February 28 NAC Administrative Announcements

Note: Only NAC Members, FAA Executive Participants, and Pre-Approved Presenters and Speakers will have panelist/video/speaking capabilities. All other participants will be view-only without speaking/video capabilities.

- When called upon to speak by the Chairman:
  - Please announce your name and organization
  - If using Zoom computer audio, click the Mute/Unmute button in the bottom left corner
  - If using the phone line audio without a participant ID, dial *6 to unmute, as well as your phone's mute button if enabled
  - If using a phone line and entered a participant ID, click the Zoom Mute/Unmute button, dial *6 to unmute your phone line, as well as your phone's mute button if enabled

In lieu of a roll call, all meeting participants will be captured in the meeting summary.

If you have any issues, please contact Antionette Johnson, via e-mail: Antionette.CTR.Johnson@faa.gov

NAC Meeting

February 28, 2023

Opening of Meeting

Chip Childs, NAC Chair

President & CEO (SkyWest Airlines)

Public Meeting Announcement

NextGen Advisory Committee (NAC)

February 28, 2023

Public Statements

Members of the Public

NAC Chair Report

Chip Childs, NAC Chair

President & CEO (SkyWest Airlines)

Motion for NAC Approval

- August 30, 2022 – NAC Meeting Summary Package Draft

FAA Report

Brad Mims, FAA Deputy Administrator

NAC Designated Federal Officer

NAC Subcommittee (SC) Chair Report

Warren Christie, NAC SC Chair
(JetBlue Airways)

NAC Subcommittee Status Overview

- New workgroup leadership
  - Chris Oswald from ACI-NA as the new second Surface NIWG co-chair, who takes over for Steve Vail
  - Eric Silverman from American Airlines as new industry JAT Co-Lead to support current lead Alex Burnett from United

- New tasking considering how to achieve greater airspace efficiencies in resource constrained environment

- Section 547/Enhanced Air Traffic Services and Airspace Modernization Roadmap updates

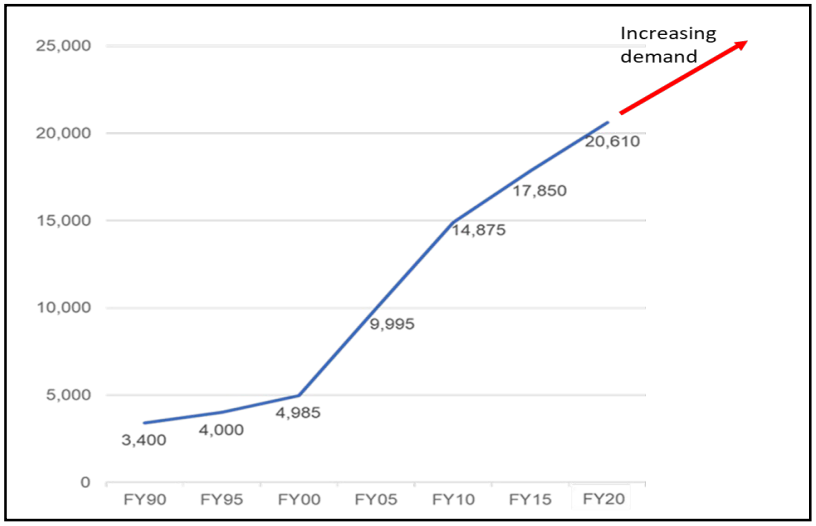
- Minimum Capabilities List annual review report

- Focus area milestone updates

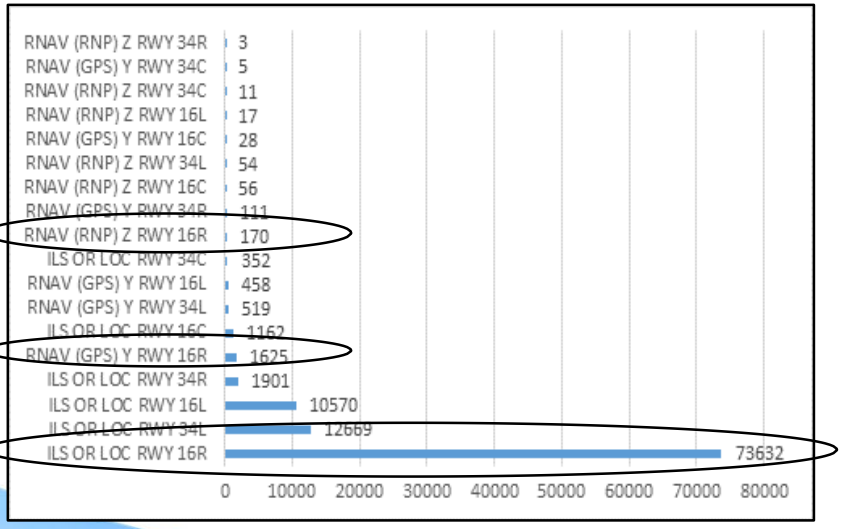
NAC Task 23-1:

NAS Airspace Efficiencies

Motivation for the New Tasking



Modernizing the airspace has increased the number of published approaches – increasing resources need to develop and maintain these procedures…



However, FAA analysis of procedure usage shows preference for conventional approaches.

NAC Task 23-1: NAS Airspace Efficiencies

The FAA requests NAC advice on ways to achieve greater airspace efficiencies as we collaboratively attempt to reduce reliance on and divest from legacy systems and procedures and move to a reliance on a more modernized NAS.

The FAA offers the following suggestions as a way to begin the efficiency discussions:

1. Within the scope of current FAA automation capabilities, explore opportunities for increased utilization of existing Performance Based Navigation (PBN) procedures.
2. Identify opportunities for industry to leverage efficiencies gained from their avionics and dispatch systems investments while simultaneously allowing the FAA to divest from legacy NAS elements that do not contribute to those efficiencies.
3. Identify opportunities for the FAA to remove existing and infrequently used Instrument Flight Procedures (IFPs).
4. Identify opportunities to potentially modify existing IFPs/Standard Instrument Departure Procedures (SIDs)/Standard Terminal Arrival Procedures (STARs) to gain overall airspace efficiencies.
5. Identify a recommended baseline PBN and non-PBN IFP infrastructure to provide the minimum service level and airport access for both non-Global Positioning System/Area Navigation equipped aircraft and aircraft with advanced avionics for each Navigation Services Group Airport Category (1-5).
6. Identify any trends in IFP/SID/STAR inventory suggestions that might be used as a national standard.
7. Explore opportunities for even greater efficiencies with the use of Advanced Required Navigation Performance (A-RNP) as is being pursued by the Performance Based Operations Aviation Rulemaking Committee.
8. Work with the NAC Subcommittee Minimum Capabilities List (MCL) Team to capitalize on any cross-cutting issues that might support both taskings and industry achieving MCL-level of equipage.

Initial Thoughts on Task Execution

- **Team Membership:**
  - At the NAC SC level – like the MCL and 547 "+1" team
  - Focus on operational perspectives, leveraging NAC SC members
    - Airlines, regional and BA/GA operators
    - Planners, pilots, controllers and maintainers
    - Airport operators
  - Other subject matter experts to be included as appropriate

- **Approach**
  - Like MCL, Industry-driven
  - Site specific case studies that can then up-leveled to support broader recommendations

Preliminary Tasking Schedule

- **Milestones**
  - February NAC – initial task update
  - Spring NAC – target review of two NSG case studies
  - Fall NAC – target three more NSG case studies, initial up-level findings

- **Meeting cadence**
  - Organizational call completed last week
  - Initially team will meet more frequently
  - Line up with NAC SC meetings to promote in-person attendance
  - Each NAC SC will have dedicated time to review the work to date

- **Next steps**
  - Full kick-off meeting in March
  - Working with FAA to get background information
  - Site selection for case studies

NAC Task 21-1:

NAS Aircraft Minimum Capabilities List (MCL) Annual Review

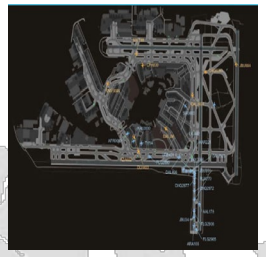
Ron Renk (United Airlines)

Motion for NAC Approval as Advice to the FAA

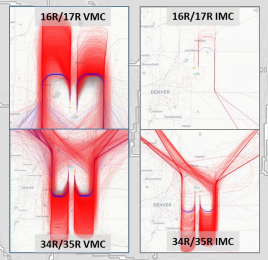
- NAC Task 21-1: NAS Aircraft Minimum Capabilities List (MCL) Annual Review

Tasks 18-4 & 18-5 Focus Area Risks

Overview of Implementation Milestones (since August 2022 NAC)



Cleveland goes operational with Electronic Flight Strips (EFS) – keys site for TFDM



Select TBO capabilities implemented in Denver

GBAS development has started for JFK and LGA

New high altitude sector implemented in Washington Center

Three centers added en route data comm – Seattle, Atlanta, Chicago

Workgroup Presentations

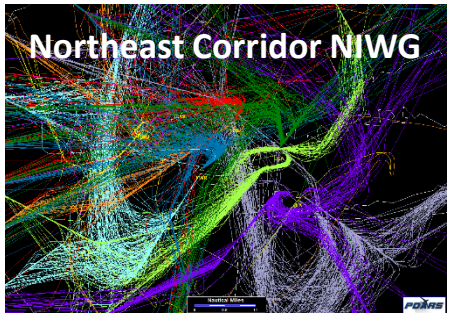
- **Northeast Corridor:**
  - Ralph Tamburro (PANYNJ) & Lee Brown (JetBlue Airways)
  - Aaron Wilkins (FAA), Juan Narvid (FAA), & Patrick Blaser (FAA)

- **Performance Based Navigation:**
  - Eric Morse (Delta Air Lines)
  - Aaron Wilkins (FAA), Juan Narvid (FAA), & Patrick Blaser (FAA)

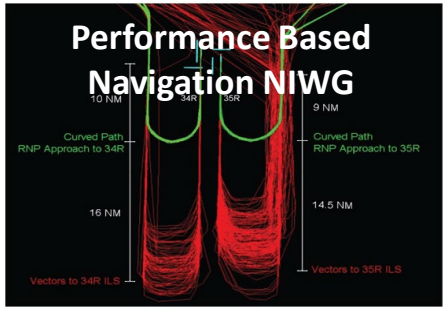
- **Surface and Data Sharing:**
  - Rob Goldman (Delta Air Lines) & Chris Oswald (ACI-NA)
  - Doug Swol (FAA) & Ayaz Kagzi (FAA)

- **Data Communications:**
  - Chris Collings (L3Harris) & Ed Evans (Southwest Airlines)
  - Kathy Torrence (FAA)

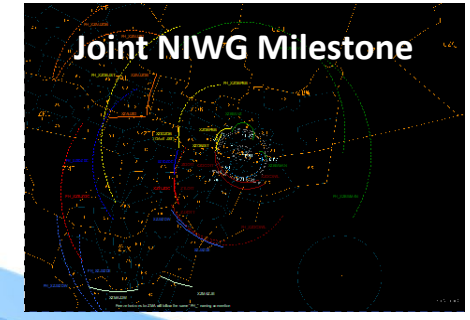
Northeast Corridor & Performance Based Navigation – Status



- GBAS projects for JFK and LGA have both started
- PANYNJ initiated Fly Quiet Programs for JFK, LGA EWR
- 20 Q-Routes to be implemented in April
- Atlantic Coast Routes completion milestone shifted to Q4 CY2023; Industry milestone to shift in kind



- "Implement select iTBO capabilities in Denver" – milestone completed with Metroplex, IDAC and Extended Metering implementation



- Collaborative efforts of both NIWGs on common TBO/TBFM milestone for the NEC
- Continued discussion of schedule and scope consequences as FAA resource planning continues

Surface & Data Sharing – NAC Update

Key TFDM program accomplishments

- Keysite Cleveland goes Operational with Electronic Flight Strips (EFS)
  - Two NAC milestones completed Fall 2022
- Remaining 2023 and 2024 program milestones are on-track
  - EFS In-Service Decision and three additional EFS sites (IND, PHX, RDU + CMH, LAS 2023)
  - CLT Surface Metering Key Site
- Waterfall Implementation in 2025+ subject to funding availability
  - May impact additional surface metering implementation

TFDM EFS in CLE

TFDM Surface Manager in CLE

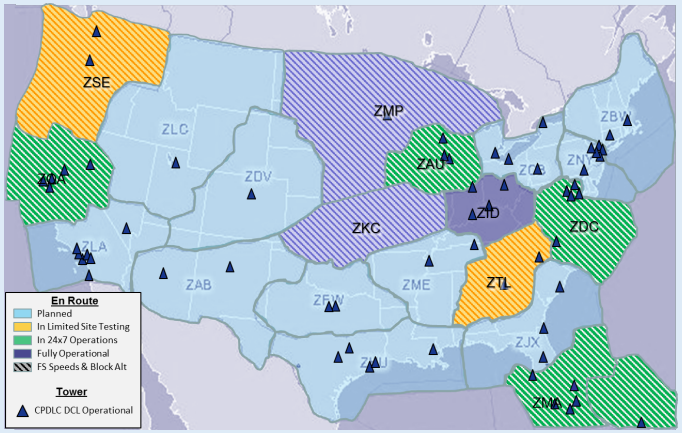
Continued collaboration is needed to deliver necessary capabilities - revise/add Industry milestones:

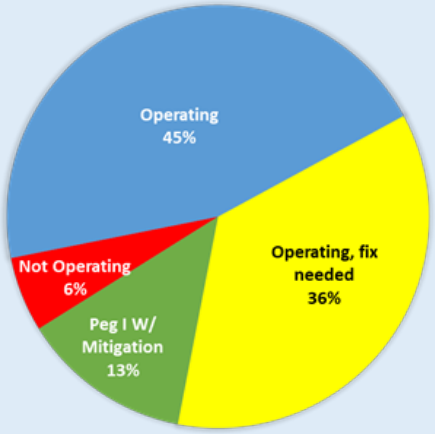
- FAA and industry will review current and subsequent changes of the TFDM waterfall to ensure industry alignment throughout the TFDM waterfall
- Industry will participate and provide input at SWIFT, CDM and similar forums to jointly develop with FAA near-term integrated flow management capabilities in support of executing the FAA's Automation Evolution Strategy and leveraging an info-centric NAS
  - *Seek opportunities to reduce risk on larger programs and benefit the flying public in the near term*

Data Comm NIWG Update

En Route Data Comm Deployment

+ 7 centers operational 24/7
+ Plan for 12 centers operational by summer of 2023
+ En Route Full Services activation started
– En Route deployment delayed due to funding constraints





Avionics Performance Updates

+ Avionics updates continue to gain momentum into 2023 with open items having plans for completion
+ Multiple avionics updates delivered as planned in 2022 by manufacturers
– Some fleets do not have planned update commitments by manufacturers

Motion for NAC Approval

- **Northeast Corridor**
  - Shifted joint ACR implementation milestone
  - Reworded Industry GBAS milestones

- **Surface and Data Sharing**
  - Revised joint TFDM waterfall pre-implementation milestone
  - New Industry collaborative milestone

FAA Topics

FAA Subject Matter Experts (SMEs)

Section 547 Pilot Program:

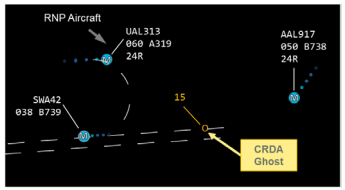
Preliminary Analysis Results

Juan Narvid (FAA) & Kathy Torrence (FAA)

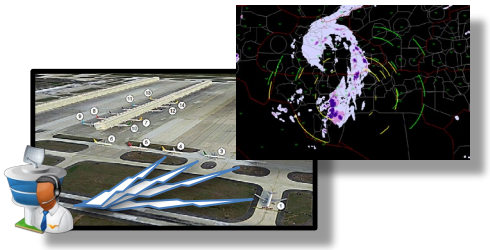
Overview of Selected Section 547 Initiatives

Process: Industry provided FAA a 'short list' of candidate recommendations based on Readiness, Return, & Relevance

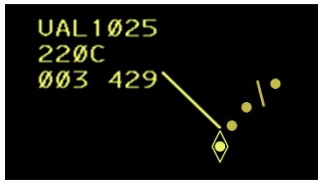
Initiative
Simultaneous Independent Established on RNP (EoR) at Los Angeles International Airport (LAX) *(start date: September 12, 2021)*
CPDLC Departure Clearance (DCL) capabilities at Orlando International Airport (MCO) *(Focused metric tracking September 1, 2021)*
Automatic Dependent Surveillance-Broadcast (ADS-B) Out enabling 3 nautical mile (NM) in en route airspace (below FL230) for Oakland Air Route Traffic Control Center (ZOA) *(start date: September 9, 2021)*



PBN RNP Equipage= Reduced Flight Distance and Flight Time



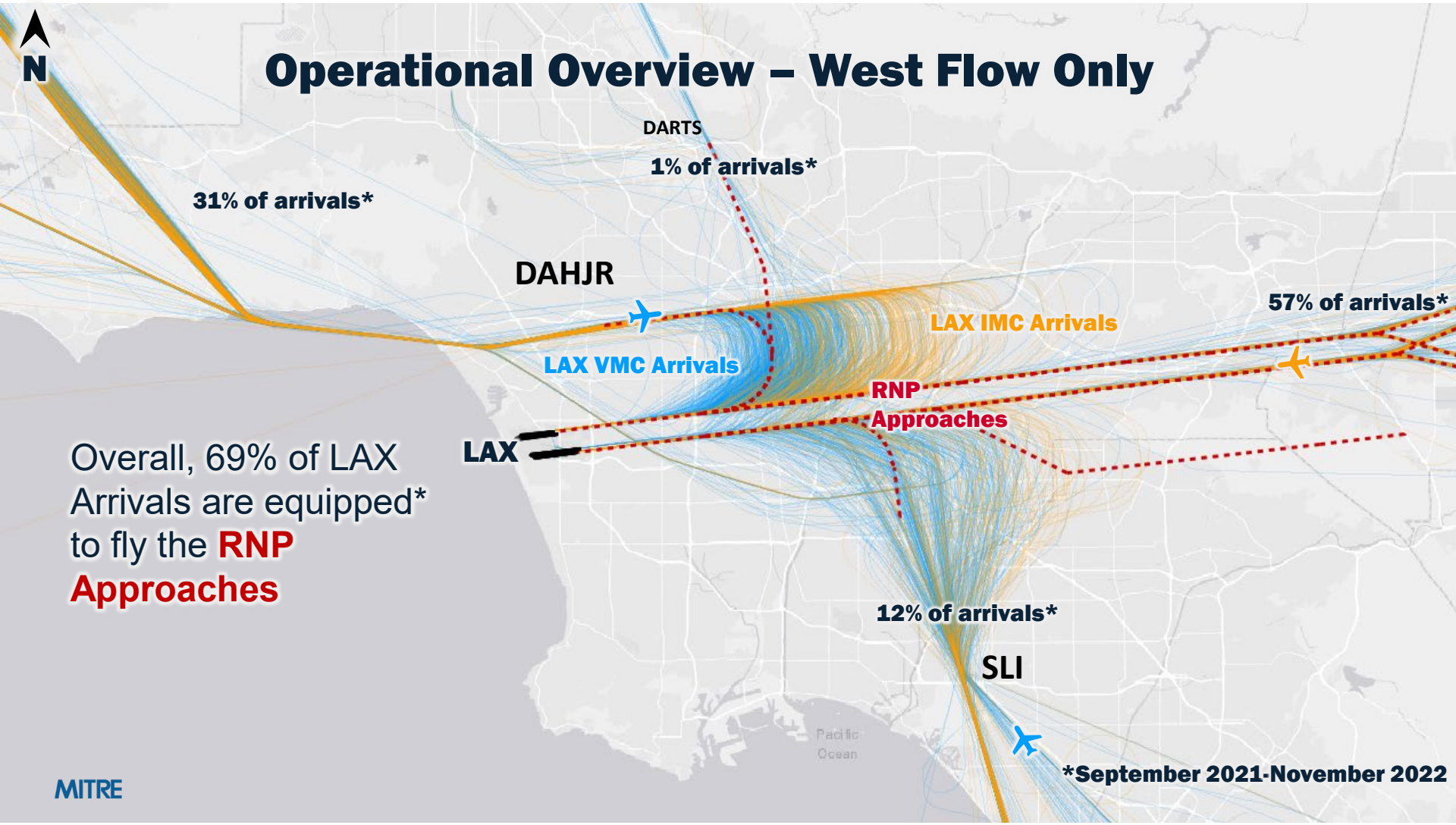
Data Communication Equipage= Earlier Departure During Rerouting Events, and overall system efficiency



ADS-B Out Equipage= Reduced spacing/distance flown

LAX INITIATIVE

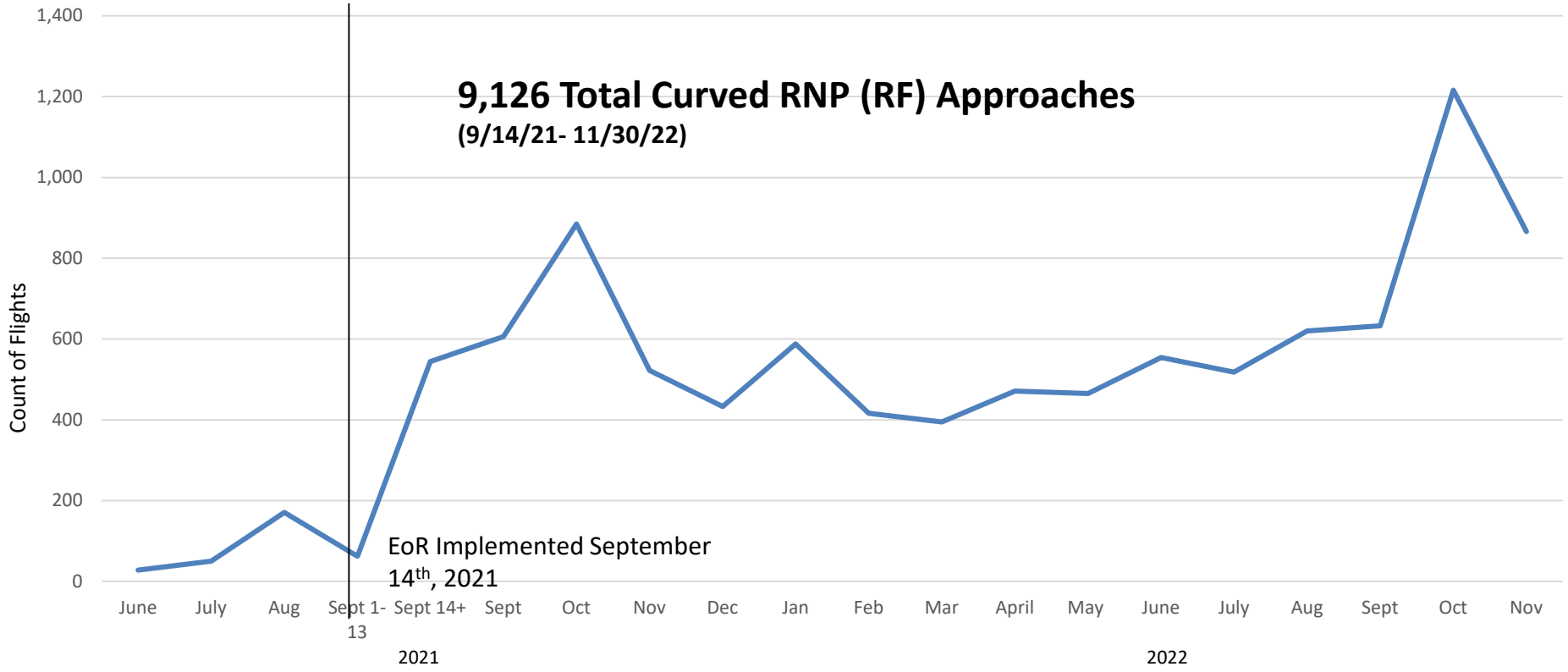
Operational Overview – West Flow Only



Overall, 69% of LAX Arrivals are equipped* to fly the **RNP Approaches**

MITRE

Monthly Curved RNP (RF) Usage – West Configuration Only



RNP RF Benefits – West Flow

Flight Efficiency Improvements for RNP RF vs Non-RNP Approach Operations

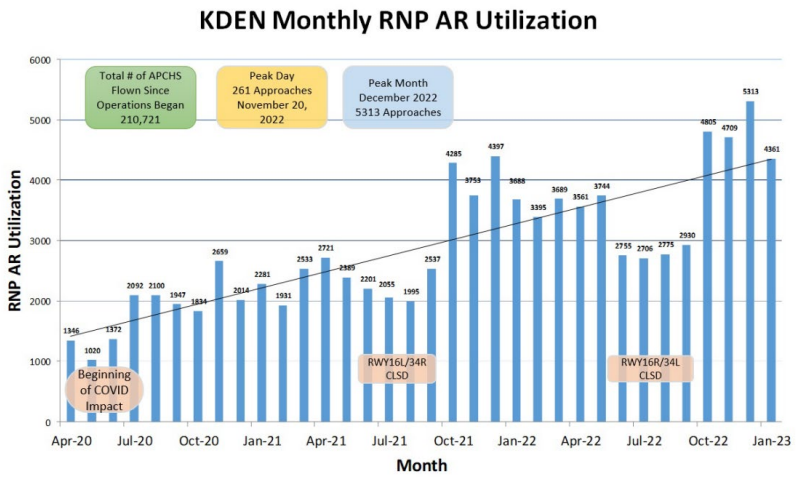
	Per Flight		
VMC/IMC	**Distance Flown (NM)**	**Time Flown (Minutes)**	**Fuel Burn (Gallons)***
VMC	**2.5**	**0.7**	**9.1**
IMC	**6.6**	**2.1**	**19.9**

- From 9/14/2021 through 11/30/2022
  - ✓ Saved 29,776 NM distance flown
  - ✓ Saved 8,893 minutes of flying time

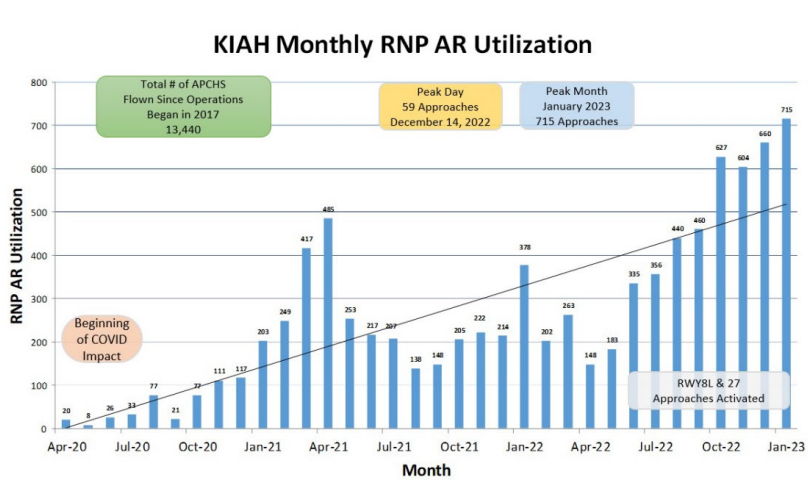
*Based on fuel burn for a B738

Other Locations Using Curved RNP Approaches

DEN Count – January 2023



IAH Count – January 2023

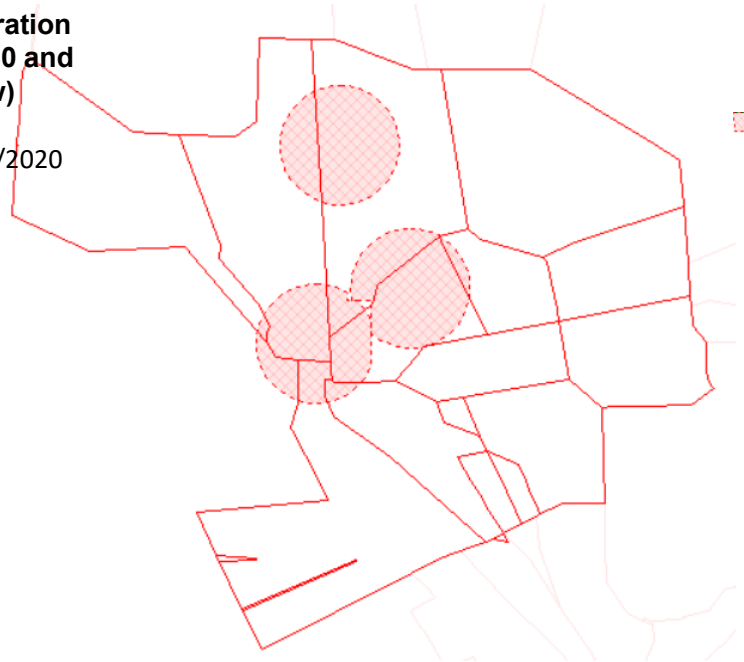


ZOA INITIATIVE

Operational Context ZOA – All Reduced Alert Criteria (RAC) Aircraft Alert Volumes (AAVs)

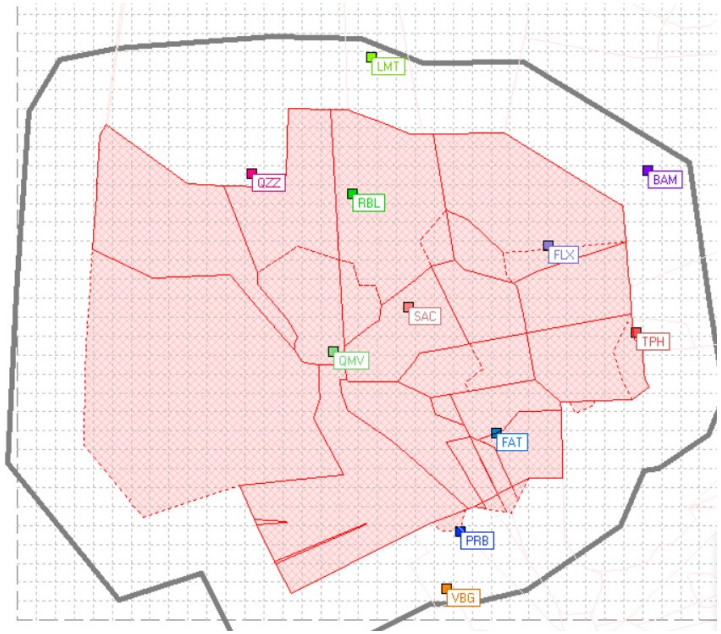
Adapted for 3NM Separation (FL230 and below)

12/31/2020



Adapted for 3NM Separation (FL230 and below)

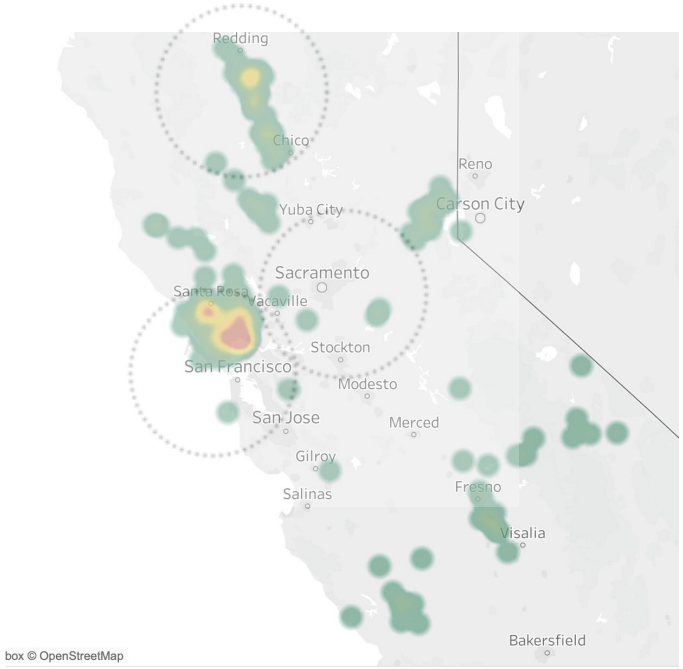
10/12/2021



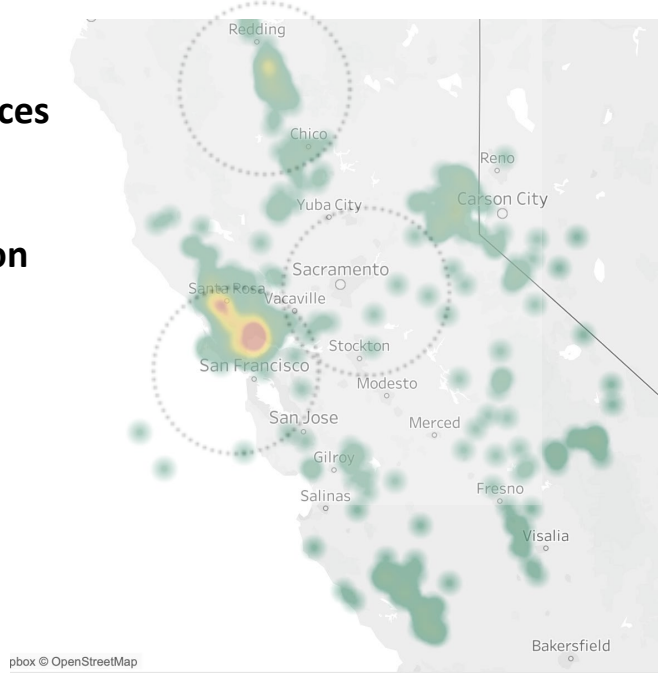
Automation changes enabled more consistent use of 3NM separation at low altitudes within ZOA.

34

Locations of < 5 NM, < 1,000 ft Separation within ZOA at or below FL230



- **Increase in instances of aircraft experiencing reduced separation compared to baseline periods**

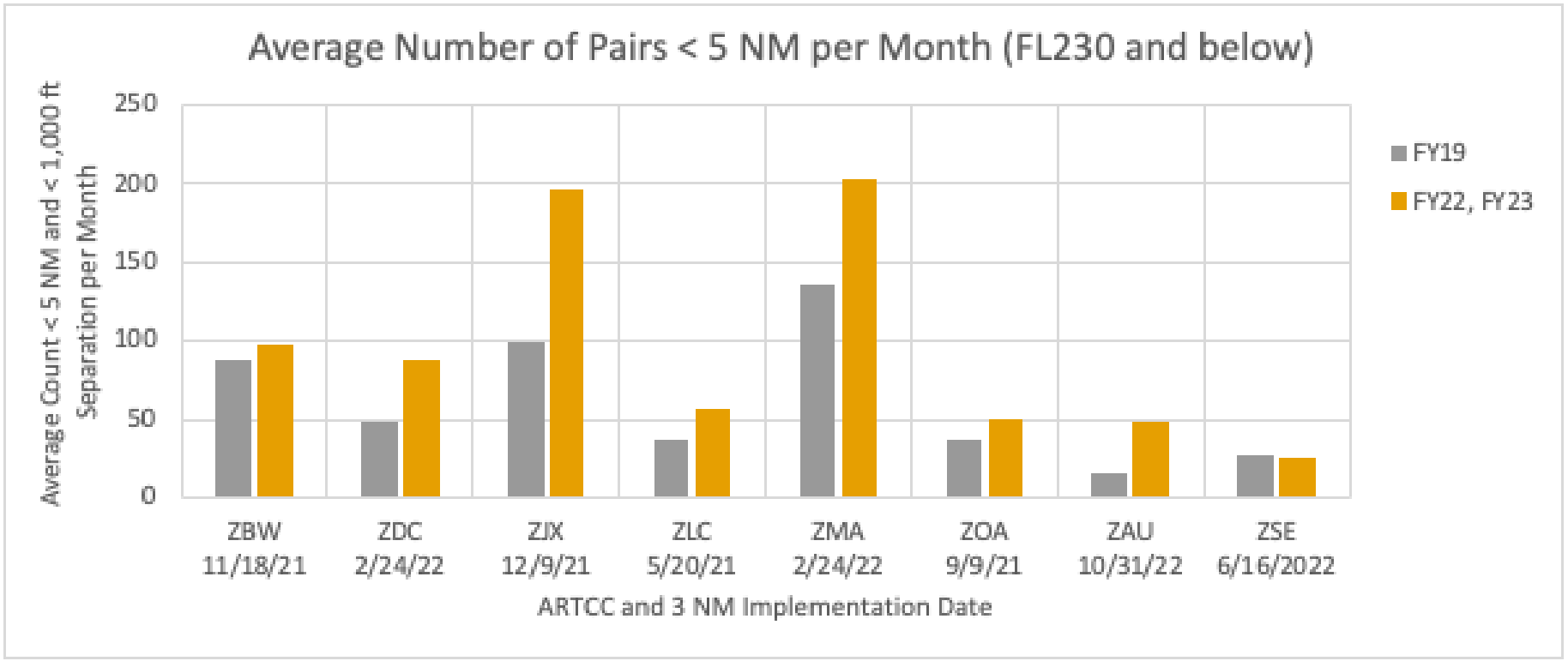


216 instances between 9/9/2018 and 4/15/2019

487 instances between 9/9/2021 and 4/15/2022

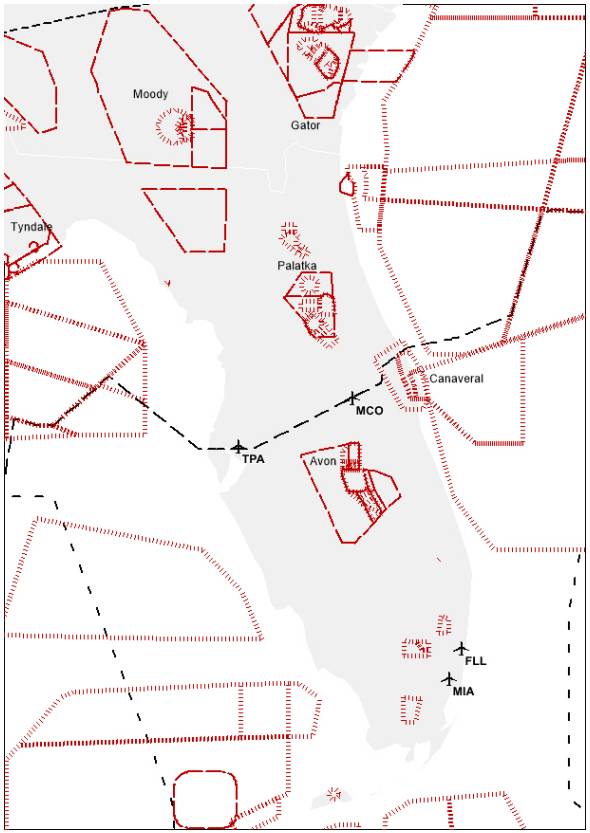
*Counts include pre-existing 3 NM areas

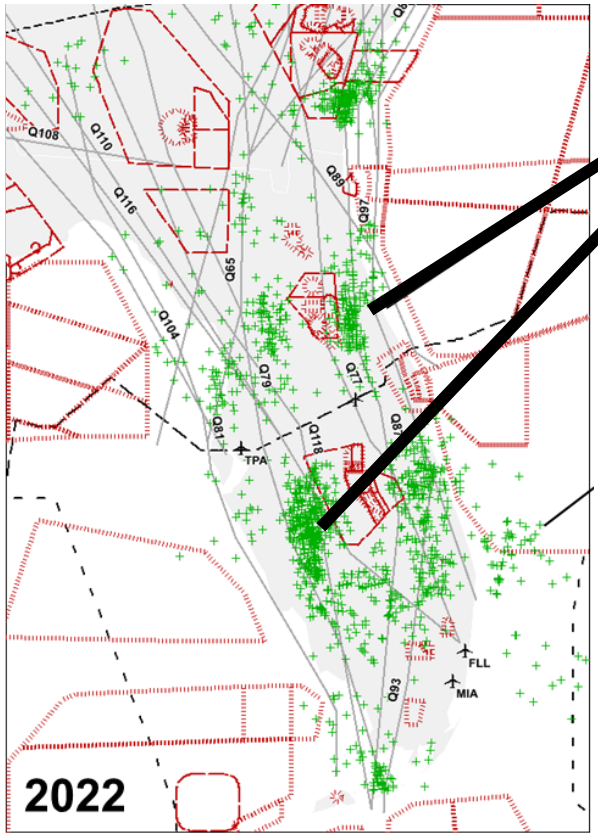
All ARTCCs with 3NM Separation Implemented



Note: Includes some VFR aircraft

Summary of ZMA/ZJX Findings





- **Opportunities increased where capacity of airspace constrains flow and lateral separation is used more frequently**

Section 547 Data Comm: Orlando Metrics

January 2023

L3HARRIS

Federal Aviation Administration

Initiative Description

CPDLC Departure Clearance (DCL) **capabilities at Orlando International Airport** (MCO)

- **Overview**

  Use of DCL can provide CPDLC equipped operators revised departure clearances in a more time-efficient manner compared to unequipped operators. This is especially beneficial when reroutes are necessary due to weather or other air traffic disruptions.

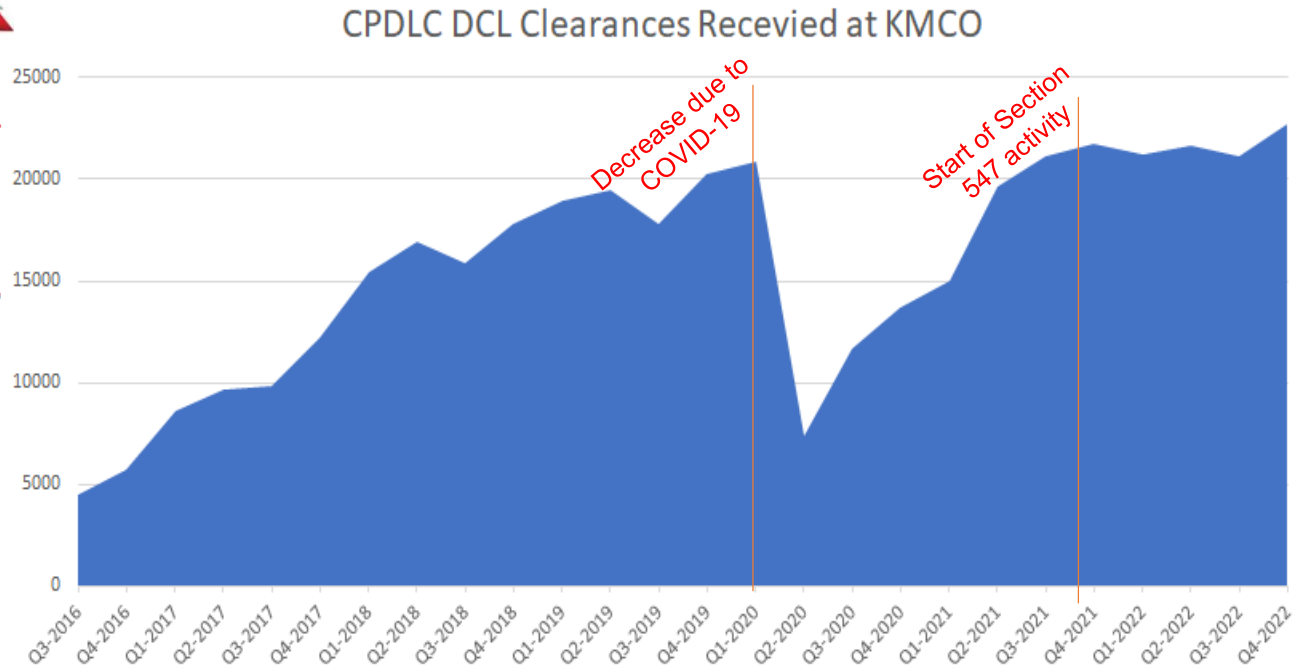
- **Anticipated Benefits**

  Minutes of Airspace User Time Saved and kilograms of CO_2 Emissions Prevented

- **Start Date**

  Focused data collection and metric tracking beginning 9/1/2021

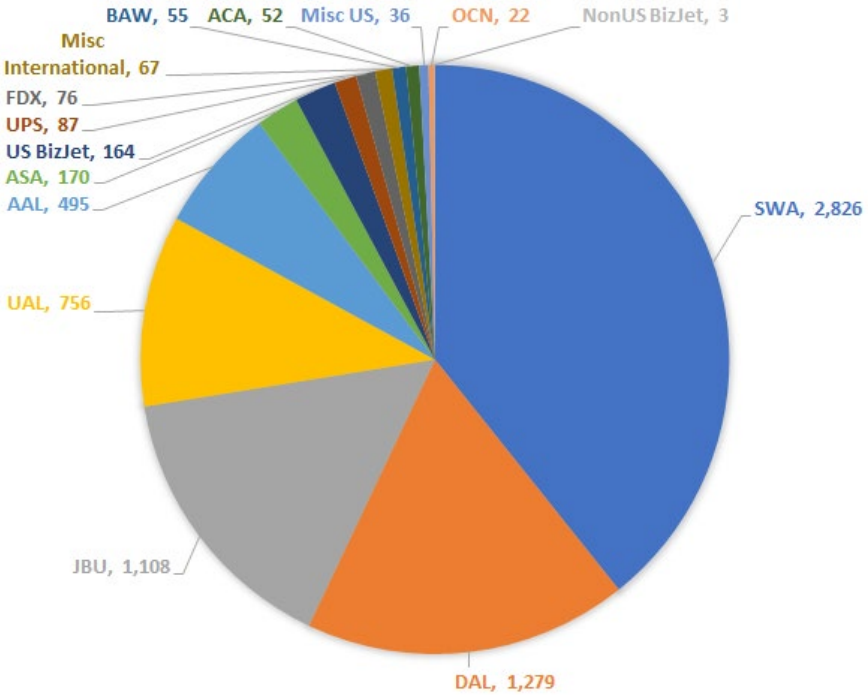
Orlando CPDLC DCL Departures



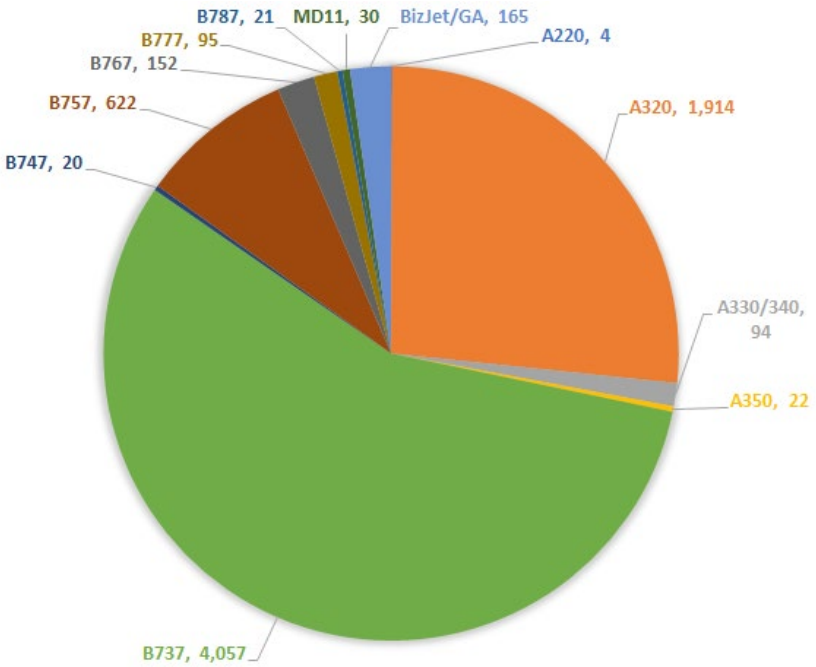
Orlando CPDLC DCL Clearances

November 2022

By Operator



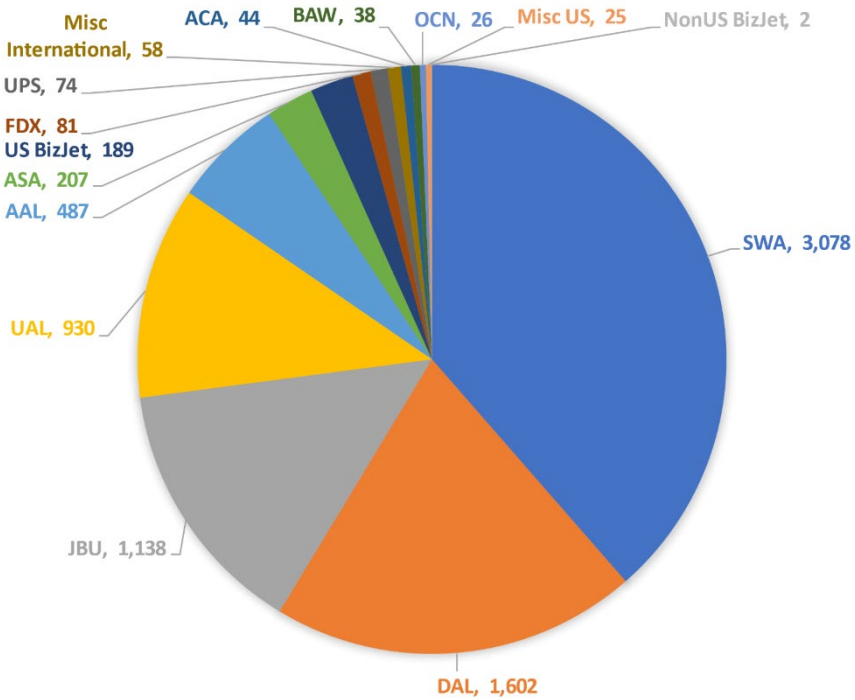
By Aircraft Type



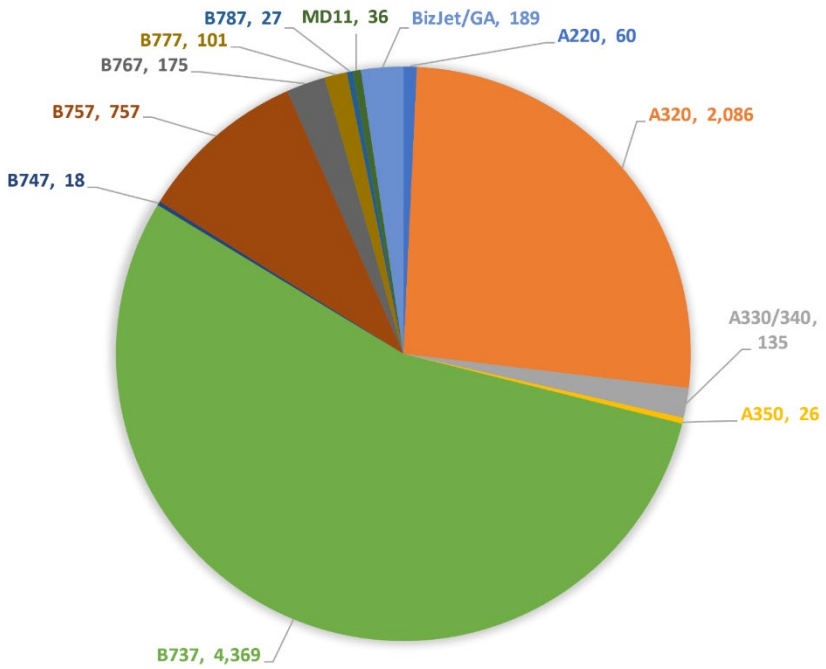
Orlando CPDLC DCL Clearances

January 2023

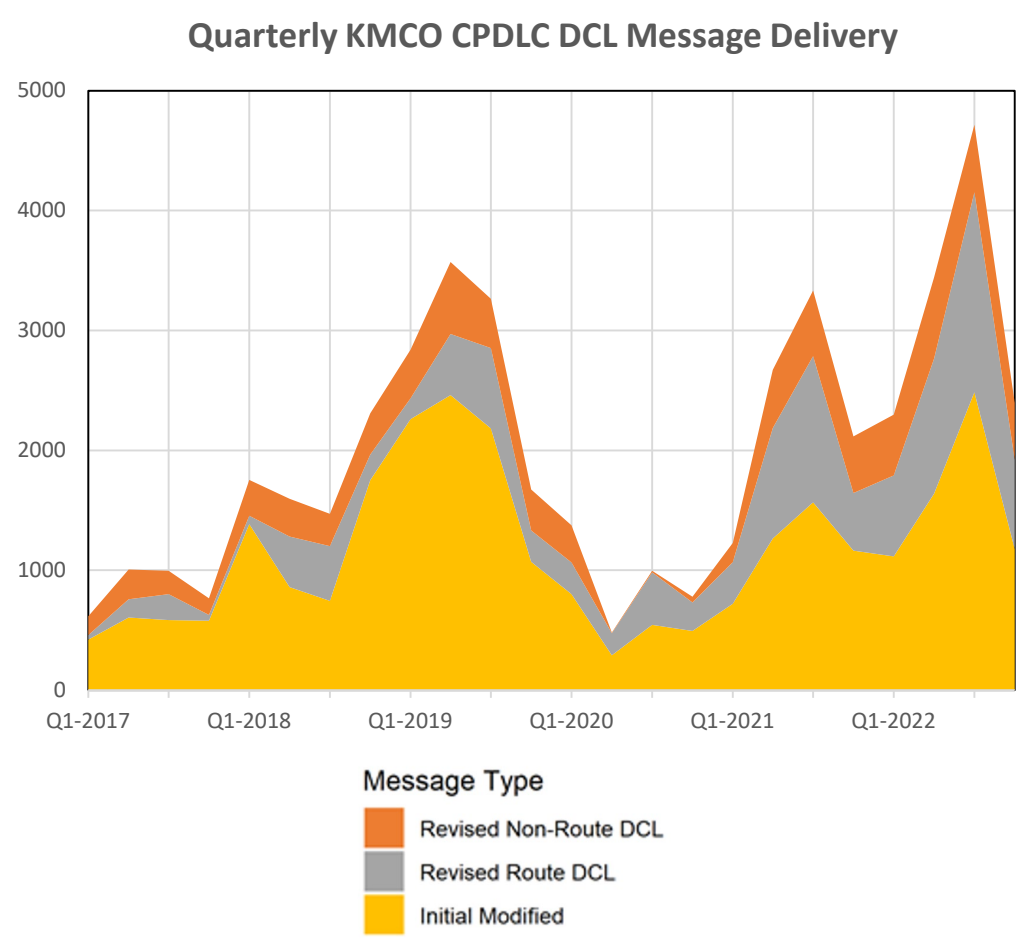
By Operator



By Aircraft Type



Orlando CPDLC DCL Messages Delivered



Cleared as Filed	The participating flight receives no changes/modifications to their original/intended route of flight filed in their flight plan.
Initial Modified	The participating flight receives a change to their original/intended route of flight on the filed flight plan, this change could be a route or non-route change.
Revised Route DCL	The participating flight receives a change/modification to their original/intended route of flight on the filed flight plan that resulted in a route change from air traffic control.
Revised Non-Route DCL	The participating flight receives a change to their original/intended route of flight on the filed flight plan. This change/modification only affected non-route information such as, but not limited to, squawk code or departure frequency.

Orlando CPDLC DCL Benefits

Since January 2021

- Cleared 146,835 flights
- Saved 30,369 minutes of airspace user time (gate and taxi)
- Prevented 835,751 kgs of CO_2 Emissions

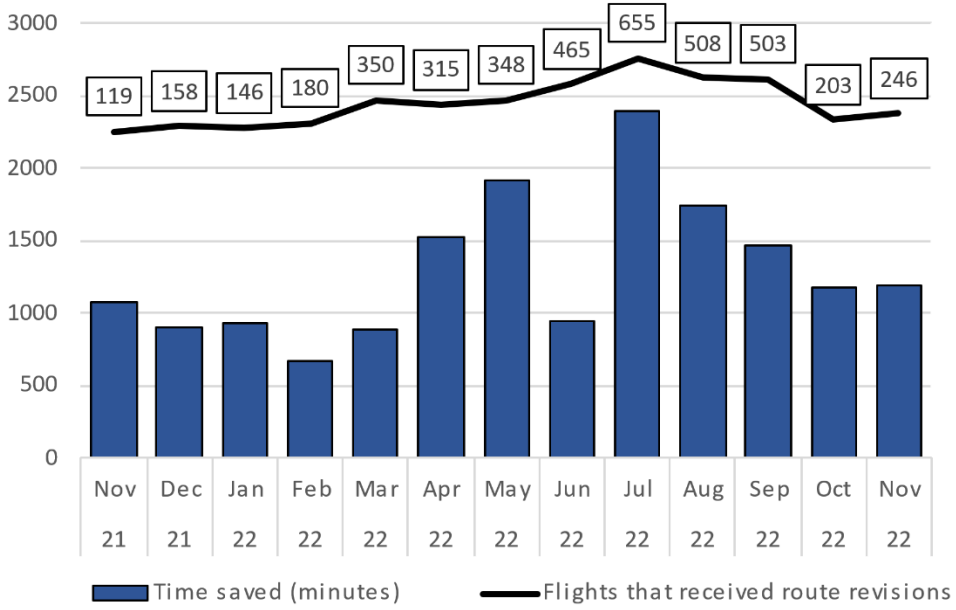
In November 2022

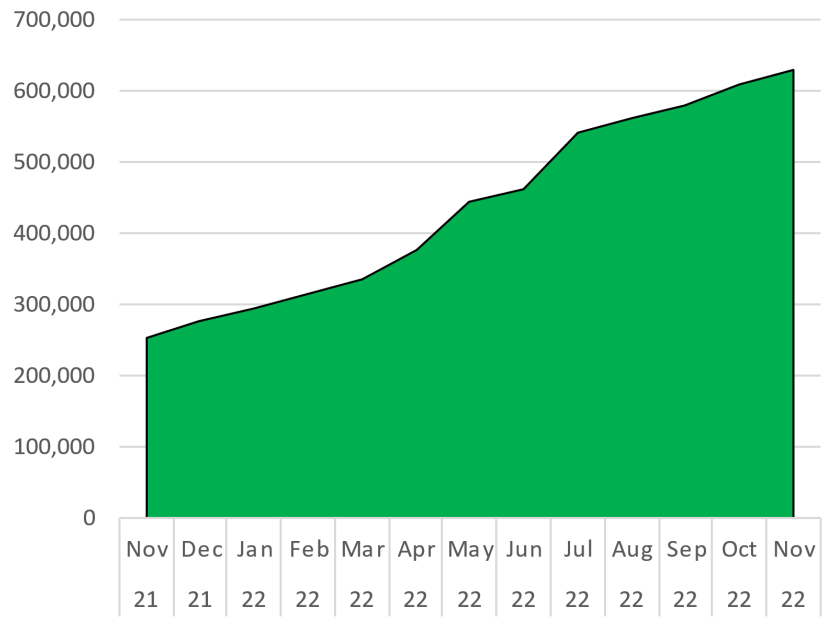
- Cleared 7,196 flights
- Saved 1,282 minutes of airspace user time (gate and taxi)
- Prevented 20,900 kgs of CO_2 Emissions

**Benefits are derived using ASPM data which is verified 3 months after the month closes.*

Orlando CPDLC DCL Benefits Trend

Time Savings and Emission Reductions





**Benefits are derived using ASPM data which is verified 3 months after the month closes.*

Airspace Modernization Update

Michele Merkle (FAA)

Airspace Modernization – Update

- **Airspace Modernization Roadmap (AMR) Strategy**
  - Uses a data-driven strategy based on past recommendations from the NAC

- **Integrates priorities from the NAC**
  - MCL, PBN Clarification, PBN NAS Navigation Strategy, NSG 1 and 2

- **Implements a new executive leadership governance structure**
  - Service Area Leadership Teams (SALT) of ATO Service Unit and LOB Directors

- **Applied both quantitative and qualitative metrics**
  - Safety, Efficiency and Operations;

Airspace Modernization – Initial Site Selections

- **Eastern Service Area**
  - Charlotte-Douglas International Airport (CLT)
  - Jacksonville ARTCC Airspace (ZJX)

- **Central Service Area**
  - Austin-Bergstrom International Airport (AUS)
  - Dallas/Ft. Worth International Airport (DFW)

- **Western Service Area**
  - Honolulu Control Facility Airspace (HCF)
  - Salt Lake ARTCC Airspace (ZLC)

RTA-IM ConOps

Michele Merkle (FAA)

Review of Action Items & Other Business

Kimberly Noonan, NAC Committee Manager (FAA)

Upcoming Meetings

- **NextGen Advisory Committee (NAC) Meeting:**
  - Summer 2023
  - Fall 2023

DFO Comments

Brad Mims, FAA Deputy Administrator

NAC Designated Federal Officer

Closing Comments & Adjourn

Chip Childs, NAC Chair

President & CEO (SkyWest Airlines)