

# Quarterly Update to Congress

**May 5, 2003**

**Steve Kelley, Project Manager NY/NJ/PHL Area  
Airspace Redesign**

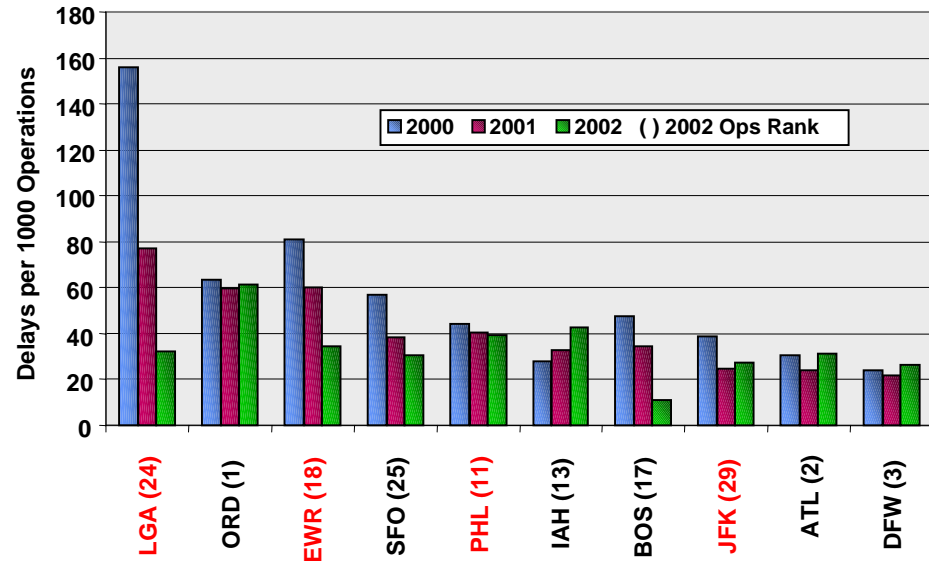
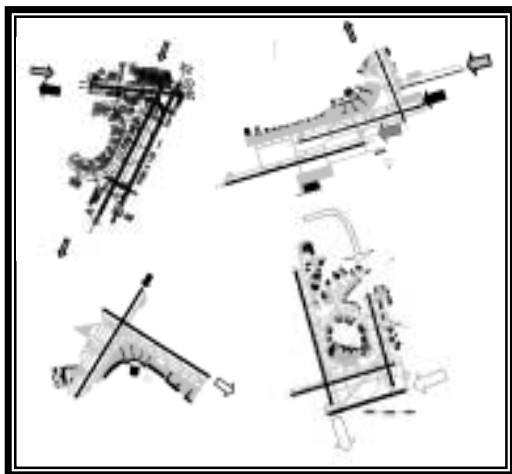
**Mark McCumber, Airspace Branch Manager  
Mo Keane, Environmental Program Manager  
Lou Vengilio, NATCA Environmental Specialist**

# Briefing Overview

- **NY/NJ/PHL Metropolitan Area Airspace Redesign Project**
  - Objectives
  - Purpose and need
  - Completed milestones, including Scoping results
  - Ongoing design and analysis efforts
  - Project schedule
- **Other activities**
  - New York Integrated Control Complex
  - Dual Modena departures for Philadelphia

# Unique Challenges in New York and Philadelphia Metropolitan Areas

- Key business and transportation center
- Most delayed airports
- Home to important hub airports for several major airlines



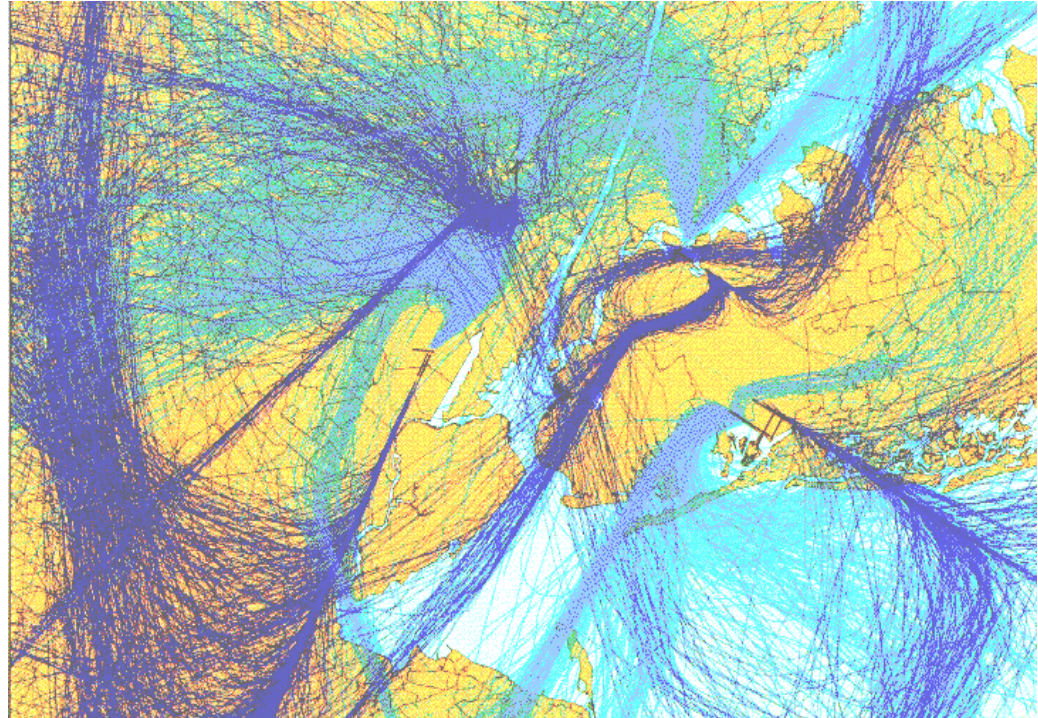
- Demand is returning (airport operations 6-15% down from pre-Sep 11, en route operations close to pre-Sep 11)
- Projections for continued future growth
- No new runways in NY metropolitan area proposed for the next 10-15 years
- Limited opportunities to provide needed capacity and efficiency

# Multiple Approaches to Solve Difficult Problems



# Why We Need to Redesign Airspace

- Routinely, these airports are among the top 10 delayed
- Lack of alternate routes closes off airspace in cases of severe weather
- Multiple facilities fragment arrival and departure corridors
- Complexity and congestion continue to be issues even with post-September 11 downturn





# Objectives of NY/NJ/PHL Redesign

- **Increase Efficiency**
  - Reduce delays
  - Meet projected demand
  - Improve user access to the system
  - Expedite arrivals and departures
  - Increase flexibility for controllers and users
  - Balance controller workload
  - Accommodate evolving technologies
- **Enhance Safety**
  - Develop operationally viable airspace
  - Reduce complexity



# Strategy for Design of New York & Philadelphia Airspace

- Current airspace structure (allocation of airspace) is limited



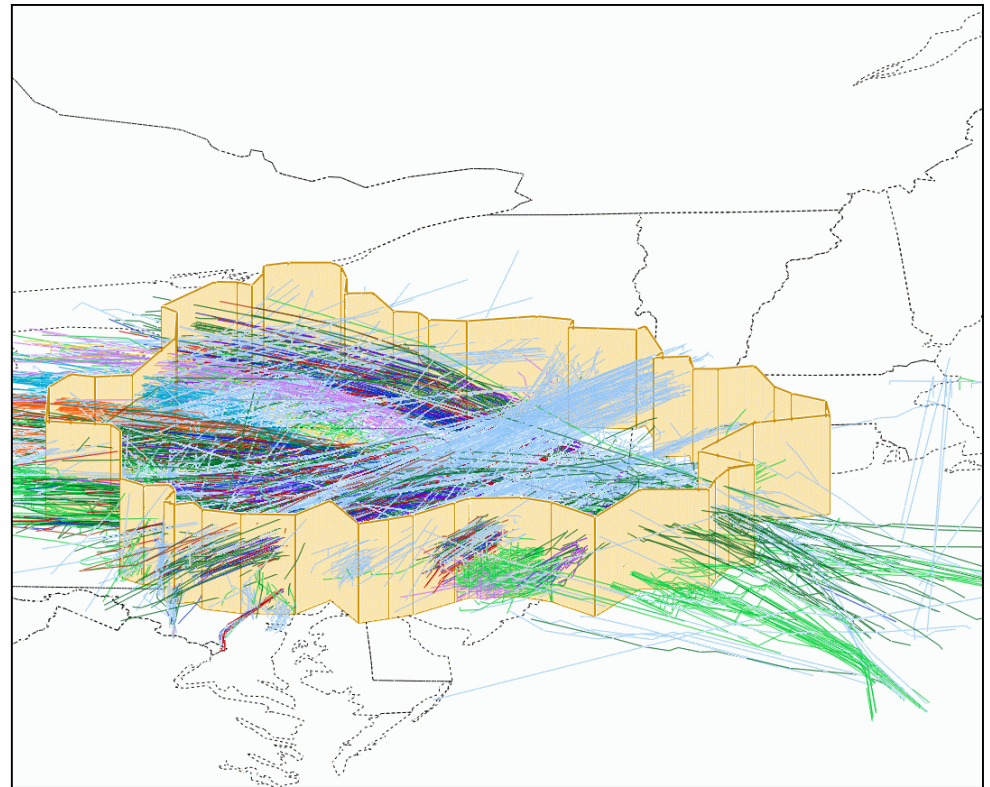
- Increase efficiency
- Enhance safety



- Start from runways & work up
- Efficient arrival altitudes & unrestricted departure climbs
- Build point-to-point routes



- “Clean sheet” approach



**Current airspace and traffic flows**

# **NY/NJ/PHL Metropolitan Redesign**

## **Purpose and Need**

- **Purpose**
  - Increase efficiency and reliability of the air traffic system through the adjustment of traffic flows in the New York/New Jersey and Philadelphia areas to accommodate new technologies and reduce delays
- **Need**
  - Maintain safety
  - Respond to increasing aviation growth
  - Mitigate mounting delays

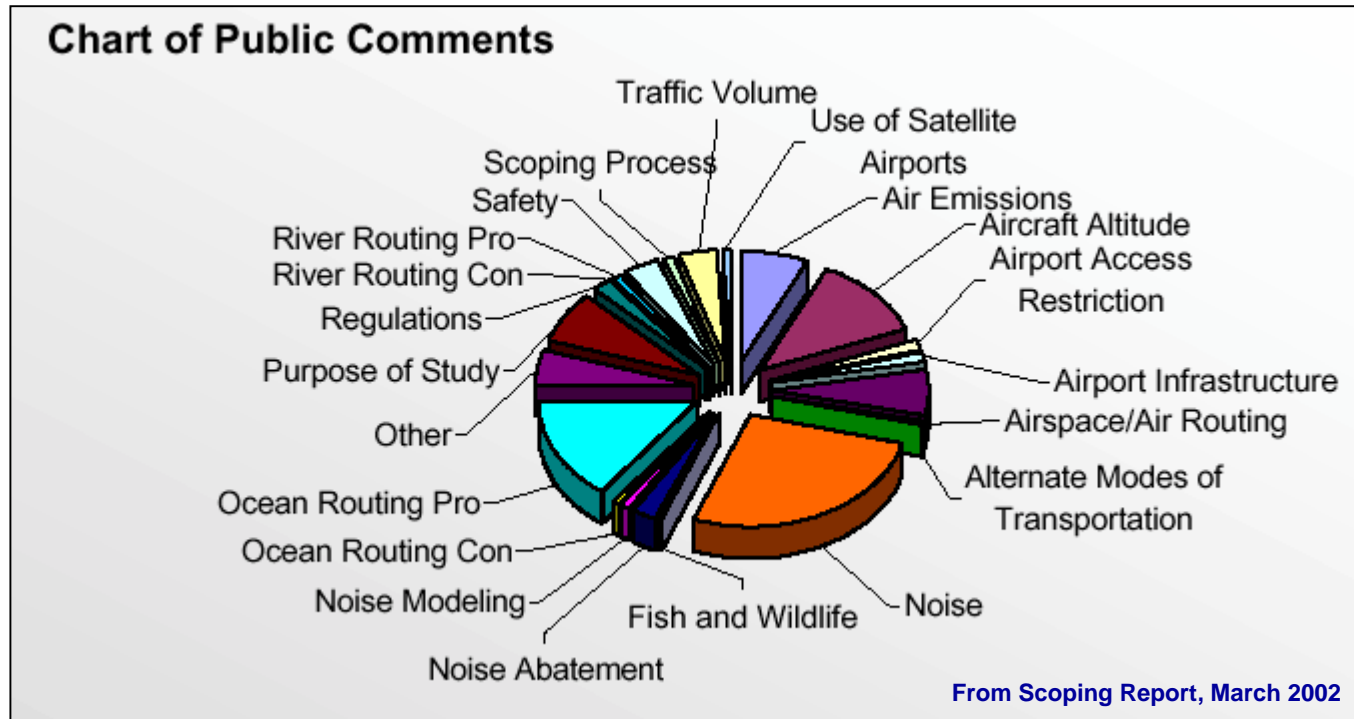


# **Commitment to the Community**

**As part of our commitment to your community, we are employing the following techniques to reduce aircraft noise and other potential environmental impacts**

- **Increase altitudes**
- **Disperse or concentrate tracks where appropriate**
- **Use advanced navigation**
- **Reduce flying time**
- **Utilize less noise-sensitive areas where feasible**

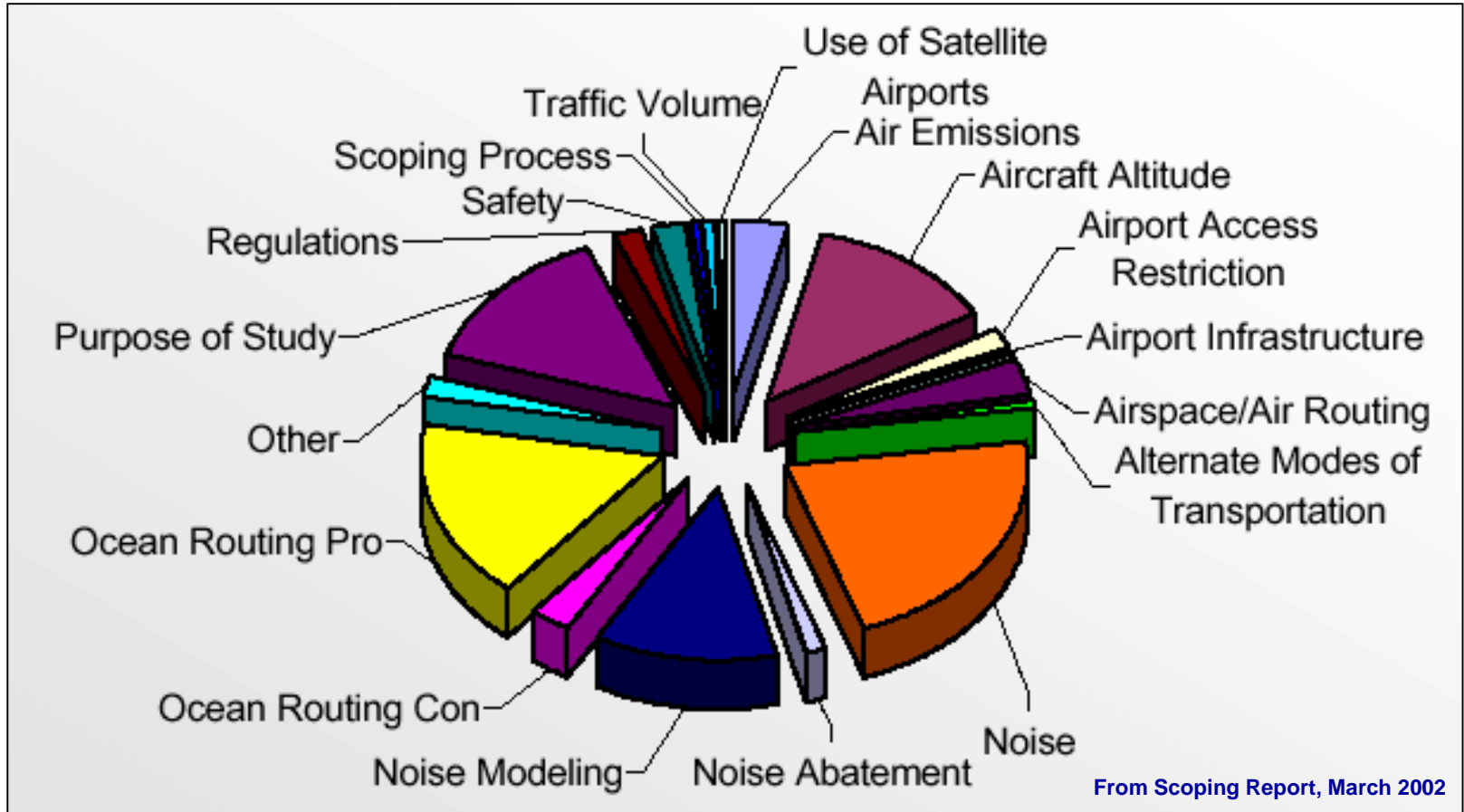
# Completed Milestones



## Environmental Pre-scoping & Scoping:

- Over 30 communities visited in Pre-Scoping during 1999/2000 and Scoping in 2001

# Elected Officials' Comments



# Ongoing Efforts: Design/Modeling

## Alternative: Modification to the Existing System



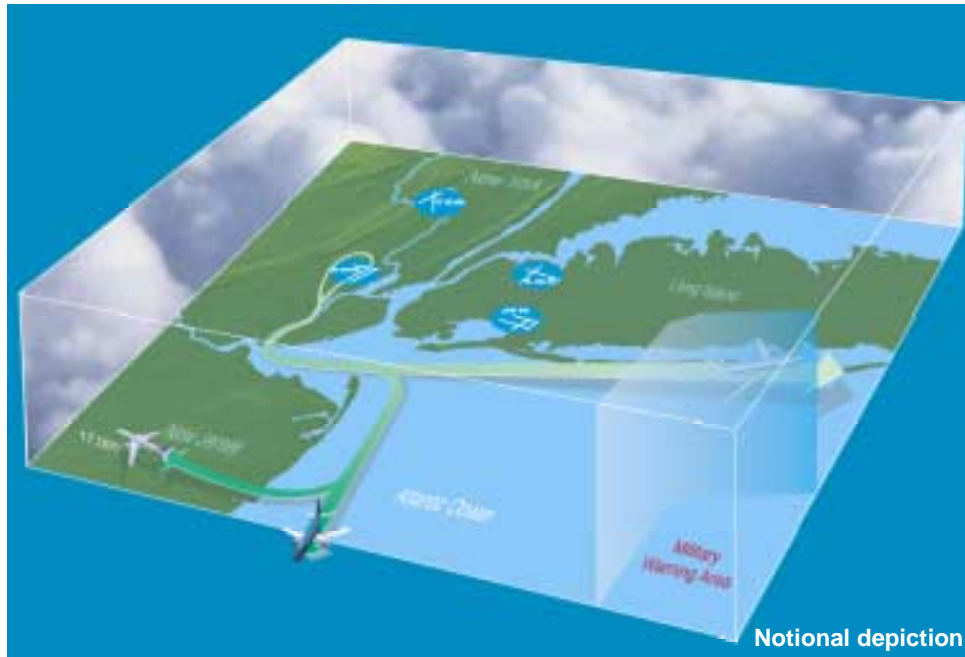
- *Based on existing airspace boundaries*
- *Minor adjustments to today's route structure*
- *Limited flexibility in use of airspace*

### Status of Design and Modeling Efforts

- Initial design complete
- Operational modeling underway; expected completion in 2003
- Environmental analysis started in 4th Qtr FY02; expected completion in 2003

# Ongoing Efforts: Design/Modeling

## Alternative: Ocean Routing



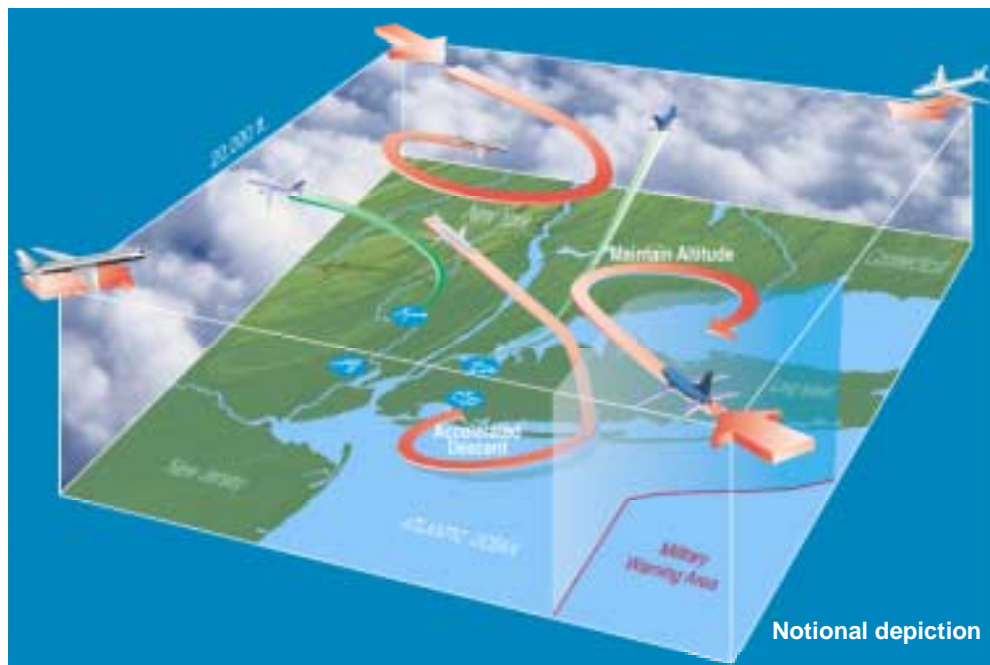
- *Based on existing airspace boundaries*
- *Move Newark southbound departures over water*
- *Little or no change to any other routes*

### Status of Design and Modeling Efforts

- Initial design complete
- Operational modeling underway; expected completion in 2003
- Environmental analysis started in 4th Qtr FY02; expected completion in 2003

# Ongoing Efforts: Design/Modeling

## Alternative: Integrated Airspace



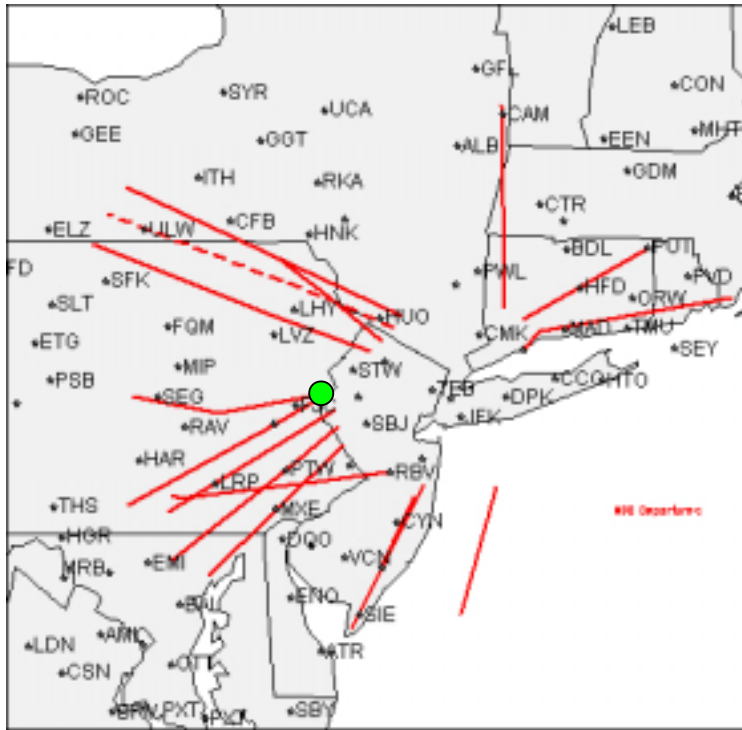
### Status of Design and Modeling Efforts

- Initial design ongoing
- Operational & environmental analysis expected completion in 2003/2004

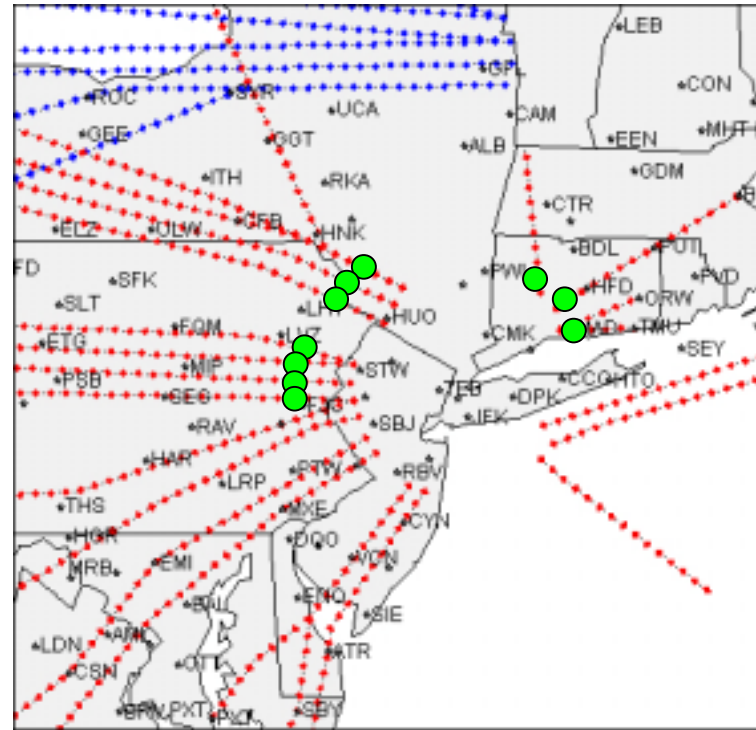
- *Based on integrated airspace*
- *Significant changes to routes into and out of NY & PHL*
  - *Simplified arrival routes*
  - *Increased departure routes*
- *Flexible and adaptive*



# Key Benefits – Airspace Redesign: Added Departure Capacity



**2002 Departure Routes**

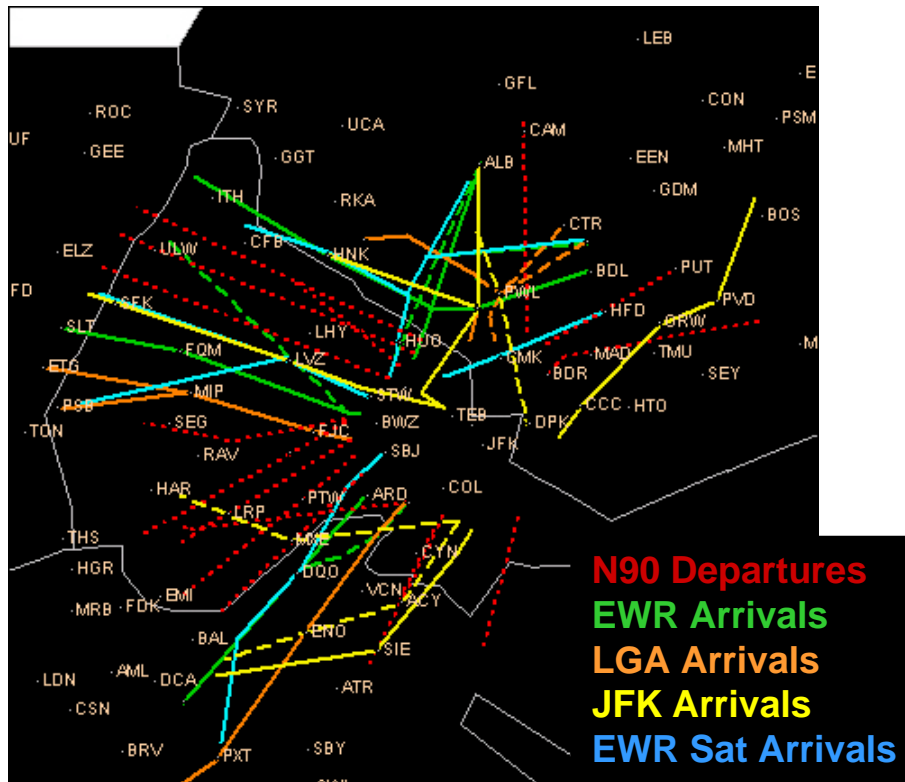


**Possible Departure Routes in  
Integrated Airspace Design**

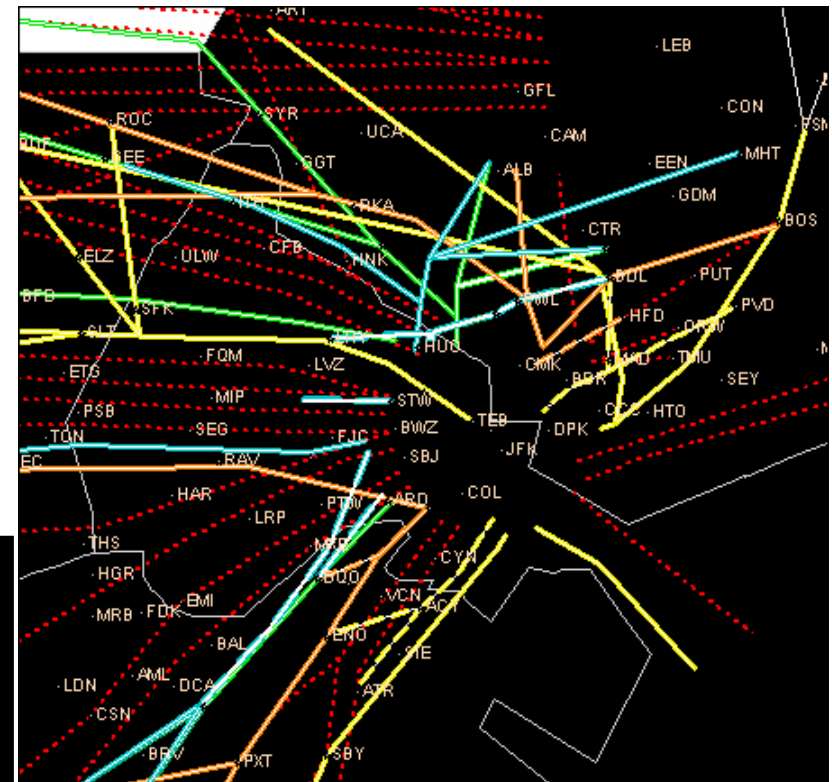
● Departures stacked by altitude

# Key Benefits – Airspace Redesign: Reorganized Arrival Routes

## Existing Arrival Routes

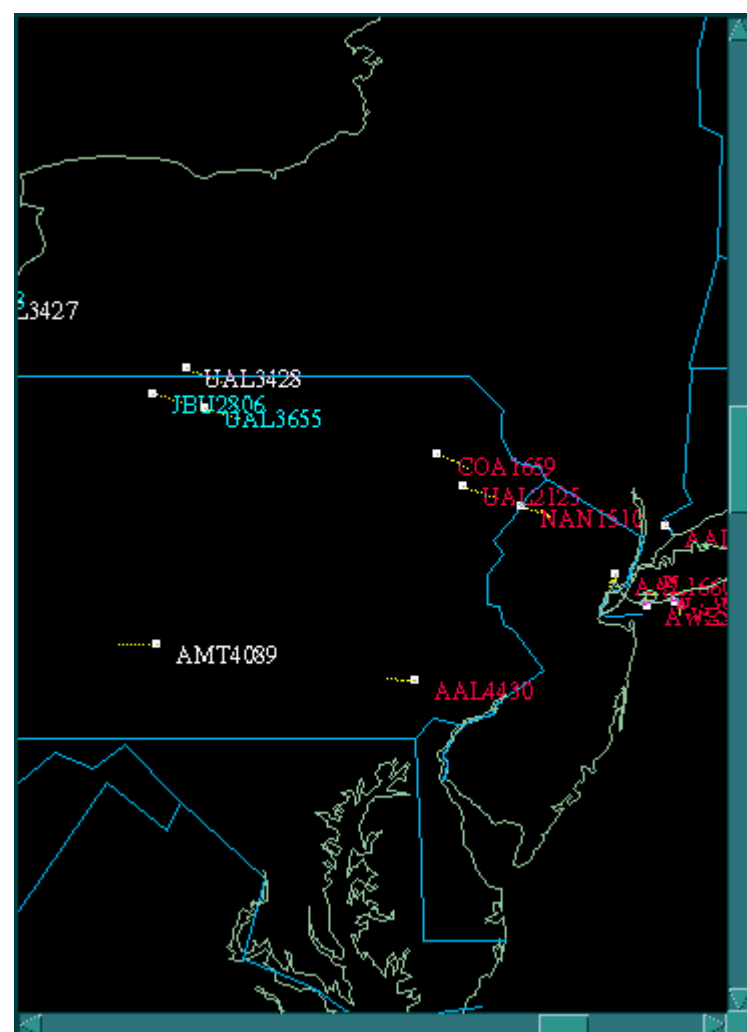


## Possible Arrival Routes in Integrated Airspace

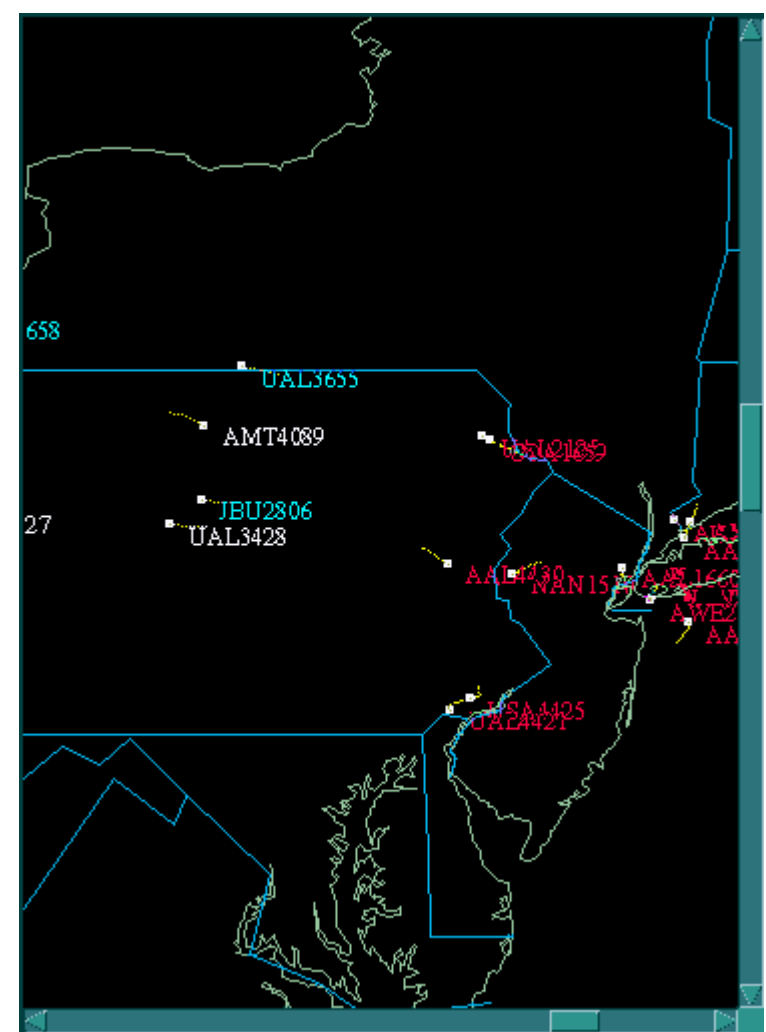


# Traffic between New York and Chicago

## Current Airspace



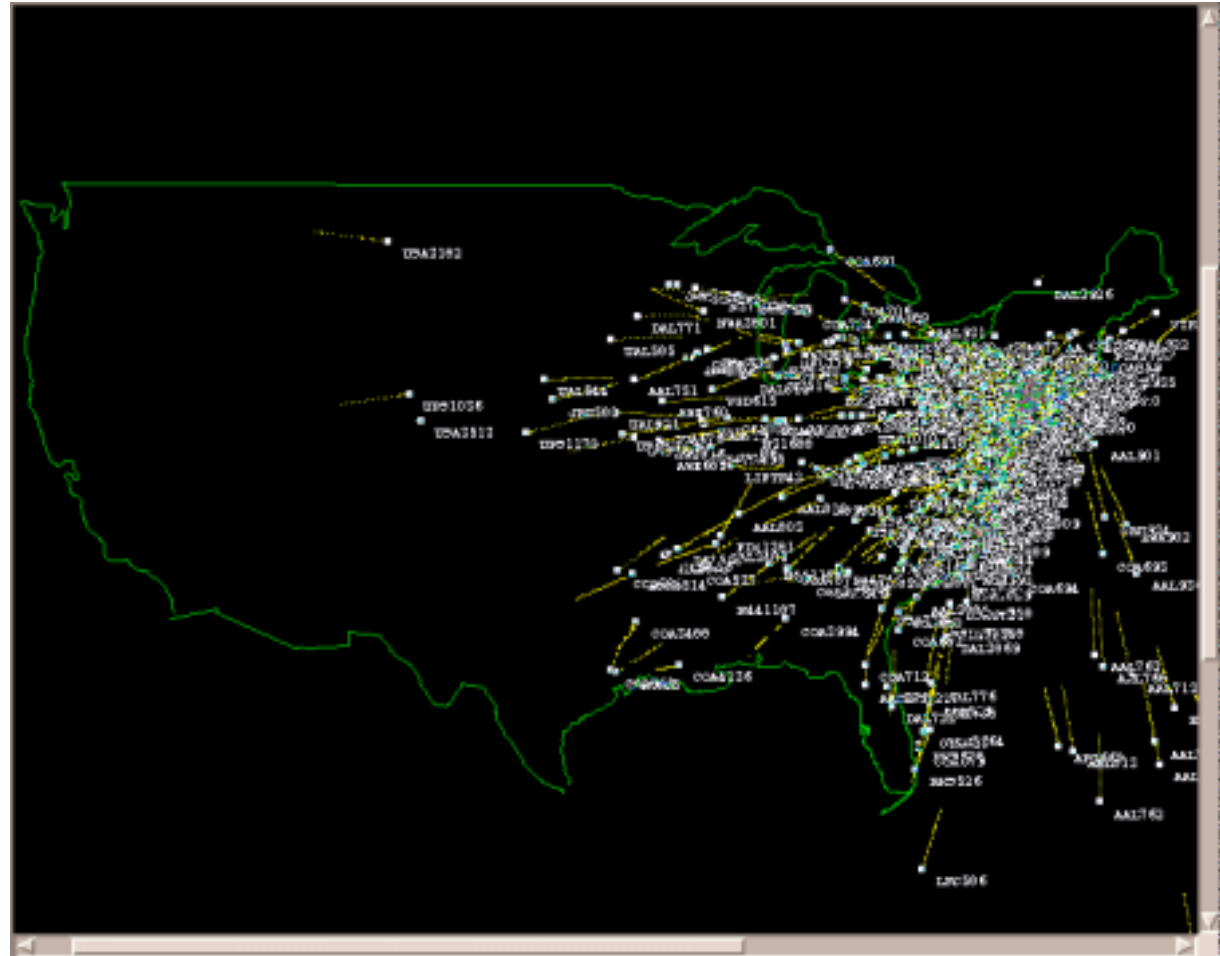
## Integrated Airspace




Possible routing - design not finalized

# Analyzing New Designs: Operational Modeling


- Modeling is critical to understanding the impact of new designs
  - Locally
  - Regionally
  - Nationally
- Modeling tools, combined with operational expertise, will play a pivotal role in design integration




# Analyzing New Designs: Noise Impact Modeling



## Noise Impact Routing System (NIRS)

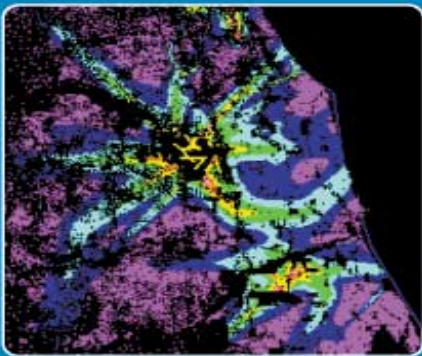


### Population Maps




Depict locations of population in census data and special grids.

### Noise Maps



Day-Night Average Sound Level colored for each population centroid.

### Change Maps



Show where changes of exposure occur when one scenario is compared to another.

NEW YORK/NEW JERSEY/PHILADELPHIA METROPOLITAN AIRSPACE REDESIGN PROJECT

# Overview of NY/NJ/PHL Redesign Project Timeline

