

# Baseline for VAMS for the Project Evaluation of the Concepts

Sandy Lozito  
SEA Element Lead

# Baseline Considerations

Virtual Airspace Modeling & Simulation - TIM 4, Feb. 10-11, 2004

- Would like to keep the same baseline parameters for both self-assessment and project evaluation, where possible
  - Self-assessment baseline as a subset of project assessment
- Need to consider data requirements for the Phase3 baseline definition
  - Concept Developers will be relying on the VAMS/VAST to provide those

# The Baseline

- Baseline is required for concept assessment
  - Current tools/procedures/demand data set
    - To compare concept to today's traffic
  - Future demand (2022) with no new tools/procedures
    - To compare concept to future demand without any NAS changes
  - Future demand (2022) with OEP tools/procedures
    - To compare concept to future demand with FAA's expected modifications to NAS
    - May allow for economic trade-off studies using OEP technologies
    - Would require research on anticipated benefits from OEP technologies

## ACES Current Demand Data

- May 17 & 26th 2002 used for ACES validation testing
  - May 17 has more traffic and some weather
- Scenario elements in ACES data for 5/17/02
  - 250 Airports
  - Weather information (winds)
  - Flight plans (lat/long strings)
  - Schedules
  - Aircraft type

## Forecast Demand Data Set (LMI)

- Future demand data set elements based on 1997 data extrapolated for 2022
  - 98 airports
  - Aircraft type (only by class)
  - Flight plans
  - Commercial passenger traffic at 98 airports, approximately 2X increase over similarly reduced 5/17/02 data
- Missing items
  - Cargo
  - GA
  - International
  - Fleet description

## Possible Modifications to Forecast Demand Data Set Option One

- Replace existing forecast demand data set (LMI) with doubled 5/17/02 data with redistribution of departure times
  - Matches forecasted economic growth
  - Includes same information in the data set
    - 250 airports
    - Aircraft types
    - General aviation
    - Cargo
    - International flights

## Possible Modifications to Forecast Demand Data Set Option Two

- Add aircraft type to existing data sets
  - Use 5/17/02 data, with some filtering (e.g., removing older a/c)
- Potentially expand airport set
  - Conduct sensitivity analysis to determine the necessity of expansion
  - Expand with LMI out-of-network flights
- Add cargo
  - External resources required to do this
  - Additional costs
- Add representation of international flights
  - Possibly using agents to launch and receive
  - Could reduce operating rates at international airports to account for some percentage of international flights

## Selection of Forecast Data

- Sensitivity analysis results
- Applicability of the data sets
- Availability of resources