Federal Aviation Administration (FAA)  
SoCal Metroplex Project  
LAWA Briefing to City Council IGTC&T Committee

Los Angeles World Airports  
Noise Management  
June 7, 2016
Background: NextGen Program & PBN

- **NextGen and Performance Based Navigation:**
  - Today, most airports still widely use ground-based navigation technologies to manage air traffic in the National Air Space (NAS)
  - The movement to the next generation of aviation is shifting to smarter, satellite-based and digital technologies, along with new procedures that strive to make air travel more convenient, predictable and environmentally friendly
  - As part of a larger NextGen implementation Program, FAA is moving towards satellite-based navigation and reducing reliance on ground-based navigation
  - FAA is now seeking to optimize airspace procedures and working to transition to a full Performance Based Navigation (PBN) by 2030
    - FAA and Airlines are investing 40 billion
  - FAA developed Metroplex Program to streamline implementation of PBN at larger metropolitan areas with complex airspace
**FAA Metroplex Program**

**What is a Metroplex?** A large geographic area covering multiple airports, serving major metropolitan areas and a diversity of aviation stakeholders (NAS users, FAA, and other lines of business and airport operators.

- Process is structured to provide solutions on a regional scale, rather than focusing on a single airport or set of procedures by optimizing airspace and procedures.

FAA’s Metroplex Program goals are to improve airspace efficiency and reduce complexity

- **Optimize** flight paths and climb/descent profiles
- **Promote** RNAV (Area Navigation) “everywhere”
- **Promote** RNP (Required Navigational Performance) “where beneficial”
- **Integrate** airspace and procedure design
- **Decouple** operations arriving and departing adjacent airports

Atlanta
Charlotte
Cleveland-Detroit
D.C.
Denver
Houston
Las Vegas
North Texas
Northern California
Phoenix
South Central Florida
Southern California
Metroplex Procedures

Exhibit 1-6  Optimized Profile Descent Compared to a Conventional Descent

Source: ATAC Corporation, December 2012.

Source: Final Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex, July 2014
Exhibit 1-5  Navigational Comparison – Conventional/RNAV/RNP

Current Ground NAVAIDs  RNAV  RNP

Limited Design Flexibility  Increased Airspace Efficiency  Highly Optimized Use of Airspace

Legend
- Navigational Aid
- Aircraft
- Route
- Route Deviations
- Airport
- Waypoint

Notes:
- NAVAID – navigational aid
- RNAV – Area Navigation

Example of Flight Tracks Before and After RNAV Implementation at Phoenix Sky Harbor Int’l Airport

Before & After September 18, 2014 Flight Departures to the West

Purple = Before
Blue = After
City Council Districts
LAX North Arrival Downwind Leg
Current Procedure: SADDE 6

Source: Federal Aviation Administration
LAX North Arrival Downwind Leg
SADDE6 vs. Proposed CRSHR and IRNMN RNAVs and RNPs

Source: Federal Aviation Administration
LAX North Arrival Downwind Leg
Current Flight Tracks: SADDE 6
LAX North Arrival Downwind Leg
Proposed Flight Tracks: CRSHR and IRNMN RNAVs and RNP"s

Source: Federal Aviation Administration
Communities Potentially Affected by LAX RNAV/RNP and STAR Procedures

**North Downwind and Base Legs:**
- Santa Monica
- Palms
- Mar Vista
- Culver City
- West Adams
- Jefferson Park
- University Park

- Vernon
- Huntington Park
- South Gate
- Maywood
- Bell
- Downtown L.A.
- Baldwin Hills

**LA City Council Districts:**
- Mike Bonin (11)
- Paul Koretz (5)
- Herb J. Wesson, Jr. (10)
- Marqueece Harris-Dawson (8)
- Curren D. Price, Jr. (9)

**Congressional Districts:**
- Lieu (33)
- Bass (37)
- Roybal-Allard (40)
LGB Departure Procedure
Current Procedure: ANAHM4 and West Departures (vector)

Source: Federal Aviation Administration
LGB Departure Procedure
Proposed Procedure: TOPMN

Source: Federal Aviation Administration
Communities Potentially Affected by LGB TOPMN SID

Communities:
- Playa del Rey
- Venice
- Pacific Palisades
- Marina del Rey
- Santa Monica

LA City Council Districts:
- Mike Bonin (11)
LAX Departure Procedure
Current Procedure: CASTA SID
LAX Departure Procedure
Proposed Procedure: MLIBU SID vs. CASTA SID
Communities Potentially Affected by LAX MLIBU SID

**Communities:**
- Malibu
- Agoura Hills
- Calabasas
- Simi Valley
- Woodland Hills
- West Hills
- Canoga Park

**Congressional Districts:**
- Lieu (33)
- Knight (25)
- Brownley (26)

**LA City Council Districts:**
- Bob Blumenfield (3)
- Mitchell Englander (12)
LAX Over-Ocean Arrivals
Current Procedure: RDEYE2 STAR

Source: Federal Aviation Administration
LAX Over-Ocean Arrivals
Proposed Procedures: BIGBR and BRUEN STARs

Source: Federal Aviation Administration
LAX Over-Ocean Arrivals
REDEYE2 vs BIGBR and BRUEN

Northern “half” of procedure may be implemented during Over-Ocean Operations

1000’ Decrease in Altitude

Source: Federal Aviation Administration
LAX Over-Ocean Arrivals
Current Flight Tracks: RDEYE2

Source: Federal Aviation Administration
LAX Over-Ocean Arrivals
Proposed Flight Tracks: BIGBR and BRUEN

Northern “half” of procedure may be implemented during Over-Ocean Operations

Source: Federal Aviation Administration
Communities Potentially Affected by LAX Over Ocean BIGBR/BRUEN Procedures

Communities:
Santa Monica
Palms
Mar Vista
Culver City
South Los Angeles

LA City Council Districts:
Mike Bonin (11)
Marqueece Harris-Dawson (8)
Curren D. Price, Jr. (9)

Congressional Districts:
Lieu (33)
Bass (37)
Roybal-Allard (40)
BUR Arrival Procedure
Current Procedures: LYNXX8 (Conv) and CEEME2 RNAV

Source: Federal Aviation Administration
BUR Arrival Procedure
Proposed Procedure: RNAV for Rwy 08

Source: Federal Aviation Administration
Communities Potentially Affected by BUR RNAV

Communities:
Porter Ranch
Chatsworth
Canoga Park
West Hills

Congressional Districts:
Sherman (30)
Knight (25)

LA City Council Districts:
Bob Blumenfield (3)
Mitchell Englander (12)
LAX East Operations Departures
Current Procedure: GABRE8

Source: Federal Aviation Administration
LAX East Operations Departures
Proposed Procedure: GARDY

Source: Federal Aviation Administration
LAX East Operations Departures
Current Flight Tracks: GABRE 8

Source: Federal Aviation Administration
LAX East Operations Departures
Proposed Flight Tracks: GARDY

Source: Federal Aviation Administration
FAA EA Threshold of Significance:
- Changes to procedures limited to those that can be achieved without producing significant noise increases

FAA’s Environmental Assessment (EA) Results:
- No Significant Noise Increases:
  - +1.5 dB w/in the 65 DNL
- No Reportable Noise Increases:
  - +3 dB in DNL 60 to 65
  - +5 dB in DNL 45 to 60

As part of the EA process, LAWA submitted two comment letters requesting additional time to evaluate the changes, and suggesting FAA do additional outreach and provide additional information.

Over 3000 comment letters were submitted to FAA, raising concerns about the potential impacts of the proposed procedure changes, and in some cases proposing alternative solutions to the proposed procedures.
SoCal Metroplex – Changes in Noise Levels

Southern California Metroplex Project
Estimated Changes in DNL at Census Block Centroids and 0.5 Nautical Mile Grid Points with Implementation of the Proposed Action in 2039 as reported in the “Supplemental Materials, Google Earth” section of the SoCal Metroplex EA website.

Change in dB DNL
- >= 3.0
- 1.5 - 2.9
- 1.0 - 1.4
- 0.5 - 0.9
- 0.1 - 0.4
- 0.0
- -0.1 - -0.4
- -0.5 - -0.9
- -1.0 - -1.4
- -1.5 - -2.9
- <= -3.0

County Boundary
SoCal Metroplex – Changes in Noise Levels

Change in dB DNL
- 5.0 to 9.0
- 3.0 to 4.9
- 0.5 to 2.9
- -0.4 to 0.4
- -0.5 to -2.9
- -3.0 to -4.9
- -5.0 to -6.9

County Boundary
SoCal Metroplex – Schedule & Process

SoCal Metroplex Schedule:

- Process intended to be 3-years start to finish
  - Study and Scoping – 3 months
  - Design Development – 6-9 months
  - Operational, Environmental, Safety Review – 16 months
  - Implantation and Training – 9-15 months
  - Post-Implementation Review – 3-6 months

- Project Began in Summer 2012

- Draft EA Released – June 2015

- Comment Period – Ended October 2015 (extended twice)

- Response to Comments/Final EA: Projected Summer 2016

- FONSI: Projected Later in 2016

- Implementation of Procedures in 2 phase:
  - Late 2016 and Spring 2017 – may be further delayed
SoCal Metroplex – Potential Effects

• Once the new procedures are implemented, the community may notice:
  – Nothing at all
  – Decreased aircraft overflights and noise levels
  – Increased aircraft overflights and noise levels
  – Concentrated flight tracks over a narrow area
  – Increased aircraft altitudes/distance from flight tracks
  – Decreased aircraft altitudes/distance from flight tracks
  – Aircraft where they have not flown previously on a regular basis

• The exact effects will depend on the types of changes the FAA plans to make and where those changes are made