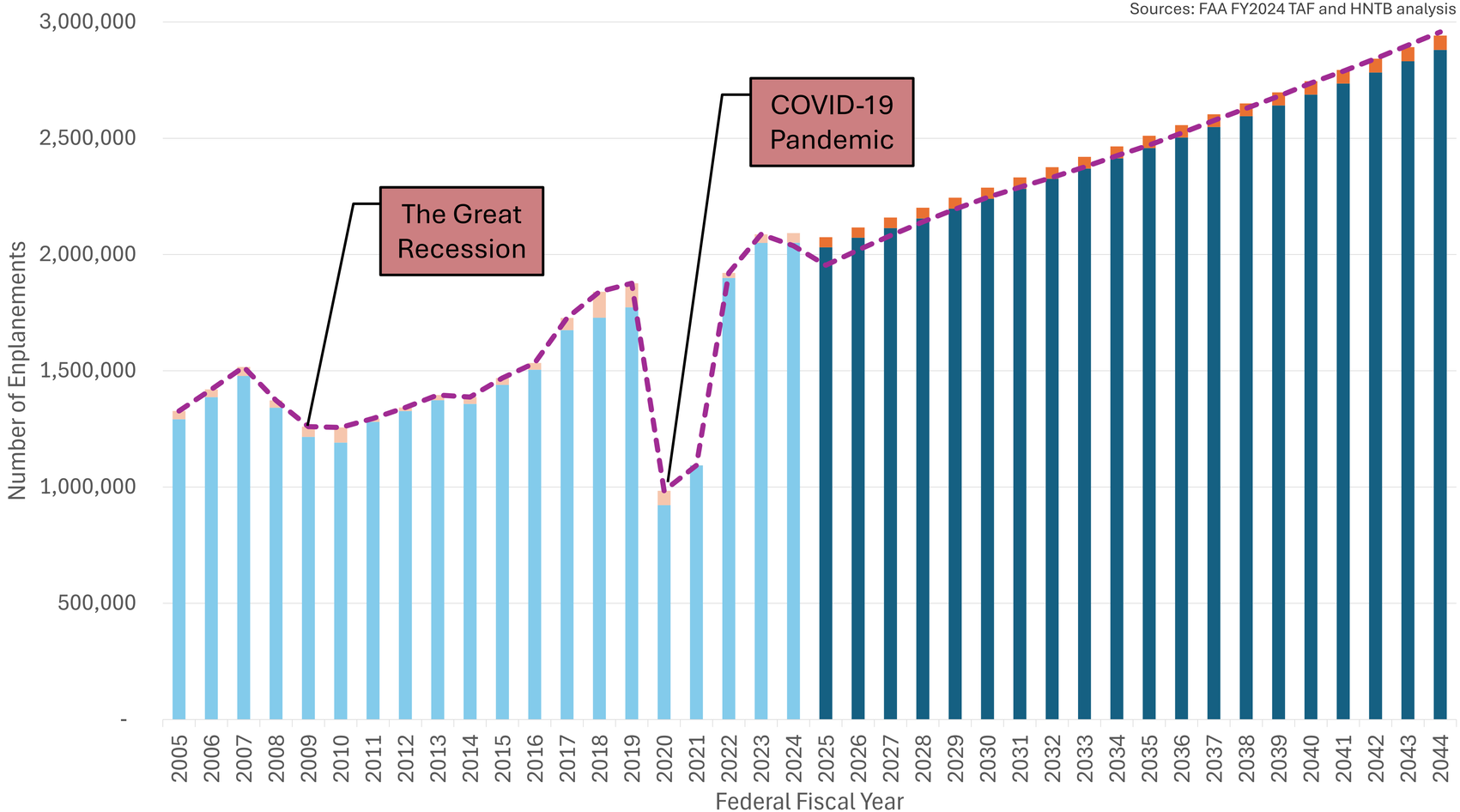
International Travel Influences:

Airline Service

Currency Exchange Rates

Forecasting enables KOA to plan and develop the appropriate facilities to accommodate projected demand.

Sources: FAA FY2024 TAF and HNTB analysis

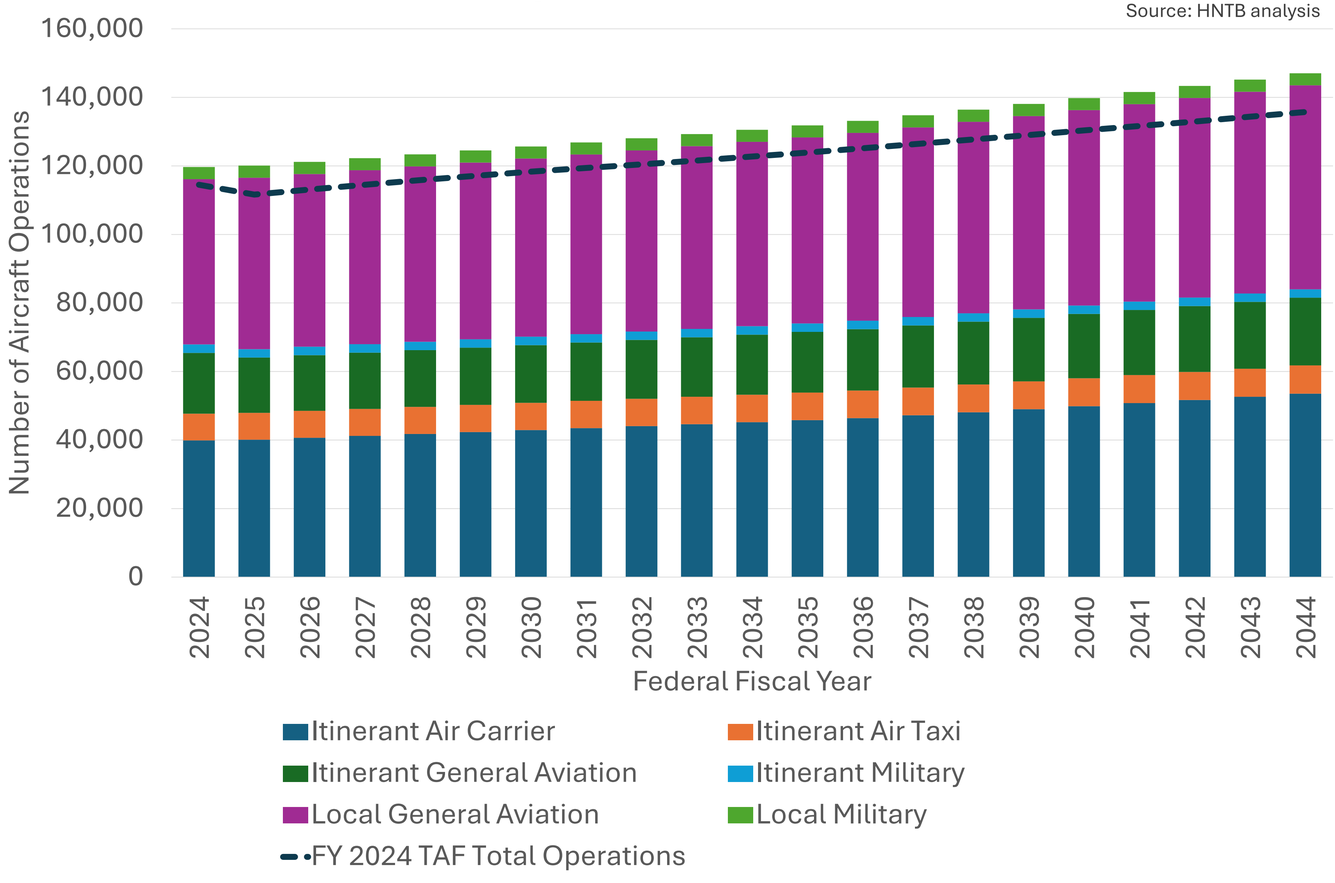


Forecast of KOA Aircraft Operations and Based Aircraft

Aircraft operations include different types of flights, such as commercial passenger airlines, cargo carriers, small air taxis, general aviation aircraft, and military flights.

KOA Operations Forecast

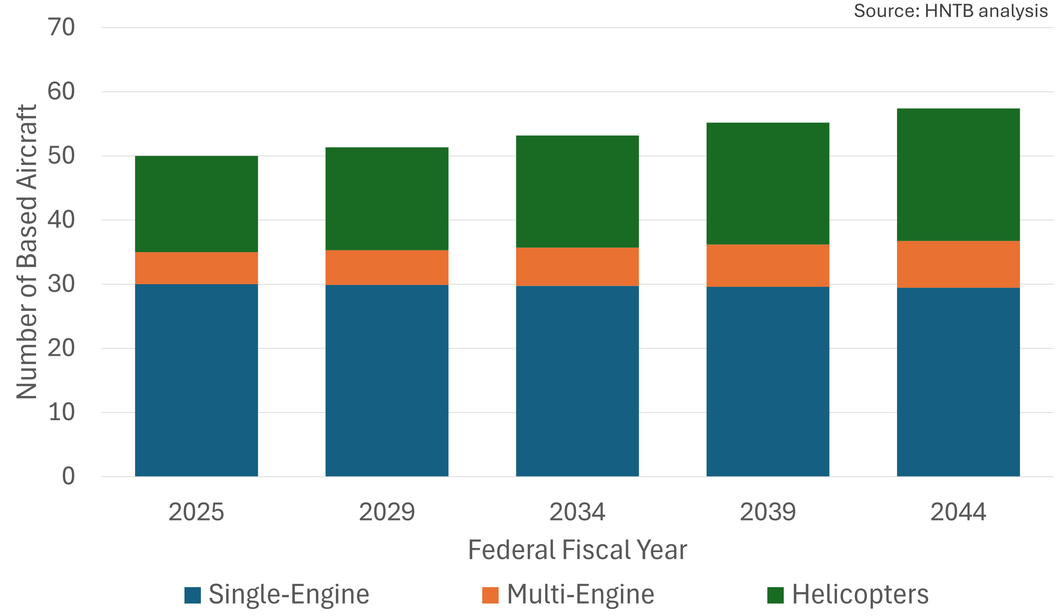
Source: HNTB analysis



A based aircraft is an aircraft that is kept at KOA and used regularly throughout the year.

KOA Based Aircraft Forecast

Source: HNTB analysis



Single-Engine

Multi-Engine

Helicopters

Key Terms

Itinerant Air Carrier: Flights between airports using large aircraft (over 60 seats or more than 18,000 pounds) to carry passengers or cargo for hire, including U.S. and foreign airlines.

Itinerant Air Taxi: Flights between airports using small aircraft (60 seats or less, or under 18,000 pounds) to carry passengers or cargo for hire.

Itinerant General Aviation: Flights between airports by civil aircraft that are not air carriers or air taxis.

Local Operations: Flights that stay near the airport, including training flights, or trips within 20 miles of the same airport.

TAF: The Terminal Area Forecast (TAF) is the official FAA forecast of aviation activity for U.S. airports.

Airfield Requirements

Critical Aircraft

Per FAA Advisory Circular (AC) 150/5000-17, the **critical aircraft** is the largest or most demanding aircraft type that conducts more than 500 annual operations at the airport. An operation is defined as a takeoff or a landing.

Existing: B777-200

Photo Source: Airchive.com

Future: B787-9

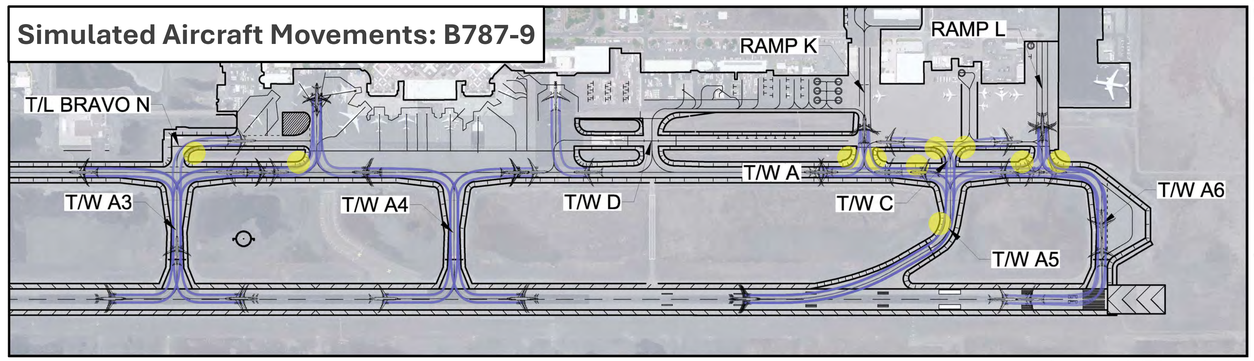
Photo Source: Airchive.com

The **Runway Object Free Area (ROFA)** is an area around the runway that is kept clear of objects to enhance airfield safety.

Objects located within the **Runway 17-35 ROFA** result in a non-standard condition. All other safety surfaces analyzed are compliant.

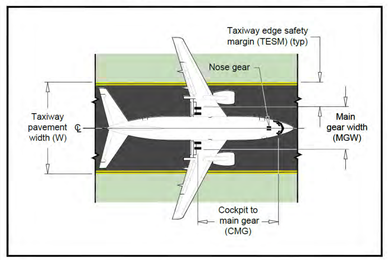
Taxiway Edge Safety Margin Gap Analysis

Taxiway Edge Safety Margin (TESM) is the space between an airplane's outer wheel and the edge of the taxiway when the airplane is centered on the taxiway.



Source: HNTB analysis

Figure 4-4. Taxiway Edge Safety Margin (TESM) – Straight Segment

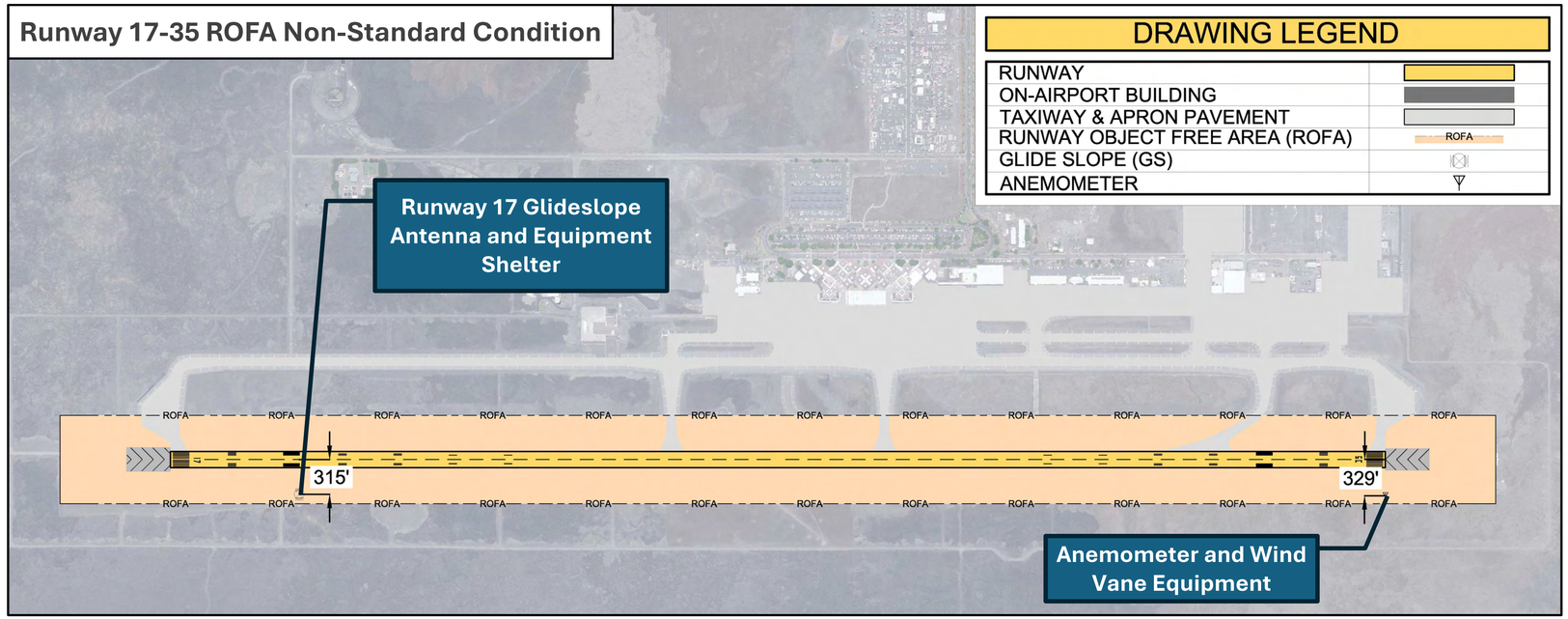


Source: FAA AC 150/5300-13B, Change 1

Legend

TESM (14')

TESM Deficiency



Source: HNTB analysis

Airfield Requirements

Hot Spots

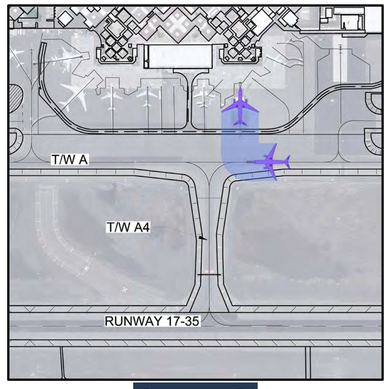
A **Hot Spot** is a location on the airfield with a potential risk of safety incidents and requires heightened attention by pilots and drivers.

Hot Spots	FAA Published Description
1	Extensive helicopter operations on Taxiway A abeam Ramp K
2	Extensive helicopter operations on Taxiway A south of Taxiway A5

Non-Standard Airfield Geometry

Taxiways A4 and A5 have non-standard geometry that allows direct apron-to-runway access, increasing the risk of runway incursions. A **proper apron-taxiway transition** (figure on the right) or **operational measures** (figures below) could mitigate this risk.

Operational Measures for Direct Access Mitigation

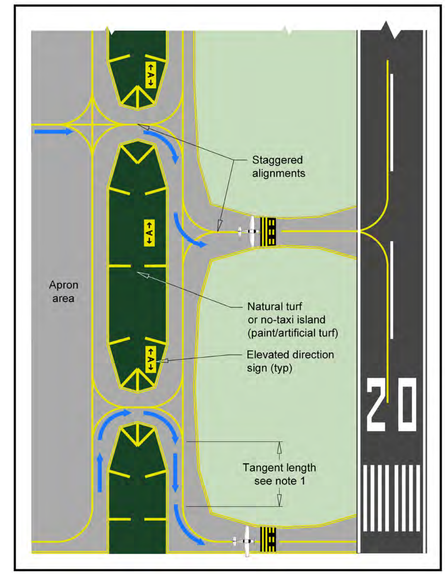


Inset A

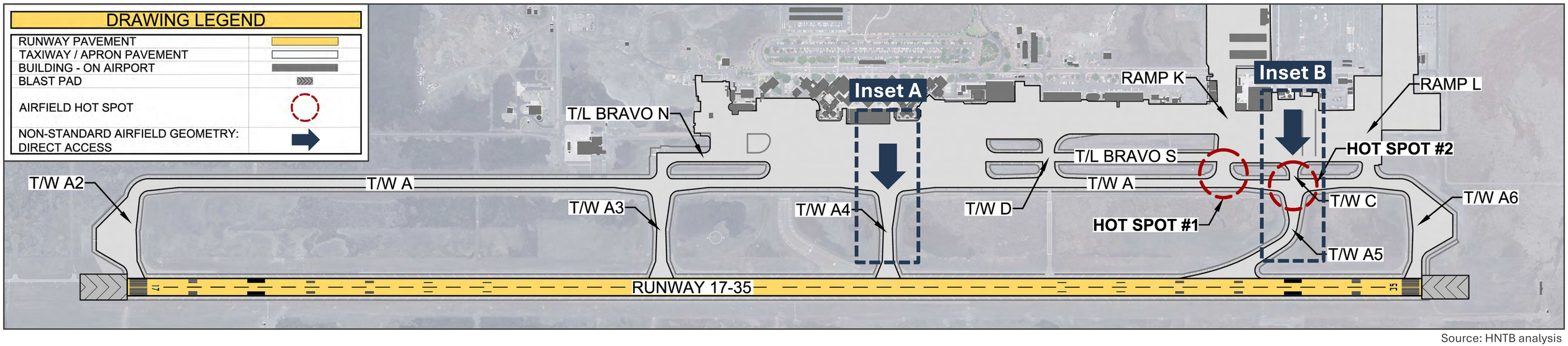
Inset B

Source: HNTB analysis

Proper Apron-Taxiway Transition



Source: FAA AC 150/5300-13B, Change 1



Source: HNTB analysis

Second Runway Focus Study

Background

- Runway 17-35 is the **only runway at KOA**.
- In 2024, cracks in the runway caused **multiple disruptions and temporary airport closures**.
- The 2025-2026 Runway 17-35 Rehabilitation Project required **complex construction phasing**.

Importance of KOA

- KOA is **Hawaii's second international gateway** into the State.
- The airport **brings in visitors, residents, essential supplies, and cargo to West Hawaii** – including the Kona and Kohala Coast.

Beyond capacity, the study evaluates how a second runway could improve safety and resiliency and reduce environmental impacts.

Annual Aircraft Operational Capacity

- **Annual Service Volume (ASV) estimates how many flights the airport can handle each year**.
- It accounts for aircraft type, runway layout, and weather.
- **Reaching 60% of that level is an early planning signal** that capacity improvements may be needed.

	2024	2029	2034	2044
Calculated ASV	176,440	190,954	193,979	199,450
60% ASV	105,864	114,573	116,387	119,670
Annual Operations Forecast (Excluding Helicopters)	108,251	111,909	116,641	130,090

Source: HNTB analysis

Safety-Enhancing Benefits

- KOA serves **many different types of aircraft** – commercial airlines, small private planes, cargo, and military flights.
- These aircraft **operate at different speeds and have different needs**.
- A second runway could **improve safety by allowing better separation of aircraft**.

Single-Engine

Multi-Engine

Jet

Heavy Jet

Air Cargo & General Aviation Requirements

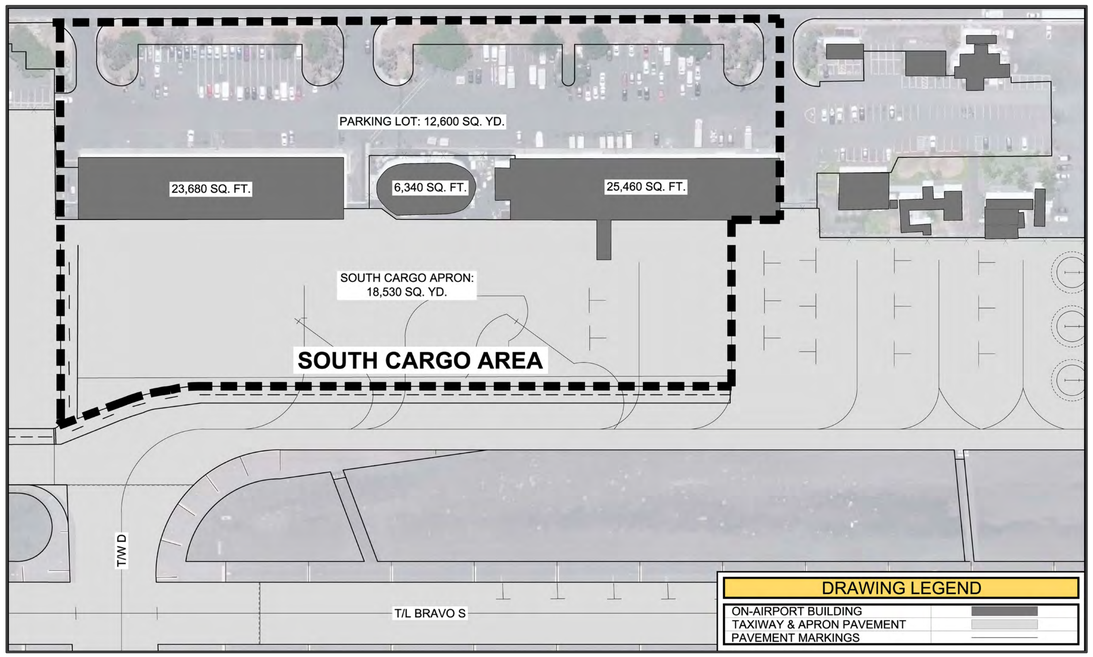
Air Cargo

- **Air cargo facility requirements** are based on the annual tonnage forecast in the aviation activity forecast.

	Existing Inventory	2024 Requirement	2029 Requirement	2034 Requirement	2044 Requirement
Apron + Ground Service Equipment (GSE) Storage					
Area (SY) *	18,530	48,900	54,400	60,400	74,500
Surplus (+) / Deficiency (-) (SY) *	-	**-30,370**	**-35,870**	**-41,870**	**-55,970**
Building					
Area (SF) *	55,500	73,350	81,480	90,520	111,710
Surplus (+) / Deficiency (-) (SF) *	-	**-17,850**	**-25,980**	**-35,020**	**-56,210**

* Results are rounded to the nearest hundred.

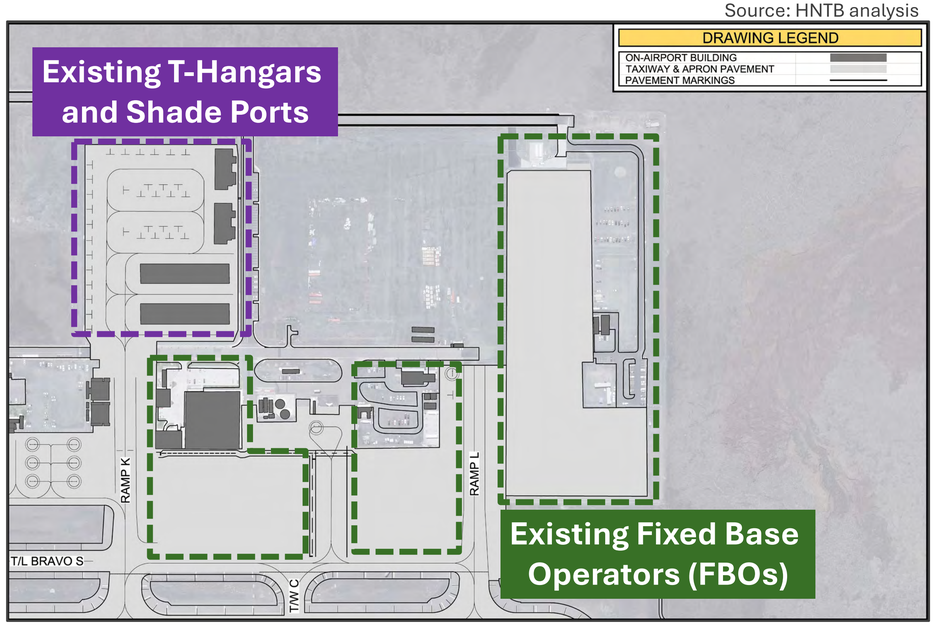
Source: HNTB analysis



Source: HNTB analysis

General Aviation

Source: HNTB analysis



- **Number of based aircraft** at KOA helps **determine how many hangars are needed** (such as T-hangars or shade structures).
- **Visiting private aircraft** affect the **need for FBO facilities** – such as parking, fueling, and pilot services.

	Existing Inventory	2024/2025 Requirement*	2029 Requirement	2034 Requirement	2044 Requirement
General Aviation Hangar					
Area (SF)	62,010	87,210	93,520	95,550	104,970
Surplus (+) / Deficiency (-) (SF)	-	**-25,200**	**-31,510**	**-33,540**	**-42,960**
FBO Facility – Apron					
Area (SY)	99,460	128,560	134,100	140,700	158,460
Surplus (+) / Deficiency (-) (SY)	-	**-29,100**	**-34,640**	**-41,240**	**-59,000**

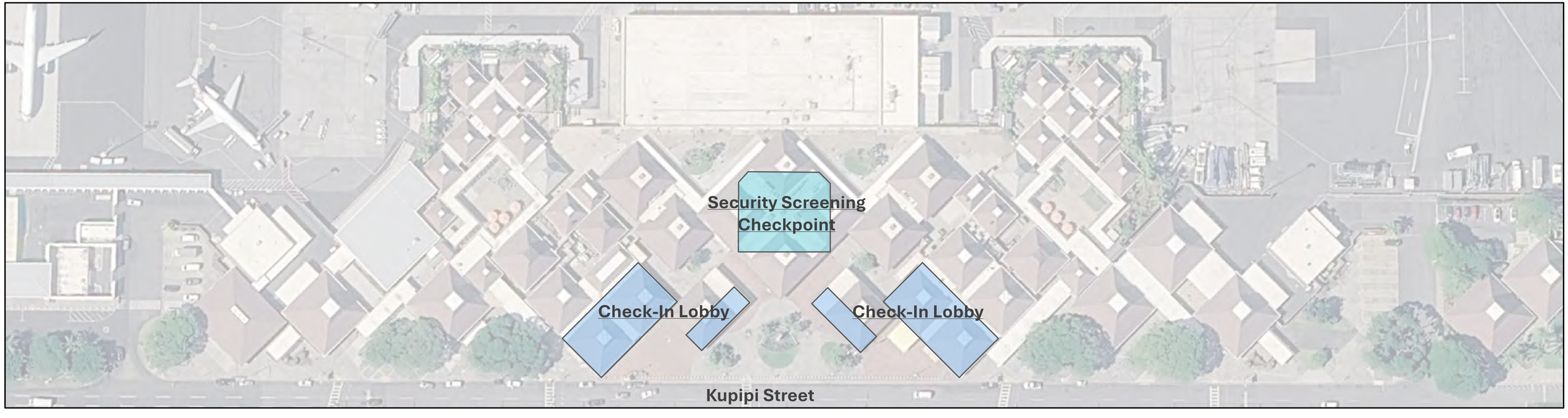
*Based aircraft use 2025 as the baseline year; visiting private aircraft use 2024.

Source: HNTB analysis

Terminal Requirements

Source: KYA analysis

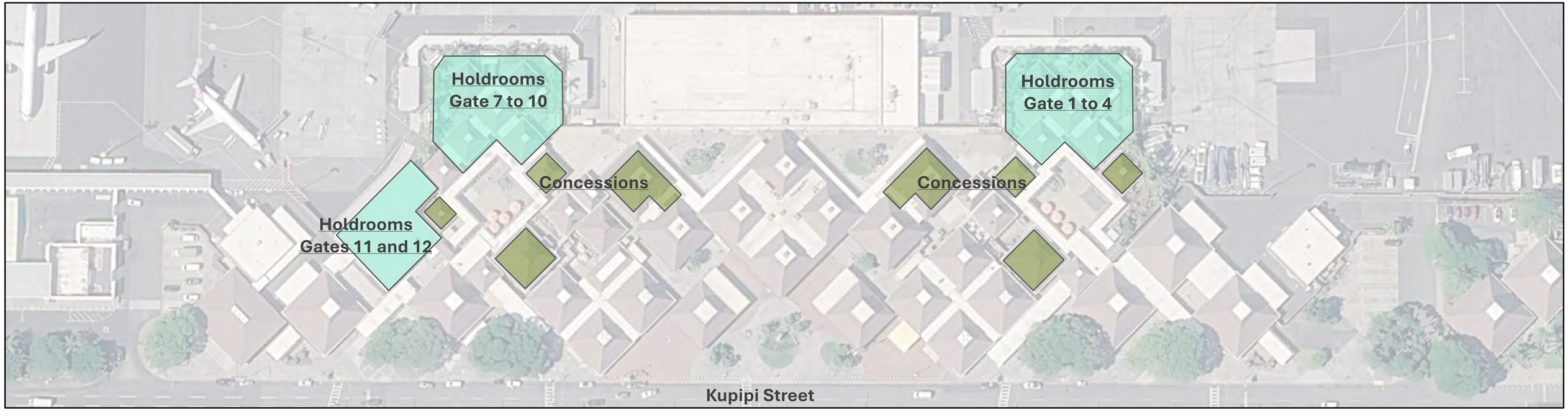
		Existing Inventory	2029 Requirement	2034 Requirement	2044 Requirement
Check-In Lobby	Full-service counter positions	45	30	33	36
	Self-service kiosk positions	42	27	30	34
	Bag drop positions	Included above	18	22	25
	Curbside positions	2	2	2	2
	Total Check-In Lobby Area	**14,750 SF**	**12,450 SF**	**14,150 SF**	**15,650 SF**
	Surplus (+) / Deficiency (-)	**-**	**+2,300 SF**	**+600 SF**	**-900 SF**
Security Screening Checkpoint	Number of screening lanes	6	4	5	5
	Total Security Screening Checkpoint Area	**12,000 SF**	**9,600 SF**	**12,000 SF**	**12,000 SF**
	Surplus (+) / Deficiency (-)	**-**	**+2,400 SF**	**-**	**-**



Terminal Requirements

Source: KYA analysis

		Existing Inventory	2029 Requirement	2034 Requirement	2044 Requirement
Holdroom	Number of ADG III gates	4	8	8	11
	Number of ADG V gates	6	4	4	4
	Total Holdroom Area	**25,000 SF**	**73,500 SF**	**73,500 SF**	**89,625 SF**
	Surplus (+) / Deficiency (-)	-	**-48,500 SF**	**-48,500 SF**	**-64,625 SF**
Concession	**Total Concession Area**	**13,866 SF**	**22,187 SF**	**24,278 SF**	**26,475 SF**
	Surplus (+) / Deficiency (-)	-	**-17,196 SF**	**-20,132 SF**	**-23,199 SF**
Restroom	**Total Landside fixtures**	**54**	**27**	**29**	**35**
	Total Airside fixtures	**83**	**63**	**63**	**76**
	Surplus (+) / Deficiency (-)	-	**+27, +20**	**+25, +20**	**+19,+7**



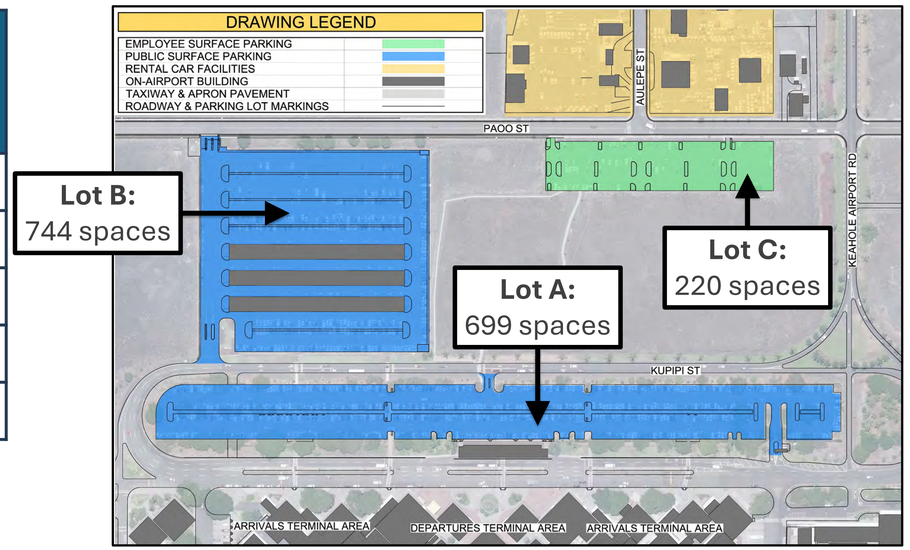
Parking and Rental Car Requirements

Public and Employee Parking

Source: HNTB analysis

Lot	2024 Maximum Occupancy	2024 + 10% Buffer	2029 Requirement	2034 Requirement	2044 Requirement
Lot A (Public)	520	572	614	674	804
Lot B (Public)	236	260	278	306	365
Employees (all)	603	663	710	781	929
Total	**1,359**	**1,495**	**1,602**	**1,761**	**2,098**
Surplus (+) / Deficiency (-)	**+304**	**+165**	**+61**	**-98**	**-435**

435 more parking spaces will be needed by 2044



Rental Car Facilities

Source: HNTB analysis

Facility Component	Existing Inventory	2024 Requirement	2029 Requirement	2034 Requirement	2044 Requirement
Customer Service Counters	41	30	32	35	42
Ready/Return Spaces	955	720	773	849	1,013
Maintenance Bays	15	17	18	20	23
Total Area (acres)	**24.4**	**21.7**	**23.3**	**25.6**	**30.5**
Surplus (+) / Deficiency (-) (acres)	**-**	**+2.7**	**+1.1**	**-1.2**	**-6.1**

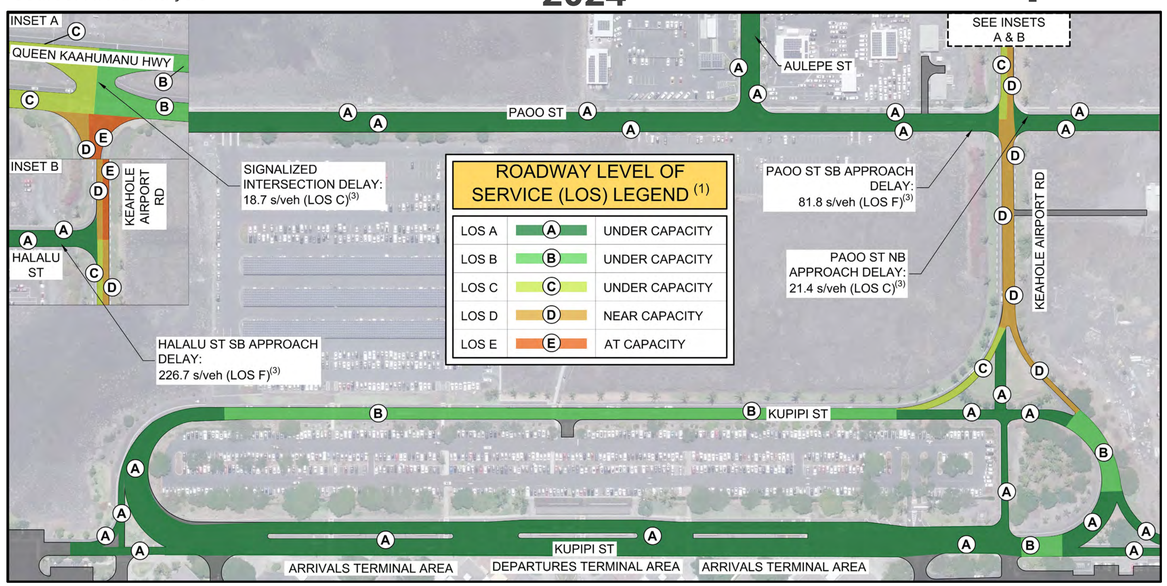
6.1 more acres of Rental Car facilities will be needed by 2044

Roadways and Curbside Requirements

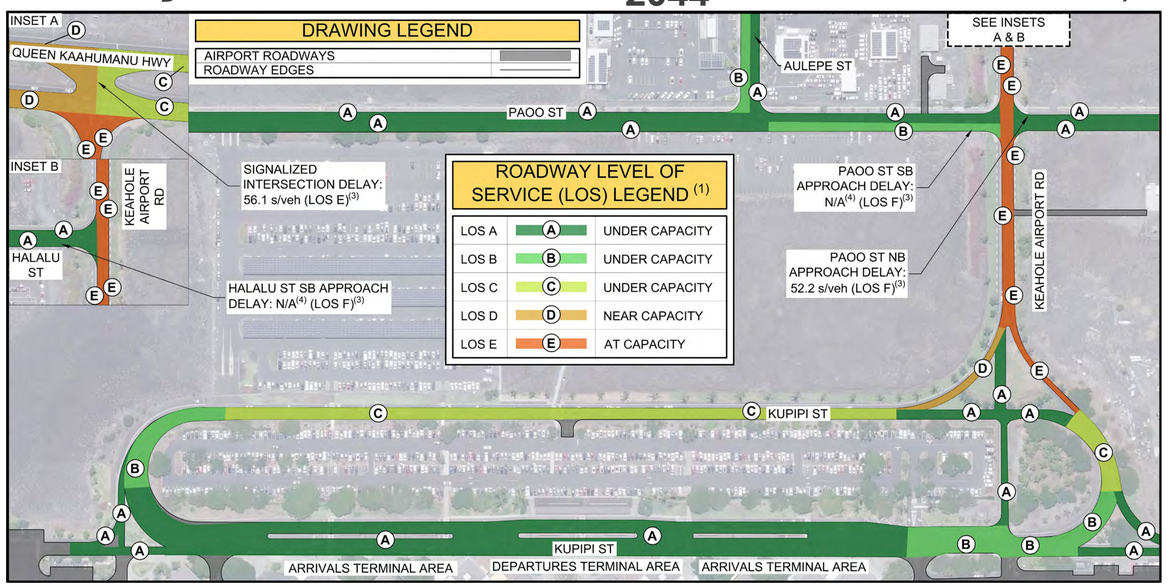
Airport Roadways

Source: HNTB analysis

2024



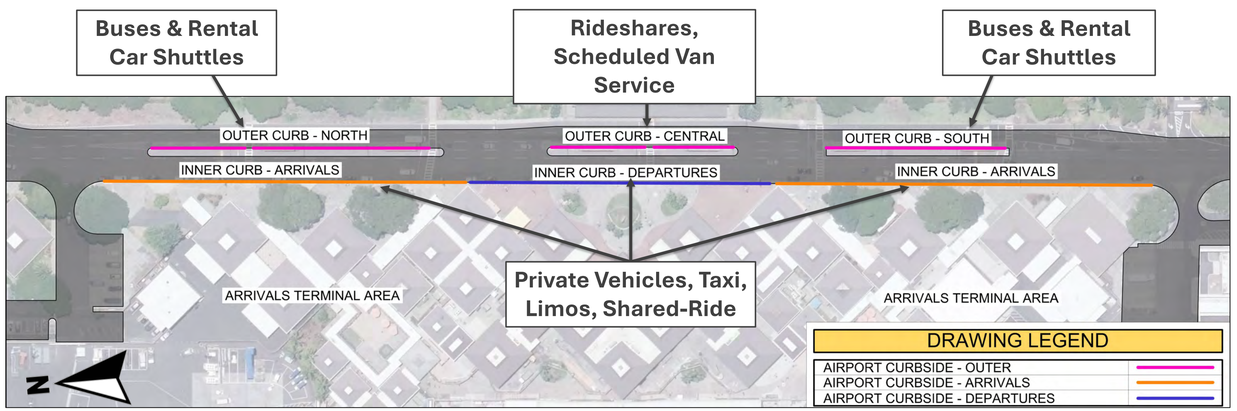
2044



Source: HNTB analysis

Additional Roadway Capacity is Needed on the Airport Entry/Exit Roadway to Maintain LOS C or Better

Terminal Curbsides



Source: HNTB analysis

Source: HNTB analysis

Curbside Location	2024 Requirement	2029 Requirement	2034 Requirement	2044 Requirement
Outer North	*Under Capacity*			
Outer South				
Outer Central				
Inner Arrivals				
Inner Departures				*Near Capacity*

Curbside Capacity is Adequate through the Planning Horizon (with operational improvements)

Ellison Onizuka Kona International Airport at Keahole

Master Plan Update

Next Steps and Submit Your Comments

- Proceed with development of alternatives
- Document findings from market assessment

Share your comments with us by choosing one of the following options:

- Submit a paper comment and place it in the comment box
- Visit koamasterplanupdate.com and submit a comment

Scan the QR code to visit our project website!

Thank you for attending the Hawaii Department of Transportation's **Community Informational Meeting** for the Master Plan Update for **Ellison Onizuka Kona International Airport at Keahole (KOA)**