Optimization of Airspace and Procedures in the Metroplex (OAPM)

Los Angeles World Airports Community Noise Roundtable

Presentation to:  LAWA/Community Noise Roundtable
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Agenda

• Welcome / Introductions
• SoCal OAPM Project
  • Purpose
  • Scope
  • Process
• SoCal OAPM work plan and schedule
• Outreach
• D&I Team progress report and accomplishments to date
• Questions?
Purpose

- RTCA’s Task Force 5 recommendations for NextGen implementation included:
  - Focus on major metropolitan areas
  - Optimize flight paths and climb/descent profiles
  - Institute collaborative teams to broadly proliferate existing PBN experience and expertise
  - Promote RNAV “everywhere” and RNP (Required Navigational Performance) “where beneficial”
  - Integrate airspace and procedure design
  - Decouple operations arriving and departing adjacent airports
  - Use 3 NM and terminal separation rules wherever possible

- Guiding Principles
  - Existing Standards
  - Leverage Existing Equipage
  - Limit to Environmental Assessment or less
OAPM Teams

**Annual Savings: Northern California**
$6.5M - $15.5M fuel costs
2.3M – 5.6M gallons of fuel
23K – 56K metric tons of carbon
1.5M nautical miles (filed)

**Annual Savings: Southern California**
$10.1M - $22.9M fuel costs
$4.0M aircraft direct operating costs
3.4M – 7.8M gallons of fuel
34K – 78K metric tons of carbon
1.5M nautical miles (filed)

**Annual Savings: North Texas**
$10.3M - $21.7M fuel costs
4.1M – 8.6M gallons of fuel
31K – 86K metric tons of carbon
1.0M nautical miles (filed)

**Annual Savings: Charlotte**
$10.2M - $17.0M fuel costs
3.7M – 6.2M gallons of fuel
35K – 59K metric tons of carbon
2.5M nautical miles (filed)

**Annual Savings: Atlanta**
$8.3M - $22.4M fuel costs
2.9M – 7.7M gallons of fuel
30K – 78K metric tons of carbon
1.2M nautical miles (filed)

**Annual Savings: Washington DC**
$6.4M - $19.0M fuel costs
2.5M – 7.5M gallons of fuel
25K – 75K metric tons of carbon

**Annual Savings: Southern California**
$4.0M aircraft direct operating costs
3.4M – 7.8M gallons of fuel
34K – 78K metric tons of carbon
1.5M nautical miles (filed)

**Annual Savings: South/Central Florida**
$23.0M - $53.4M fuel costs
7.7M – 17.8M gallons of fuel
80k – 184k metric tons of carbon
5.4M nautical miles (filed)

**Annual Savings: Houston**
$9.2M - $26.1M fuel costs
3.0M – 8.6M gallons of fuel
31K – 87K metric tons of carbon
648K nautical miles (filed)

**Annual Savings: Atlanta**
$8.3M - $22.4M fuel costs
2.9M – 7.7M gallons of fuel
30K – 78K metric tons of carbon
1.2M nautical miles (filed)

**Phoenix Study Team Kickoff**
7 January 2013

Federal Aviation Administration
Scope

- Over 170 issues identified by Study Team (Facilities/Stakeholders)
  
  *En route*: 43  
  *Terminal*: 83  
  *Stakeholder*: 44

- Similar concerns identified by multiple stakeholders
- Consolidated as appropriate
- Some issues require evaluation
- Some issues considered out of scope of OAPM process
  - RNAV visual approaches
  - Palm Springs (PSP) operations revert to LA Center (ZLA) overnight
  - Lack of radar coverage
  - Extended service volume for Ontario (ONT) ILS
  - Reverse flows over Gorman VOR (GMN)
  - Class B, Class C, TRSA changes
  - Restructuring T-Routes throughout Southern Cal TRACON (SCT)
  - Point Magoo NAS (NTD) airspace transfer
Process

Study Team

Study and Scoping
- Design and Procedure Development
  - 6-9 months

Design and Implementation (D&I) Team
- Operational, Environmental, and Safety Review
  - 16 months
- Implementation and Training
  - 9-15 months
- Post-Implementation Review and Modifications
  - 3-6 months

Total elapsed time design to implementation averaging approximately 3 years

Initial Study Period (1 to 2 weeks)
- Design Refinement and Validation (ongoing)
- Outreach (ongoing)
- OAPM Design Submission:
  - “Pencils Down” Delivery of designs
  - Triggers start of Evaluation Phase

Note: Environmental involvement required at all stages of the process
SoCal OAPM Work Plan and Schedule

- General work schedule alternates between ZLA (Palmdale, CA) and SCT (near Miramar NAS)
  - Many procedures are being refined and modified on a weekly, if not daily basis
  - Administrative tasks or planning/scheduling changes
- Scheduled procedure designs to be complete end of March 2013
  - Minor changes will be made to procedures after March
  - Bulk of the work should be done by the “100% design complete” milestone
- April and May 2013 will focus on airspace changes that accommodate the new procedures
- Process being tracked and monitored by White House and Office of Management and Budget (OMB)
SoCal OAPM Work Plan and Schedule

• Industry partners on the SoCal project have been generous in their donation of simulator time for the new procedures to ensure flyability and efficiency
  • Many procedures have already been sim’d at least once, additional sims necessary on updated designs
  • Due to the variety of aircraft that will be flying the new procedures, multiple sims of a route are needed
• Human-In-The-Loop Simulations (HITLs) will be conducted to ensure operational feasibility
  • Likely to occur in April and June 2013
Outreach

- Design Team meetings are scheduled for each milestone in the Design and Procedure Development phase:
  - 25% Milestone: December 11, 2012
    - 50% Milestone: February 12, 2013
    - 75% Milestone: April 9, 2013
    - 90% Milestone: June 11, 2013
    - 100% Milestone: June 25, 2013
- The schedule is dynamic with frequent refinement
Items Worked to Date

• 43 departure and arrival procedures have been analyzed
• Procedures to 15 airports have been discussed and are under development
• Airspace changes between NTD (Pt Magoo NAS) and SCT have been negotiated and tentatively approved
• Some airspace changes between ZLA sectors have been recommended and tentatively approved
• Flight sims have been conducted on several LAX and San Diego (SAN) arrival procedures
  • Flight sims on some arrival procedures indicated that descents were non-optimal
  • Changes to some arrival procedure designs into SAN have been incorporated based on these sim results
QUESTIONS?

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