

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

Congressional Update

Presented to: Congressional Staffers

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Federal Aviation
Administration



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

- **Purpose**

- Increase efficiency and reliability of the airspace structure and air traffic control (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:**

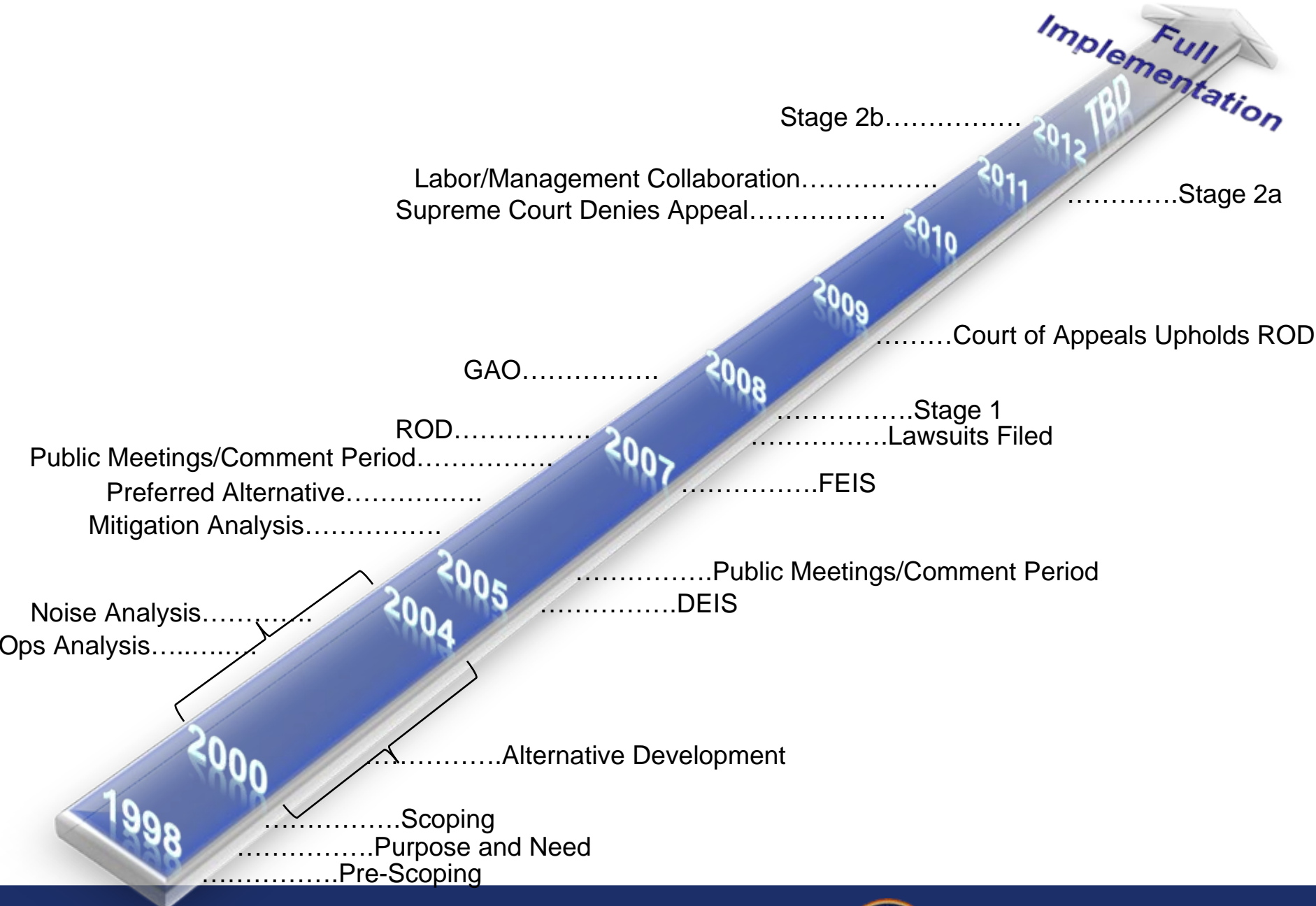
- Reduce Delay
- Improve User Access
- Maintain Airport Throughput
- Expedite Arrivals and Departures
- Flexibility in Routing
- Reduce Complexity
- Balance Controller Workload
- Reduce Voice Communications

NY/NJ/PHL Airspace Redesign:

Purpose & Need more compelling than ever. . . .

- The greater New York metropolitan airspace contains three of the top delayed airports (EWR, LGA, JFK) in the National Airspace System (NAS).
- From January-May 2011:
 - **EWR, LGA, JFK, PHL, & TEB = 12% of total NAS operations, 46% of total NAS delays.**
- Same period in 2005:
 - **EWR, LGA, JFK, PHL, & TEB = 11% of total NAS operations, 34% of total NAS delays.**
- Arrival flows and departure flows within compact airspace result in traffic constraints and little room for maneuvering.
 - **Lack of alternate routes closes off airspace during severe weather**
 - **Multiple facilities fragment arrival and departure corridors**





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 the FAA and labor/management.**
- **Thousands of comments were taken on the draft EIS (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 Final Environmental Impact Statement (FEIS).**
- **The FEIS was published on August 3, 2007.**
- **The Record of Decision (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.**



Legal History

- **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 ROD for the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign project.**
- **On August 19, 2009, petitioners of the project were denied a rehearing by the U.S. Court of Appeals for the D.C. Circuit.**
- **On November 17, 2009, petitioners filed a petition for certiorari in the U.S. Supreme Court. This request was denied on January 19, 2010.**



EIS Noise Study Area: Surface-14,000 Feet Above Ground Level (AGL)



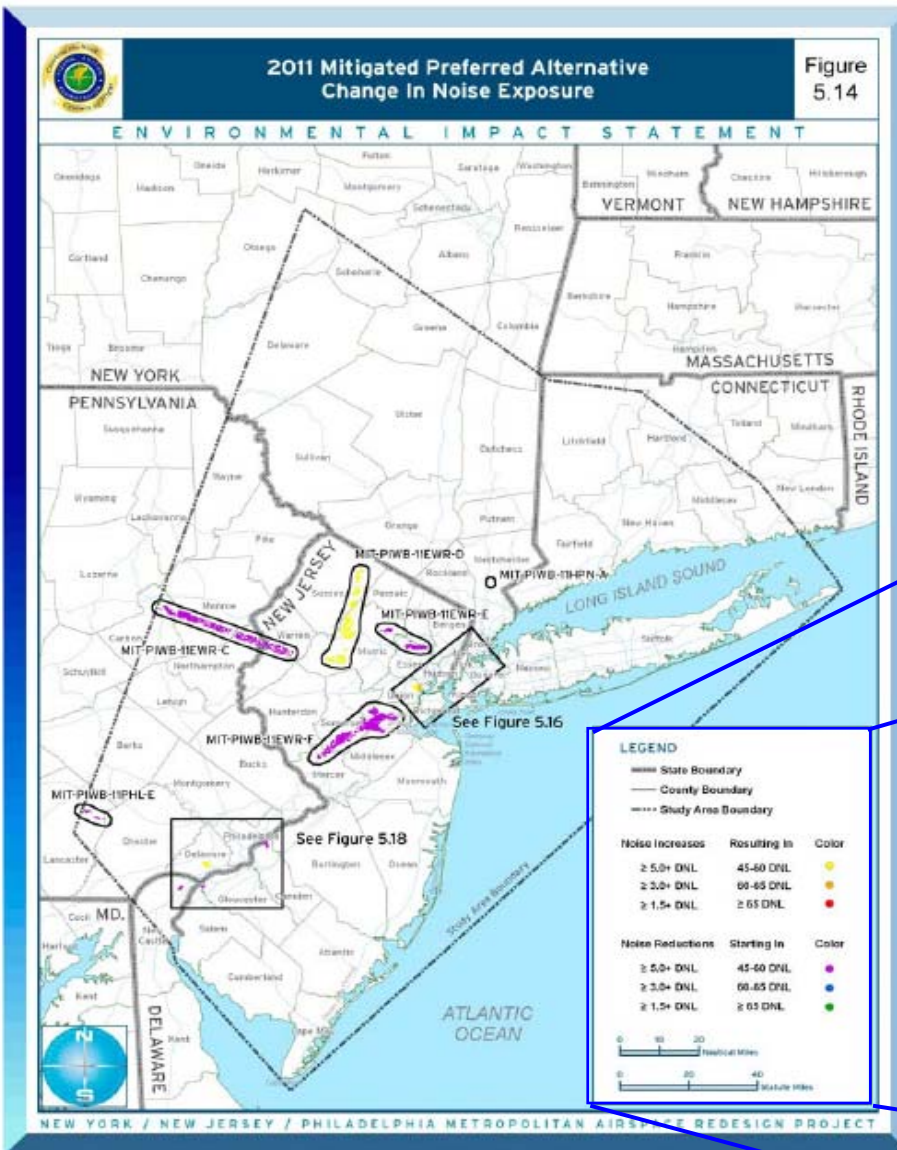


Figure 5.14

Integrated Airspace Alternative with ICC 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	
≥ 3.0+ DNL	60-65 DNL	
≥ 1.5+ DNL	≥ 65 DNL	

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

LEGEND

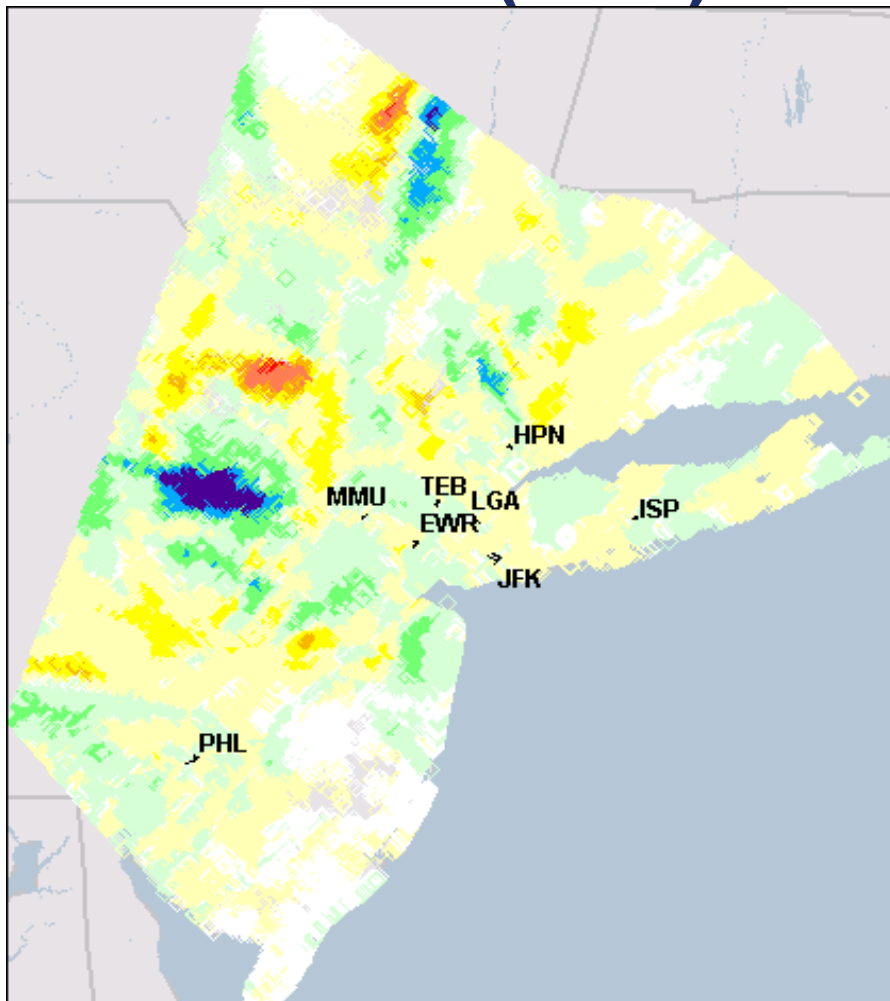
- State Boundary
- County Boundary
- Study Area Boundary

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

Noise Reductions	Starting In	Color
≥ 5.0+ DNL	45-60 DNL	
≥ 3.0+ DNL	60-65 DNL	
≥ 1.5+ DNL	≥ 65 DNL	



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

	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)

Formal Collaborative Process Established (Mgmt/Labor)

July 30, 2010

- Provides operational perspective into the development, testing, and deployment of changes to the NY/NJ/PHL airspace.
- Affords design validation from those directly involved in air traffic operations.
- Complies with Congressional recommendation to formally engage labor.
- Complies with Executive Order (E.O.) 13522 by providing a collaborative, engagement-based approach where the parties jointly develop solutions to workplace issues.

The parties. . . .

One NATCA and Management rep from each affected facility

N90, ZNY, ZBW, PHL, ZDC, ZOB, & PCT



Current Status

Stage 1 Implementation

Dec 2007, May 2008

Partial Dispersal Headings at EWR & PHL (Dec 2007)

EWR: -1 min avg taxi out time (~ \$0.6M/yr savings)**

PHL: -2 min avg taxi out time (~ \$4.5M/yr savings)**

2nd J80 (Q42) (May 2008)

Positions system for benefits in stage 2a

*** During periods of use*

Stage 2a Implementation

Partial May 2011

Complete 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 *(Under Design development)*

May 2012 –

Planned Implementation

Full Dispersal Headings at PHL (May 2012)

Will provide additional improvement for taxi out time

Addresses noise impacts identified in 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

Partial Stage 2a Implemented May 2011

- **Begin integrating airspace at NY TRACON to achieve efficiency gains through better internal coordination close to airports.**
- **Feed additional radar data into NY Center to expand use of 3 mile separation.**

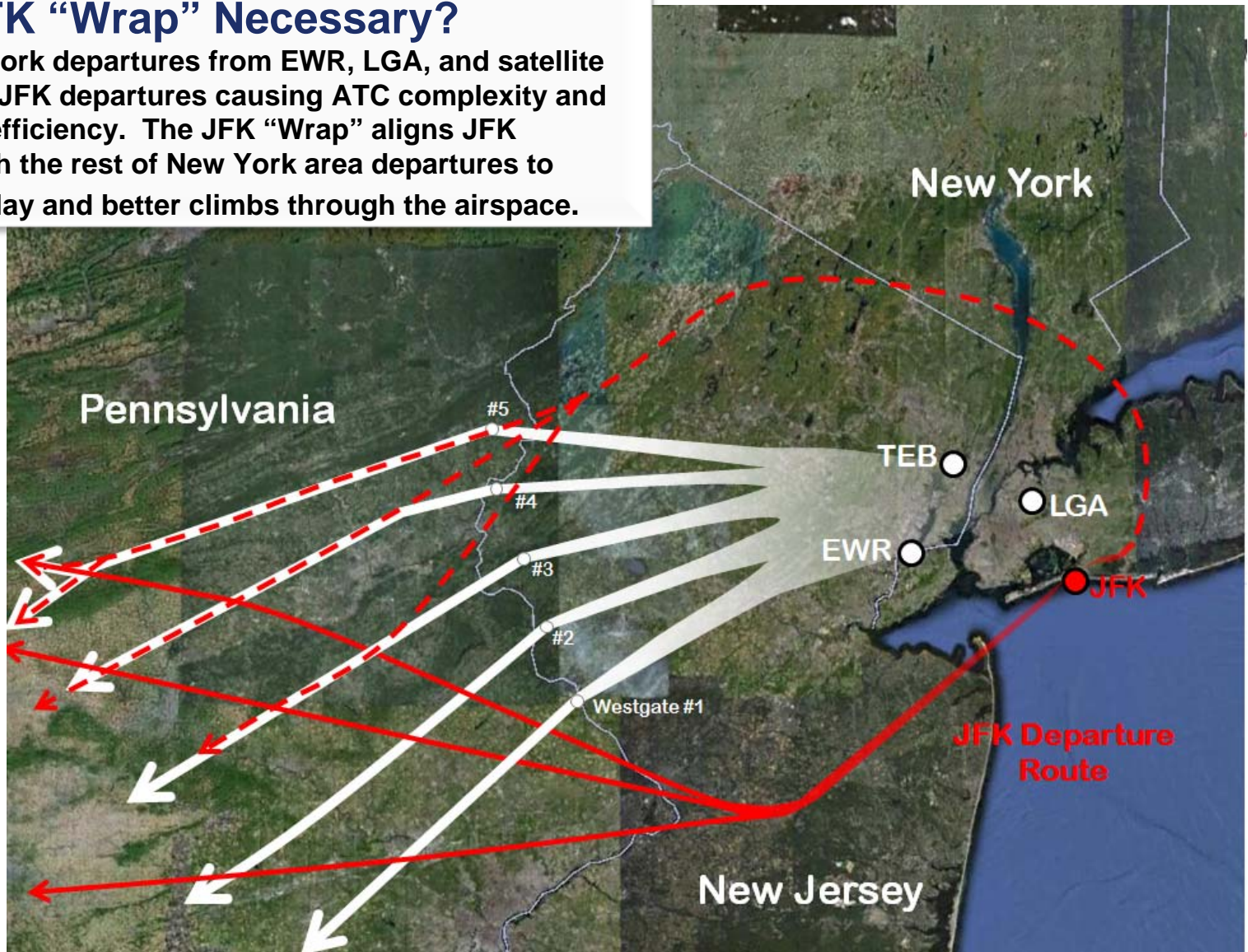
Full Stage 2a Planned for October 20, 2011

- **A new JFK departure procedure “JFK Wrap.” The procedure enables JFK departures to reach optimal altitude more quickly than today's route over Robbinsville, New Jersey, and reduces complexity in airspace sectors.**
- **The addition of a New York metropolitan departure route for westbound flights. This will facilitate more efficient access to the westbound high altitude route structure and alleviate traffic management restrictions that cause delays.**
- **New offset routing for Dulles arrivals to reduce controller workload and complexity. This new offset routing will facilitate more efficient climbs for New York metropolitan departures.**



Why is JFK "Wrap" Necessary?

Today's New York departures from EWR, LGA, and satellite airports cross JFK departures causing ATC complexity and less airspace efficiency. The JFK "Wrap" aligns JFK departures with the rest of New York area departures to enable less delay and better climbs through the airspace.

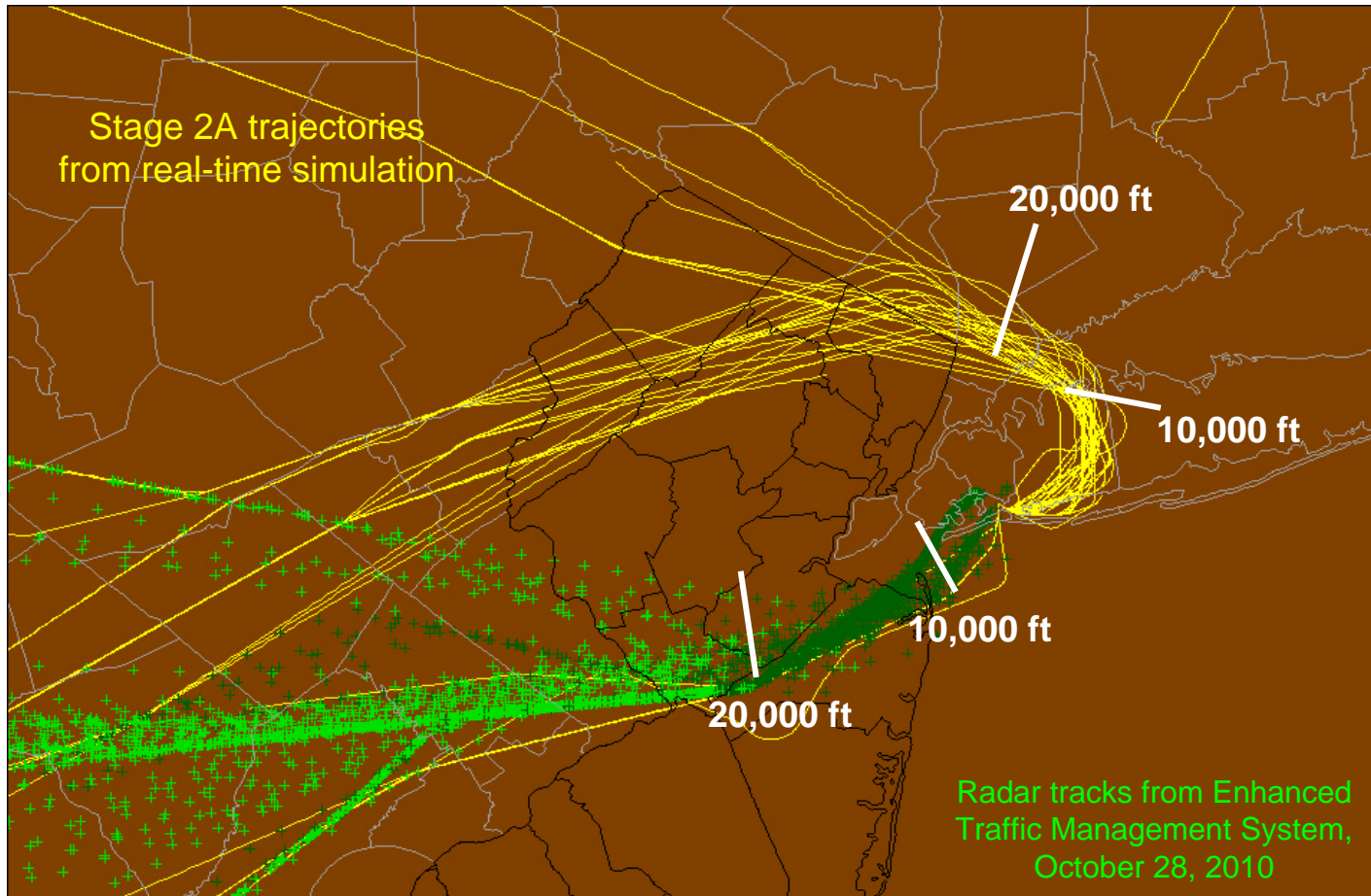


— Existing Departure Procedure

- - - JFK Wrap Departure Procedure

Today's westbound JFK departure procedure (Green)

New JFK "Wrap" departure procedure (Yellow) 10/20/11



Stage 2b – Philadelphia Departure Procedure Enhancements

- **Complete PHL dispersal headings on west and east flow. West flow heading is required to mitigate temporary significant noise impact per ROD.**
- **Modify airspace at PHL, ZDC, Atlantic City, and Dover to accommodate procedure changes.**
- **Implementation target is May 31, 2012.**
- **Additional Westgate fix from the original stage 2b design will be added to stage 4.**

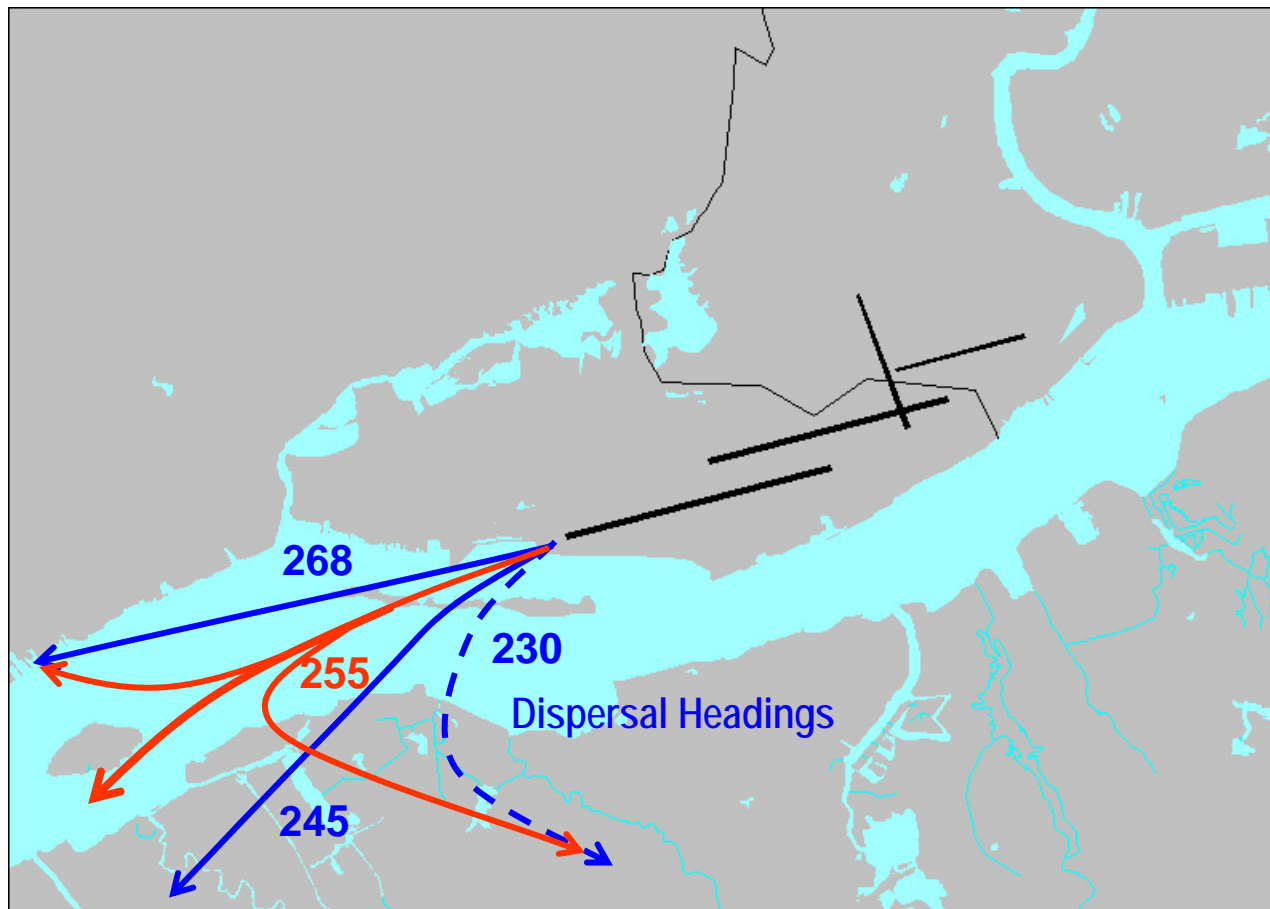


Stage 2b PHL West Dispersal Headings

Late-night
heading 255
2230-0600

Stage 1 dispersal
headings 245,268
0600-2230

Stage 2b adds
230 dep heading
(dashed blue)

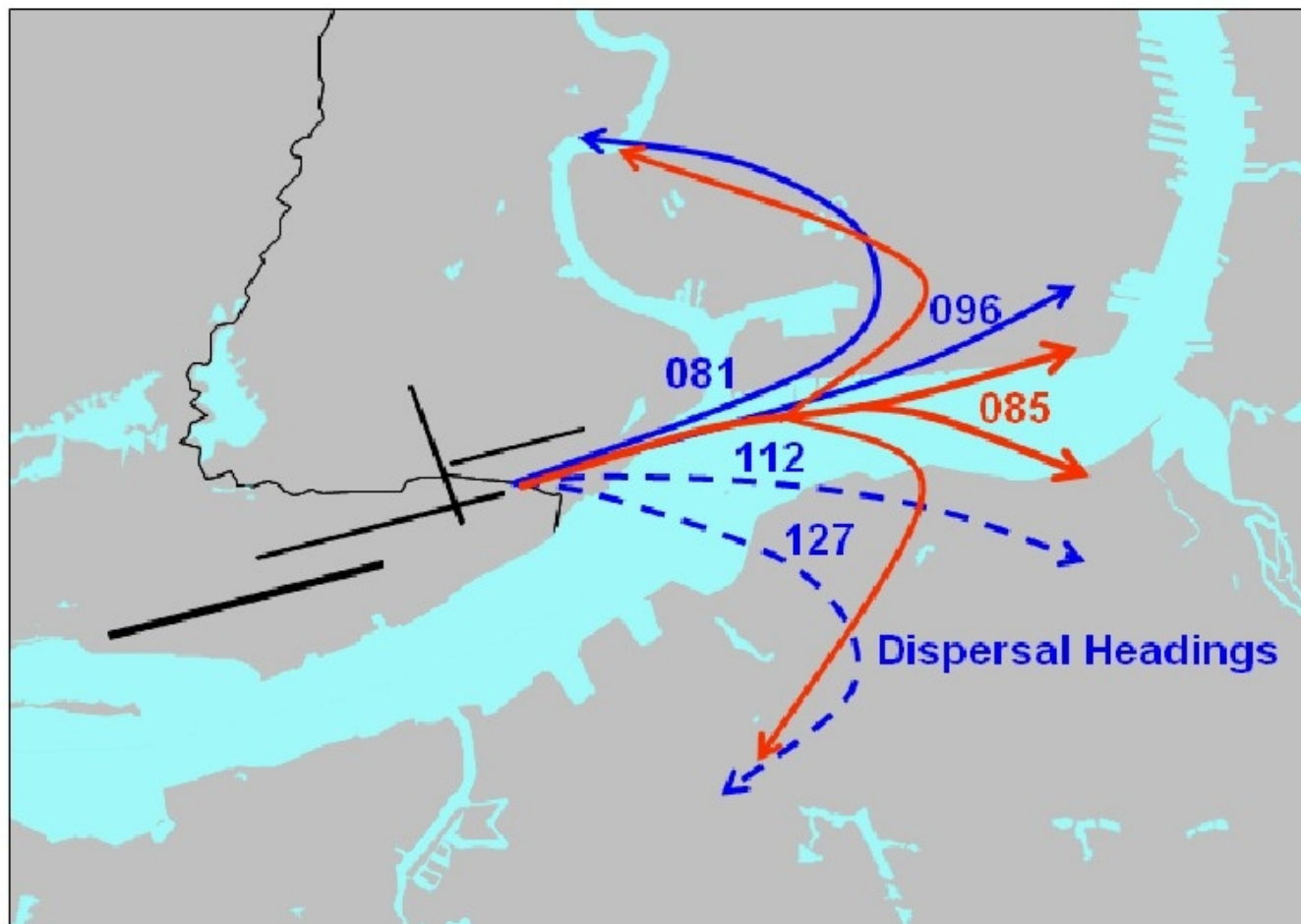


Stage 2b PHL East Dispersal Headings

Late-night heading 085
2230-0600

Stage 1 dispersal headings 081, 096
0600-2230

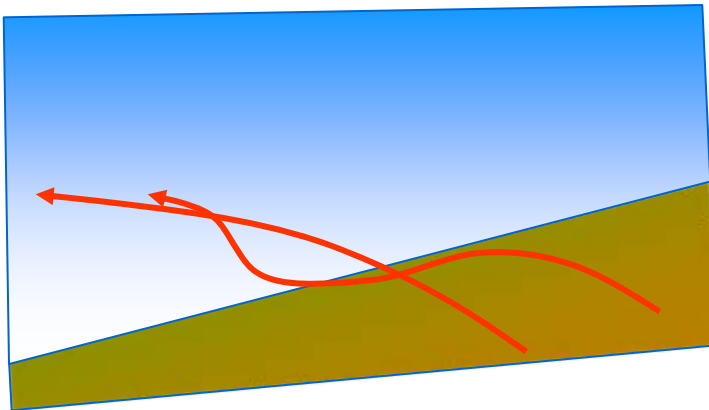
Stage 2b adds headings 112, 127
(dashed blue)



Integrated Airspace Improves Departures

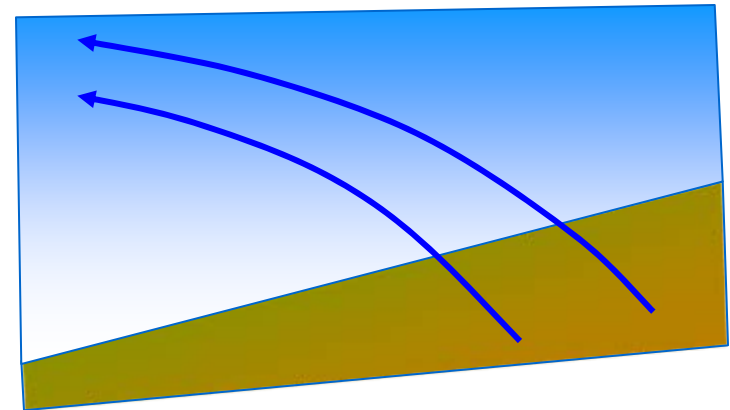
Current System:

- Departures held down to lower altitudes
- Maneuvering at low altitudes to line up for jet route access



Integrated Airspace (ICG):

- Unrestricted climb for departures
- Reduced fuel burn and emissions
- Reduced delay
- Reduced complexity for ATC



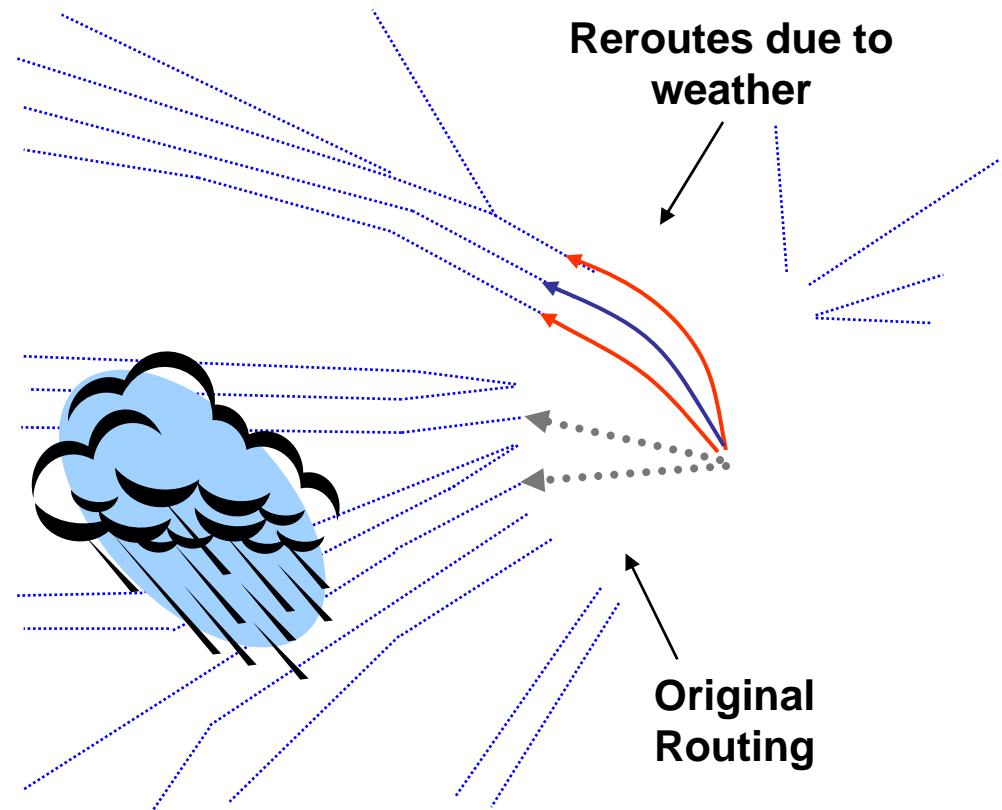
Flexibility in Routing Minimizes Impact of Severe Weather

Current System:

- Airspace constraints result in increased congestion when severe weather is present
- Delays escalate

Integrated w/ ICC:

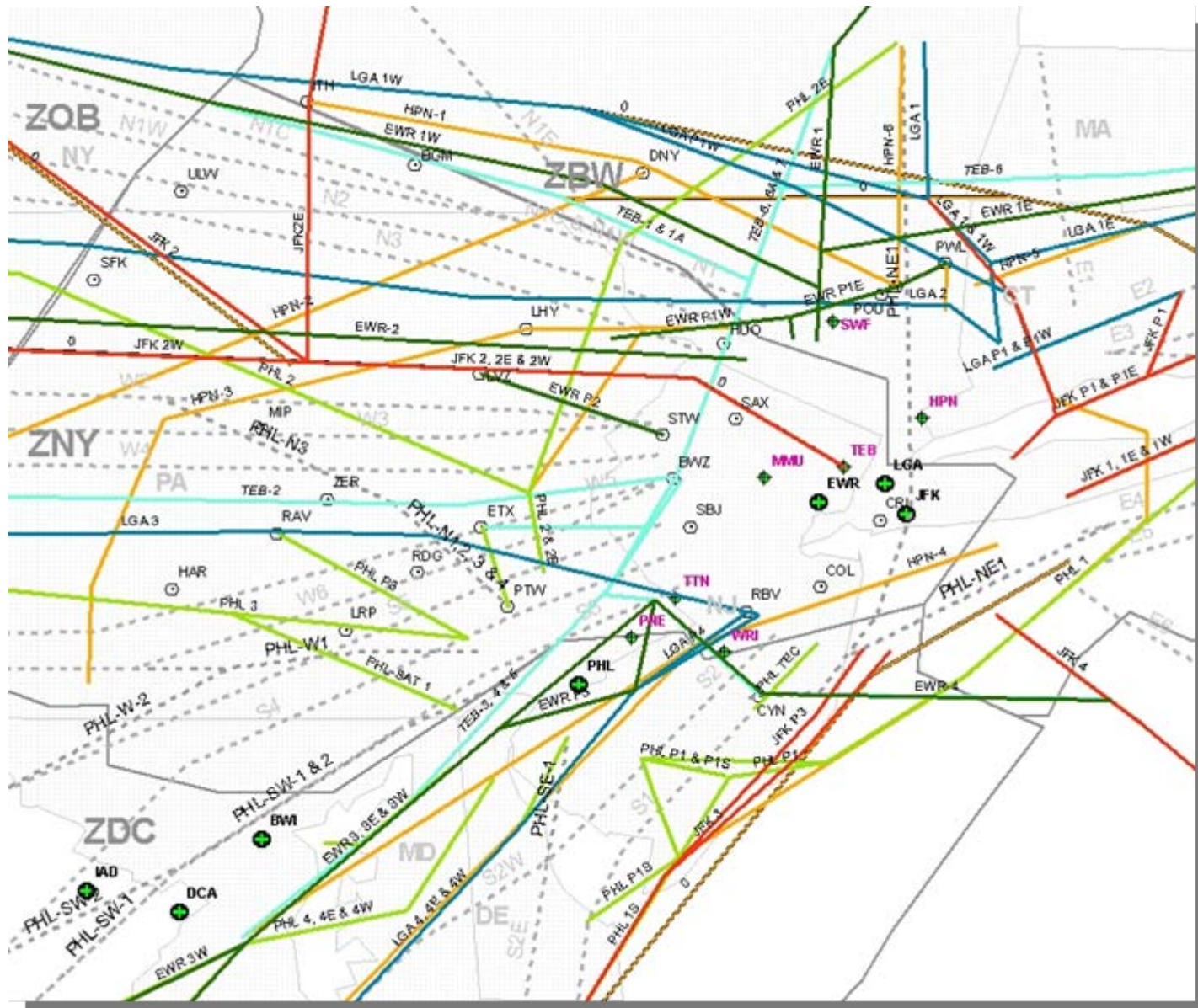
- Increased access to en route airspace means more options in severe weather situations
- Flexibility to take off and fly around the weather
- Reduced delay



Redesigned High Altitude Route Structure (Notional)

DEP Routes (dashed lines)

ARR Routes (color by airport)



Summary of Next Steps

- **Stage 2a**
 - Partial implementation occurred May 2011
 - Begins integration of airspace close to airports within NY TRACON to enhance efficiency through better internal ATC coordination.
 - Expanded use of 3 nmi separation at New York Center.
 - Full 2a implementation planned for October 20, 2011
 - New JFK departure procedure
 - Additional Westgate departure route
 - New Dulles arrival route to segregate New York departures.
- **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 and Stage 4 Strategic Transitional Planning**
 - Government Accountability Office recommends practicing “Adaptive Management” when planning sequence of implementation
 - Revised implementation schedule for stages 3 and 4 released October 2011