

# NY/NJ/PHL Metropolitan Area Airspace Redesign

## Implementation Update

Presentation to: Congressional Staffers

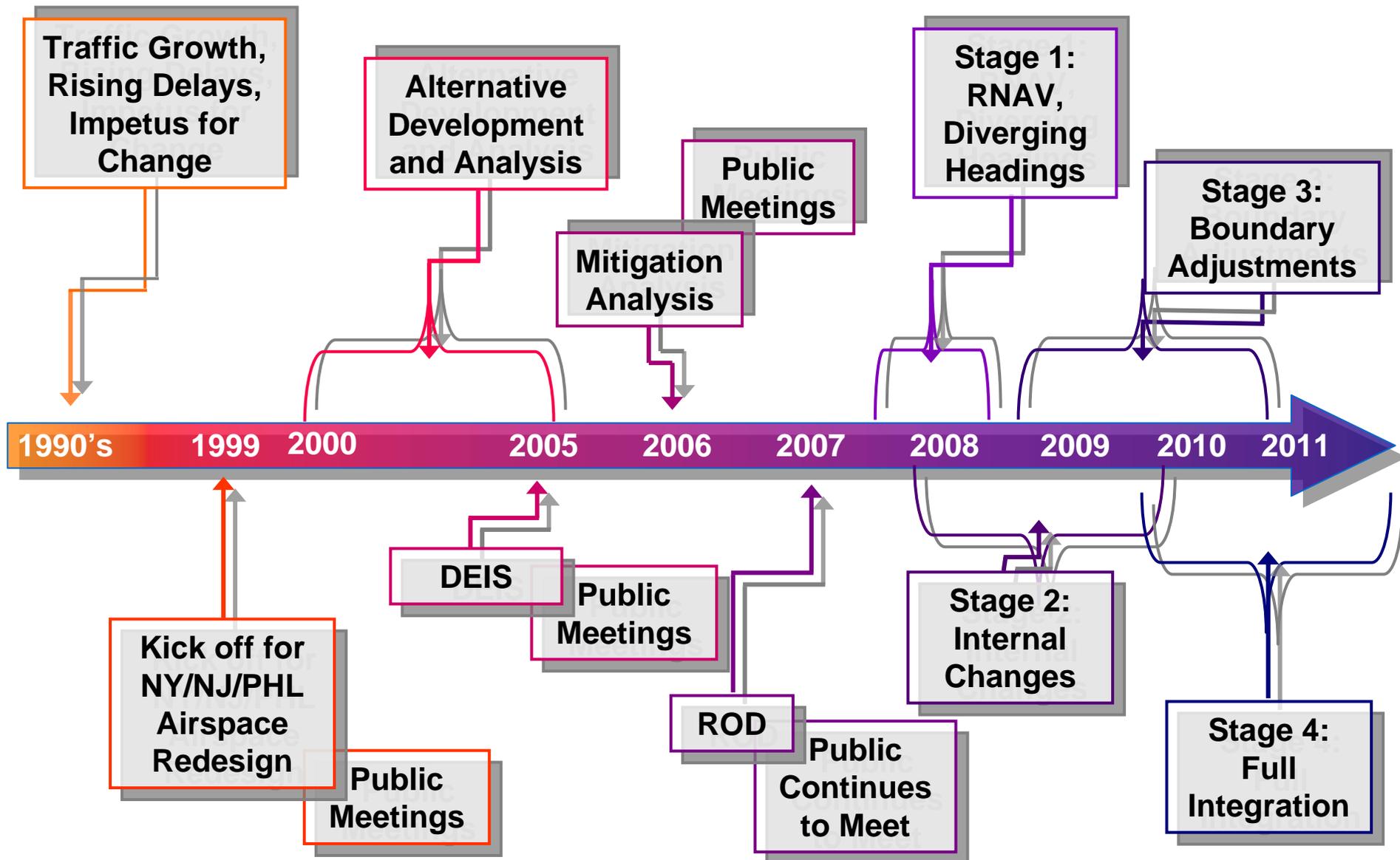
By: Steve Kelley, Airspace Redesign Manager

Date: July 18, 2008



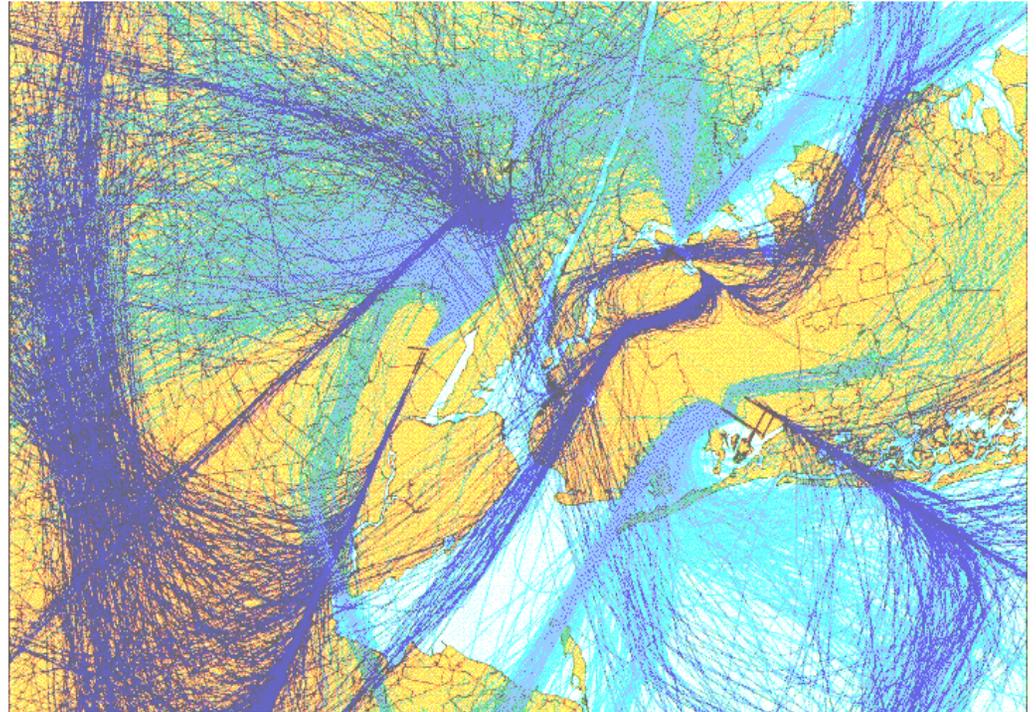
Federal Aviation  
Administration





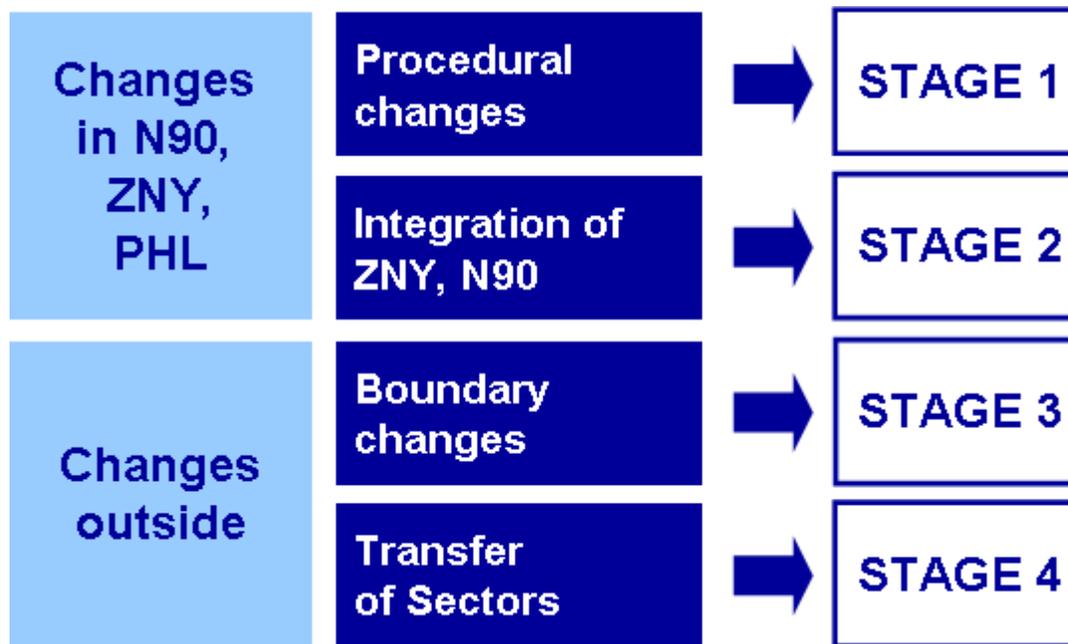
# Why We Need to Redesign Airspace

- Routinely, the New York and Philadelphia metropolitan areas 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

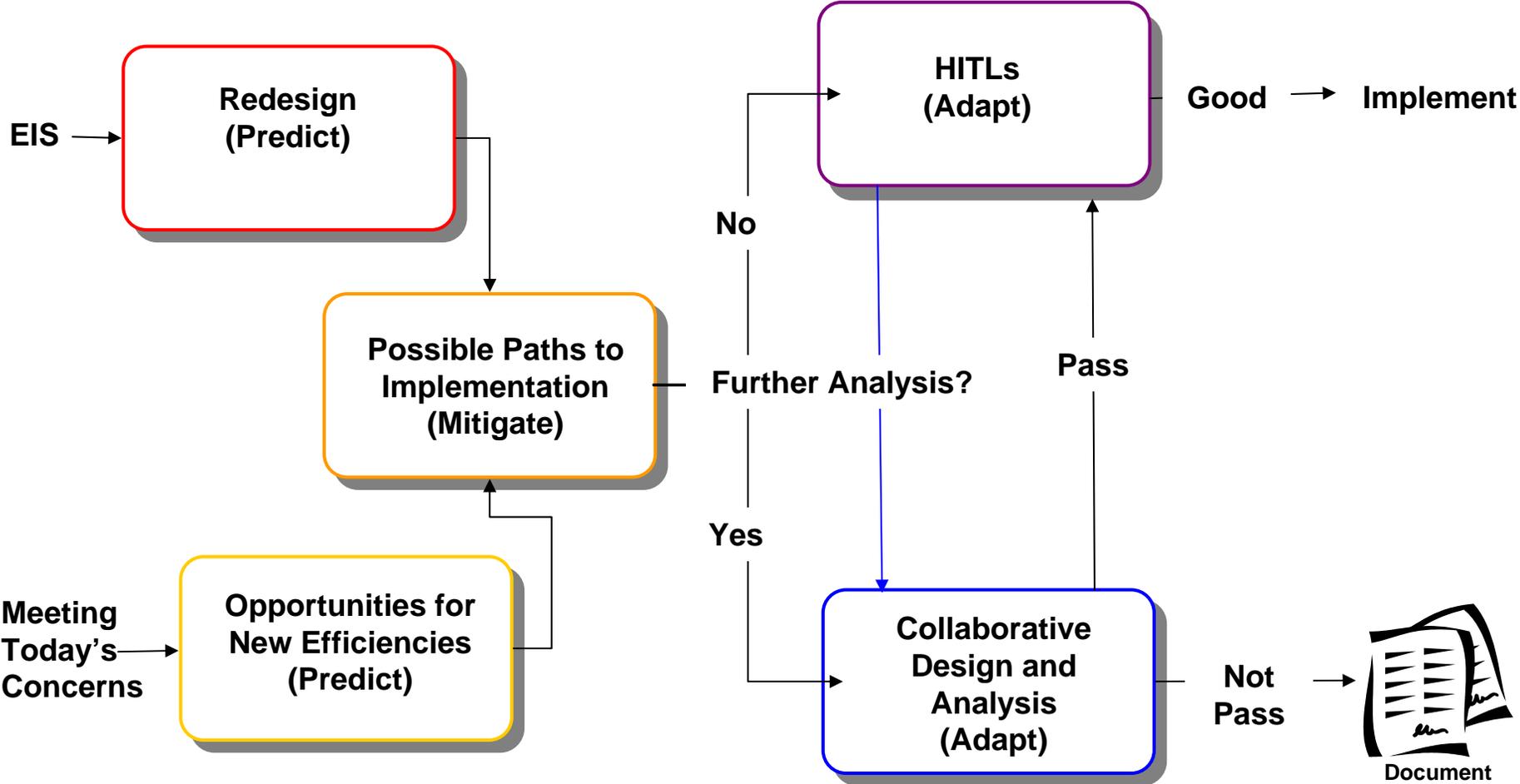


# Implementation Overview

- Implementation Plan began developed immediately following the signing of Record of Decision (September 5, 2007).
- Initial changes to airspace were implemented on December 19, 2007
- Implementation approach was segregated into four stages in the ROD
- Each stage will take from 12 to 18 months and stages will overlap



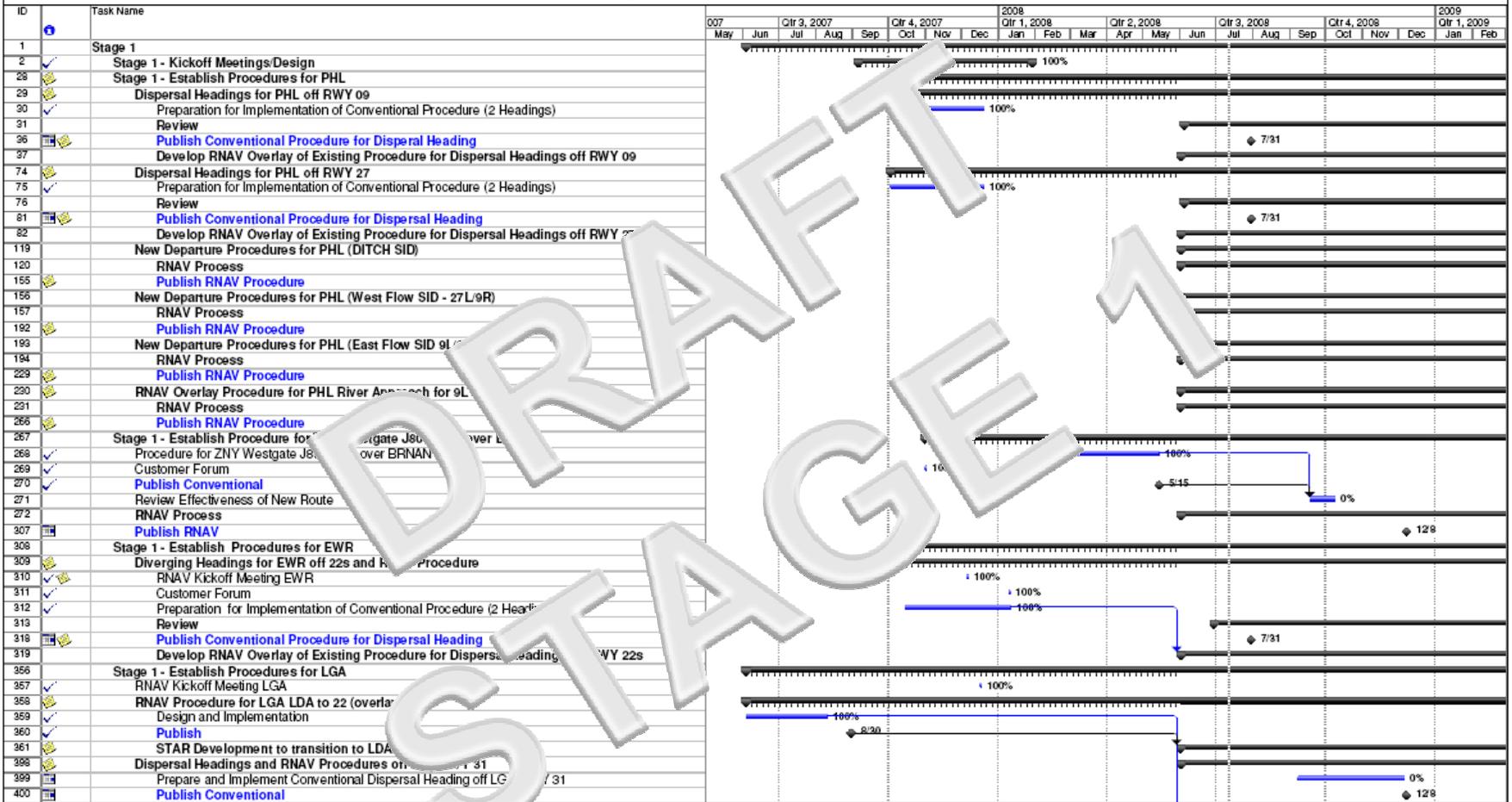
# Incorporating Implementation and Adaptive Management for NY/NJ/PHL Airspace Redesign



# Application of Adaptive Management

- Reduces Uncertainty
  - Modeling improves ability to accurately predict expected effects
    - New flight procedures
    - New flight paths
    - Activity in close proximity to sensitive or unique areas or resources
    - Untested mitigation
  - Informed decisions
- Provides Flexibility
  - Measurable objectives – clear final design
  - Dynamic management to allow change
  - Monitoring will reduce uncertainty
- Challenges
  - Added up front analysis and associated added cost
  - Monitoring costs
  - Stakeholder buy-in

## NYNJPHL Airspace Redesign Implementation Schedule



DRAFT STAGE 1

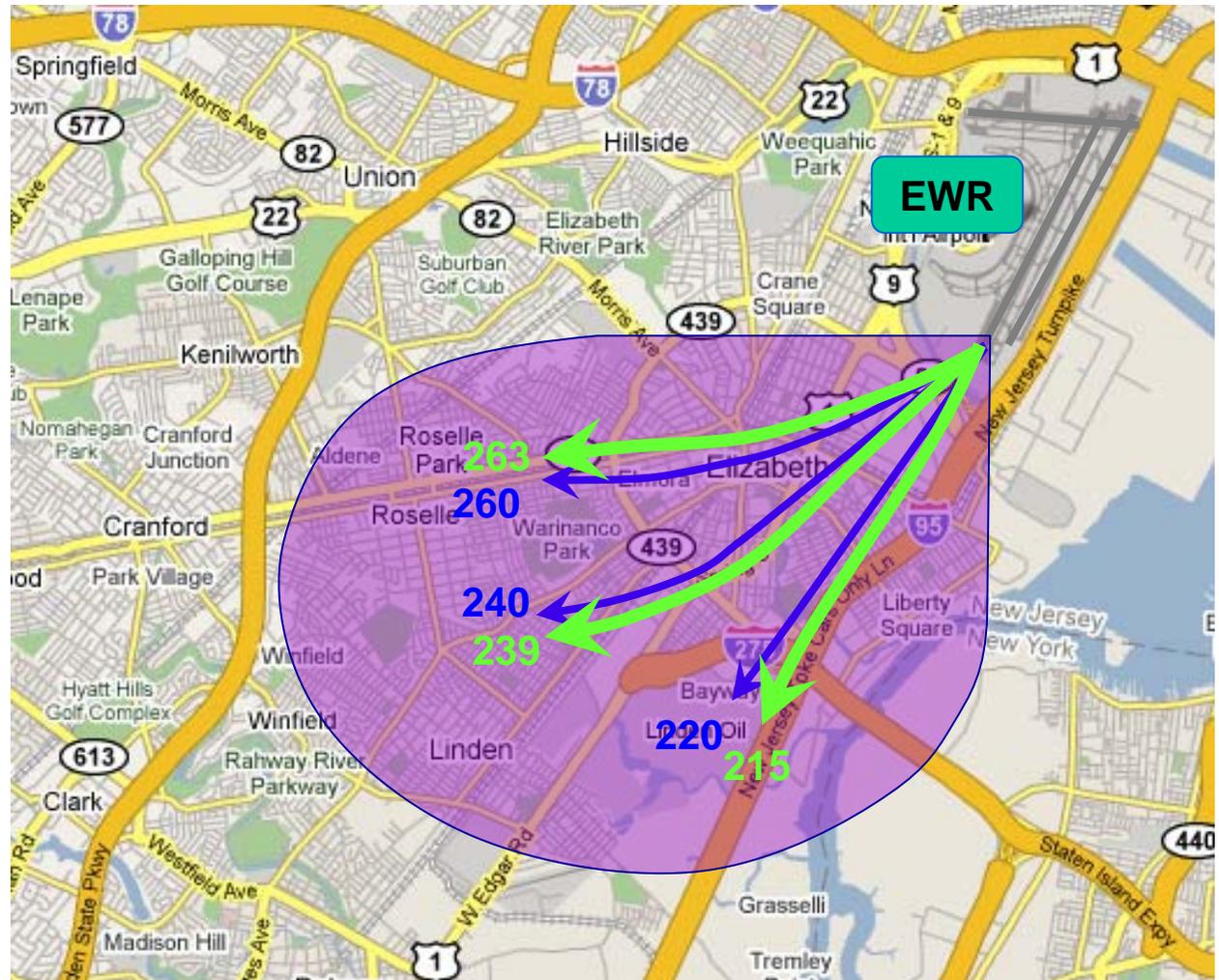
Project: NYNJPHL ARIS.mpp Date: Sat 7/12/08	Critical <span style="color: red;">●</span> Critical Split <span style="color: red;">■</span> Critical Progress <span style="color: red;">▬</span>	Task <span style="color: blue;">▬</span> Coming Due <span style="color: yellow;">▬</span> Split <span style="color: blue;">▬</span>	Task Progress <span style="color: blue;">▬</span> Baseline <span style="color: grey;">▬</span> Baseline Split <span style="color: blue;">▬</span>	Baseline Milestone <span style="color: blue;">◆</span> Milestone <span style="color: grey;">◆</span> Summary Progress <span style="color: blue;">▬</span>	Summary <span style="color: grey;">▬</span> Project Summary <span style="color: grey;">▬</span> External Tasks <span style="color: grey;">▬</span>	External Milestone <span style="color: grey;">◆</span> Deadline <span style="color: grey;">▬</span>
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# ROMA

(...or Route Optimization and Mitigation Analysis)

- Considers *all* headings within an identified range
- Evaluates noise impact for every possible combination of headings
- Identifies exact headings for minimal impact



# Key Elements of Stage 1 - PHL

## Establish Procedures for PHL

- Dispersal Headings for PHL off RWY 09
- Dispersal Headings for PHL off RWY 27
- New Departure Procedures for PHL (DITCH SID)
- New Departure Procedures for PHL (West Flow SID - 27L/9R)
- New Departure Procedures for PHL (East Flow SID 9L/27R)
- RNAV Overlay Procedure for PHL River Approach for 9L

## *Status –*

*Start: October 2, 2007*

*Implementation Dispersal Headings: December 19, 2007*

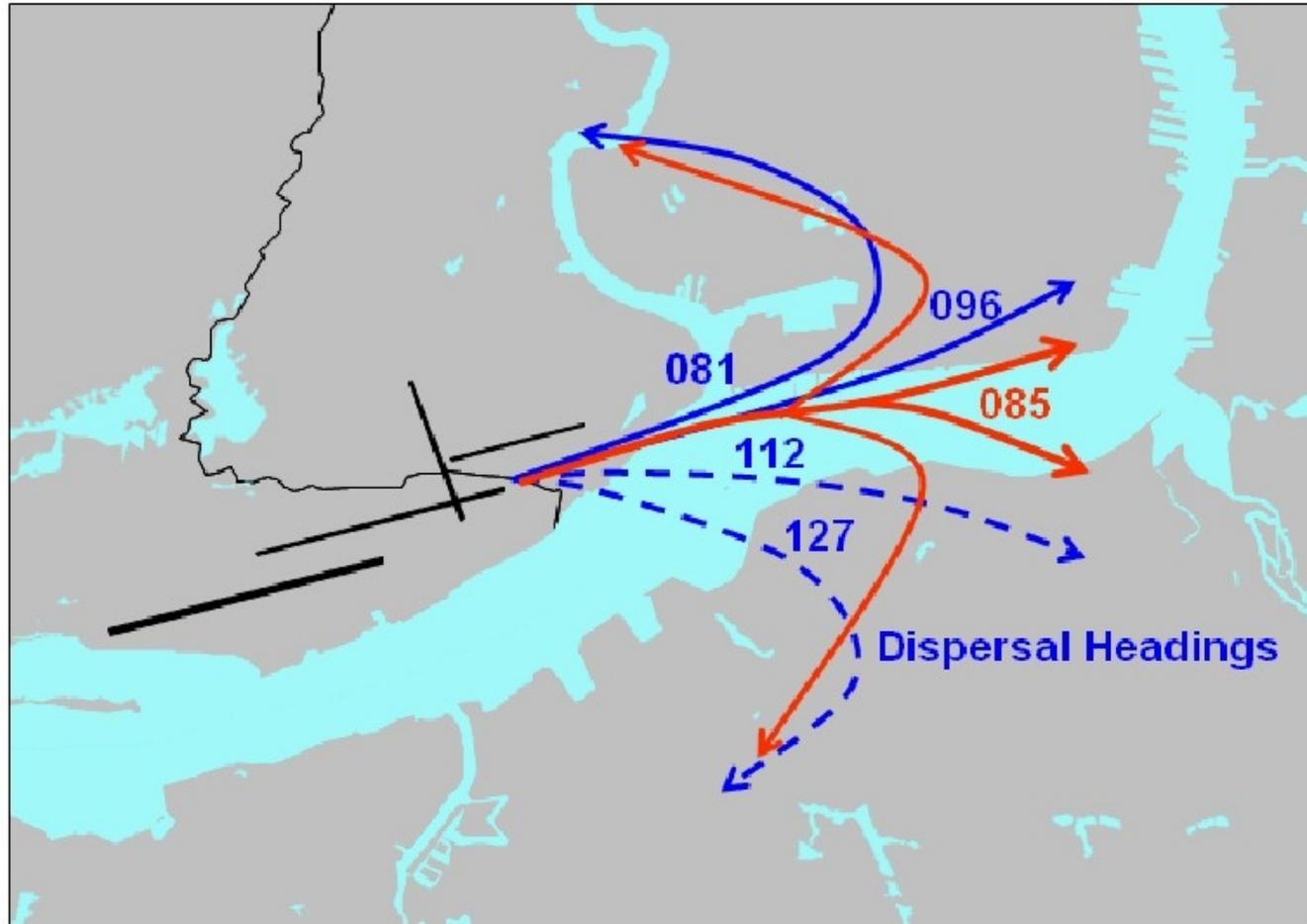
*Review/Adaptation: December, 2007 – July, 2008*

*New SID Publication: July 31, 2008*

*Continual Design Refinement for Remaining Tasks*

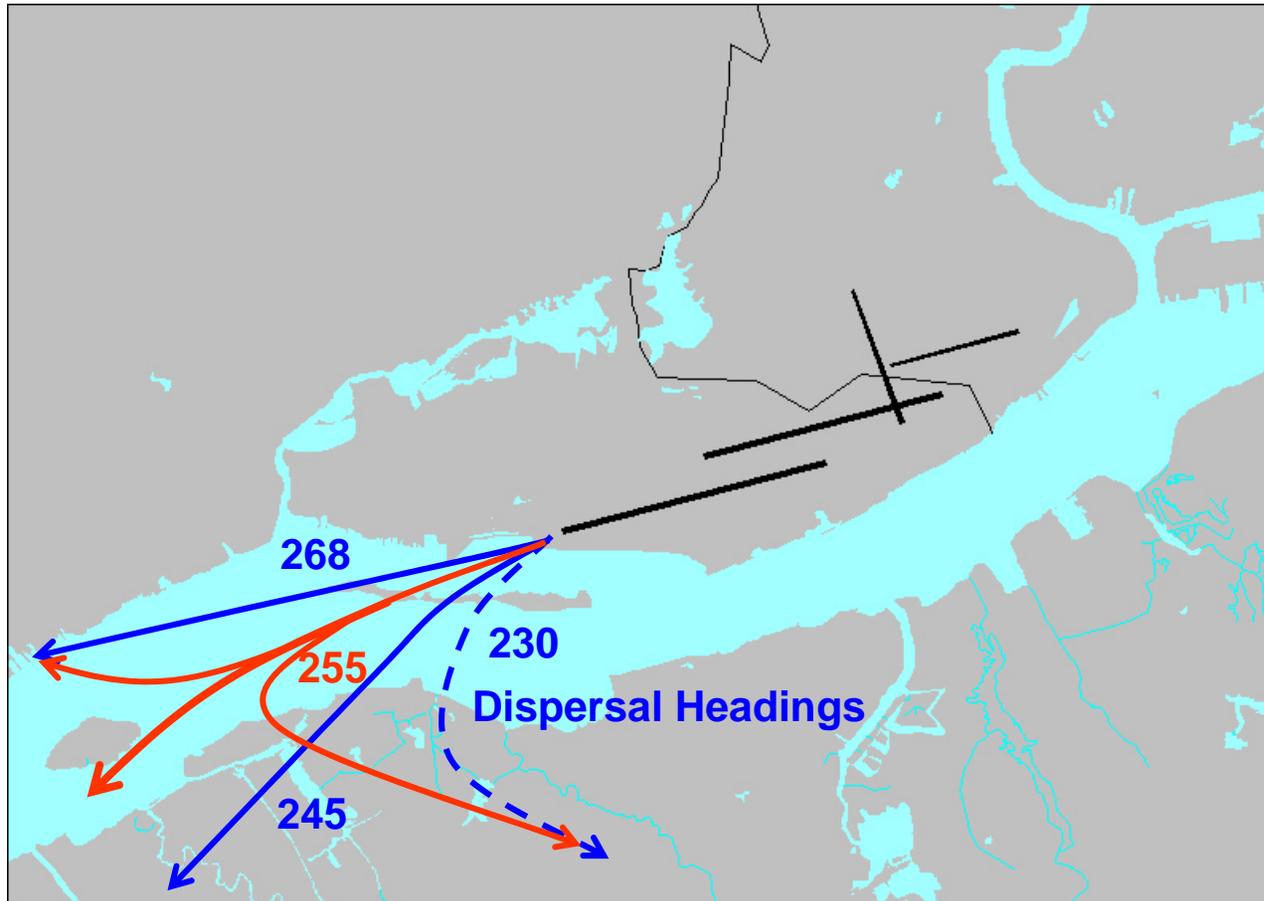
# Philadelphia Departure Headings Runway 09R/L

Existing  
Dispersal



# Philadelphia Departure Headings Runway 27L/R

Existing  
Dispersal



# Key Elements to Stage 1 - EWR

## Establish Procedures for EWR

- Diverging Headings for EWR off 22s and RNAV Procedure

*Status –*

*Start: October 2, 2007*

*Implementation Dispersal Headings: December 19, 2007*

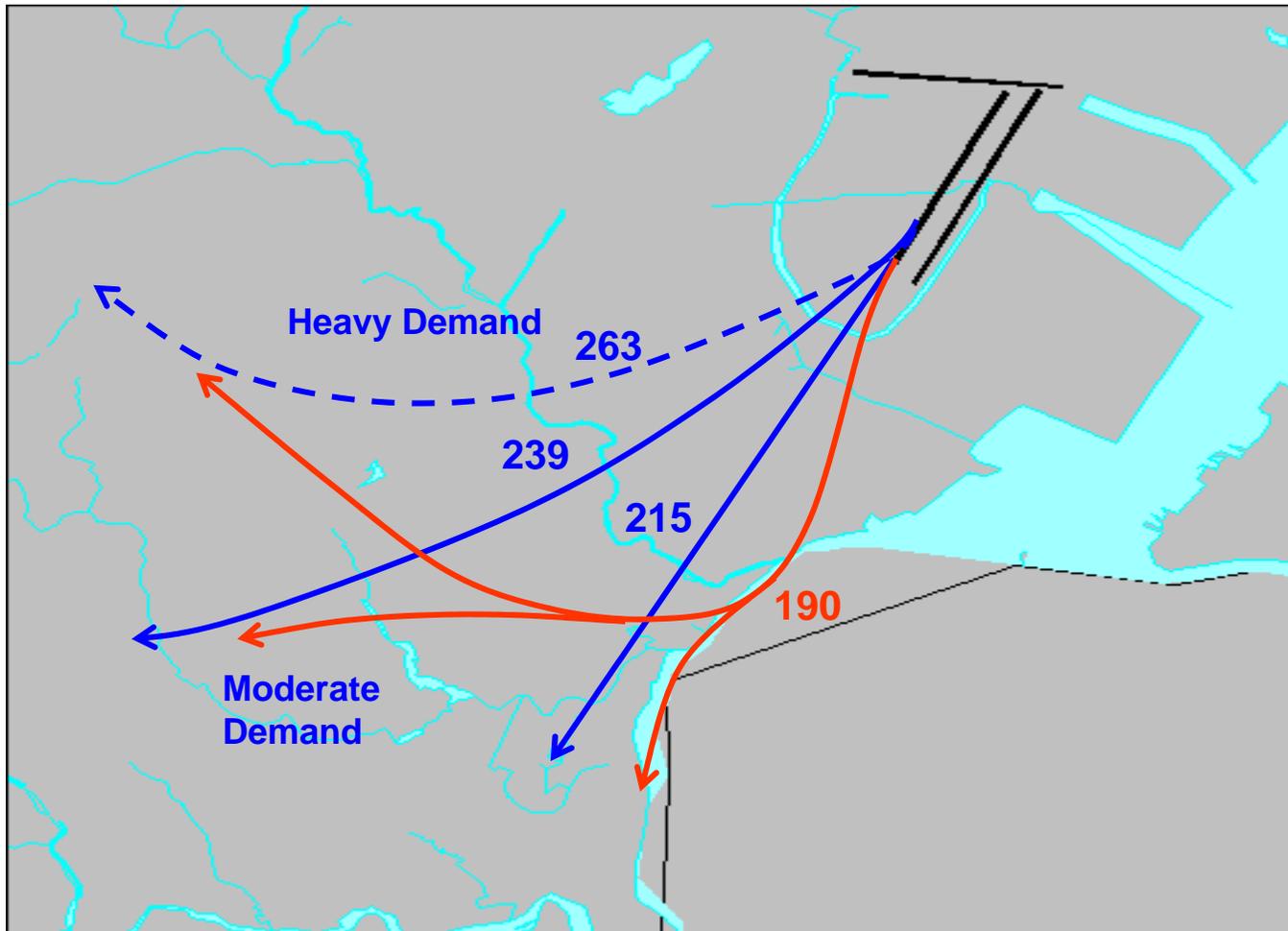
*Review/Adaptation: December, 2007 – July, 2008*

*New SID Publication: July 31, 2008*

*Continual Design Refinement for Remaining Tasks*

# Newark Departure Headings Runway 22L/R

**Existing**  
**Dispersal**



# Key Elements of Stage 1 - Other

## Establish Procedures for LGA

- RNAV Kickoff Meeting LGA
- RNAV Procedure for LGA LDA to 22 (overlay)
- Dispersal Headings and RNAV Procedures off LGA RWY 31
- LGA Departure Overlay RNAV Procedure off RWY 4
- LGA Southern Arrival RNAV Overlay to RWY 22
- LGA Southern Arrival RNAV Overlay to RWY 31

### *Status –*

*Start: December 17, 2007*

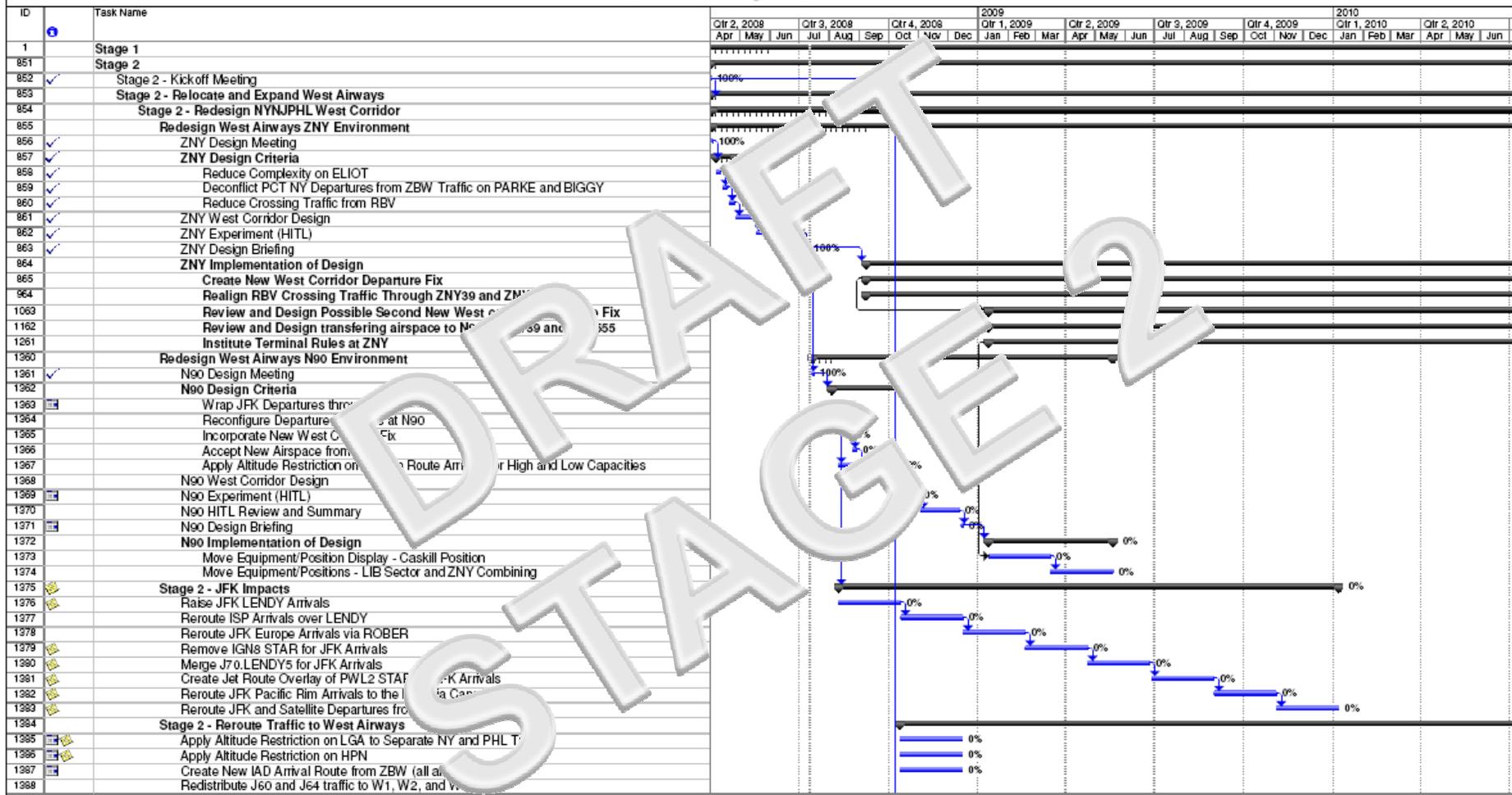
*Publication: TBD*

*Adaptation Design: Create additional STAR to improve LDA*

*Continual Design Refinement for Remaining Tasks*

## RNAV Procedure Development for JFK, TEB, and MMU

## NYNJPHL Airspace Redesign Implementation Schedule



Project: NYNJPHL ARIS.mpp  
Date: Sat 7/12/08

Critical	Task	Task Progress	Baseline Milestone	Summary	External Milestone
Critical Split	Coming Due	Baseline	Milestone	Project Summary	Deadline
Critical Progress	Split	Baseline Split	Summary Progress	External Tasks	

**DRAFT**  
For FAA Internal Coordination Only

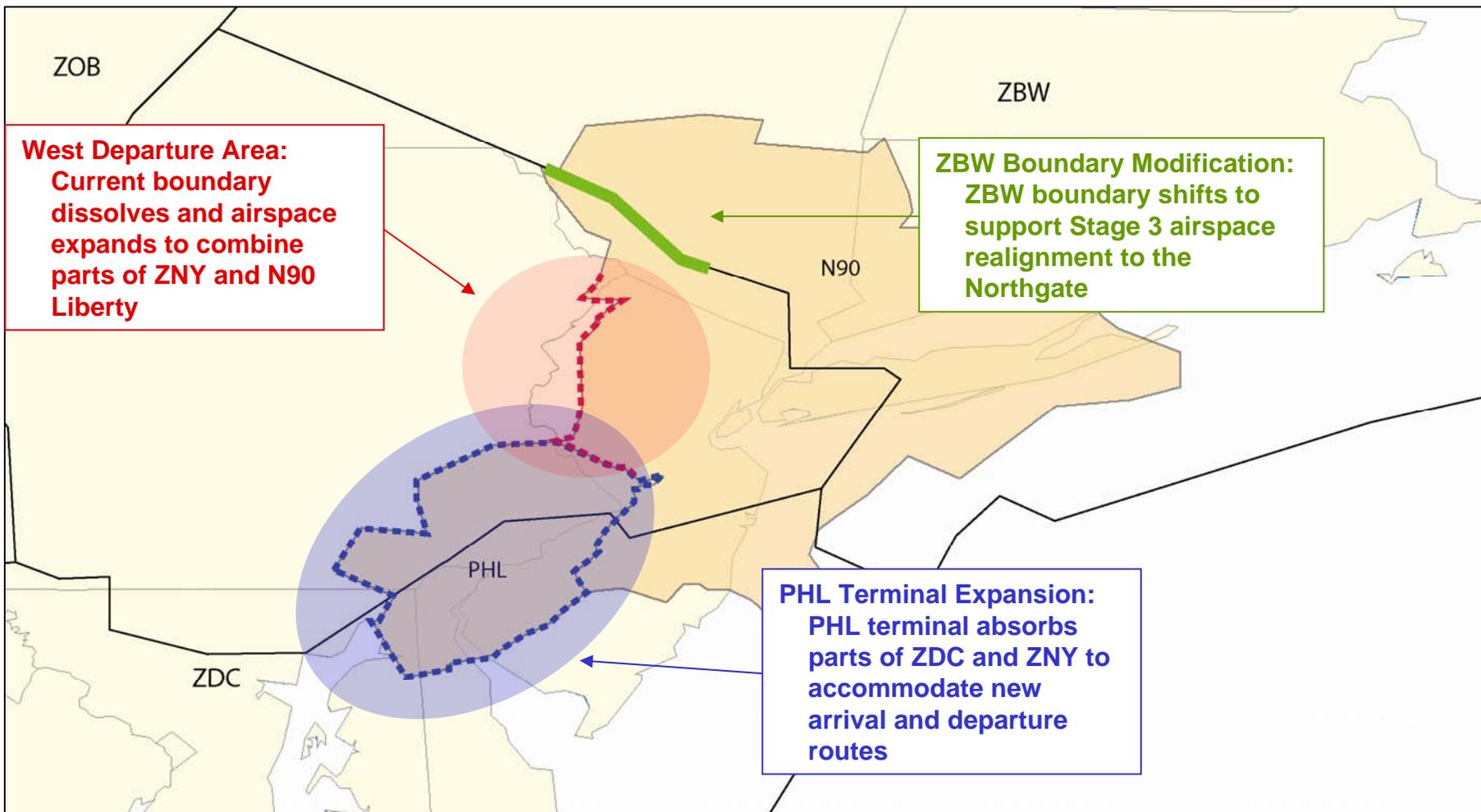
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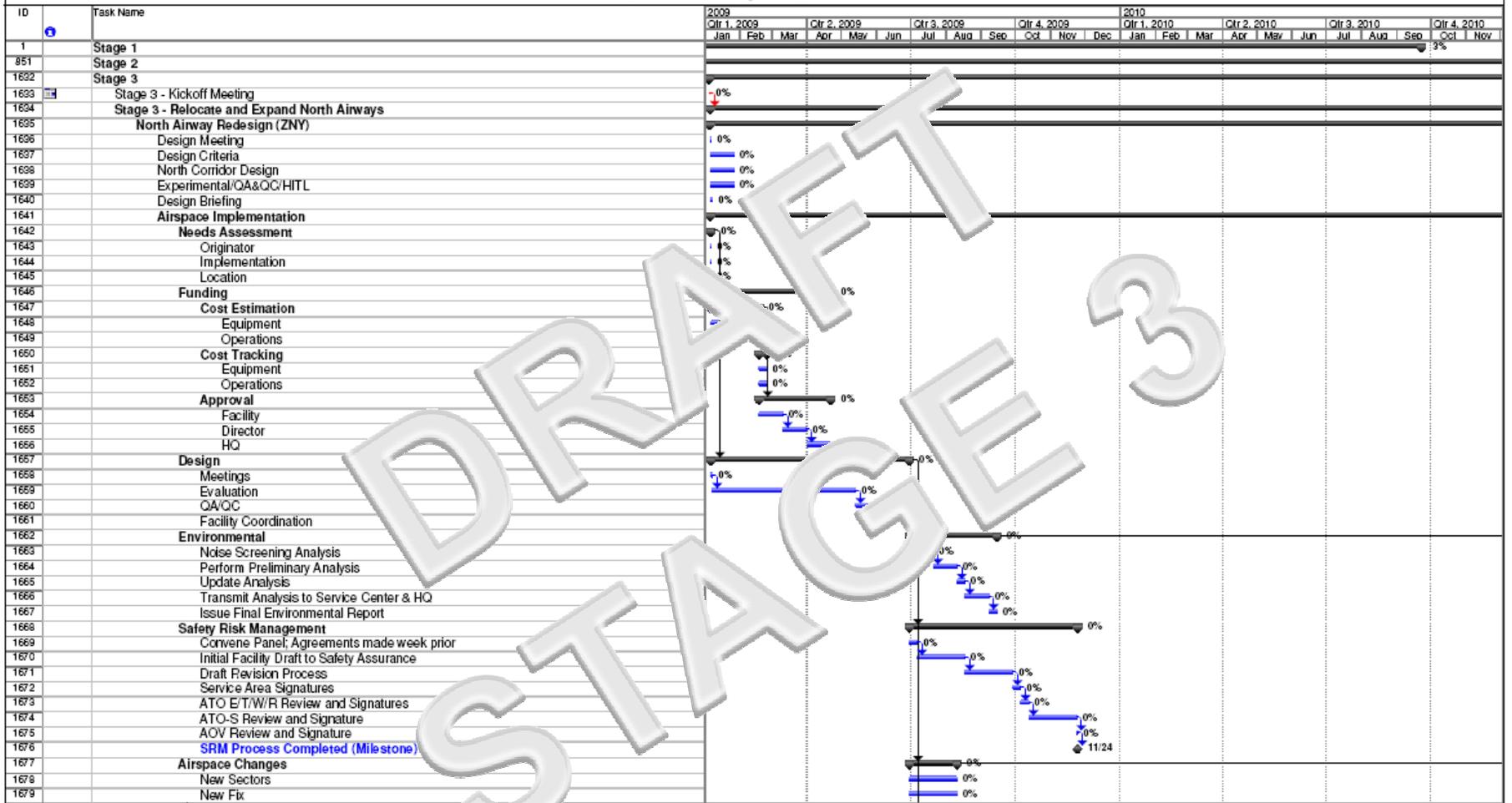
# Key Elements of Stage 2

- Relocate and Expand West Airways
  - Redesign NYNJPHL West Corridor
  - Apply Altitude Restriction on JFK En Route Arrivals for High and Low Capacities
  - JFK Improvements
  - Reroute Traffic to New West Airways
  - Reroute Traffic to Existing West Airways
- Reconfigure PHL
  - Reroute PHL Departures
  - Reroute PHL Arrival Streams

# Stage 2: Minor Airspace Realignment



## NYNJPHL Airspace Redesign Implementation Schedule



DRAFT STAGE 3

Project: NYNJPHL ARIS.mpp Date: Sat 7/12/08	Critical  Task Critical Split  Coming Due Critical Progress  Split	Task  Task Progress Baseline  Baseline Split  Baseline Split	Baseline Milestone  Milestone Milestone  Summary Progress	Summary  External Milestone Project Summary  Deadline External Tasks
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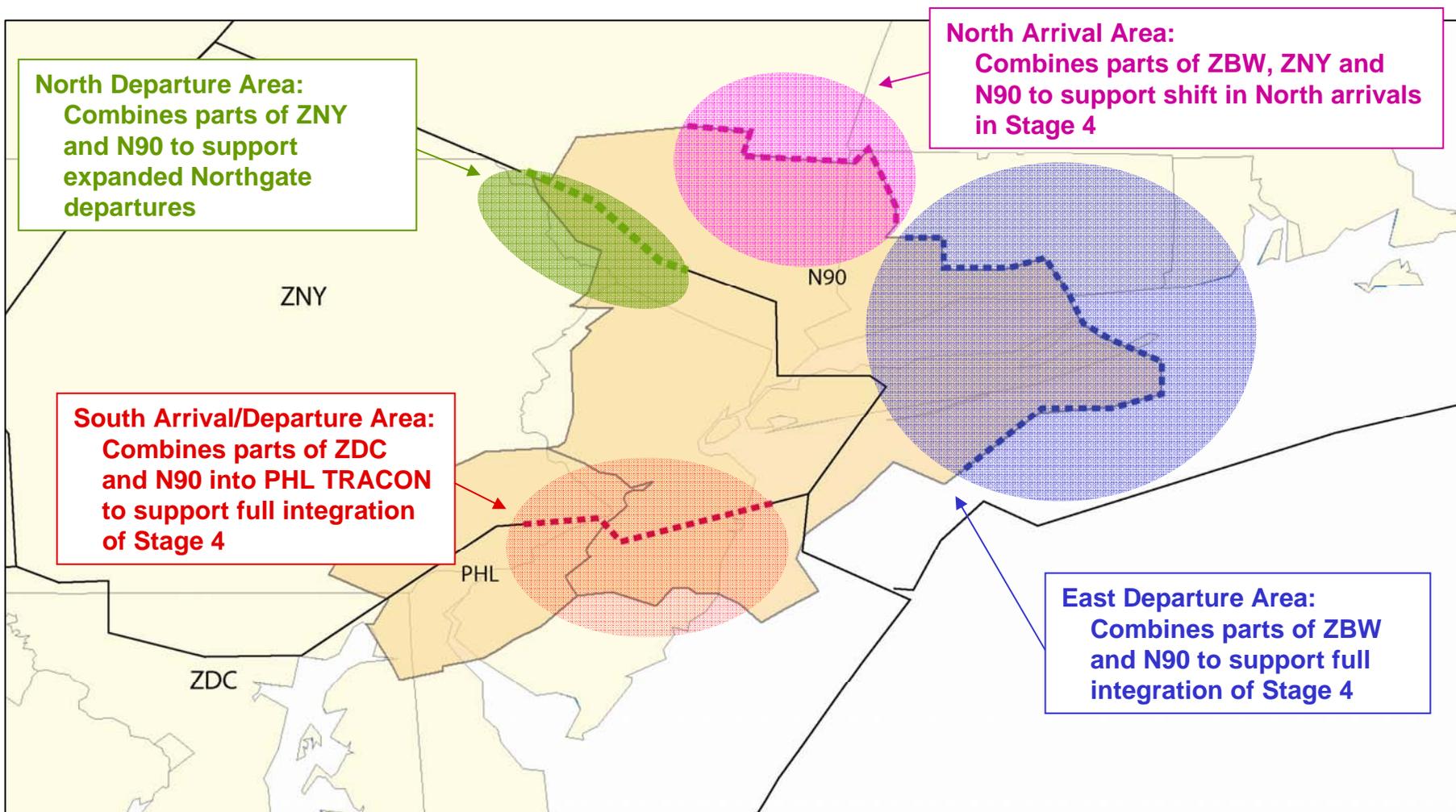


# Key Elements of Stage 3

- Relocate and Expand North Airways
  - Redesign NYNJPHL North Corridor
  - Reroute Northbound PCT Departure Routes
  - Redistribute Some ZNY Northgate Departures to ZNY Westgate
  - Redistribute Traffic on New North Routes
- Facilitating Stage 4 Elements
  - Apply Altitude Restriction on LGA to Separate NY and PHL Traffic
  - Provide Arrival Coordination for Traffic Flow Management
  - Apply Terminal Separation Rules (allowing less stacking and MIT)
  - Additional MXE Departure Fix
  - Arrival Shift LGA and EWR
  - Facility Boundary Adjustments at ZNY, ZBW, ZDC, N90



# Stage 3: Major Airspace Realignment



# NYNJPHL Airspace Redesign Implementation Schedule

ID	Task Name	2010												2011				
		Qtr 1, 2010			Qtr 2, 2010			Qtr 3, 2010			Qtr 4, 2010			Qtr 1, 2011			Qtr 2, 2011	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Stage 1																	
851	Stage 2																	
1632	Stage 3																	
2513	Stage 4																	
2514	Stage 4a - Kickoff Meeting																	
2515	Stage 4 - Relocate and Expand South Airways																	
2516	South Airway Redesign (ZNY)																	
2517	Design Meeting																	
2518	Design Criteria																	
2519	North Corridor Design																	
2520	Experimental/OA&OC/HITL																	
2521	Design Briefing																	
2522	Airspace Implementation																	
2620	South Airway Redesign (N90)																	
2621	Design Meeting																	
2622	Design Criteria																	
2623	North Corridor Design																	
2624	Experimental/OA&OC/HITL																	
2625	Design Briefing																	
2626	Airspace Implementation																	
2724	South Airway Redesign (ZDC)																	
2725	Design Meeting																	
2726	Design Criteria																	
2727	North Corridor Design																	
2728	Experimental/OA&OC/HITL																	
2729	Design Briefing																	
2730	Airspace Implementation																	
2828	South Airway Redesign (PHL/PHL)																	
2829	Design Meeting																	
2830	Design Criteria																	
2831	North Corridor Design																	
2832	Experimental/OA&OC/HITL																	
2833	Design Briefing																	
2834	Airspace Implementation																	
2922	Reroute ZNY Southgate Airways																	
2933	Create New Fix in South Corridor																	
2934	Redistribute Traffic on New South Routes																	
2935	Reroute Traffic to Destinations south of ZDC (overwater) to S1																	
2936	Reroute Traffic to NY Metro Flight to J79 and ZDC integral airports																	
2937	Reroute Traffic to J79 and PHL South Departures to S2E																	
2938	Reroute Traffic to Destinations in ZDC via S2W																	
2939	Apply Altitude Restriction on LGA to Separate NY and PHL																	
2940	Apply Altitude Restriction on HPN																	
2941	Realign WHITE and WAVEY Fixes																	
2942	Reroute Traffic to WHITE and WAVEY Depending on City Pairs																	
2943	Apply Traffic Flow Management Rules for South Airway																	
2944	Create Multiple-Use Airways with Traffic Flow Management																	
2945	Create Routing Flexibility in Severe Weather with Traffic Flow Management																	
2946	Provide Arrival Coordination for Traffic Flow Management																	
2947	Apply Terminal Separation Rules (allowing less stacking)																	

DRAFT STAGE 4

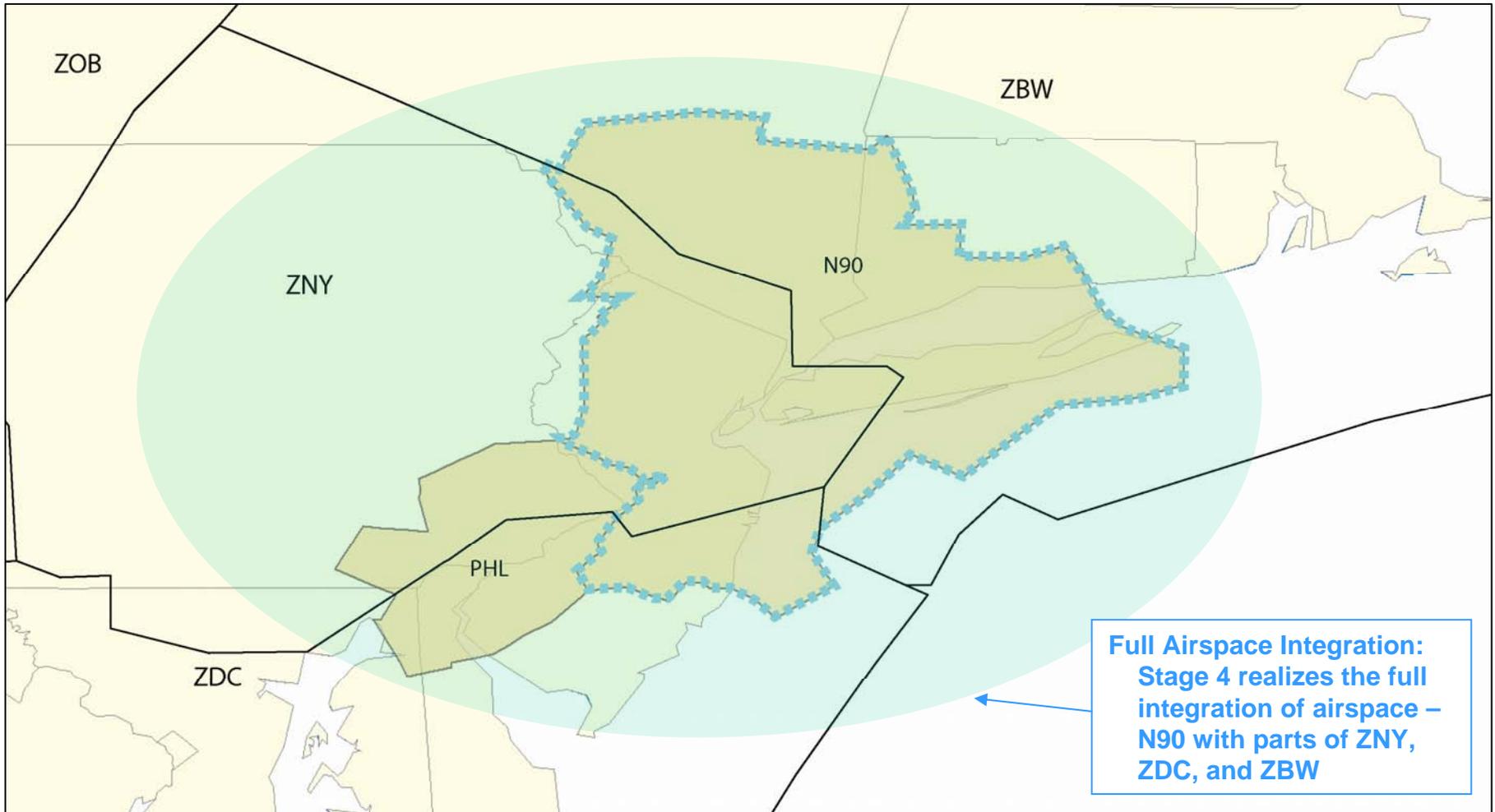
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	Critical Split <span style="color: red;">.....</span> Coming Due <span style="color: yellow;">=====</span>	Baseline <span style="color: grey;">=====</span>	Milestone <span style="color: grey;">◇</span>	Project Summary <span style="color: grey;">=====</span>	Deadline <span style="color: grey;">◇</span>
	Critical Progress <span style="color: red;">=====</span> Split <span style="color: blue;">.....</span>	Baseline Split <span style="color: grey;">.....</span>	Summary Progress <span style="color: grey;">.....</span>	External Tasks <span style="color: grey;">=====</span>	



# Key Elements of Stage 4

- Relocate and Expand South Airways
  - Redesign NYNJPHL South Corridor
  - Redistribute Traffic on New South Routes
  - Apply Traffic Flow Management Rules for South Airway
- Relocate and Expand East Airways
  - Redesign NYNJPHL East Corridor
  - Redistribute Traffic on New East Routes
  - East Airway Apply Traffic Flow Management Rules
- Change Altitude Restrictions
- Create Continuous Decent Approach Procedures
- All other Locations Apply Traffic Flow Management Rules

# Stage 4: Full Airspace Integration



# Next Steps

- Continue to address and resolve legal and political challenges
- Written Reevaluation with respect to new Information
- Respond to GAO Recommendations – Report due July 31, 2008
- Pending litigation – Extension Granted for Briefing Schedule
- Continue safety assessment of all changes
- Facilitate an improved collaborative relationship with all stakeholders
- Develop Airspace design activities with adjacent facilities that enhance the benefits of integration

