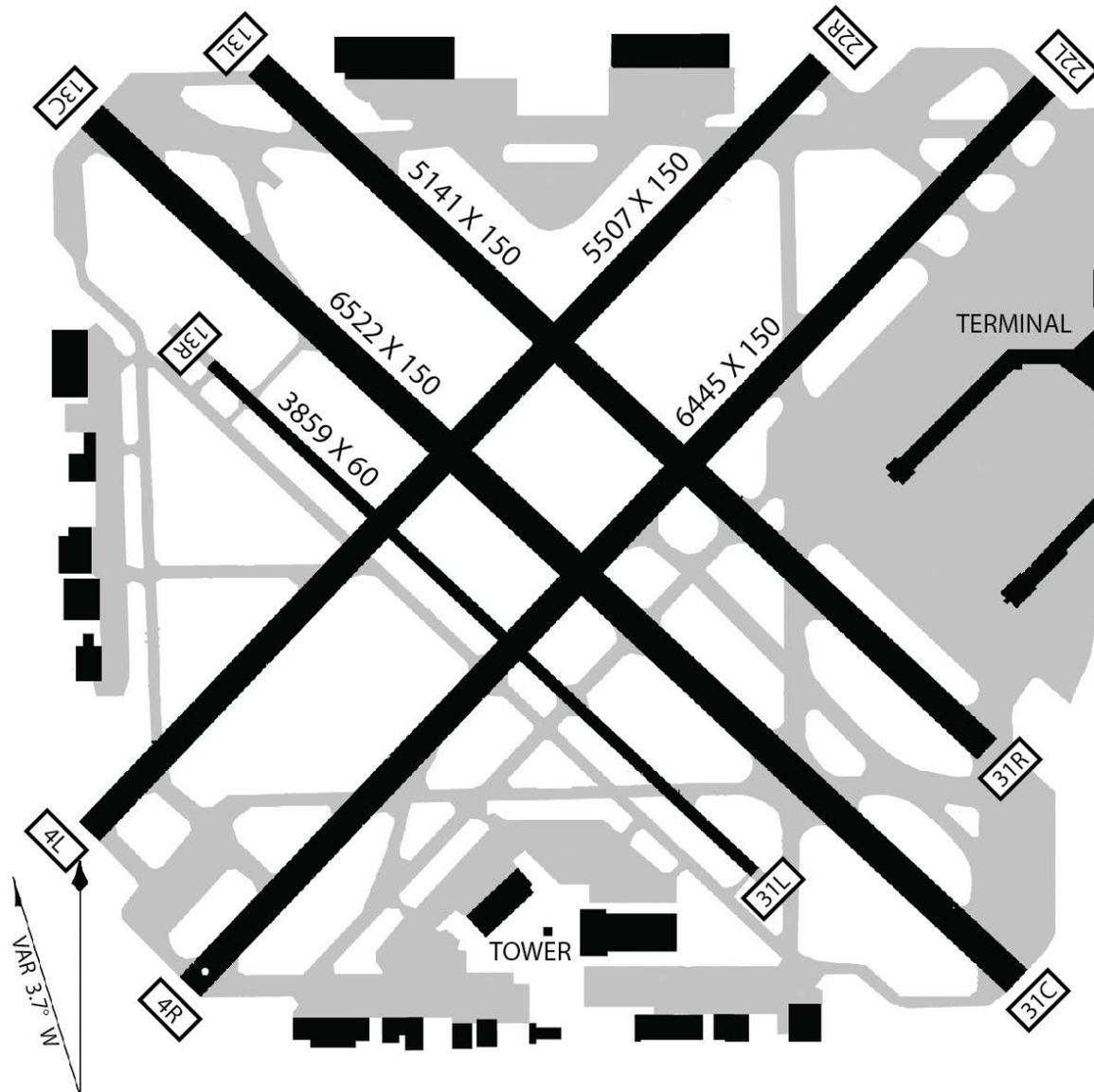


Airport Capacity Profile: Chicago Midway International Airport



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.

Chicago Midway 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 capacity rate range.
- For each weather scenario, capacity estimates are based on information provided by ATC, including reported arrival and departure rates.
- Capacity estimates of the Runway 22L Flow for Marginal and Instrument conditions were not included in this profile because this configuration is not frequently used under those weather conditions.
- Runways other than those considered in this profile may be used for offload traffic (primarily smaller general aviation operations) without affecting the called rates.

Recent Capacity Improvements at MDW

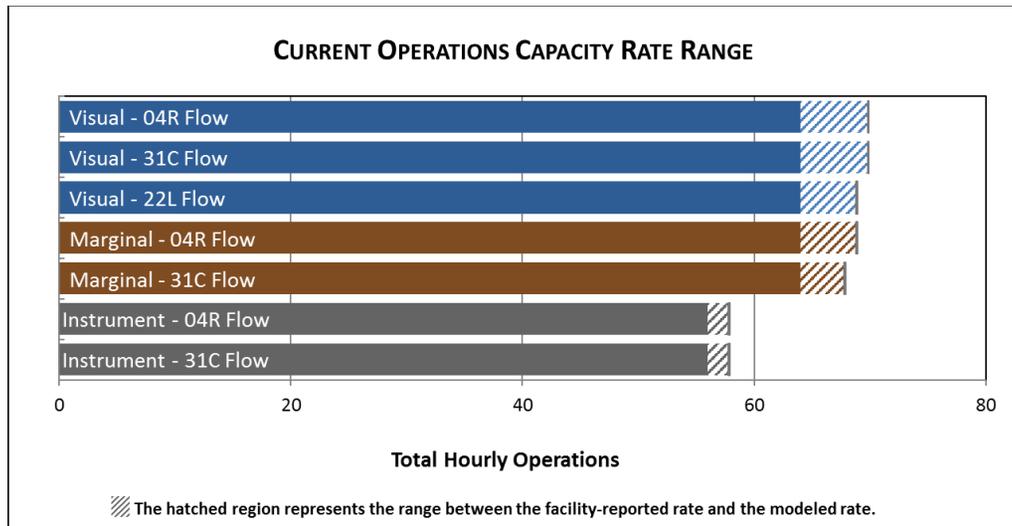
- Time-Based Flow Management (TBFM) helps to improve the flow of arrivals to the runways.
- Wake Recategorization Phase 1 assigns aircraft to new wake turbulence classifications based on their wake turbulence characteristics, such as wake generation, wake decay, and encounter effects. This results in closer longitudinal separation for certain aircraft types without sacrificing safety.

Future Improvements at MDW

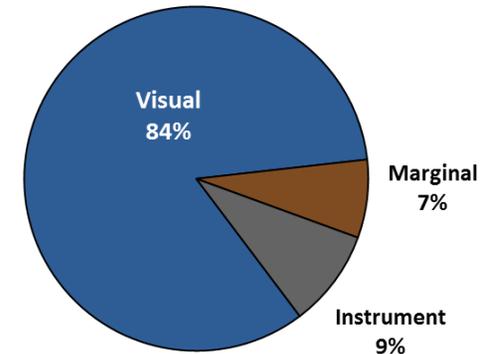
- Improved Runway Delivery Accuracy: The combined effects of several new capabilities, including Automatic Dependent Surveillance-Broadcast (ADS-B) Out, Cockpit Display of Traffic Information (CDTI), and Terminal Sequencing and Spacing (TSAS) in the terminal area, will improve the ability of controllers to deliver aircraft to the runway with the desired separation from the preceding aircraft. This will reduce the average spacing between arrivals and boost arrival capacity.
- Wake Recategorization Phase 2 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.

Chicago Midway International Airport Overview - 2

Current Operations Capacity Rate Range



Annual Weather Conditions



Visual Conditions:

- Ceiling and visibility allow for visual approaches: at least 1900 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

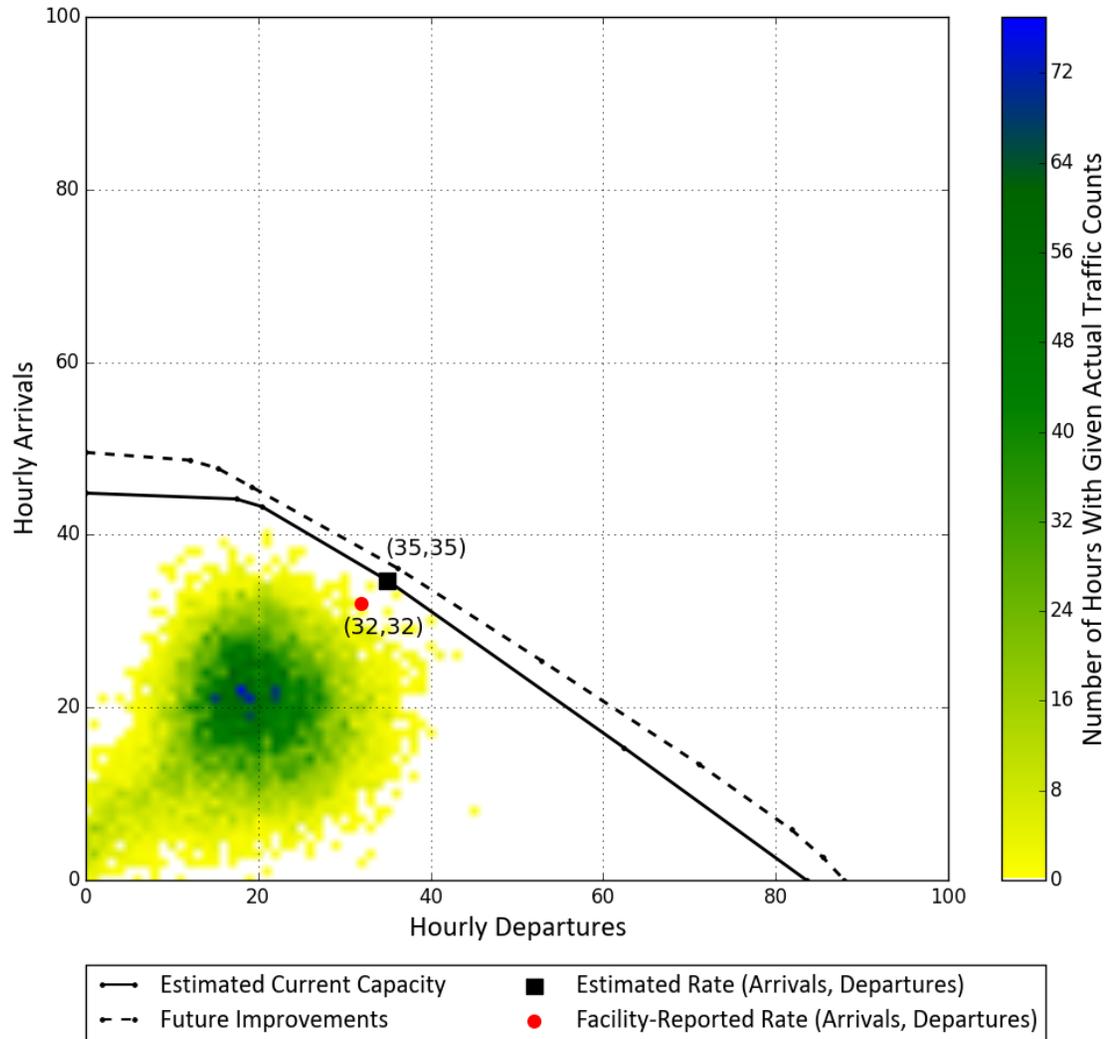
Data Sources

- Throughout the profile, actual hourly MDW operations, weather and configuration data were obtained from the FAA ASPM database, and represent operational hours from 7am to 11pm local time for October 1, 2013 through September 30, 2016. Actual configuration usage is determined by multiple operational factors, including weather conditions.
- Facility-reported rates were provided by ATC personnel at MDW.
- 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	04R	04R, 31C	64	70
Future Improvements	04R	04R, 31C	N/A	72

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Visual conditions in 04R flow is currently 64-70 operations per hour.
- Departures on Runway 31C must be through the runway intersection when an arrival to Runway 04R is 2NM from its threshold.

Visual Weather Conditions

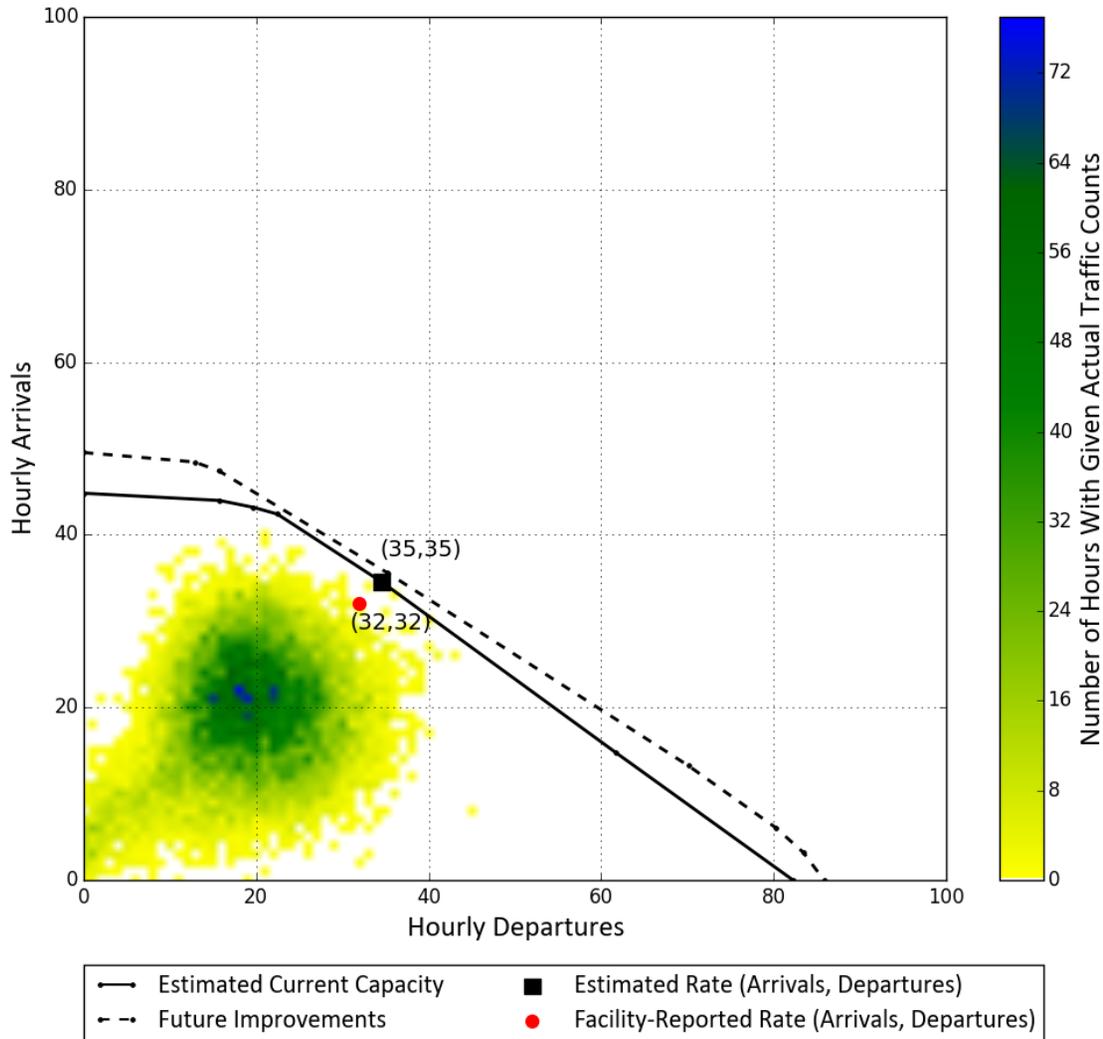


Actual traffic counts shown are for all Visual hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	31C	22L, 31C	64	70
Future Improvements	31C	22L, 31C	N/A	71

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Visual conditions in 31C flow is currently 64-70 operations per hour.
- Departures on Runway 22L must be through the runway intersection when an arrival to Runway 31C is 2 NM from its threshold.

Visual Weather Conditions

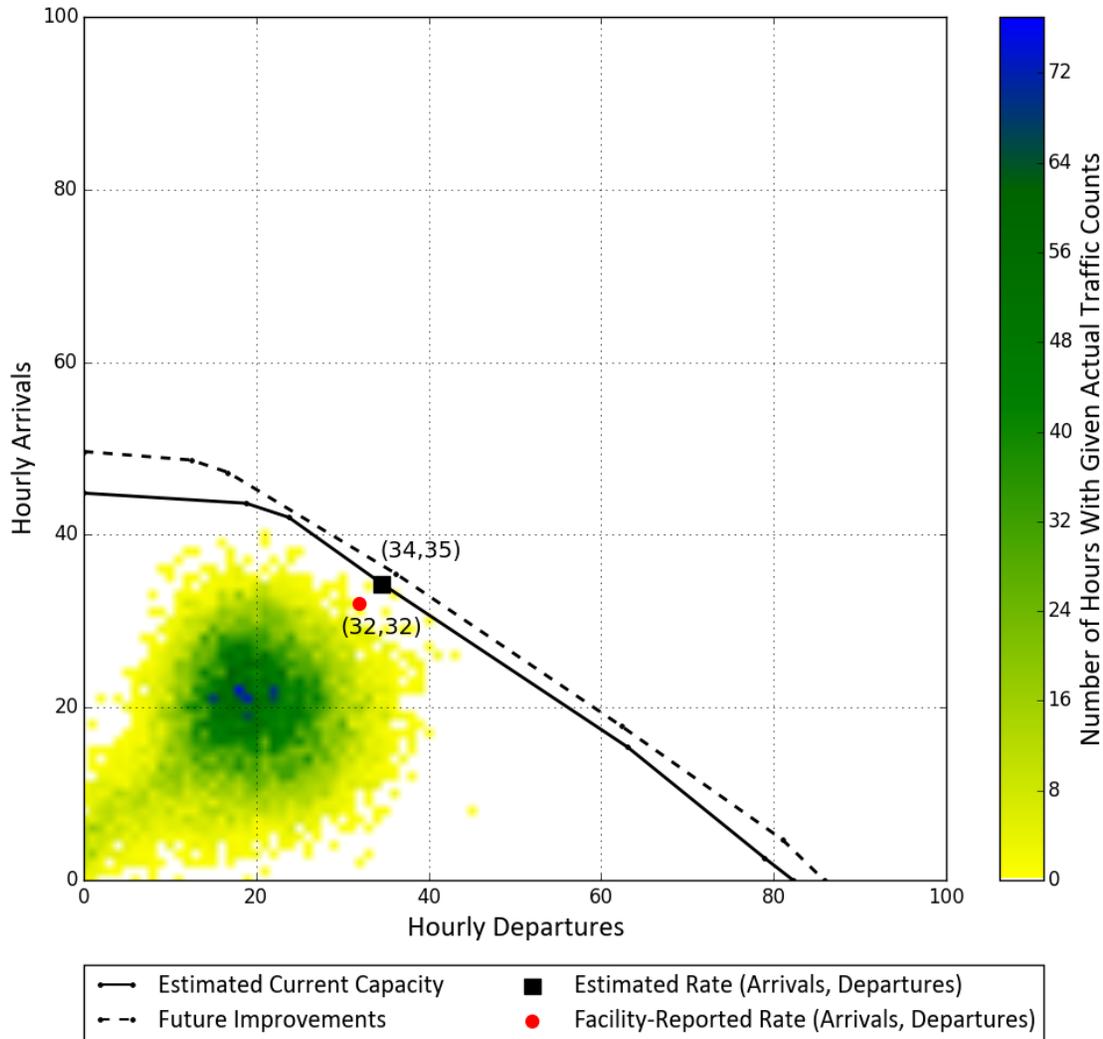


Actual traffic counts shown are for all Visual hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	22L	22L, 31C	64	69
Future Improvements	22L	22L, 31C	N/A	72

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Visual conditions in 22L flow is currently 64-69 operations per hour.
- Departures on Runway 31C must be through the runway intersection when an arrival to Runway 22L is 2 NM from its threshold.
- The small difference in model-estimated results compared to Visual 04R Flow and Visual 31C Flow is due to greater distance from arrival threshold to runway intersection.

Visual Weather Conditions

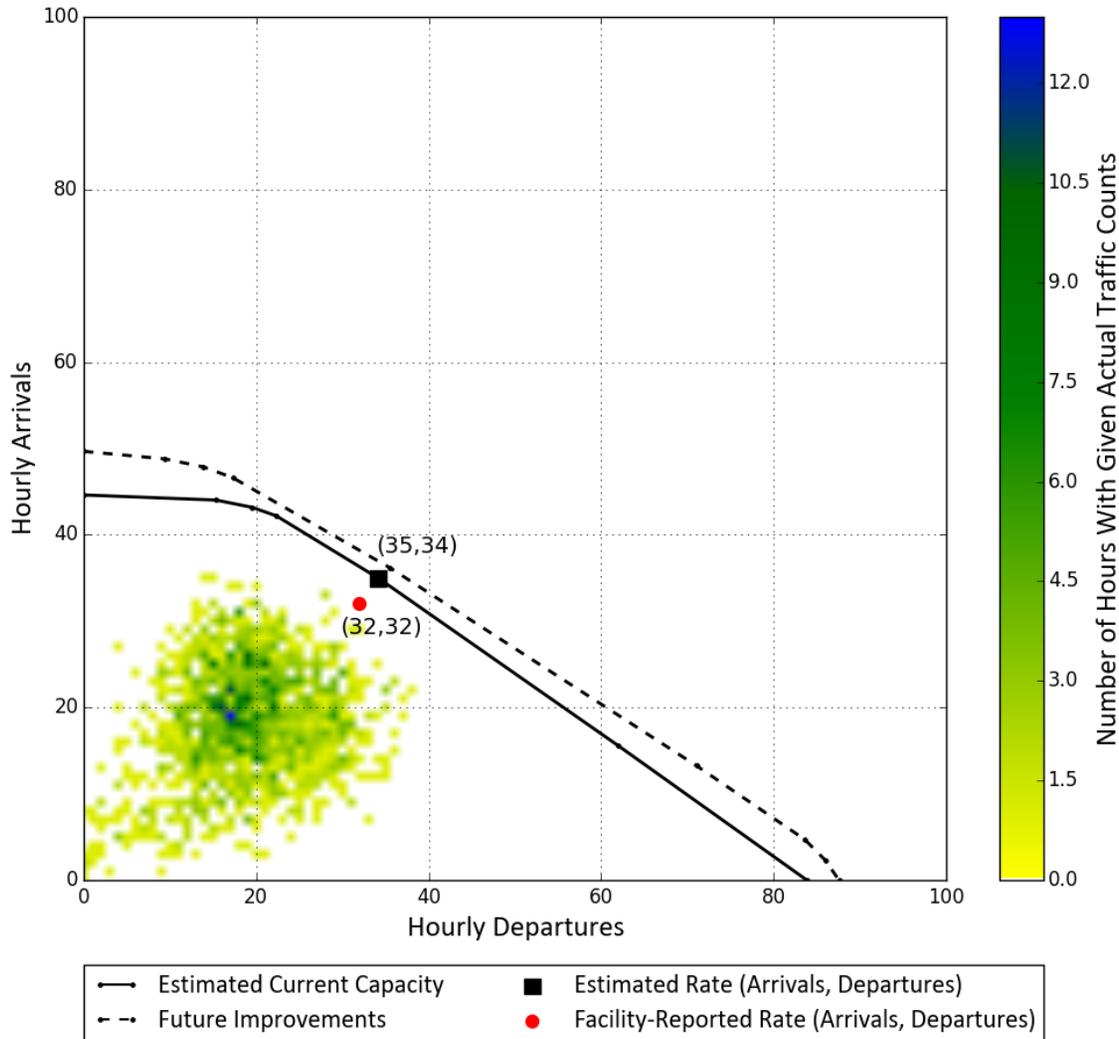


Actual traffic counts shown are for all Visual hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	04R	04R, 31C	64	69
Future Improvements	04R	04R, 31C	N/A	72

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Marginal conditions in 04R flow is currently 64-69 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 04R.
- Departures on Runway 31C must be through the runway intersection when an arrival to Runway 04R is 2 NM from its threshold.

Marginal Weather Conditions

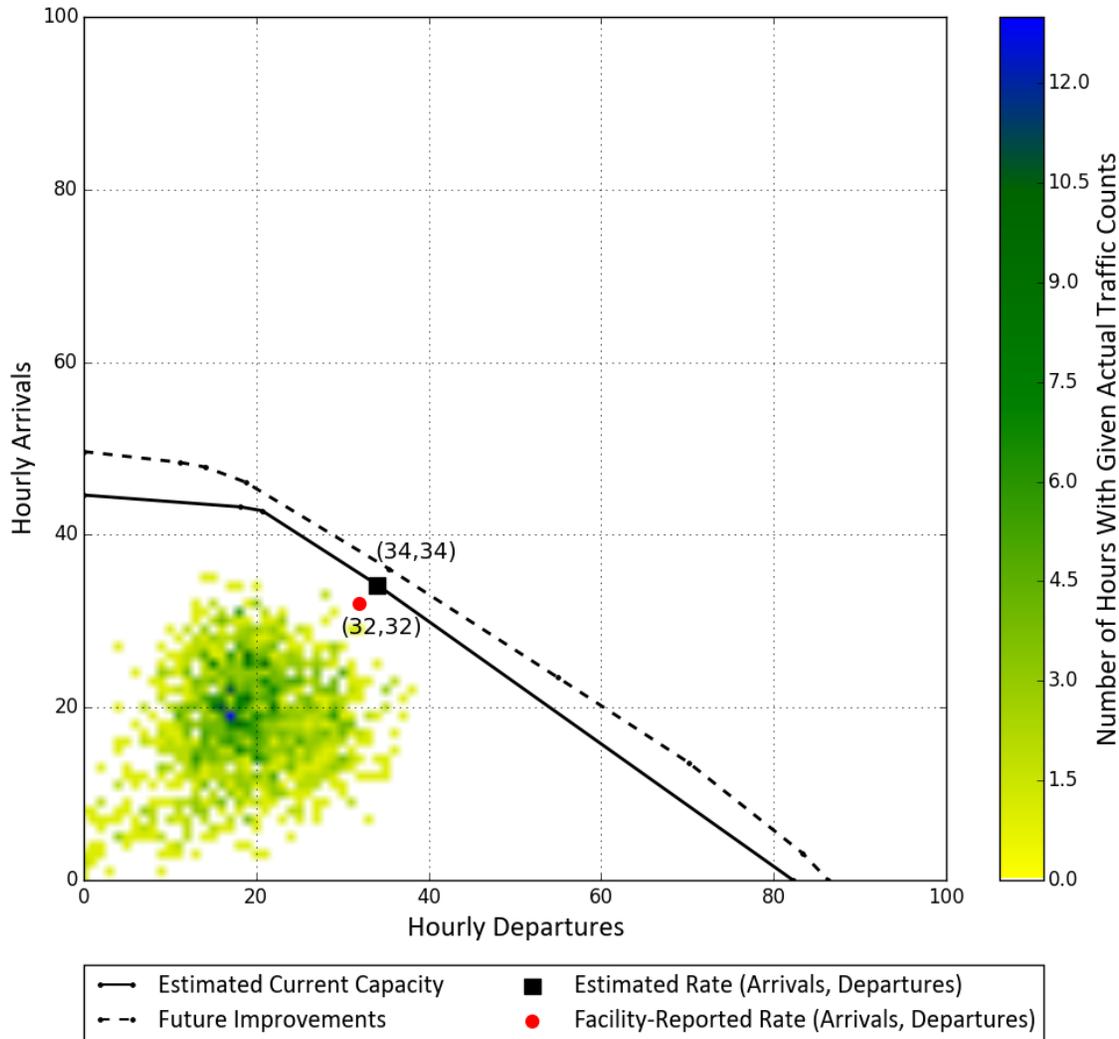


Actual traffic counts shown are for all Marginal hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	31C	22L, 31C	64	68
Future Improvements	31C	22L, 31C	N/A	71

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Marginal conditions in 31C flow is currently 64-68 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 31C.
- Departures on Runway 22L must be through the runway intersection when an arrival to Runway 31C is 2 NM from its threshold.
- The small difference in model-estimated results compared to Marginal 04R Flow is due to greater distance from departure end of runway to runway intersection.

Marginal Weather Conditions

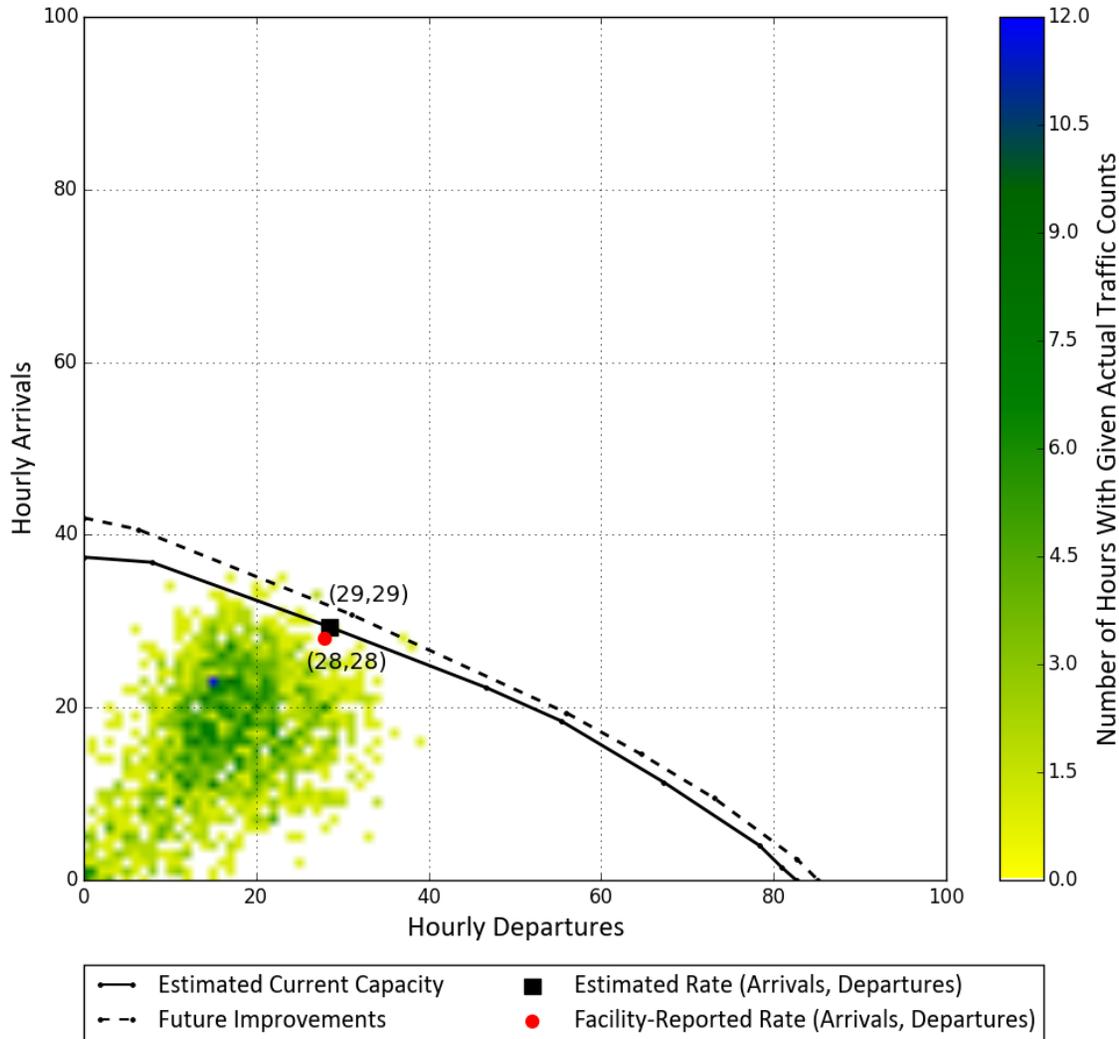


Actual traffic counts shown are for all Marginal hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	04R	04R, 31C	56	58
Future Improvements	04R	04R, 31C	N/A	62

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Instrument conditions in 04R flow is currently 56-58 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 04R.
- Departures on Runway 31C must be through the runway intersection when an arrival to Runway 04R is 2 NM from its threshold.

Instrument Weather Conditions

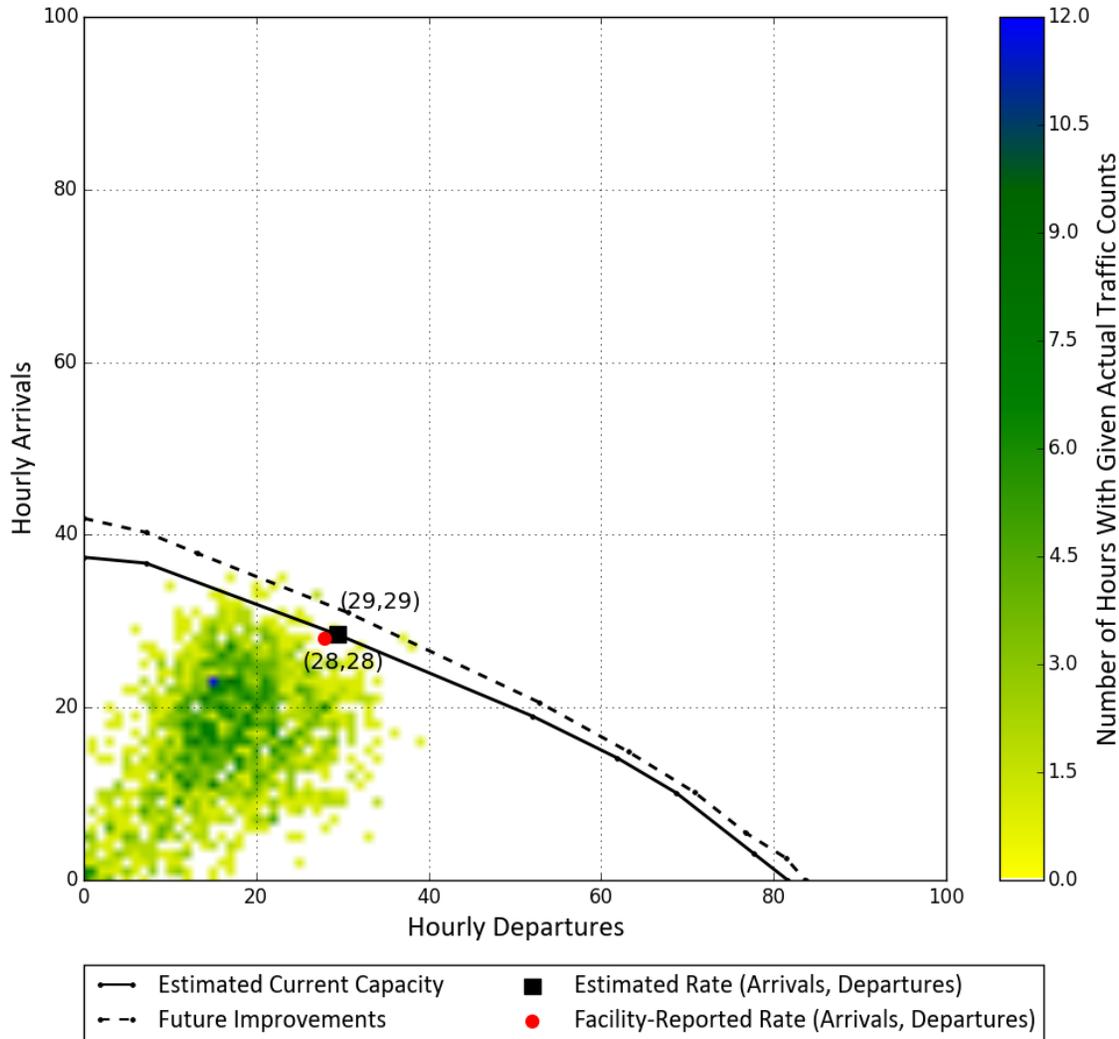


Actual traffic counts shown are for all Instrument hours, all configurations.
For data source information, see page 3.

Type Operations	Arrival Runways	Departure Runways	Hourly Rate	
			ATC Facility-Reported	Model-Estimated
Current Operations	31C	22L, 31C	56	58
Future Improvements	31C	22L, 31C	N/A	62

- **Future improvements:** Improved Runway Delivery Accuracy, Wake Recategorization Phase 2.
- The capacity rate range in Instrument conditions in 31C flow is currently 56-58 operations per hour.
- Reduced separation (2.5 NM) between arrivals is authorized for instrument approaches to Runway 31C.
- Departures on Runway 22L must be through the runway intersection when an arrival to Runway 31C is 2 NM from its threshold.

Instrument Weather Conditions



Actual traffic counts shown are for all Instrument hours, all configurations.
For data source information, see page 3.

Historical Called Rate and Configuration Usage by Flow

HISTORICAL USAGE – 04R FLOW

Called Rates

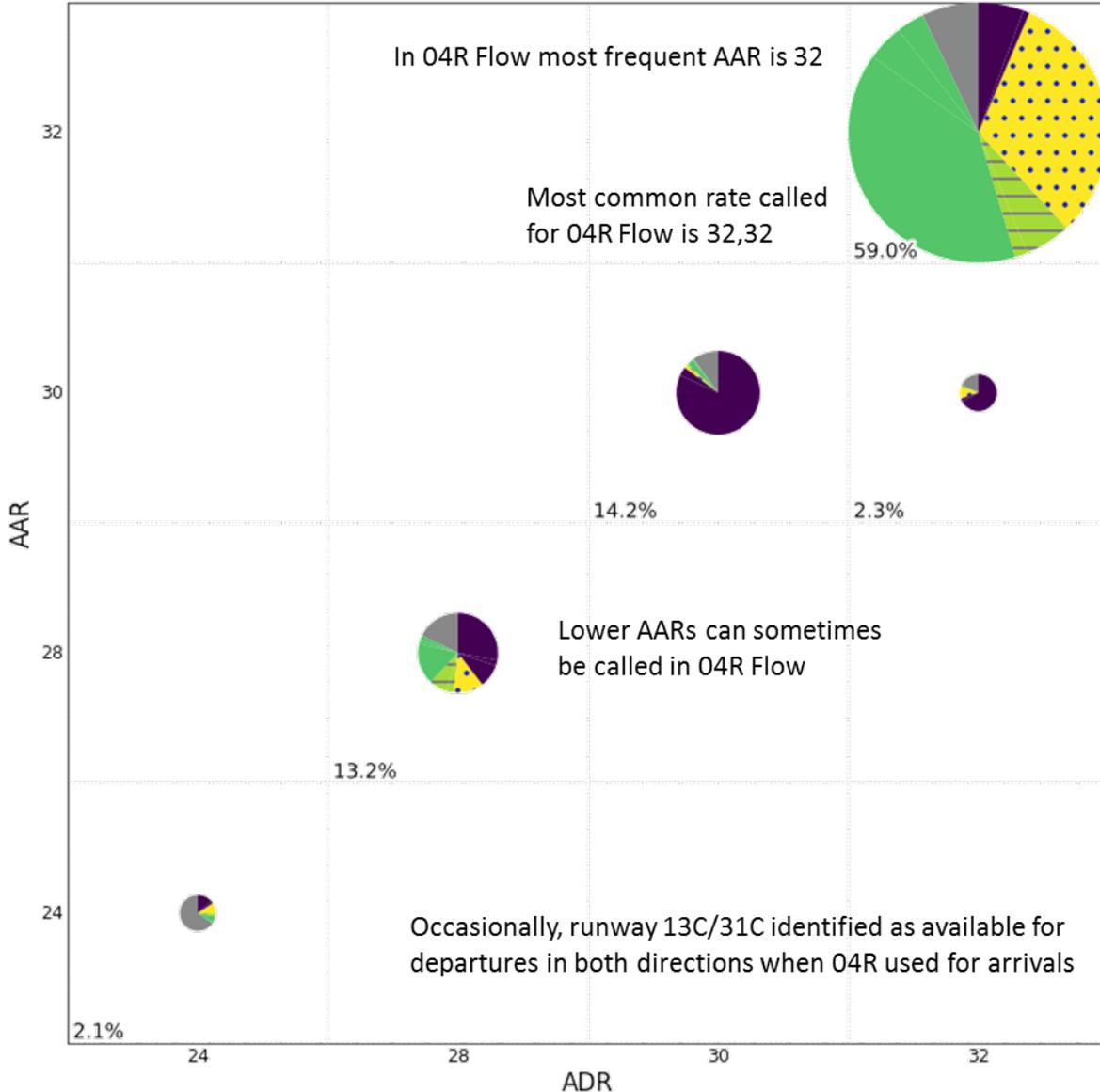
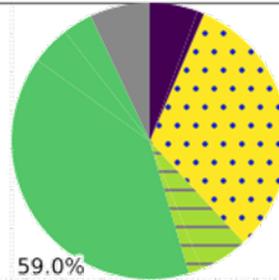
04R Flow commonly used when winds from N/NE/E

In 04R Flow most frequent AAR is 32

Most common rate called for 04R Flow is 32,32

Lower AARs can sometimes be called in 04R Flow

Occasionally, runway 13C/31C identified as available for departures in both directions when 04R used for arrivals



Other rates: 9.2%

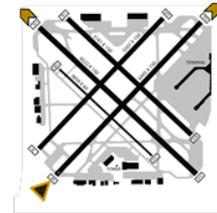
Rates for all hours regardless of configuration, minimum 2% of time

04R FLOW FACILITY REPORTED RATES		
32,32 (VMC)	32,32 (MMC)	28,28 (IMC)

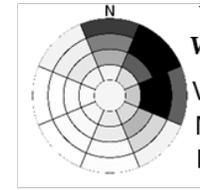
All data for hours from 1 Oct 2013 – 30 Sept 2016, 7 AM to 11 PM. Excludes variable winds and missing or incomplete data. Only shows rates called at least 2% of all hours.

Configuration Usage

04R | 04R,31C (23%)



RATES
32,32 (82%)
28,28 (7%)



WIND & WEATHER
VMC: 81%
MMC: 9%
IMC: 10%

Other 04R Flow > 2%

- 04R | 04R,13C,31C
- 04R | 04R

22L Flow Configurations

31C Flow Configurations

Other Configurations

Key

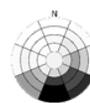
Arrivals | Departures (percent of time in configuration)



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)

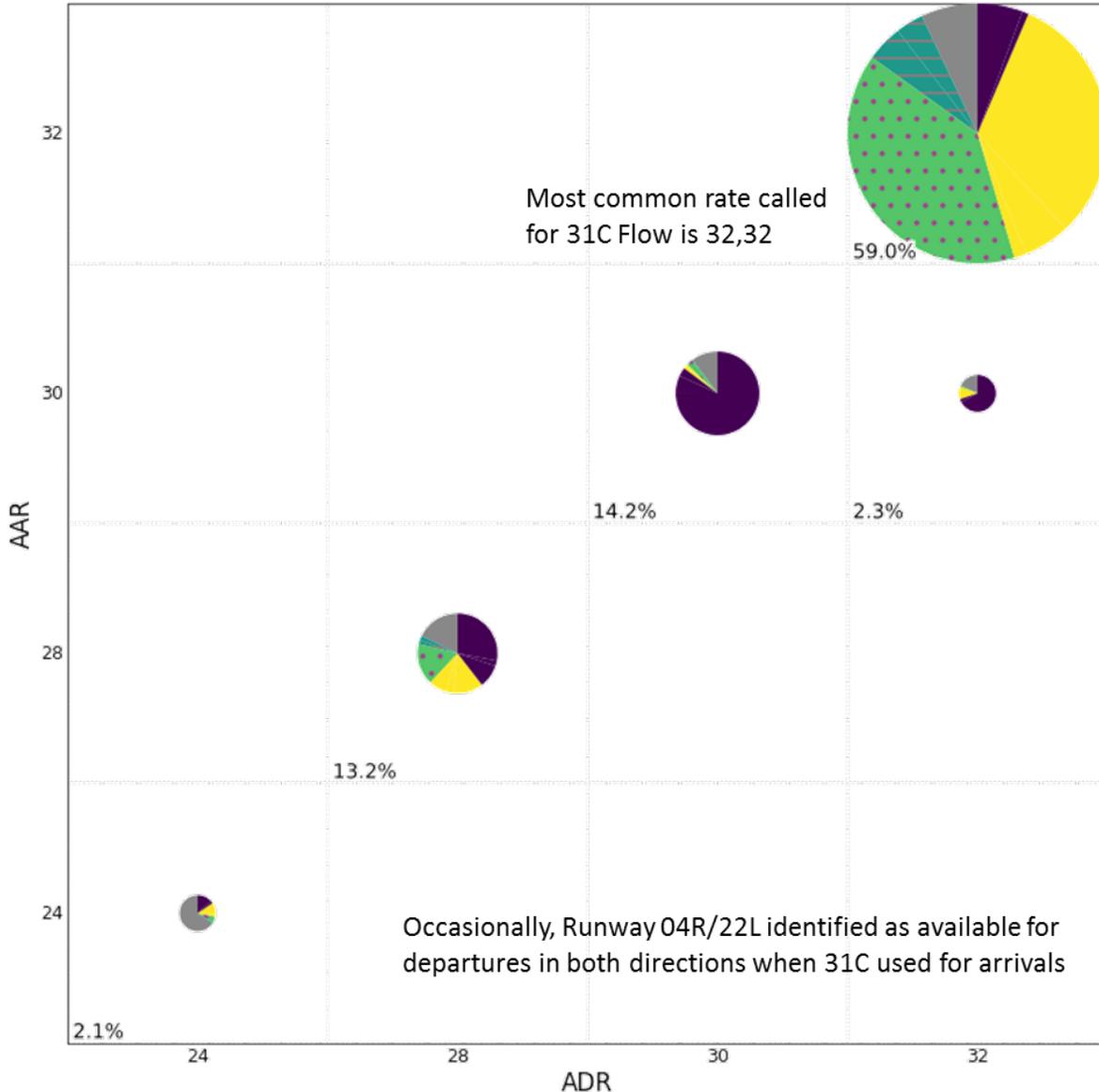
More common winds are darker

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

HISTORICAL USAGE – 31C FLOW

Called Rates

31C Flow configurations used when winds from W/NW



Other rates: 9.2%

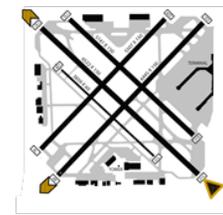
Rates for all hours regardless of configuration, minimum 2% of time

31C FLOW FACILITY REPORTED RATES		
32,32 (VMC)	32,32 (MMC)	28,28 (IMC)

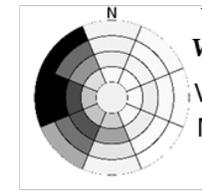
All data for hours from 1 Oct 2013 – 30 Sept 2016, 7 AM to 11 PM. Excludes variable winds and missing or incomplete data. Only shows rates called at least 2% of all hours.

Configuration Usage

31C|22L,31C (28%)



RATES
32,32 (83%)
28,28 (8%)



WIND & WEATHER
VMC: 87%
MMC: 7%
IMC: 6%

Other 31C Flow > 2%

- 31C|04R,22L,31C
- 31C|04R,31C

04R Flow Configurations

22L Flow Configurations

Other Configurations

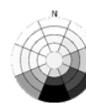
Key

Arrivals | Departures (percent of time in configuration)



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)

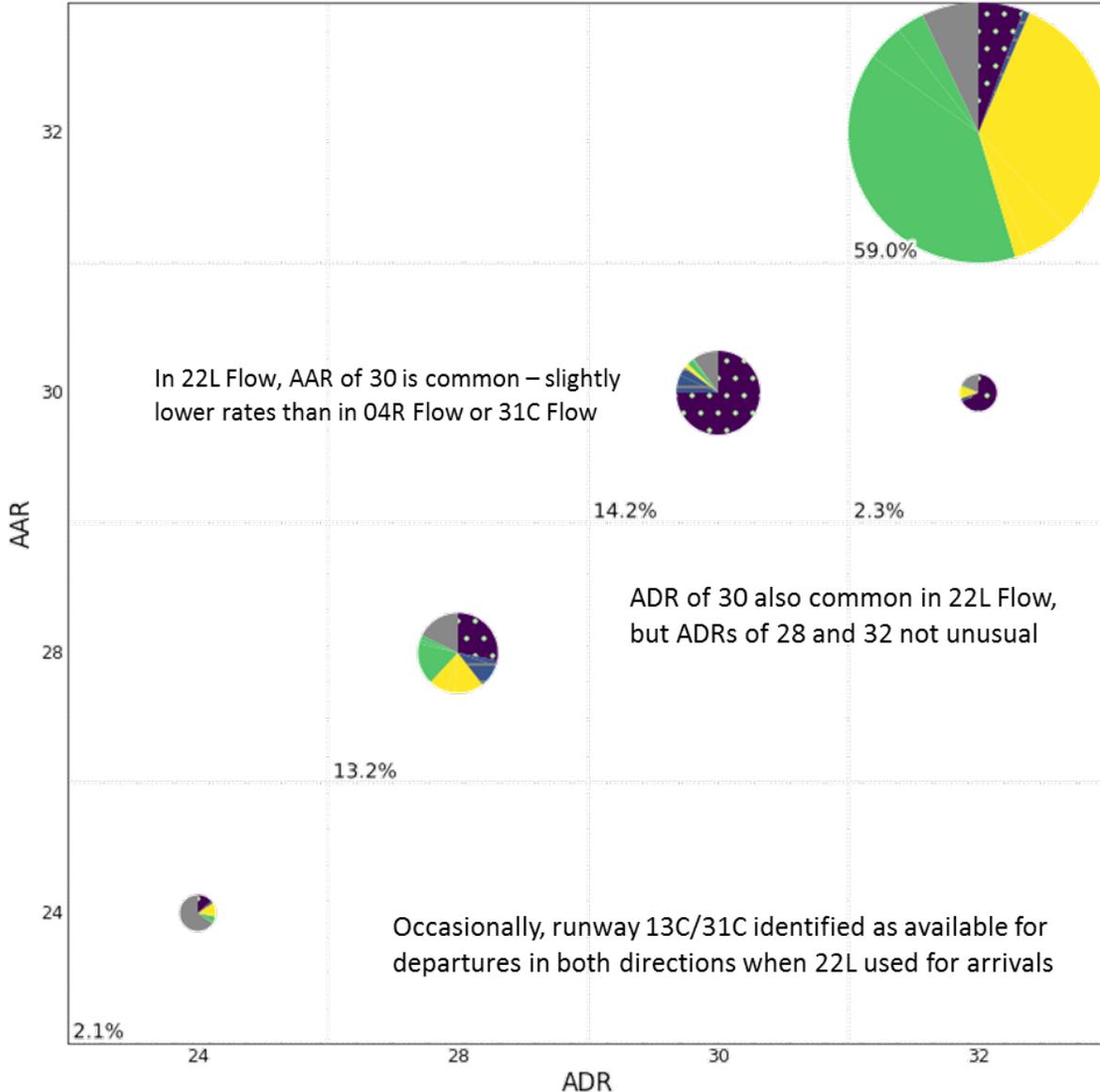
More common winds are darker

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

HISTORICAL USAGE – 22L FLOW

Called Rates

22L Flow commonly used when winds from S/SW



Other rates: 9.2%

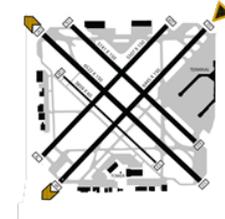
Rates for all hours regardless of configuration, minimum 2% of time

22L FLOW FACILITY REPORTED RATES
32,32 (VMC)

All data for hours from 1 Oct 2013 – 30 Sept 2016, 7 AM to 11 PM. Excludes variable winds and missing or incomplete data. Only shows rates called at least 2% of all hours.

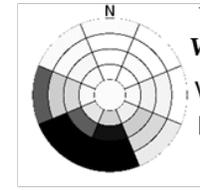
Configuration Usage

22L|22L,31C (21%)



RATES

30,30	(52%)
28,28	(18%)
32,32	(15%)
30,32	(8%)



WIND & WEATHER

VMC: 92%
MMC: 5%
IMC: 3%

Other 22L Flow > 2%

- 22L|13C,22L,31C
- 22L|22L

04R Flow Configurations

31C Flow Configurations

Other Configurations

Key

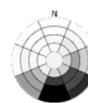
Arrivals|Departures (percent of time in configuration)



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

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