

New York/New Jersey/ Philadelphia (NY/NJ/PHL) Metropolitan Area Airspace Redesign

Congressional Update

Project Status

Revised Stages 3 & 4 Schedule

Presented to: Congressional Staff

By: Robert Novia, Project Manager

Date: March 16, 2012



**Federal Aviation
Administration**



Review of Objectives of NY/NJ/PHL Metropolitan Area Airspace Redesign

- **Purpose**

- Increase efficiency and reliability of the airspace structure and ATC system to accommodate growth while enhancing safety, reducing delay and taking advantage of new technologies

- **Need**

- Maintain Safety
- Respond to Increasing Aviation Growth
- Mitigate Current Mounting Delays



- **Eight Elements to Evaluate Purpose and Need:**

- Reduce Delay
- Improve User Access
- Maintain Airport Throughput
- Expedite Arrivals and Departures
- Increase Flexibility in Routing
- Reduce Complexity
- Balance Controller Workload
- Reduce Voice Communications

Success for New York → Success for the Country

10% NY/PHL departures delayed more than 1 hour



5% Of U.S. flights delayed more than 1 hour



(Airline Service Quality Performance Database)

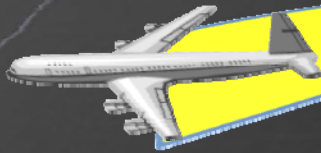
40-50%

Of NAS ground stops and ground delays occur in NY

(Center for Advanced Aviation System Development (CAASD) Analysis)

NY airports have higher delays than the NAS average (Aviation System Performance Metrics (ASPM) Average Delay - 2009)

NAS: 12 min
EWR: 27 min
LGA: 21 min
JFK: 20 min
PHL: 17 min



1/3

Of U.S. flights directly affected by delays in NY/PHL (CAASD Analysis)

NY airspace is heavily used

15%-20% of all flight plans (Enhanced Traffic Management System (ETMS))

10% NAS passenger enplanements (Bureau of Transportation Statistics (BTS))

18% U.S. international operations (CAASD Archived Traffic Flow Management System (TFMS) Flight Data)



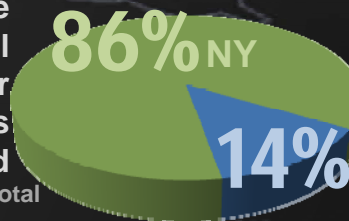
59% NY/PHL flights depart on time

46% Of all NAS delays occur in NY/PHL (OPSNET 45 airports)



73% U.S. flights depart on time (BTS On-Time Statistics)

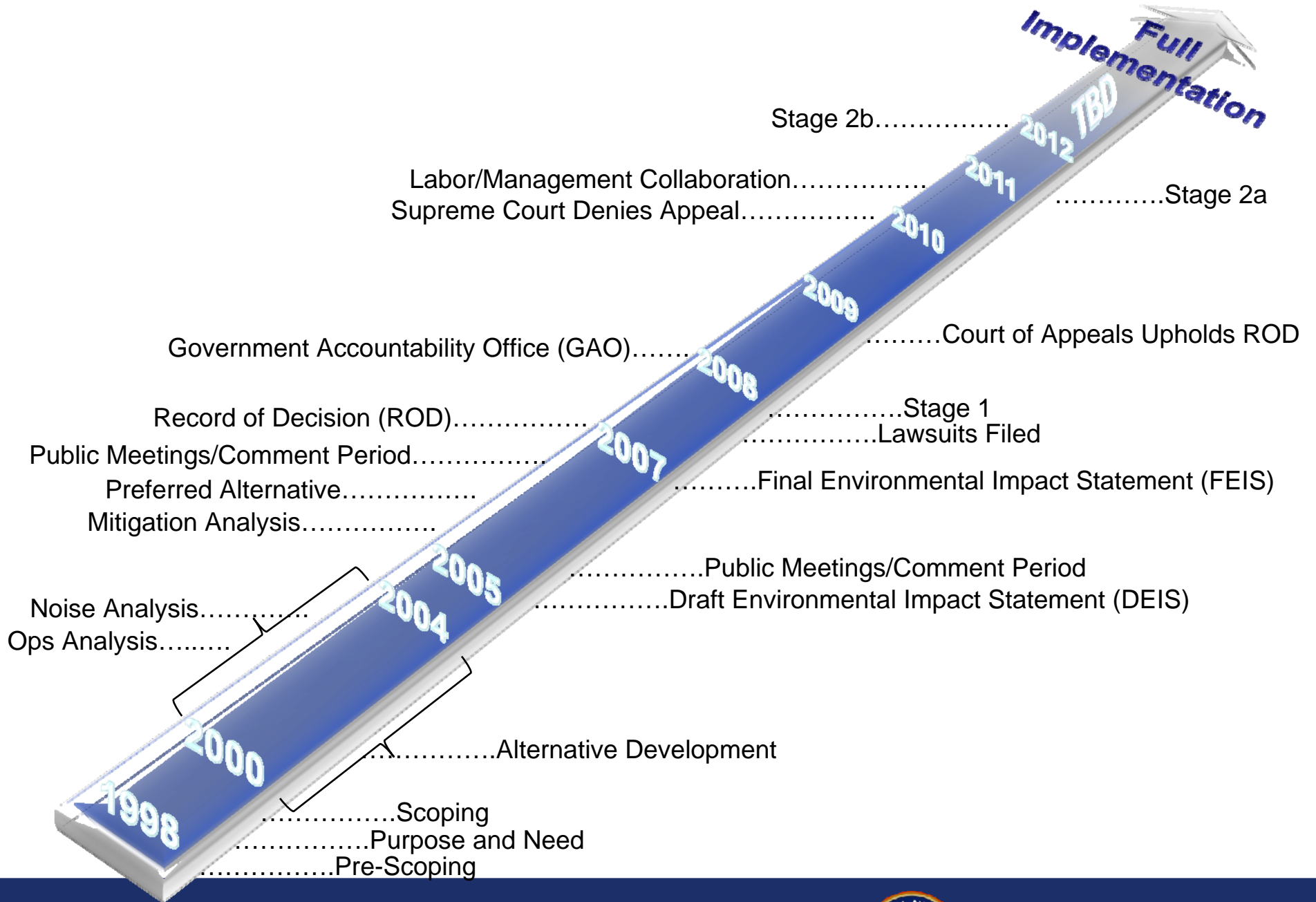
Airspace constraints cause more delays in NY than in all other Terminal Radar Approach Controls (TRACONS) combined (Operations Network (OPSNET) total delay minutes)



86% NY
14% Other metroplexes

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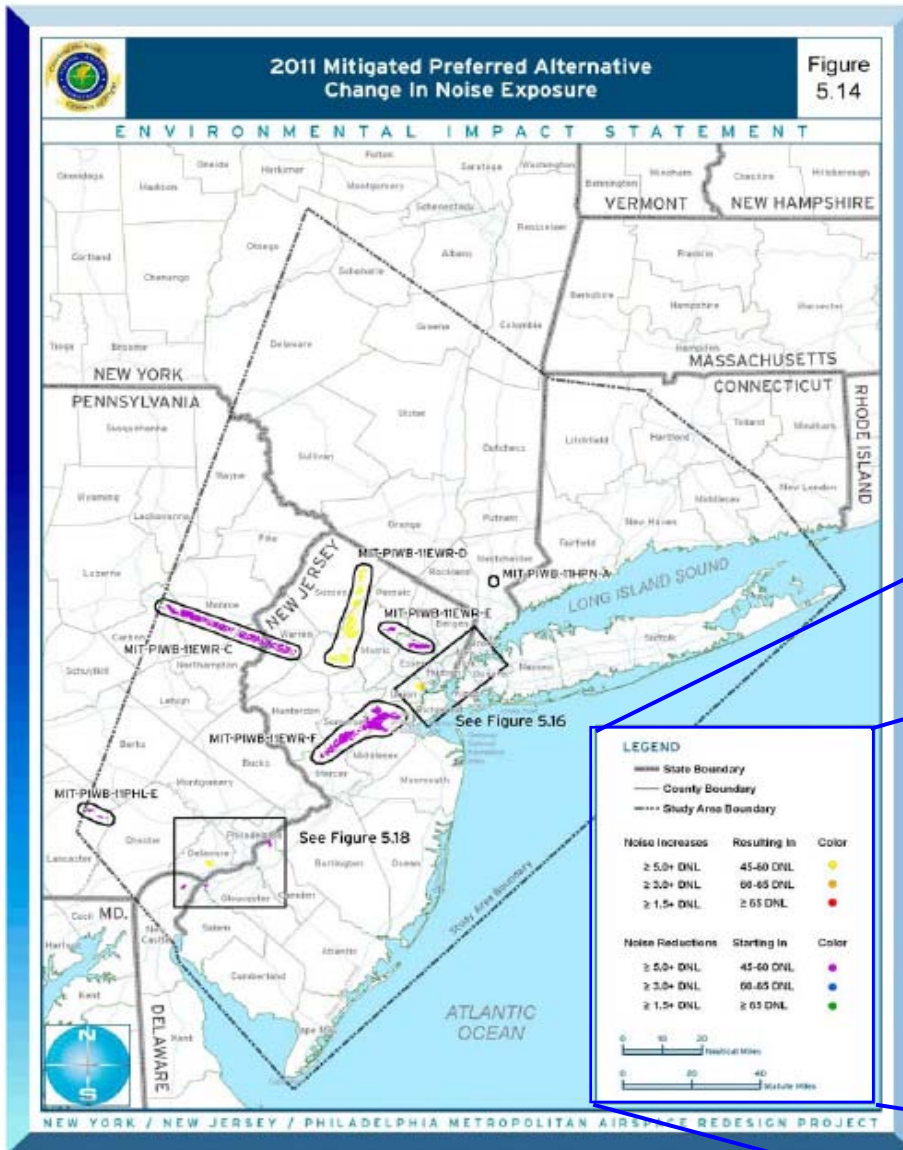
Environmental History

- **The project was the subject of the largest environmental study for airspace changes ever undertaken by the FAA. This study began in 1999.**
- **The alternatives developed as a part of this Environmental Impact Statement (EIS) were done in a collaborative relationship between FAA and labor/management.**
- **Thousands of comments were taken on the DEIS and some of those comments were used in developing the noise mitigation measures. The comment period lasted over 6 months and involved over thirty (30) public meetings throughout the study area. We responded to each comment in the FEIS.**
- **The FEIS was published on August 3, 2007.**
- **The ROD was issued on September 5, 2007. The Selected Project for this study is The Integrated Airspace Alternative with the Integrated Control Complex (ICC) with Mitigation variation.**



EIS Noise Study Area: Surface-14,000 feet above ground level (AGL)





Integrated Airspace Alternative with ICC (IAICC) with Mitigation *Change in Noise Exposure*

LEGEND

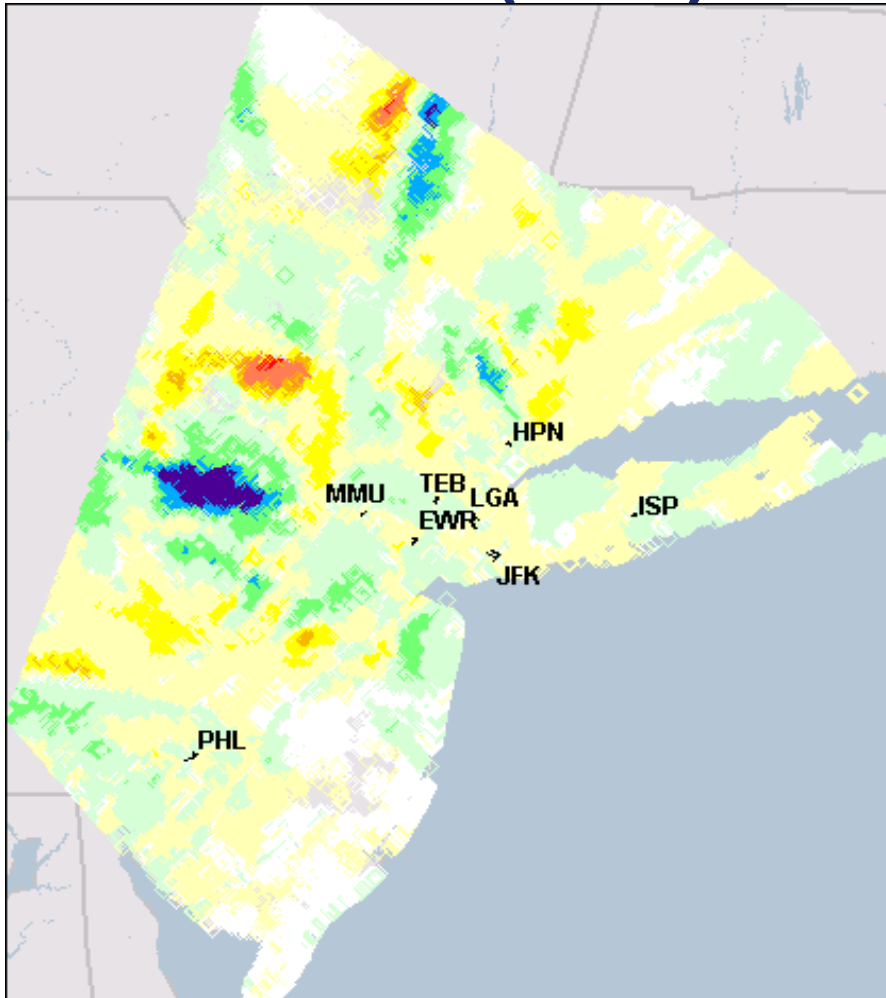
- State Boundary
- County Boundary
- Study Area Boundary

Noise Increases	Resulting In	Color
≥ 5.0+ DNL	45-60 DNL	Yellow
≥ 3.0+ DNL	60-65 DNL	Orange
≥ 1.5+ DNL	≥ 65 DNL	Red

Noise Reductions	Resulting In	Color
≥ 5.0+ DNL	45-60 DNL	Purple
≥ 3.0+ DNL	60-65 DNL	Blue
≥ 1.5+ DNL	< 65 DNL	Green

DNL = Day/night average sound level

Raw Data Noise Changes - Selected Alternative with mitigation as compared to the No Action Alternative (2011)



Raw Change in dB from Future No Action with Mitigation

dB Change Range	Number of Census Points
20 to 25	(26)
15 to 20	(622)
10 to 15	(576)
5 to 10	(9044)
0.1 to 5	(153067)
-0.1 to 0.1	(41060)
-5 to -0.1	(107108)
-10 to -5	(9230)
-15 to -10	(1985)
-30 to -15	(991)

Current Project Status & Partial Benefits

Stage 1 Implementation

Dec 2007, May 2008

Partial Dispersal Headings at EWR & PHL (Dec 2007)

EWR: -1 min avg taxi out time

PHL: -2 min avg taxi out time

2nd J80 (Q42) (May 2008)

Positions system for benefits in Stage 2a

Stage 2a Implementation

Partial May 2011

Completed Oct 2011

New York Metro Westgate Expansion (May 2011, Oct 2011)

Expanded use of 3 nautical miles (nmi) below flight level (FL) 180 for ZNY

Integration of key positions at N90

Additional access point for all New York airports

Faster climbs for JFK departures using “wrap” procedure

Qualitative Benefit: Better access to airspace, quicker climb, increased flexibility during severe weather, and less airspace complexity.

Stage 2b

May 2012 Implementation

Full Dispersal Headings at PHL (May 2012)

Will provide additional improvement for taxi out time

Addresses noise impacts identified in Environmental Impact Statement (EIS)

Positions for stage 3 transitions

Stages 1 & 2 of NY/NJ/PHL Airspace Redesign improve airspace efficiencies, providing partial benefits while positioning for full implementation.

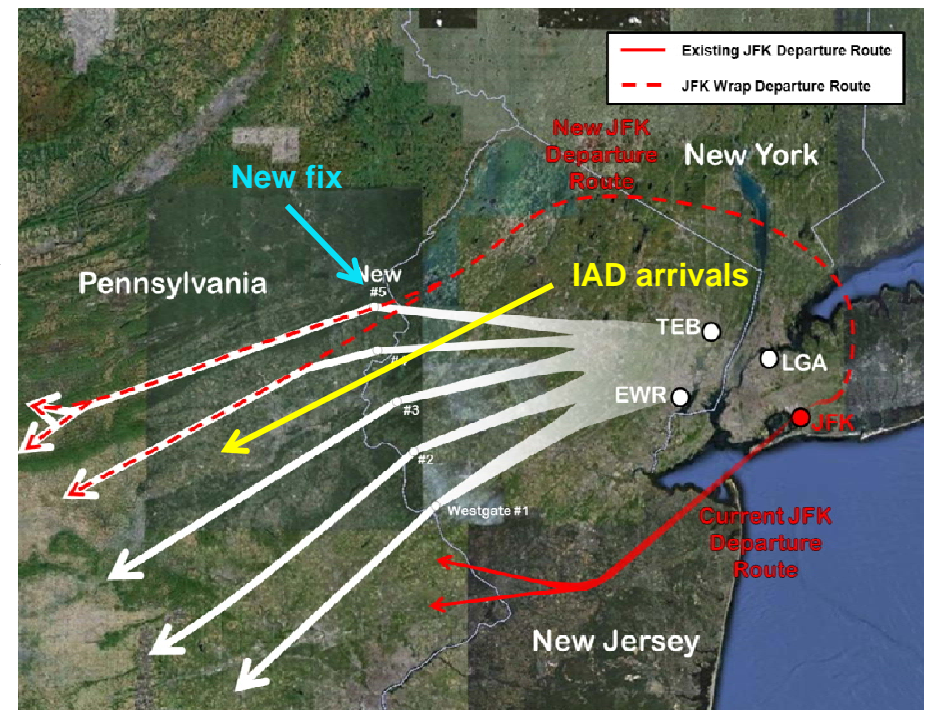
Stage 2A

•Changes Implemented 10/20/2011

- New departure gate for all New York airport traffic proceeding westbound
- New arrival route for IAD
- New JFK departure route

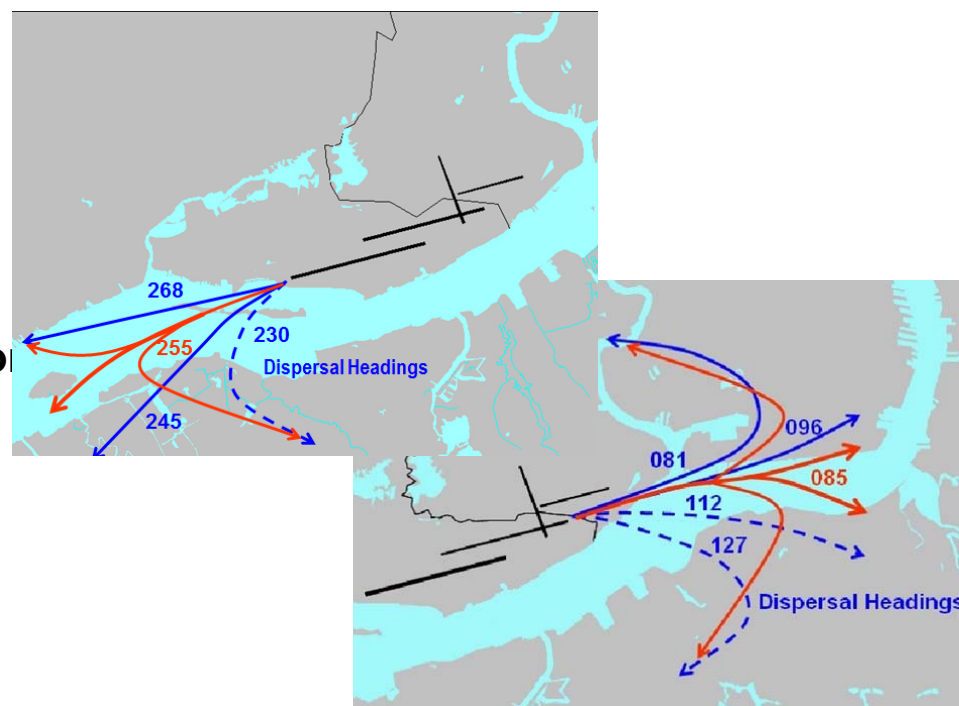
•Benefits (Preliminary)

- Reduced Airspace Complexity
- Improved climbs for departures
- Improved efficiency for NY metro westbound departures



Stage 2B

- Implementation May 2012
- Completes implementation of additional dispersal headings as required by ROD
 - Specific headings for noise mitigation
 - 230 for west departures
 - 112 and 127 for east departures
- In use 7 a.m. to 10 p.m.
- Expected Benefits
 - Improved departure throughput
 - Reduced taxi out time
 - Compliance with ROD for noise mitigation



Project Schedule Delay – Causal Factors

- **Unprecedented Scope and Complexity**

- The volume and complexity of the airspace is unmatched anywhere in the world. Three large hub airports (LGA, JFK, and EWR) are within 10 miles of each other and 16 satellite airports are in the immediate vicinity including TEB the busiest business jet airport in the United States, and a fourth large hub airport (PHL) within 90 miles.

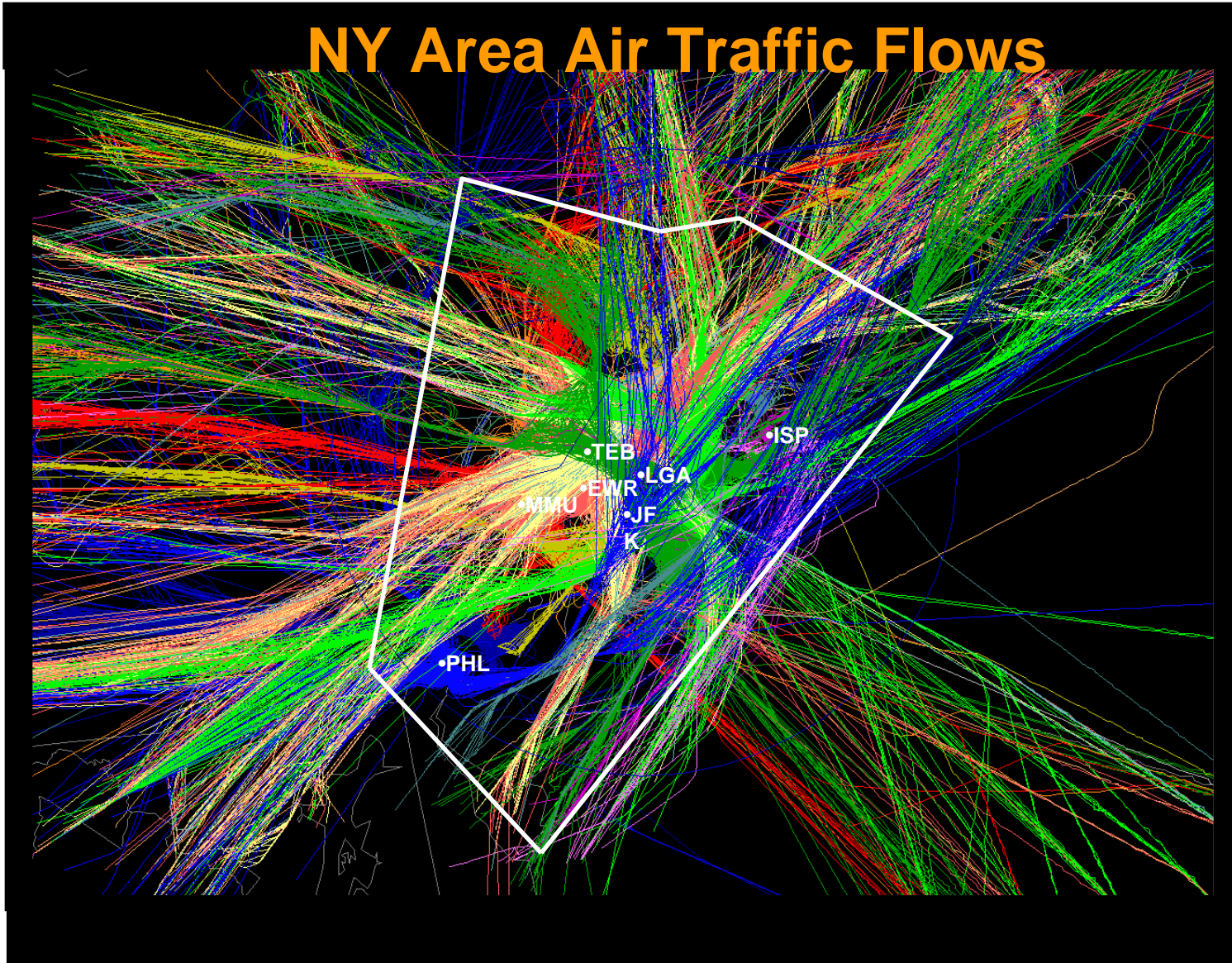
- **2 Years of Litigation Matters**

- Although there was no suspension of activities during litigation, time, attention, and resources were diverted to address legal challenges.
- On June 10, 2009, the U.S. Court of Appeals for the District of Columbia Circuit issued a favorable opinion that dismissed or otherwise disposed of all claims against the FAA's Record of Decision.
- The U.S. Supreme Court was petitioned for certiorari (*a writ issuing from a superior court calling up the record of a proceeding in an inferior court for review*) on November 17, 2009. On January 19, 2010, the U.S. Supreme Court denied the request.

- **The FAA will intensify focus on increased collaboration with all airspace partners including FAA labor organizations to ensure effective completion of this complex project.**

LGA Arr, EWR Arr, JFK Arr, LGA Dep, EWR Dep, JFK Dep, PHL Arr, PHL Dep,
TEB Arr, TEB Dep, HPN Arr, HPN Dep, ISP Arr, ISP Dep, MMU Arr,

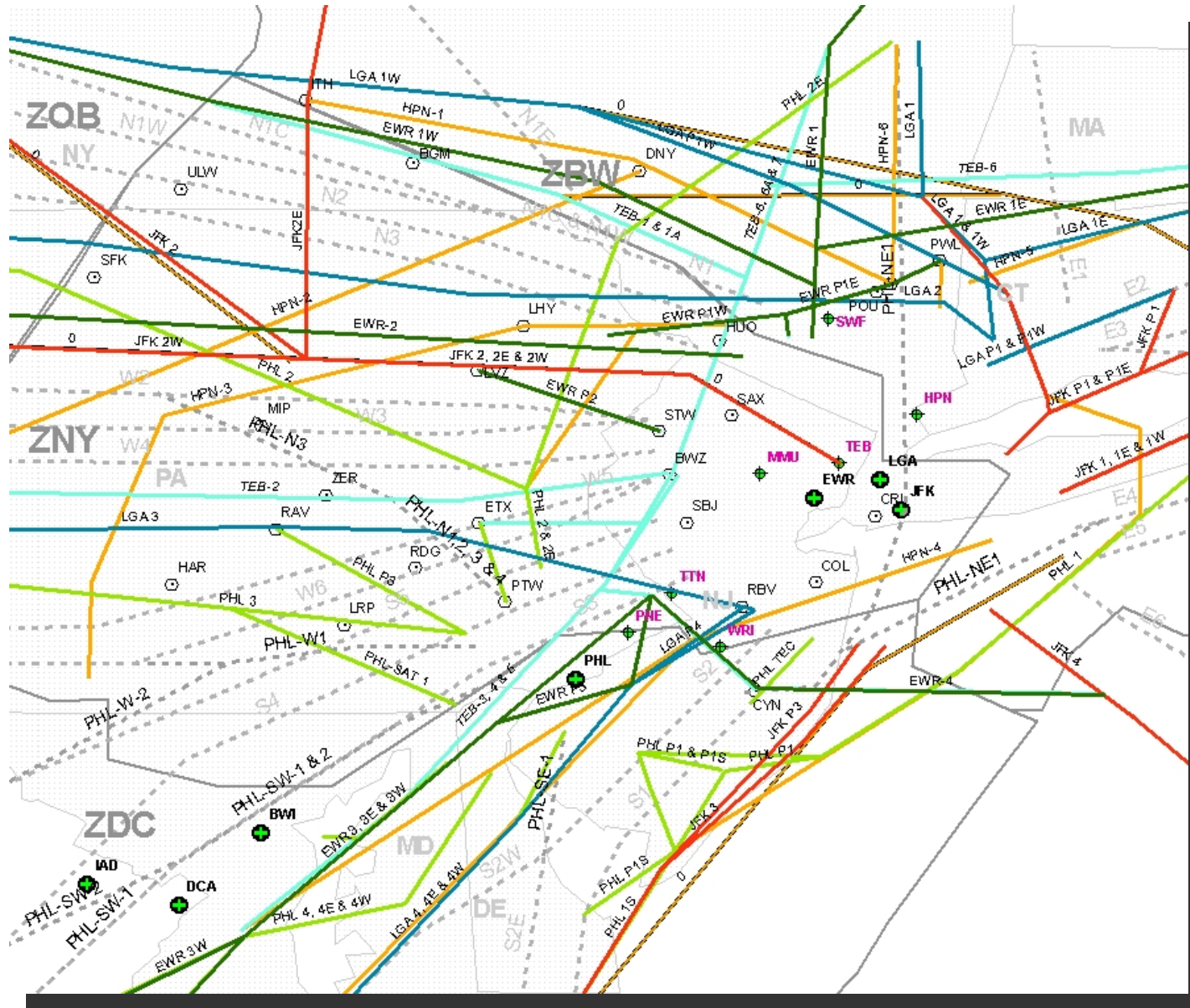
NY Area Air Traffic Flows



Redesigned High Altitude Route Structure (Notional)

DEPT Routes (dashed lines)

ARR Routes (color by arpt)



STAGE 3

STAGE 4

Finalize Full Airspace Design: Modeling & Validation

Implementation:
South and East

Implementation:
North and West

CY 2012

CY 2013

CY 2014

CY 2015

CY 2016



Stage 3 – Design Packages 3.1, 3.2

•Primary Changes To:

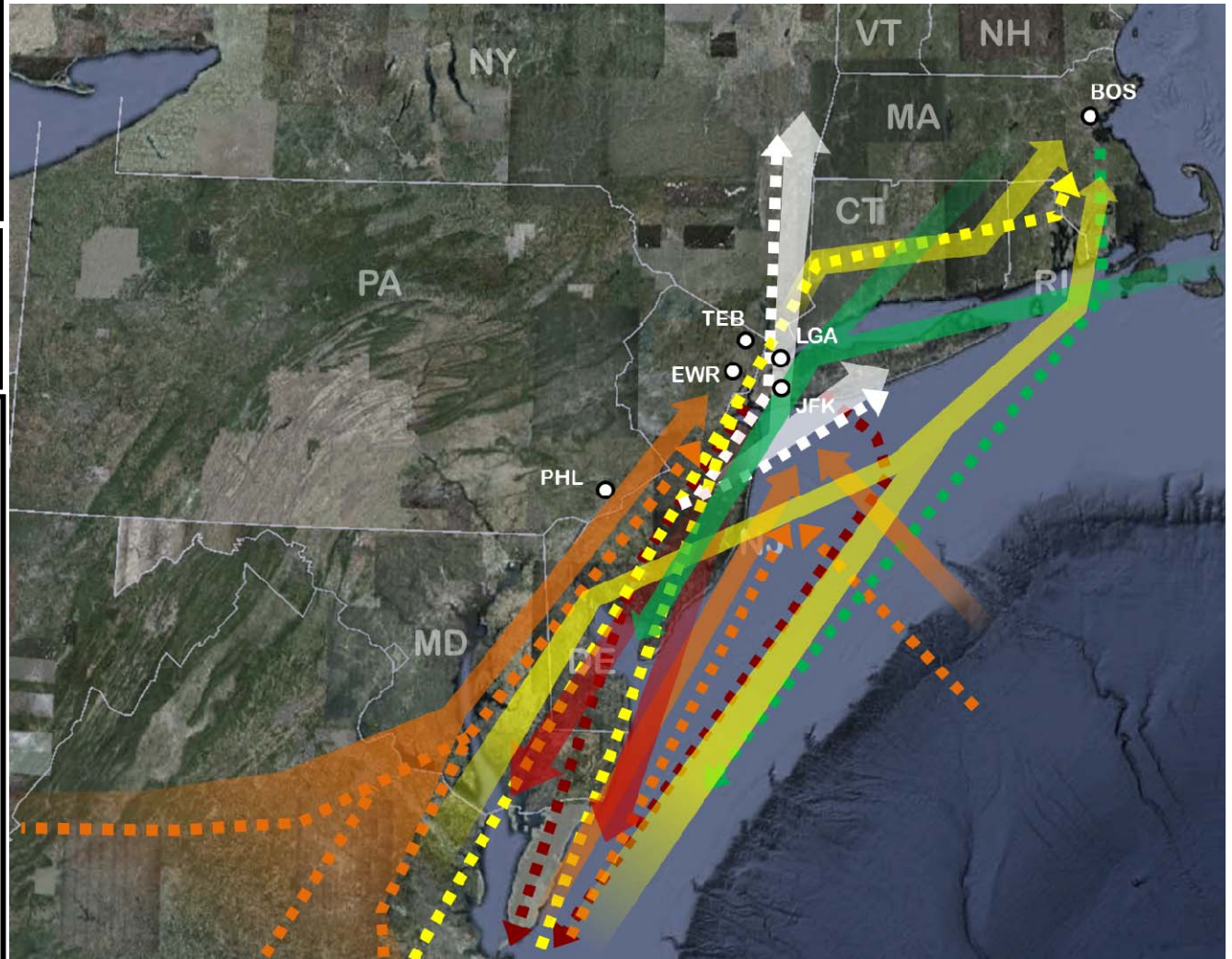
- Southbound overflights
- BOS arrivals
- Southbound NY metro departures

•Schedule

- Design work completion: **Aug 2013**
- Implementation target: **Dec 2015**

•Legend

- NY Metro Departures – IAICC
- NY Metro Departures – Current
- NY Metro Arrivals – IAICC
- NY Metro Arrivals – Current
- PHL Departures – IAICC
- PHL Departures – Current
- BOS Arrivals – IAICC
- BOS Arrivals – Current
- Southbound Overflights – IAICC
- Southbound Overflights – Current



Stage 3 – Design Packages 3.8, 3.9, 3.10

•Primary Changes To:

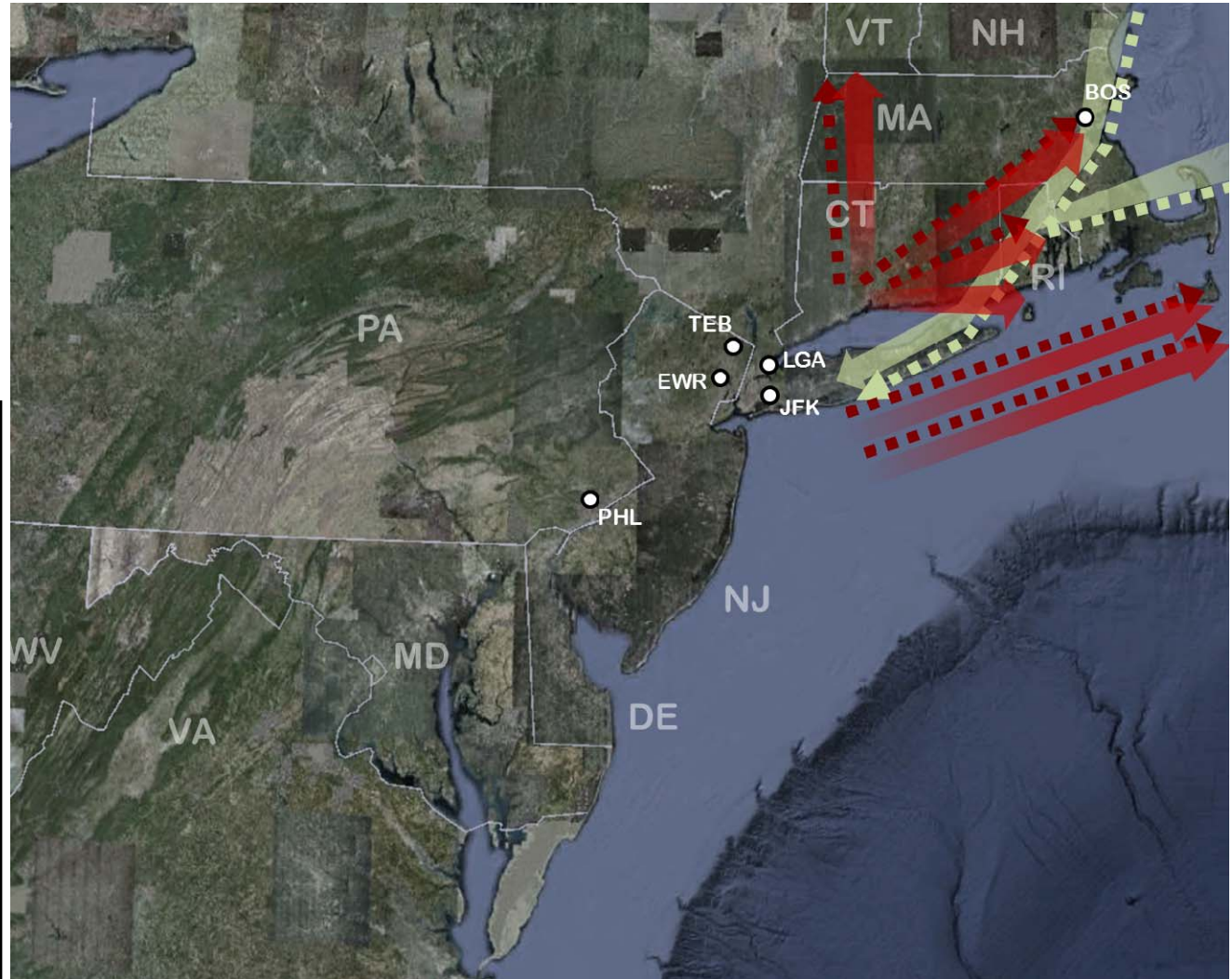
- NY metro departures to Boston
- Additional volume on JFK arrival route

•Schedule

- Design work completion: **Feb 2014**
- Implementation target: **Dec 2015**

•Legend

- NY Metro Departures – IAICC
- NY Metro Departures – Current
- JFK Arrivals – IAICC
- JFK Arrivals – Current



Stage 3 – Design Packages 3.3, 3.4, 3.5, 3.6

•Primary Changes To:

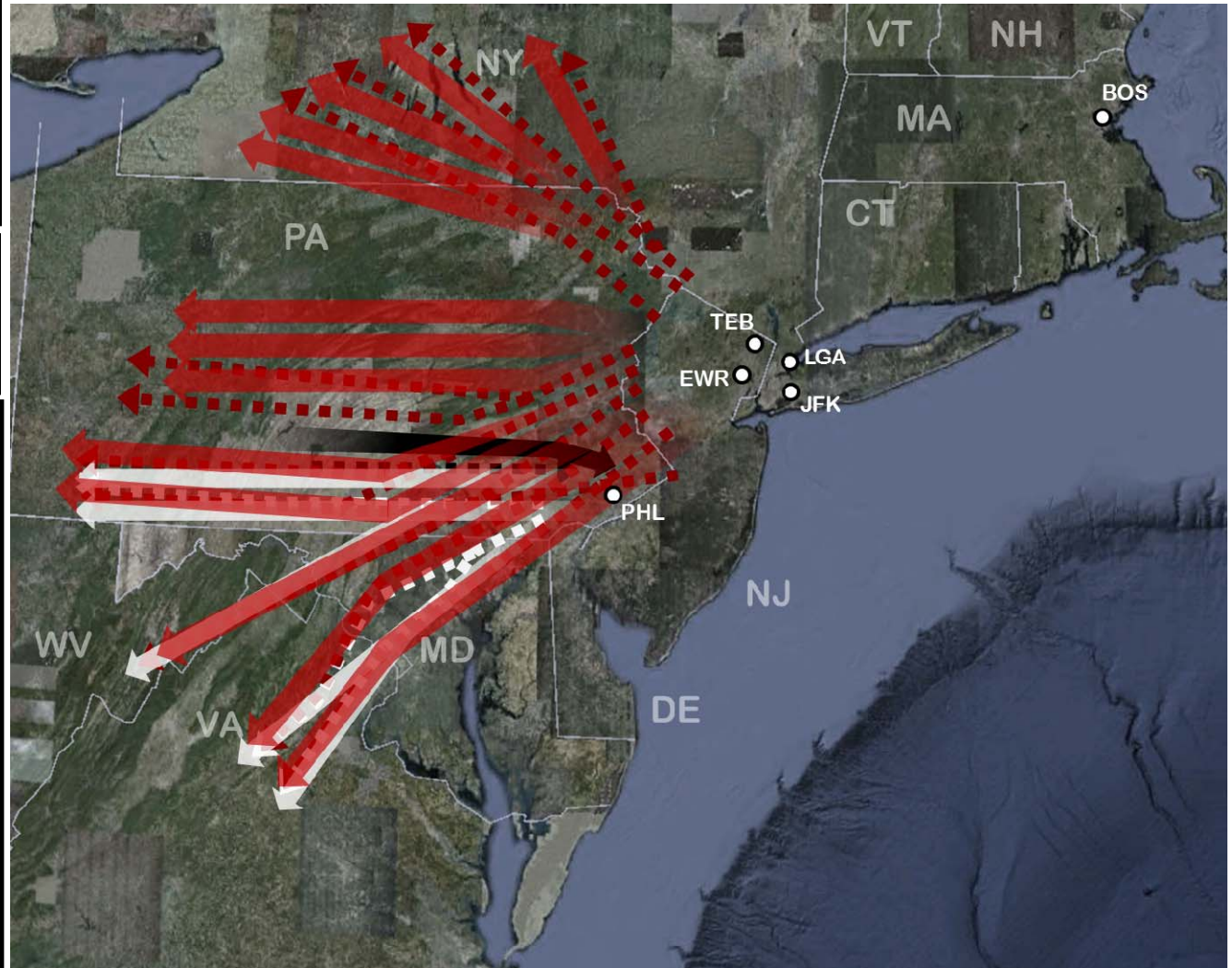
- NY Metro Westgate
- NY Metro Northgate
- PHL Westgate

•Schedule

- Design work completion: **Oct 2014**
- Implementation target: **Nov 2016**

•Legend

- ■ ■ ■ ■ •NY Metro Departures – IAICC
- ■ ■ ■ ■ •NY Metro Departures – Current
- ▨ ▨ ▨ ▨ ▨ •PHL Departures – IAICC
- ▨ ▨ ▨ ▨ ▨ •PHL Departures – Current
- ▨ ▨ ▨ ▨ ▨ •PHL Arrivals – IAICC
- ▨ ▨ ▨ ▨ ▨ •PHL Arrivals – Current



Stage 3 – Design Package 3.7

•Primary Changes To:

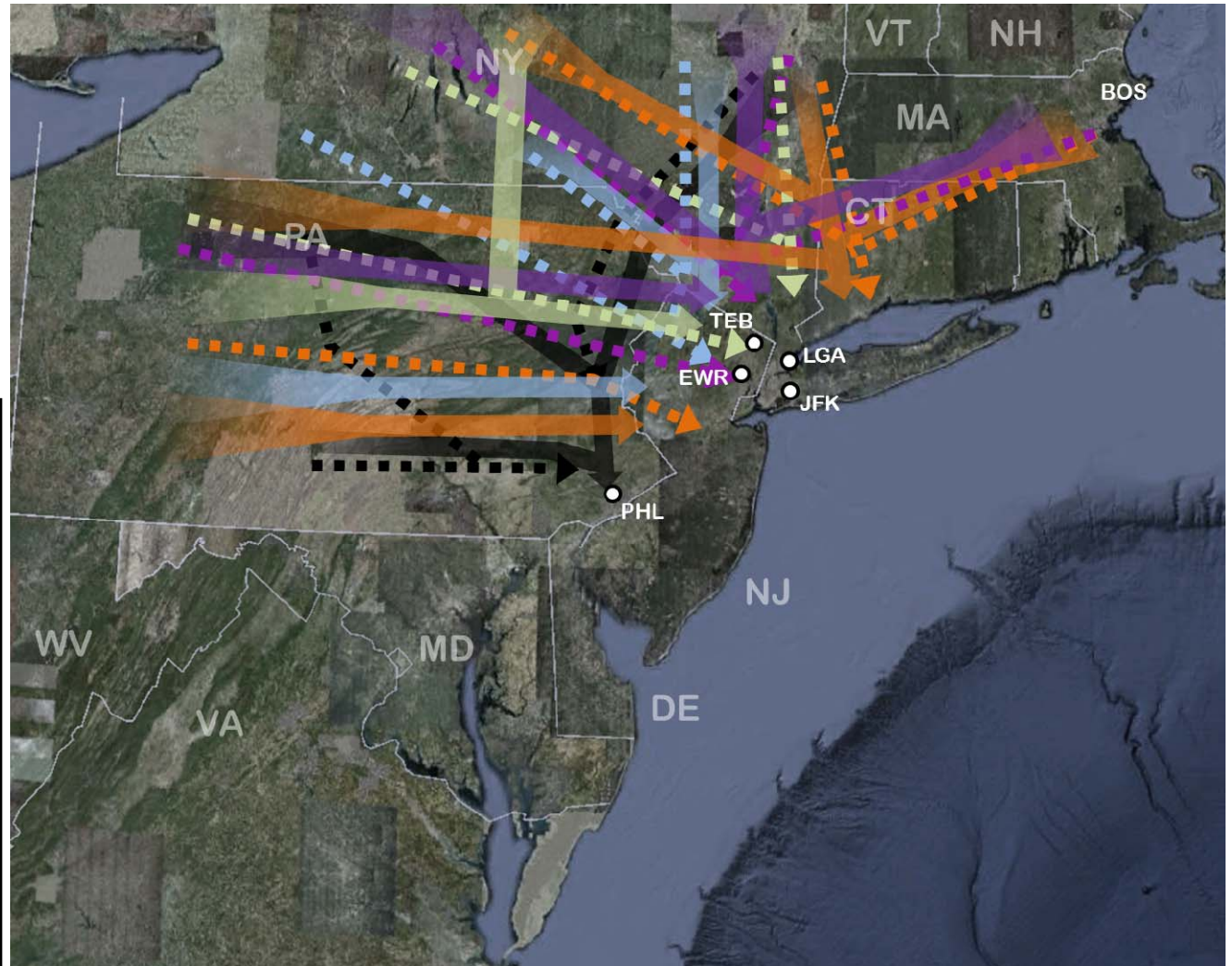
- NY Metro arrivals from the north
- NY Metro arrivals from the west
- PHL arrivals from the west

•Schedule

- Design work completion: **Nov 2014**
- Implementation target: **Nov 2016**

•Legend

- LGA Arrivals – IAICC
- LGA Arrivals – Current
- EWR Arrivals – IAICC
- EWR Arrivals – Current
- TEB Arrivals – IAICC
- TEB Arrivals – Current
- JFK Arrivals – IAICC
- JFK Arrivals – Current
- PHL Arrivals – IAICC
- PHL Arrivals – Current



Summary of Next Steps

- **Stage 2b**
 - Implementation planned for May 2012
 - Adds 230, 112, and 127 dispersal headings at PHL
 - Mitigates temporary significant noise impact per ROD
- **Stage 3**
 - Design airspace to support Stage 3 and 4 routes and flows in compliance with the ROD
 - Implement as part of Stage 3 the route structure supporting air traffic operations to the south and east of New York
- **Stage 4**
 - Implement the route structure supporting air traffic operations to the west and north of New York
- **Employ “Adaptative Management”**
 - Per GAO recommendation, modify sequence of implementation activities as needed to optimize project benefits

