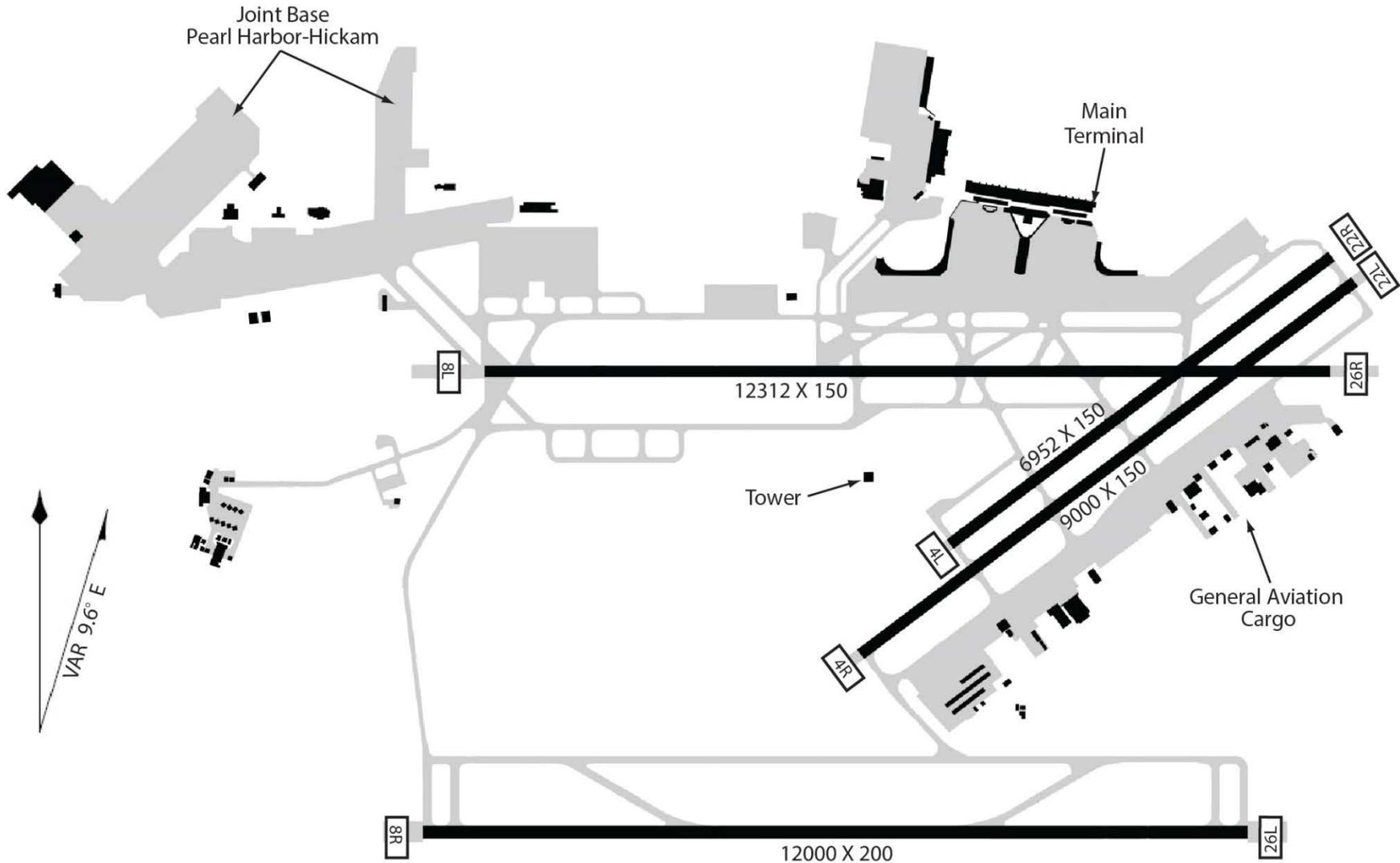


AIRPORT CAPACITY PROFILE: HONOLULU INTERNATIONAL AIRPORT



Airport capacity profile estimates were created using a standard set of performance characteristics and do not take into account non-runway constraints, unless otherwise noted. The capacity estimates developed for this report are not intended to replace the results of any detailed analysis that would precede an environmental, investment, or policy decision.

The list of Future Improvements and their expected effects on capacity does not imply FAA commitment to, or approval of, any item on the list.

HONOLULU INTERNATIONAL AIRPORT OVERVIEW

About this Airport Capacity Profile

- The capacity profile shows the hourly throughput that an airport is able to sustain during periods of high demand, represented as the range between the model-estimated capacity and the ATC facility reported rate (called rate). Each weather condition has a unique capacity rate range.
- For each weather scenario, capacity estimates are based on information provided by ATC, including reported arrival and departure rates.
- The following charts compare actual hourly traffic with the estimated capacity curves for HNL. The actual hourly traffic data at HNL is based on filed IFR flight plans, and thus does not include a significant number of general aviation flights that operated under Visual Flight Rules (VFR).

Recent Capacity Changes at HNL

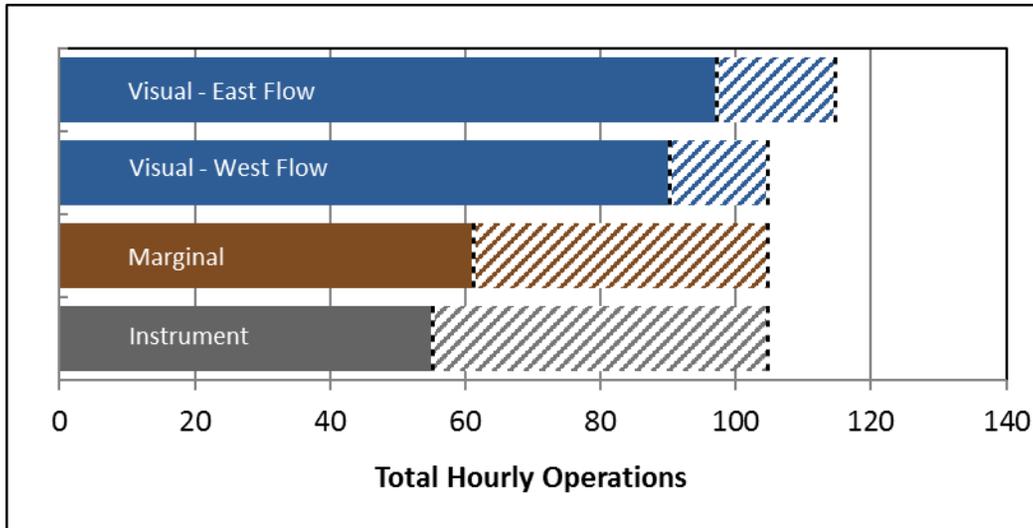
- Arrival-Departure Window (ADW) helps to minimize the long-term risk associated with arrival and departure operations on intersecting and converging runways (e.g., landing Runway 26L while departing Runway 22L). A range window prior to the arrival runway threshold is depicted on the controller's radar monitor. The departing flight cannot be released if the arrival is within that window, minimizing the risk of separation loss with the departing aircraft in the event the arrival executes a missed approach.

Future Improvements at HNL

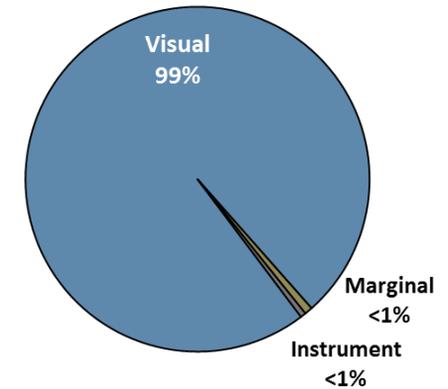
- Wake Recategorization Phase 1 assigns aircraft to new wake turbulence classifications based on their wake turbulence characteristics, such as wake generation, wake decay, and encounter effects. This results in closer longitudinal separation for certain aircraft types without sacrificing safety.

HONOLULU INTERNATIONAL AIRPORT OVERVIEW - 2

CURRENT OPERATIONS CAPACITY RATE RANGE



ANNUAL WEATHER CONDITIONS



VISUAL CONDITIONS:

- Ceiling and visibility allow for visual approaches: at least 2500 feet ceiling and 3 miles visibility

MARGINAL CONDITIONS:

- Ceiling and visibility below visual approach minima but better than Instrument conditions

INSTRUMENT CONDITIONS:

- Ceiling and visibility below 1000 feet ceiling or 3 miles visibility

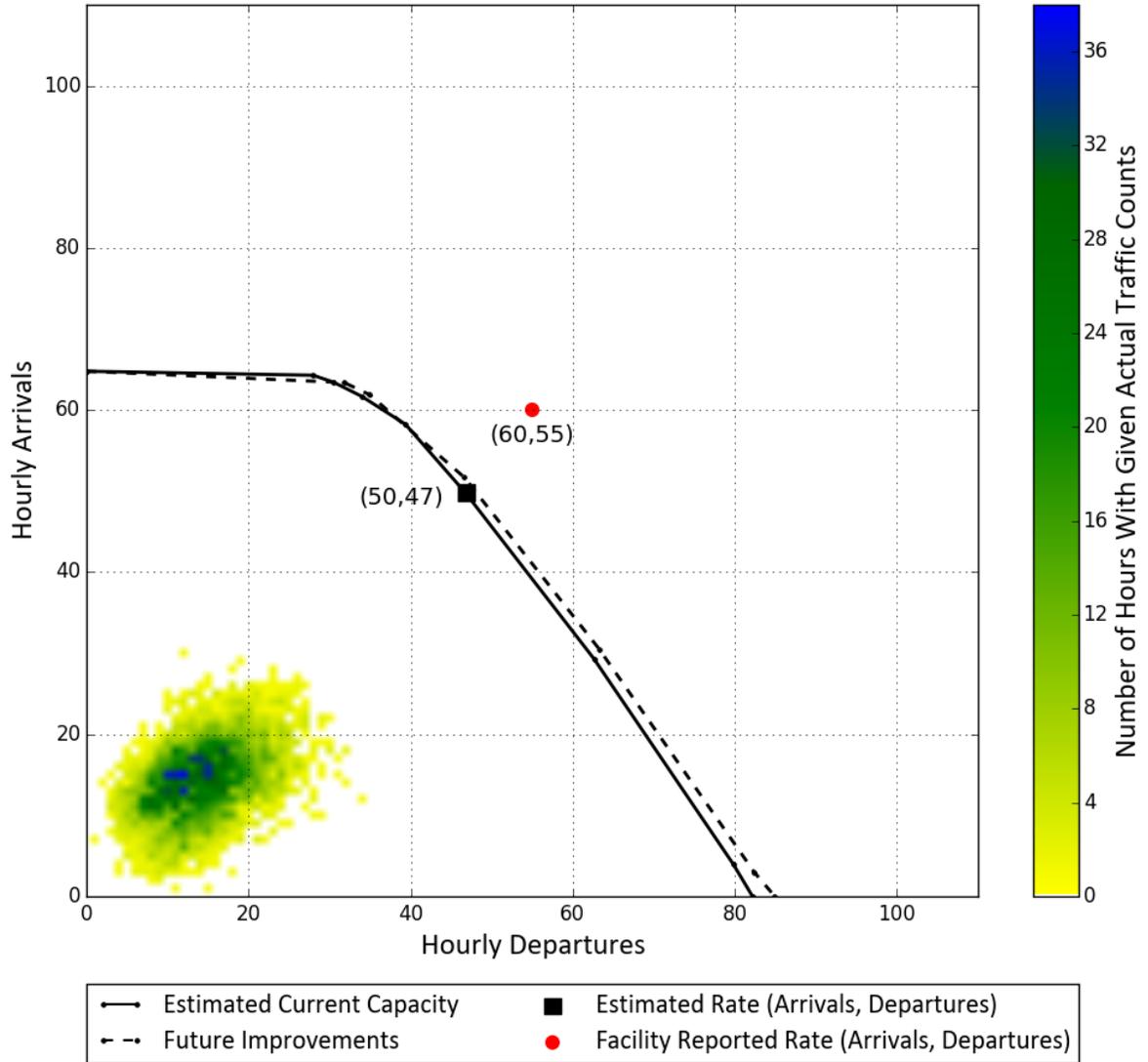
Data Sources

- Actual hourly HNL operations, weather and configuration data were obtained from the FAA ASPM database, and represent operational hours from 7am to 11pm local time October 14, 2015 through July 10, 2016. Actual configuration usage is determined by multiple operational factors, including weather conditions.
- Facility reported rates were provided by ATC personnel at HNL.
- Model-estimated rates are derived from operational information provided by ATC.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	04L,04R,08L	04L,04R,08L,08R	115	97
FUTURE IMPROVEMENTS	04L,04R,08L	04L,04R,08L,08R	N/A	99

- **Future improvements:** Wake Recategorization Phase 1.
- The capacity rate range for East Flow operations in Visual conditions is 97-115 operations per hour.
- Turbojet and turboprop arrivals to runway 08L are required to be 5 miles in trail.
- HNL has Land-and-Hold Short Operations (LAHSO): Runway 08L arrivals hold short for Runway 04L arrivals, Small arrivals to Runway 04L hold short for Runway 08L arrivals, and Runway 04R arrivals hold short for Runway 08L arrivals.
- No Heavy aircraft land Runway 04R.
- Business jets typically land Runway 04R due to its proximity to the general aviation ramp.
- HNL’s actual hourly traffic data does not reflect the significant number of general aviation operations that occur in Visual weather conditions.

VISUAL WEATHER CONDITIONS

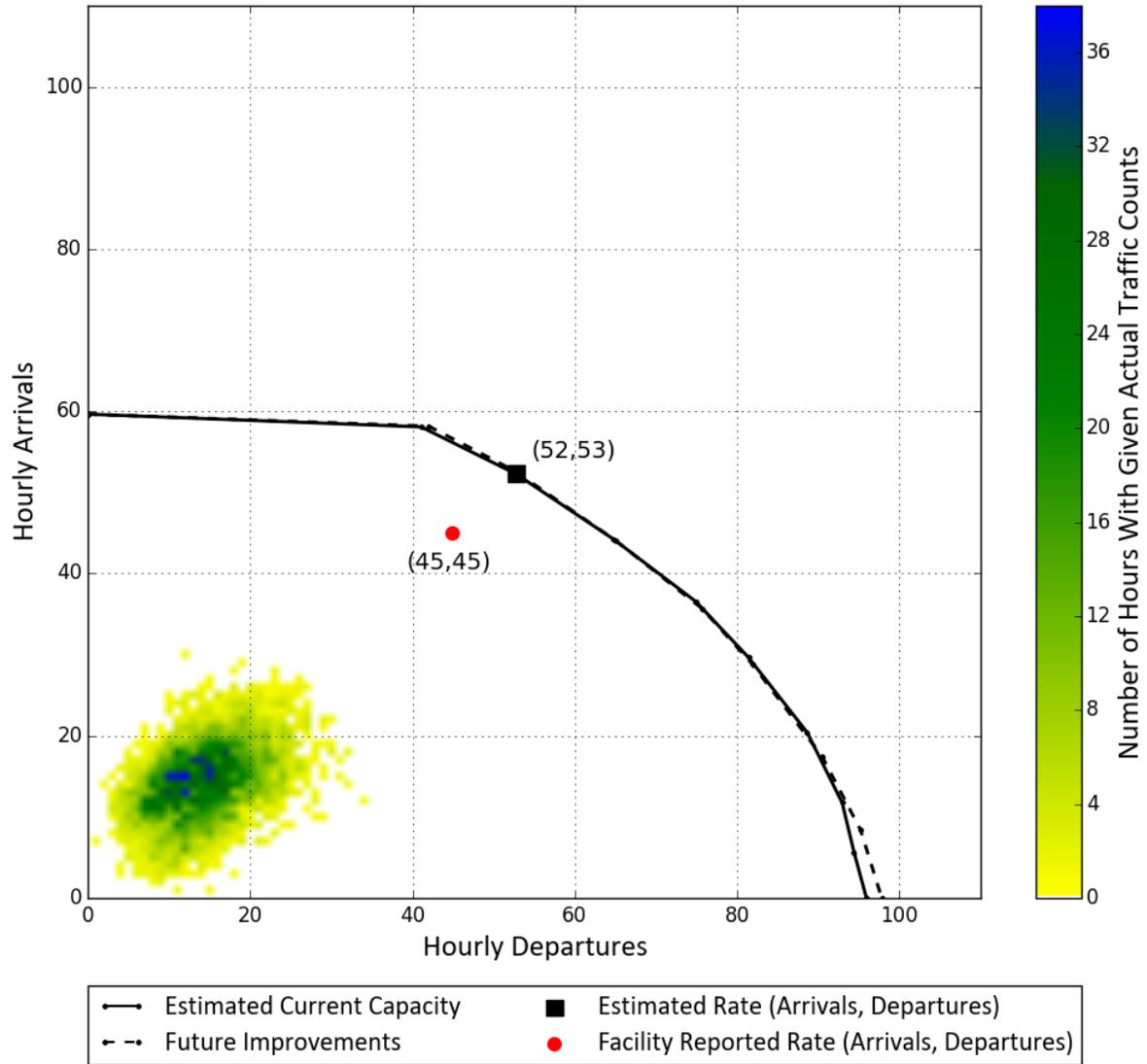


Actual traffic counts shown are for all Visual hours, all configurations.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	22L,26L,26R	22L,26L,26R	90	105
FUTURE IMPROVEMENTS	22L,26L,26R	22L,26L,26R	N/A	106

- **Future improvements:** Wake Recategorization Phase 1.
- The capacity rate range for West Flow operations in Visual conditions is 90-105 operations per hour.
- The airport is expected to operate in this configuration when operating in West flow under Visual conditions, with the addition of a new Local controller position.
- Large and Heavy arrivals to runway 26L are required to be 5 miles in trail.
- Arrivals to Runways 22L and 22R are limited to non-turbojets due to terrain and an informal noise agreement.
- ATC has an ADW in place for arrivals to 26L and departures from 22L.
- HNL’s actual hourly traffic data does not reflect the significant number of general aviation operations that occur in Visual weather conditions.

VISUAL WEATHER CONDITIONS

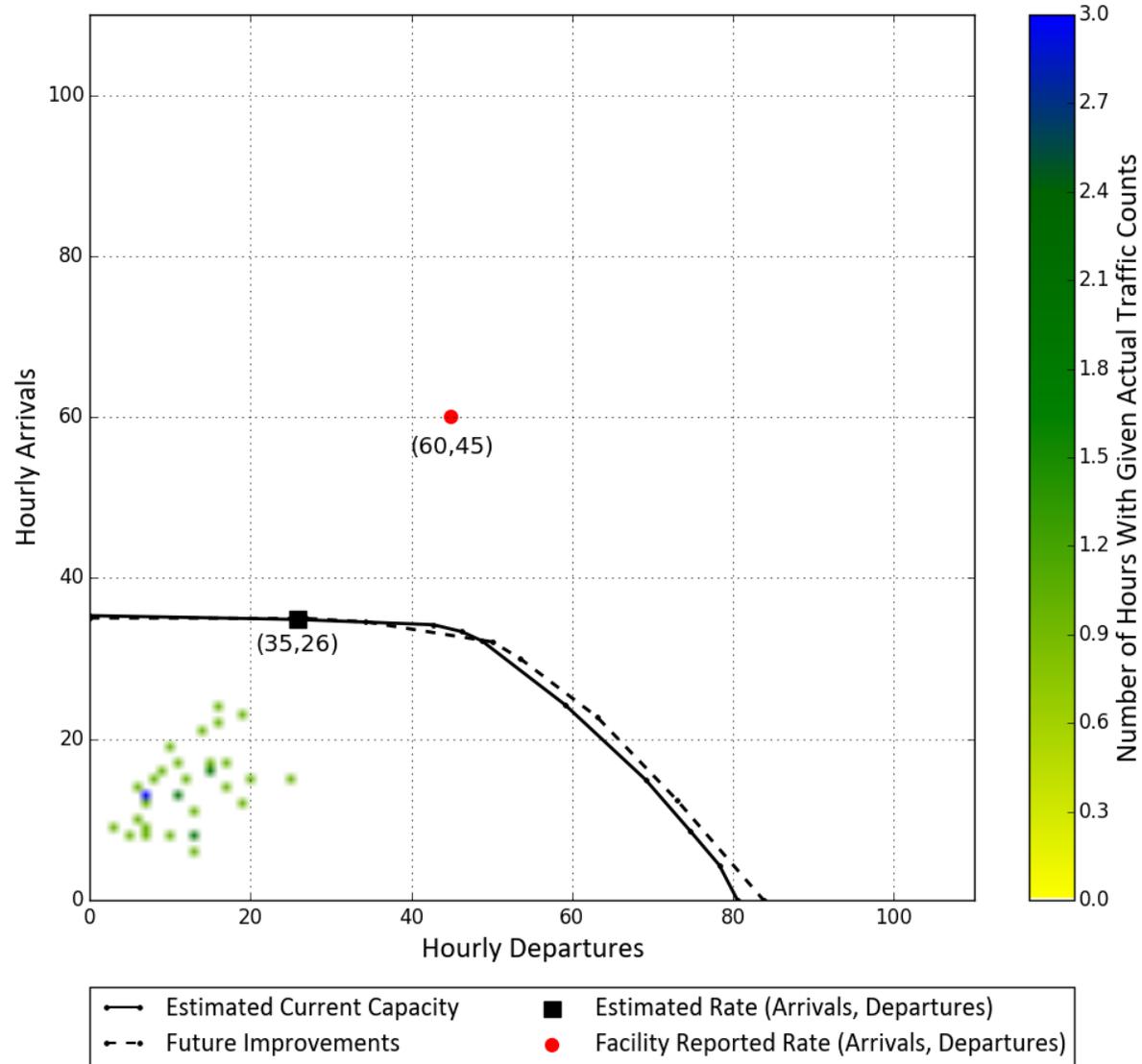


Actual traffic counts shown are for all Visual hours, all configurations.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	04R,08L	04L,04R,08L,08R	N/A	61
FUTURE IMPROVEMENTS	04R,08L	04L,04R,08L,08R	N/A	62

- **Future improvements:** Wake Recategorization Phase 1.
- The capacity rate range for operations in Marginal conditions is ~61 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 04R at HNL.
- Turbojet and turboprop arrivals to runway 08L are required to be 5 miles in trail from 0700 to 1600 local time.
- No Heavy aircraft may land Runway 04R.
- Business jets typically land Runway 04R due to its proximity to the general aviation ramp.

MARGINAL WEATHER CONDITIONS

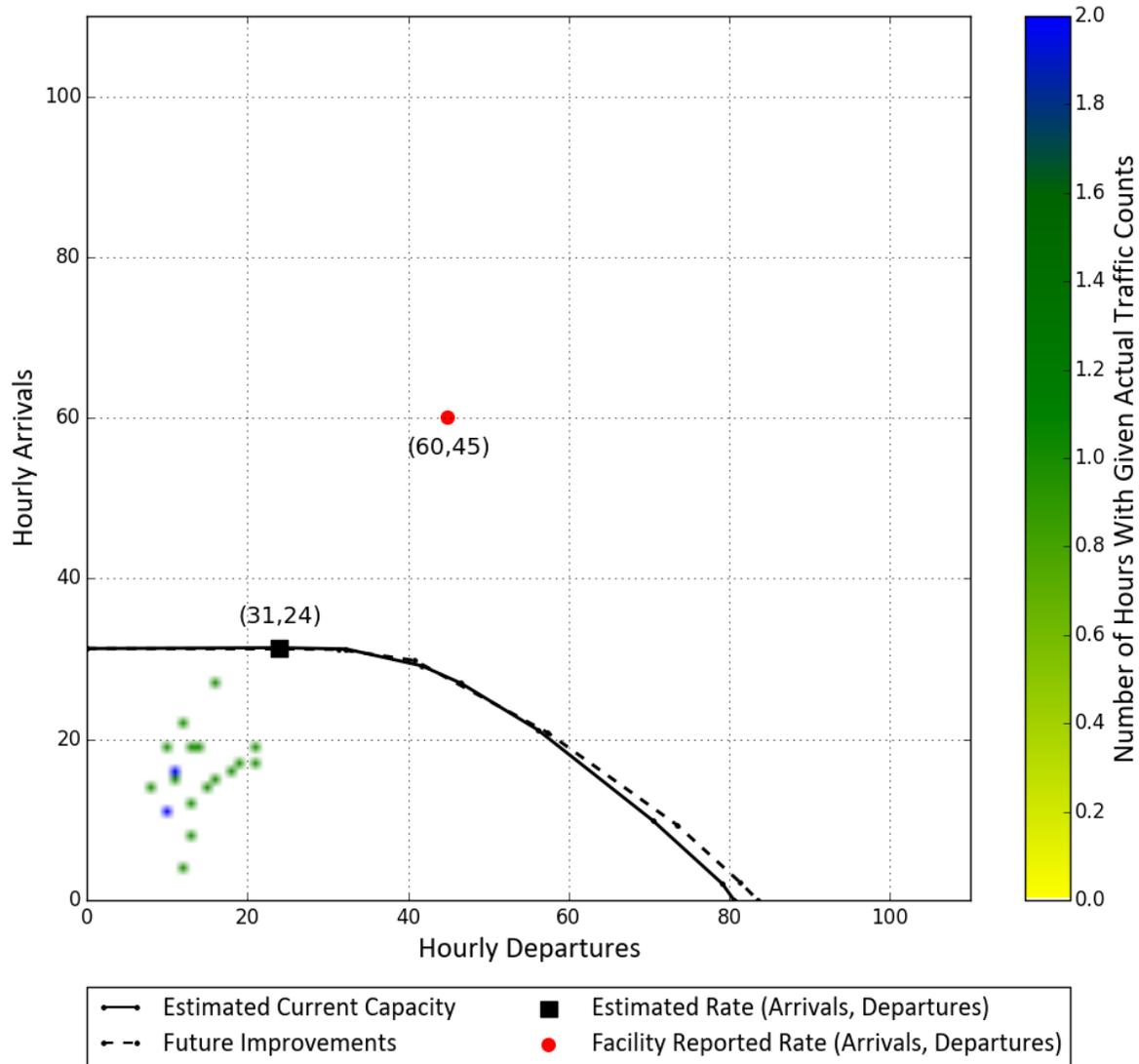


Actual traffic counts shown are for all Marginal hours, all configurations.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	04R,08L	04L,04R,08L,08R	N/A	55
FUTURE IMPROVEMENTS	04R,08L	04L,04R,08L,08R	N/A	55

- **Future improvements:** Wake Recategorization Phase 1.
- The capacity rate range for operations in Instrument conditions is ~55 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 04R at HNL.
- Turbojet and turboprop arrivals to runway 08L are required to be 5 miles in trail from 0700 to 1600 local time.
- No Heavy aircraft may land Runway 04R.
- Business jets typically land Runway 04R due to its proximity to the general aviation ramp.

INSTRUMENT WEATHER CONDITIONS

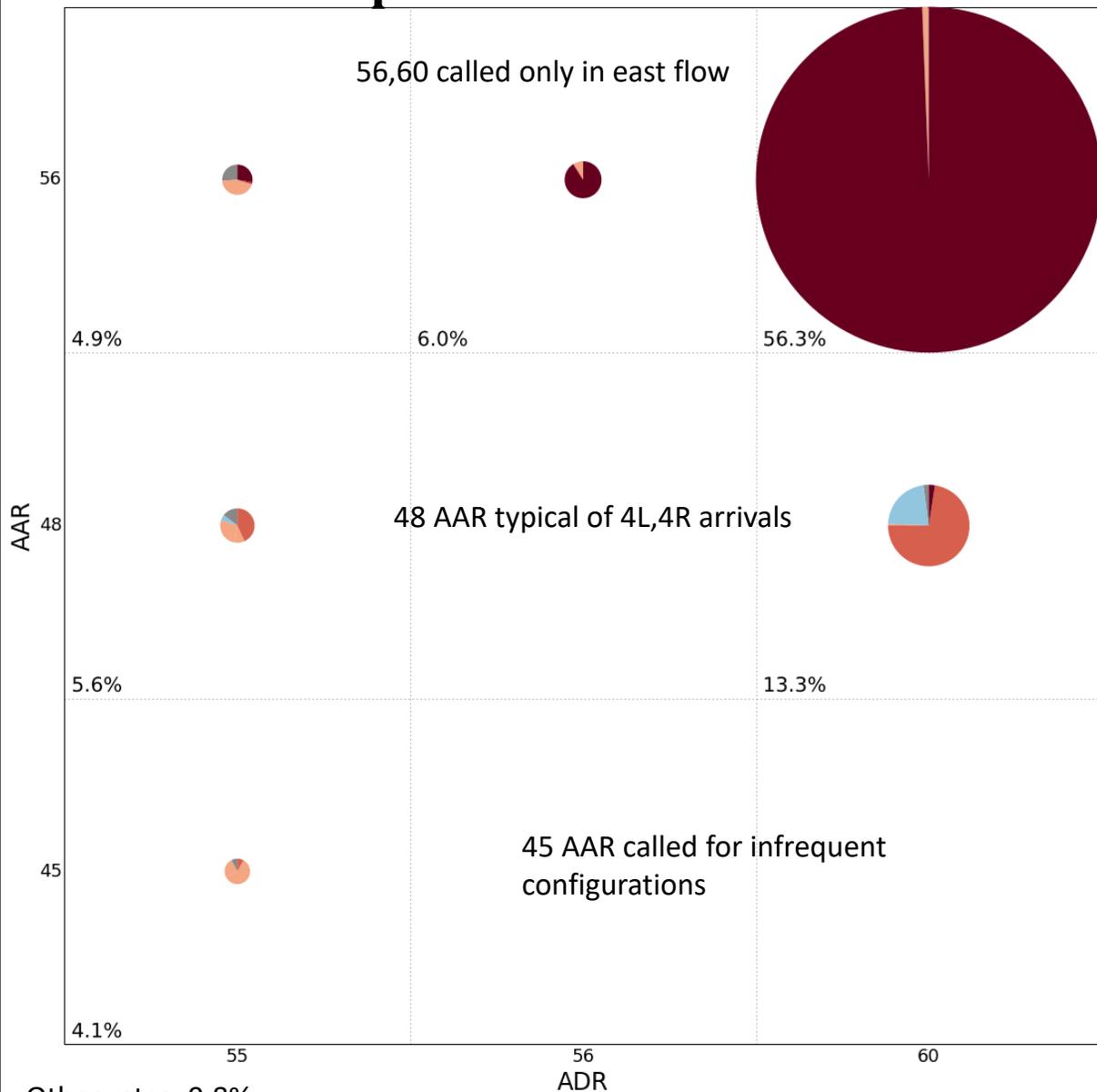


Actual traffic counts shown are for all Instrument hours, all configurations.

HISTORICAL CALLED RATE AND CONFIGURATION USAGE BY FLOW

EAST FLOW – HISTORICAL USAGE

Airport Called Rates*



Other rates: 9.8%

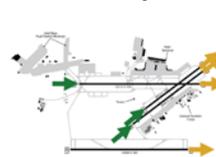
Color indicates configuration

* Rates for all hours regardless of configuration, minimum 2% of time

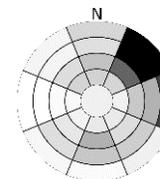
EAST FLOW FACILITY REPORTED RATES		
55,60 (VMC)	45,60 (MMC)	45,60 (IMC)

Configuration Usage

4L,4R,8L | 4L,4R,8L,8R (66%)



RATES
56,60 (87%)
56,56 (8%)



WIND & WEATHER
VMC: >99%
MMC: <1%
IMC: <1%

4R,8L | 4L,4R,8L,8R (0%)



RATES

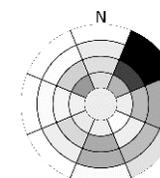
Insufficient Data

WIND & WEATHER

†4L,4R | 4L,4R,8L,8R (13%)



RATES
48,60 (76%)
48,55 (19%)



WIND & WEATHER
VMC: >99%
MMC: <1%
IMC: <1%

Others > 2%

- 4R,8L | 4R,8L,8R (7%)
- 4L,4R | 4L,4R,8R (3%)

West Flow Configurations

Other Configurations

Key

Arrivals | Departures (% of time in configuration)



Arrivals

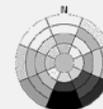


Departures

RATES

90,90 (90%) Rates called at least 5% of time when configuration used

WIND & WEATHER



Wind speeds increase away from center (3 knot increments)

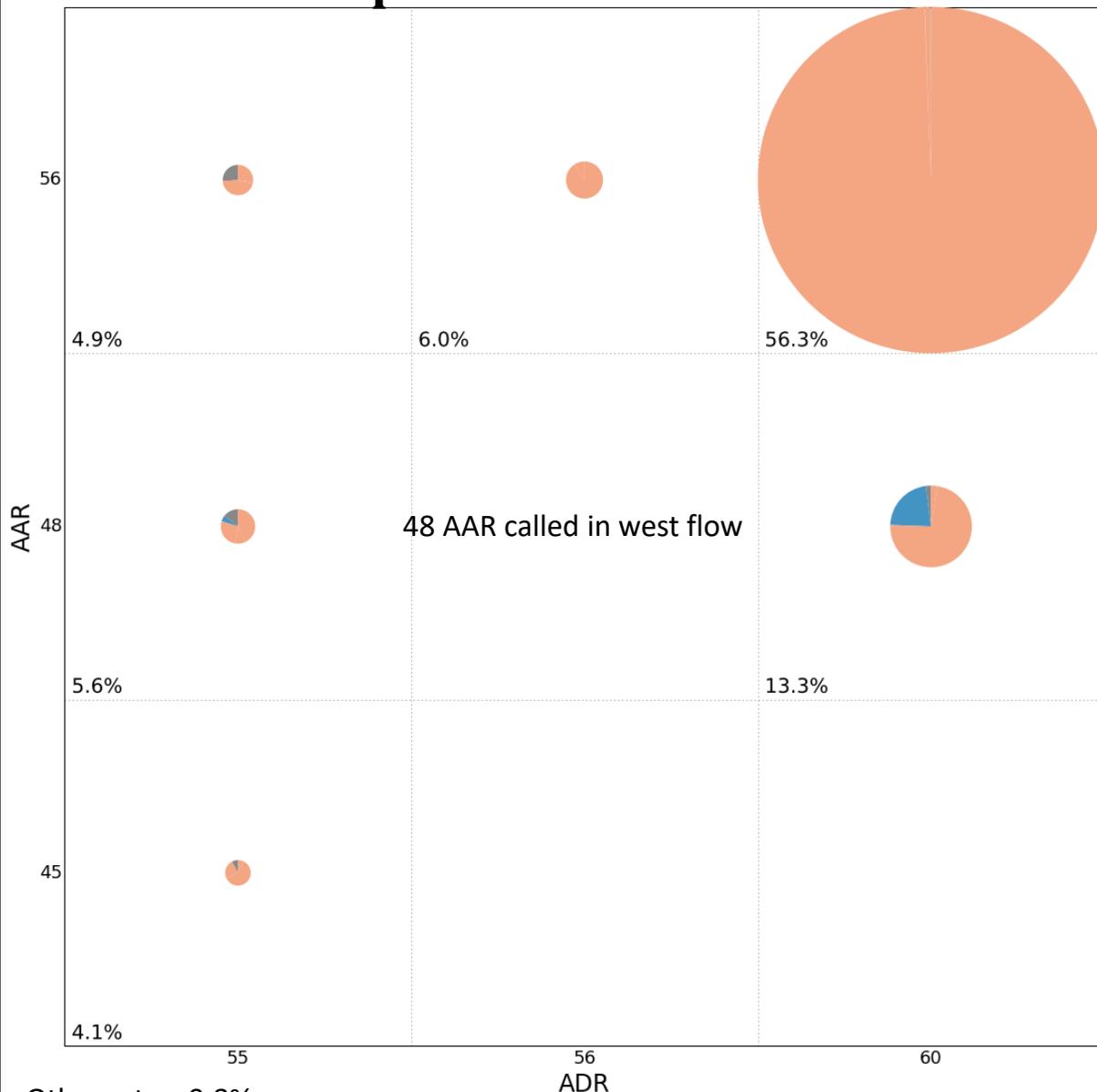
More common winds are darker

% of time spent in VMC/MMC/IMC when configuration used

† Not a Modeled Configuration

WEST FLOW – HISTORICAL USAGE

Airport Called Rates*



Other rates: 9.8%

Color indicates configuration

* Rates for all hours regardless of configuration, minimum 2% of time

WEST FLOW FACILITY REPORTED RATE
45,45 (VMC)

Configuration Usage

22L,26L,26R | 22L,26L,26R (0%)

RATES

WIND & WEATHER



Insufficient Data

Others > 2%

- 22L,22R,26L,26R | 22L,22R,26L,26R (6%)

East Flow Configurations

Other Configurations

Key

Arrivals | Departures (% of time in configuration)



Arrivals



Departures

RATES

90,90 (90%) Rates called at least 5% of time when configuration used

WIND & WEATHER



Wind speeds increase away from center (3 knot increments)

More common winds are darker

% of time spent in VMC/MMC/IMC when configuration used