



Western Pacific Regional Administrator

Las Vegas Metroplex Briefing

Presented to: Clark County Board of County Commissioners
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**Federal Aviation
Administration**

Why Metroplex?

The Las Vegas Metroplex is part of the Next Generation Air Transportation System (NextGen) modernization of America's air transportation system to make flying even safer, more efficient, and more predictable.

- One of 11 Metroplex projects across the country
- A comprehensive project to **modernize the flow of air traffic** into and out of Las Vegas by **emphasizing safety, increasing efficiency and improving environmental performance**
- The project added **new, more efficient satellite-based procedures**
- Provided a much needed modernization of the Las Vegas airspace infrastructure, much as we modernize the highway system and other transportation infrastructure



Project Timelines and Challenges

- **Study Team Final Report Nov 2015**
- **Design team standup Jan 2017**
- **Overcame delays to align Agency Community Engagement process and policy, Project Stop/Start due to budget sequestration/shut-down and other program's implementation timelines**
- **Initial implementation of May 2020 delayed due to COVID 19**
- **COVID 19 protocols**
 - Reduced access to facilities
 - Training labs capacity reduced to 50% personnel due to safety protocols
 - Travel restrictions forced remote meetings
 - Flight Inspection aircraft and scheduling challenges
 - Virtual oversight team to monitor and resolve implementation issues



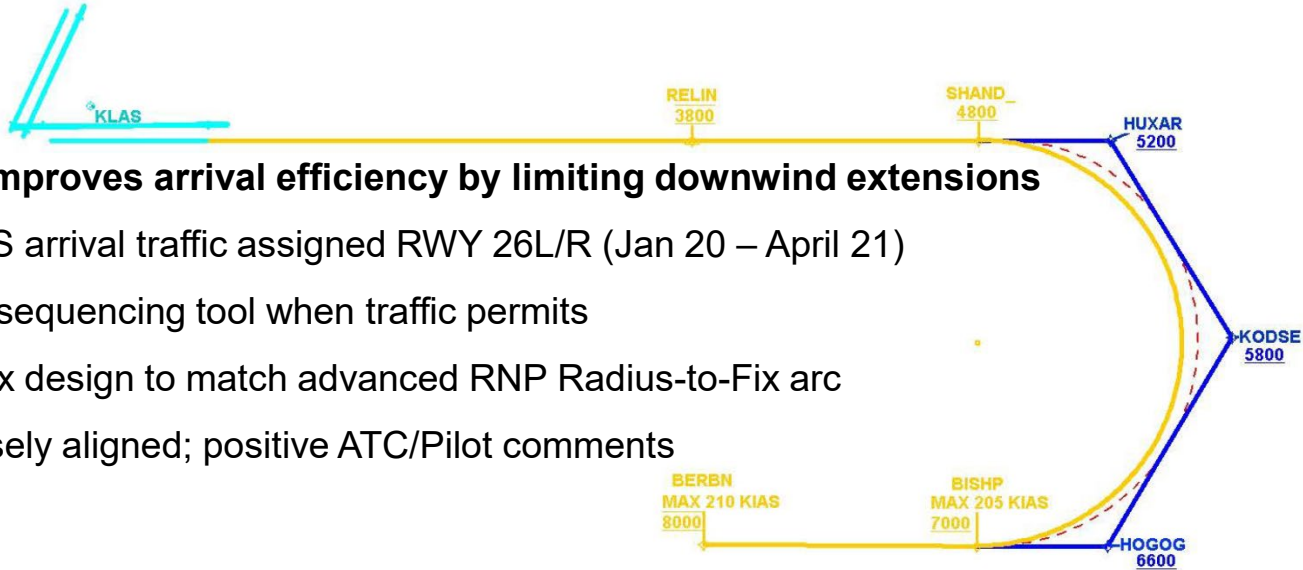
Implementation Overview

February 25, 2021 Implementation - Scope of Work

- **Los Angeles ARTCC and Las Vegas TRACON Airspace Changes**
- **45 Procedures**
 - 11 SIDs – 7 LAS RNAV, 2 HND RNAV, 2 LAS Conventional
 - 14 STARs – 5 LAS RNAV, 3 HND RNAV, 2 VGT RNAV,
4 LAS Conventional
 - 12 SIAPS – 5 LAS RNP, 3 LAS GPS, 1 VGT GPS,
3 LAS ILS/LOC
 - 5 T-routes – RNAV routes below FL180
 - 3 Q-Routes – RNAV routes FL180 and above
 - 3 Q-Routes – 1 New, 2 Amended



First in the NAS: Overlay of RNP Arc



When used improves arrival efficiency by limiting downwind extensions

- 53% of LAS arrival traffic assigned RWY 26L/R (Jan 20 – April 21)
- Used as a sequencing tool when traffic permits
- Track-to-Fix design to match advanced RNP Radius-to-Fix arc
- Tracks closely aligned; positive ATC/Pilot comments



Implementation Challenges

○ **Implementation Issues**

- Minor ATC automation issues – Resolved
- Aircraft database currency – Resolved
- Flight plan filing – Resolved
- Aircraft turning on the ILS 26R/L TF leg prior to receiving clearance – Resolved

○ **GIDGET/RATPK RWY 19 Departure assignment**

- Config 1 – Most used (78 %); depart Rwy 19L/R and 26R
- RATPK/GIDGT SID Rwy 19 right-turn departures modeled for limited use but were assigned by ATC/requested by operators other than intended
- Initial incorrect procedure identified by community feedback and discussion with CCDOA
- Immediate coordination with airlines/ATC to highlight correct usage
- Issue improved after emphasizing correct procedure usage



Post-Implementation Analysis

- **Metroplex implemented at LAS on Feb 25, 2021**
- **Analysis period: Nov 24, 2020 – May 25, 2021**
- **Used regression models with comparison airports**
 - Separate models for three variables:
 - Fuel burn
 - Distance flown
 - Time flown
- **Adjusted for flow, aircraft type, weather, demand, cruise altitude**
- **Difference-in-difference design**
 - Accounts for changes unrelated to Metroplex design (e.g., seasonality)
 - Compare pre/post changes at Metroplex airport to pre/post at nearby airports of a similar size
 - LAS compared to PHX and TUS
(both have similar patterns in daily fuel burn)



Overall Estimates

- **Arrivals:**

- Fuel burn improvement: -2.6 gal
- Distance increase: 1.8 NM
- Decrease in time flown: -0.3 minutes

- **Departures:**

- Fuel burn improvement: -2.0 gal
- Distance savings: -0.3 NM
- Decrease in time flown: -0.4minutes

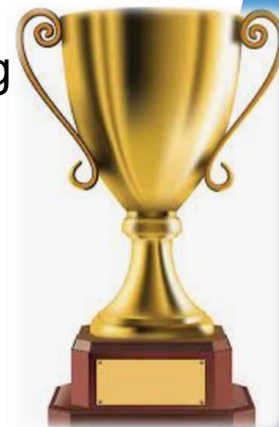
- **Annualized Estimates:**

- Design Team Predicted Savings: 1.6M gal (\$4.7M)
- Post-implementation Regression Savings:
 - Recent Traffic Levels (Apr 2020 – Mar 2021): 0.6M gal (\$1.8M)
 - 2019 Traffic Levels: 1.0M gal (\$2.8M)



Las Vegas Metroplex Recognized

- **The Las Vegas Metroplex was a recipient of the:**
 - FAA Air Traffic Organization 2021 *NAS First, People Always* Collaboration, Partnership & Success Team Award
 - Regional Administrator's Teamwork award
 - Air Traffic Control Association 2021 Team Award for Outstanding Achievement.



Questions?

