



## **Greener Skies Seattle RNP/ODP**

Elizabeth Leavitt

Director, Planning and Environmental Programs

Seattle-Tacoma International Airport

# Presentation Outline

- Greener Skies Overview and Benefits
- Stakeholder Engagement
- Implementation and the Process
- Environmental Review and Community Outreach
- Lessons Learned
- Looking Forward





# Goals and Objectives

- Reduce track mileage to minimum
- Optimized Descent Profile
- Absorb delays at cruise
- Reduce low altitude radar vectoring
- Reduce fuel burn
- Identify and implement the tools, technologies and practices that enable achievement of these goals



# Greener Skies Participants

- Port of Seattle
- Alaska Airlines/Horizon
- The Boeing Company
- Jeppesen
- Delta Airlines
- Southwest Airlines
- NATCA
- Boeing Field Airport
- Hughes Aerospace
- FAA
- NBAA
- HMMH



# Why Seattle?

- A fit, willing and able local lead carrier (Alaska/Horizon), and a committed airport operator (Port of Seattle)
- A complex, *but not saturated*, airspace, a good environment to demonstrate the wide range of NextGen capabilities
- High existing equipage of operators, over 80%, , and easier transition with remaining legacy equipment operators



# Why Seattle (Con't)

- Intense local, Congressional, and Administrator support. (Sen. Murray, Chair Senate Transportation Appropriations, Sen. Cantwell, Chair, Aviation Operations)
- Excellent facility Bargaining Unit rapport and between facilities and procedure designers.
- Highest possibility of success in a single market, and thus to "bootstrap" NextGen in a wider venue.



# Greener Skies Benefits

- More efficient use of airspace and arrival route placement
- More consistent flight paths
- Reduction in both pilot and controller workload
- Reduction in the number of required radio transmissions
- Cost savings and environmental benefits through reduced fuel burn
- Fewer residential communities overflowed





# Quantifiable Annual Benefits

- 4,800 less flight hours
  - \$20.4M savings
- 2.9M gallons less fuel used
  - \$7.3M savings
- 30,500 metric tons less CO2 emissions
  - equivalent to removing 5,600 cars annually from the Seattle region



# Greener Skies History

- 2008
  - Noise initiative between SEA and Alaska Airlines
  - Boeing joins team as technical lead
- 2008 – 2010
  - Project gains high political support
- 2009 – 2010
  - Alaska Airlines conducts 3 nighttime demonstrations with FAA, SEA, and Boeing officials onboard
- 2010
  - FAA assumes project lead, breaks into two initiatives; i1 and i2
- Today
  - SEA and Alaska remain active participants on project team
  - SEA hosting monthly team meetings

# Greener Skies Initiatives

## Initiative 1 (i1)

- STARs and RNP/RNAV approaches
- Flight Simulation Trial Results (Alaska Airlines/Boeing)
- Environmental Assessment
- Flight Demonstrations (3)

## Initiative 2 (i2)

- Boeing is lead for FAA
- “RNP Established”
- Concurrent Approaches SEA / BFI

# The Process

## FAA's 18 Step Process

1. Kickoff Meeting	10. Environmental Review
2. Adapt TARGETS	11. Advise Industry of Proj. Development
3. Reserve Waypoint Names	12. AVN Flight Check
4. Design the Procedure	13. Video Maps
5. Simulator Evaluation	14. Training and Notification
6. Working Group Review of Procedure	15. Process Verification
7. Process Decision	16. Lead Operator Flight Trials
8. Procedure Documentation	17. Publish Procedure for Public Use
9. Automation	18. Publish Procedure Implementation Analysis

# Environmental Review

**FAA conducting Environmental Assessment (EA)**

**Public Outreach**

- Two public scoping meetings
- One agency scoping meetings

**Flight trials**

- 180 day CatX

**Record of Decision**

- 4<sup>th</sup> Quarter 2012

**Greener Skies Environmental Assessment Website**

[www.greenskiesea.com](http://www.greenskiesea.com)



# Lessons Learned

- FAA leadership and commitment is critical
- Engage the industry, major airlines, and all other airlines
- Clearly define scope, goals and timeline (early definition)
- Obtain local support, i.e. communities, nearby airports, and political figures
- Show the benefit, i.e. economic, social, and environmental
- The process takes time...



# Looking Forward

- FAA Plans for next airports?
- Know whether your airport benefit
- Know how the community might respond
- FAA or Airline lead on development of the procedures?
- Environmental Assessment or CatEx required?

