

Metroplex

An Update on Charlotte Airspace Modernization

May 19, 2016



FAA

| **NextGEN**

Why We Must Modernize



NEXT GEN Components: RNAV/RNP

Moving to Performance-Based Navigation

Conventional Routes
Today's airways connect ground-based navigation aids



Limited Design Flexibility

RNAV
Area Navigation (RNAV) routes follow defined "waypoints"



Increased Airspace Efficiency

RNP
Required Navigation Performance (RNP) routes within specified "containment area"



Optimize Use of Airspace

Source: Federal Aviation Administration



Top 10 Airports in the United States

1. Atlanta
2. Chicago
3. Dallas/Ft Worth
4. Los Angeles
5. Denver
6. **Charlotte**
7. Las Vegas
8. Houston
9. New York JFK
10. Phoenix

Challenges of the Charlotte Airspace

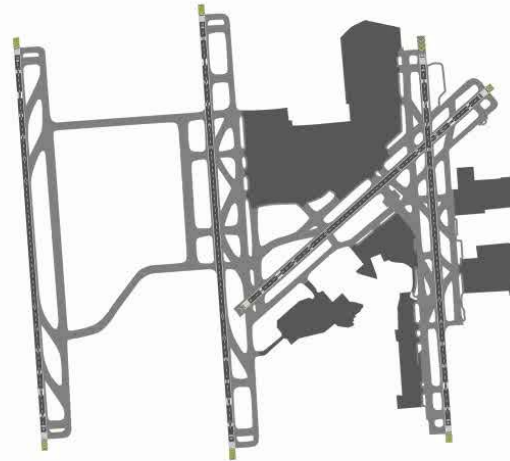
- Charlotte is the 6th busiest airport in the United States.
- It is adjacent to the busiest airport in the world in Atlanta.
- Traffic moving along the east coast represents some of the greatest areas of congestion and potential delay in the system.

The Process

- Metroplex Implemented over Phases
 - ✦ Phase 1 implement in October 15, 2015
 - ✦ Phase 2 will occur May 31, 2016
 - ✦ Phase 3 will occur Summer 2016

SOUTH FLOW – 55% OF THE TIME

Why do we fly this way?



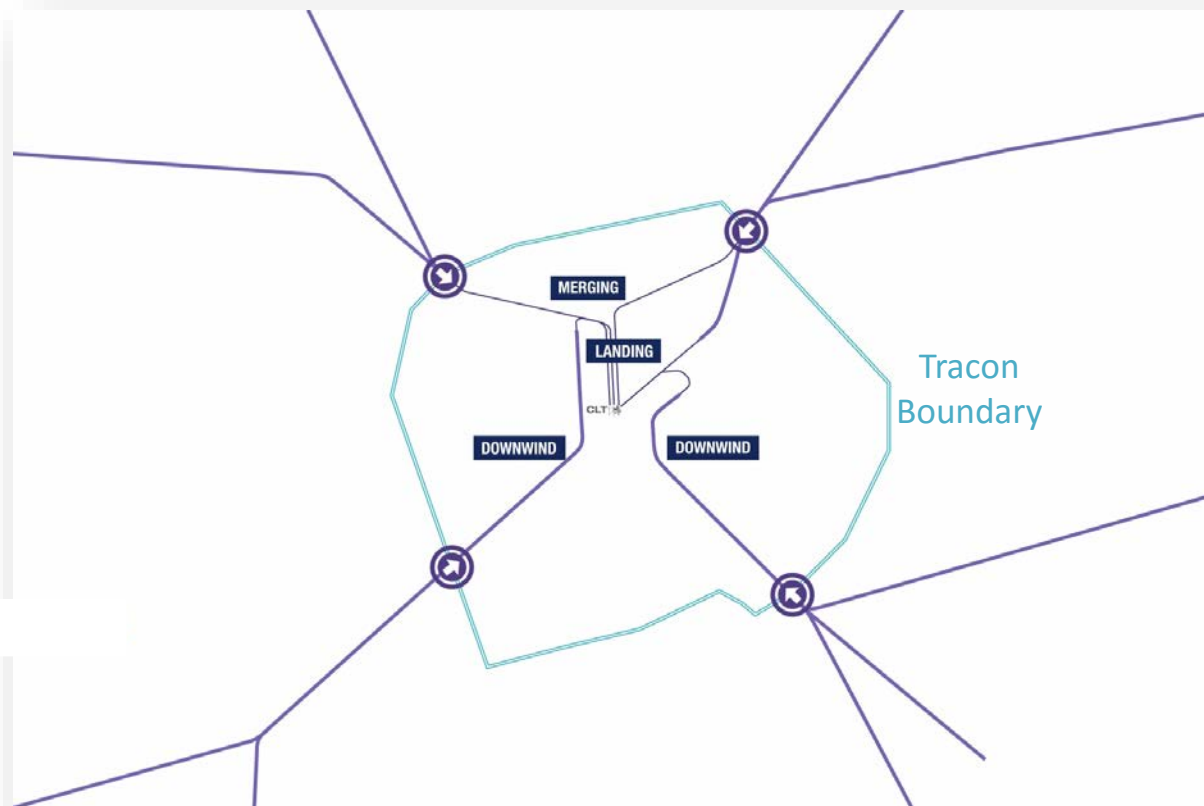
CLT

SOUTH FLOW

How is it being Improved

Arrivals STARs

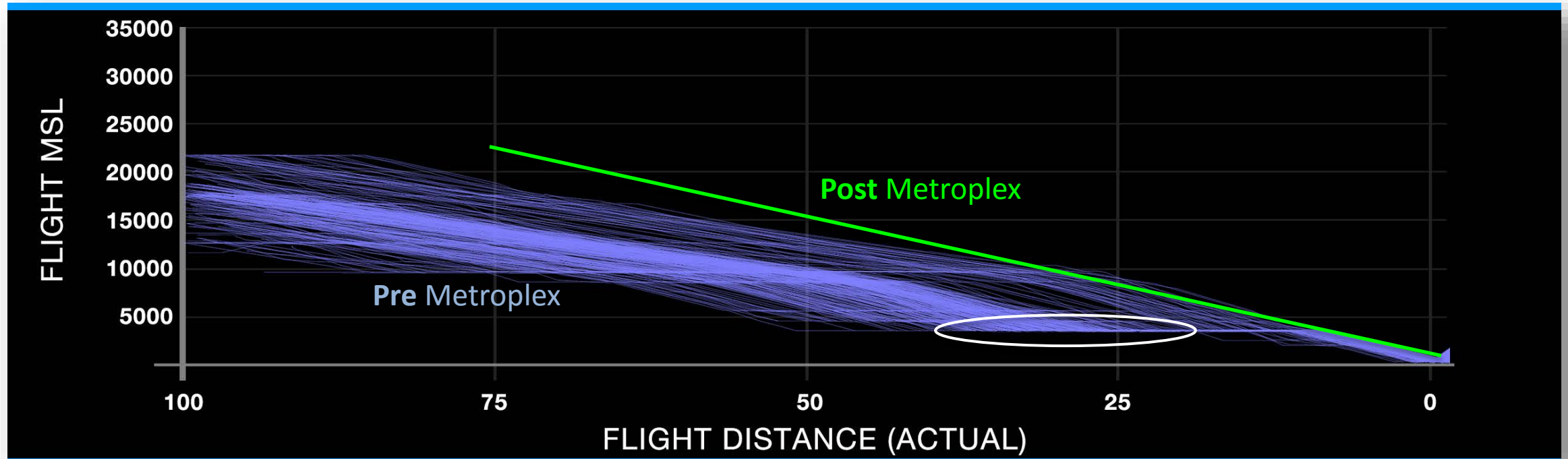
Pre Metroplex Arrivals – South Flow



Post Metroplex Arrivals – South Flow



Increased Altitudes

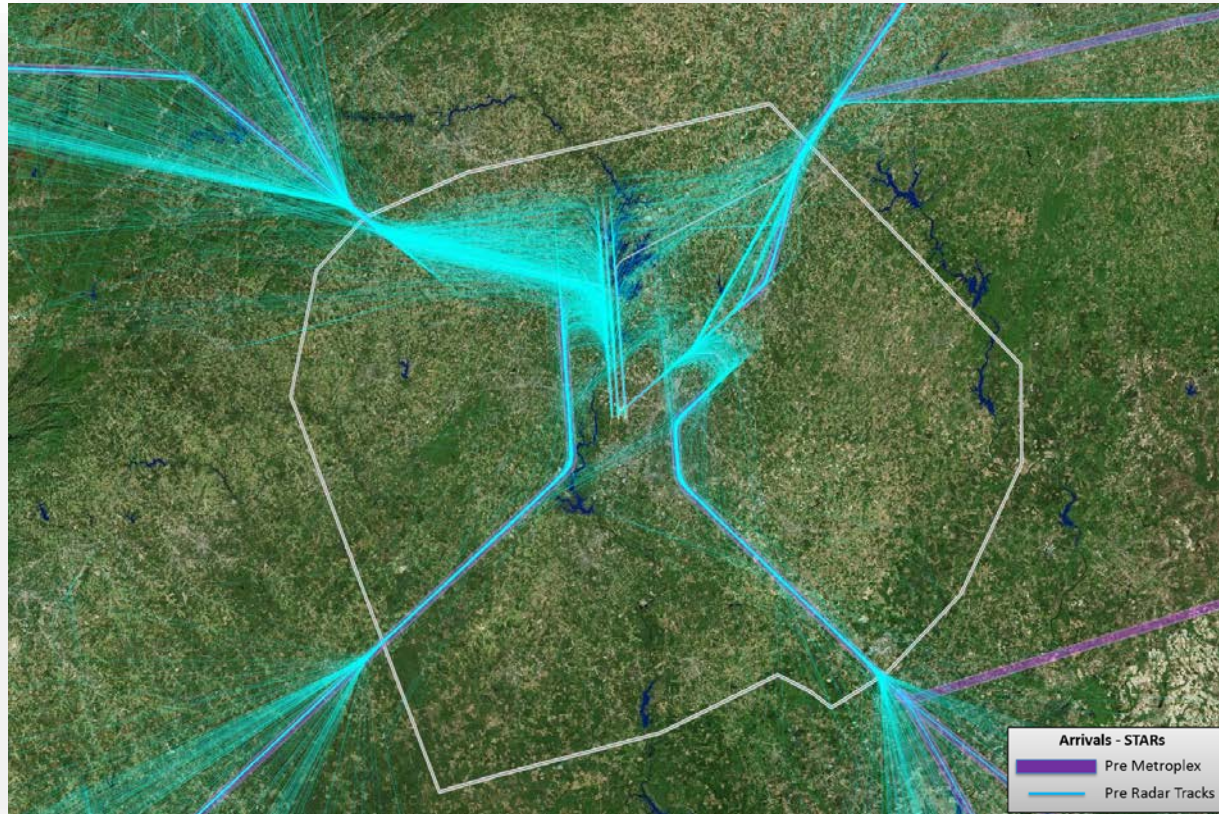


SOUTH FLOW

Arrivals into the Airspace

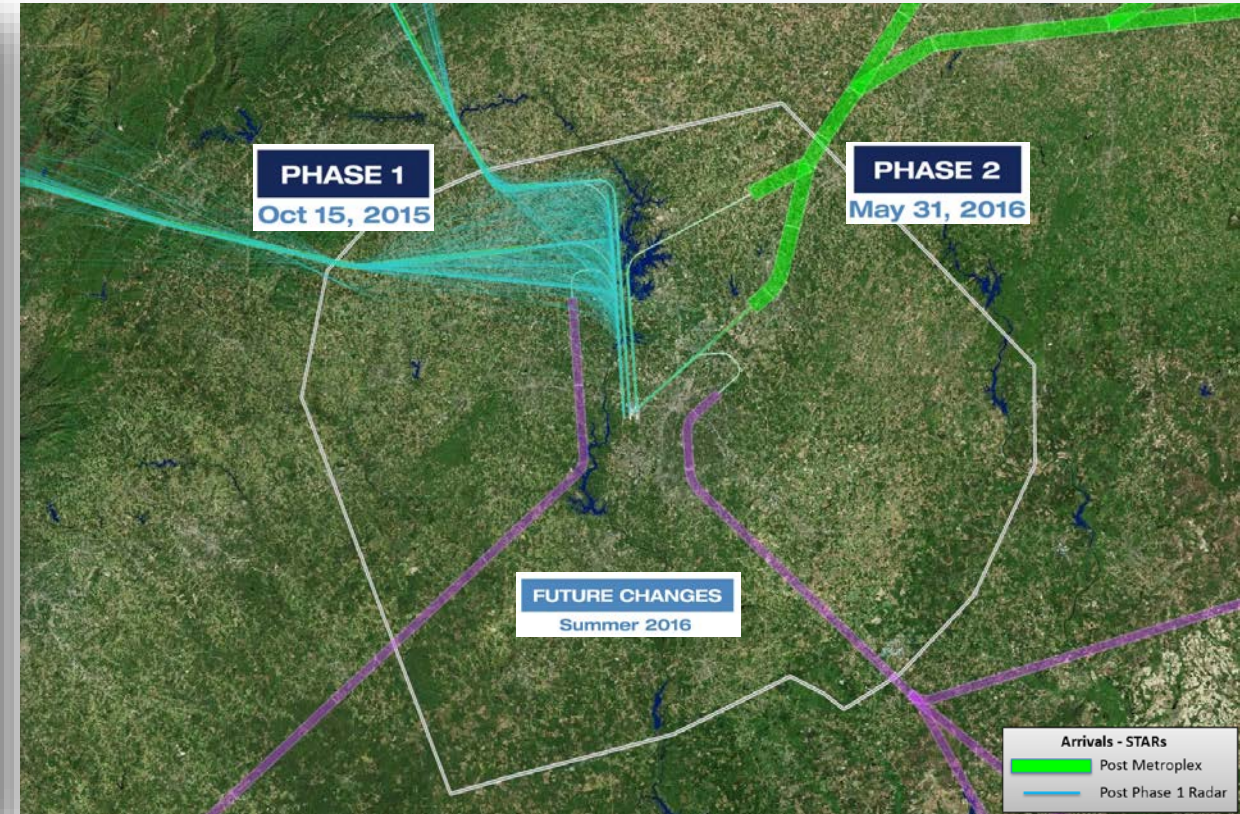
Arrival STARs (Slide 1)

Pre Metroplex Arrivals



Jet Radar Tracks Prior to Oct 15, 2015 Phase 1 – All Paths

Post Metroplex Arrivals



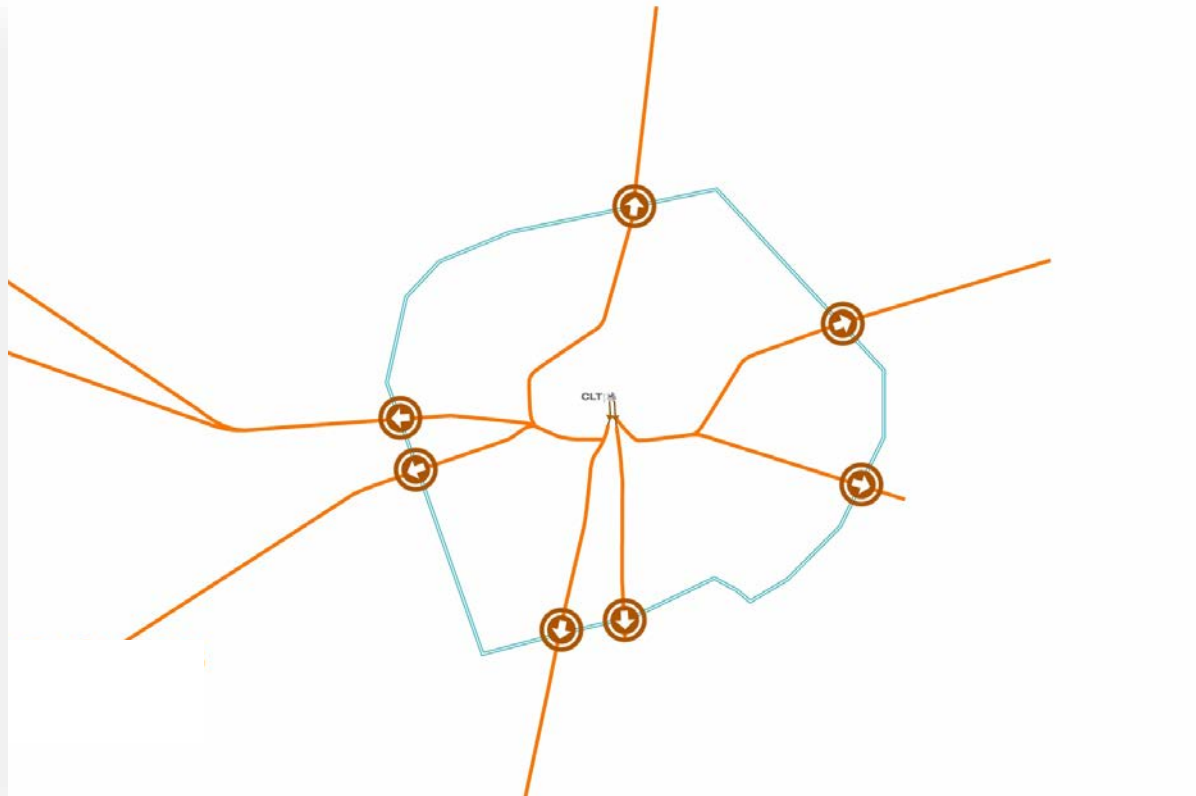
Jet Radar Tracks After Oct 15, 2015 Phase 1 – New Phase 1 Paths Only

SOUTH FLOW

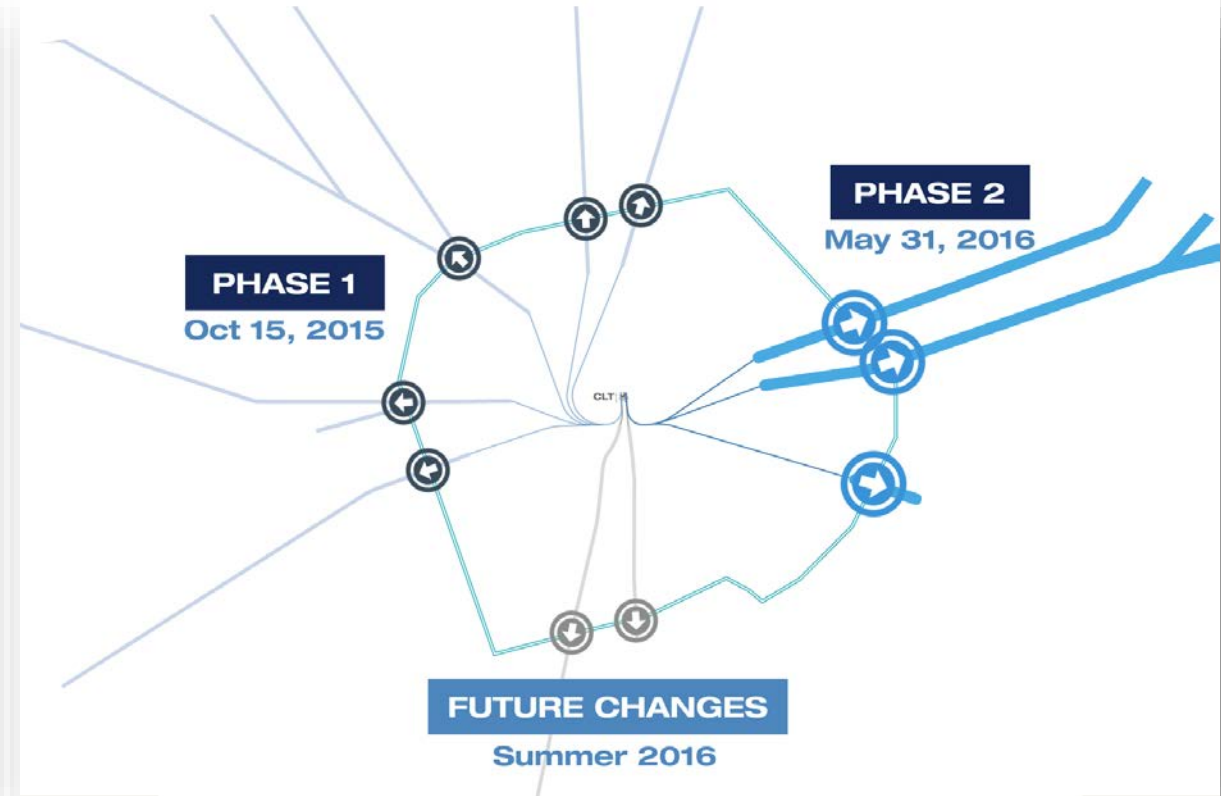
How is it being Improved

Departure SIDs

Pre Metroplex Departures – South Flow



Post Metroplex Departures – South Flow



Increased Dispersion

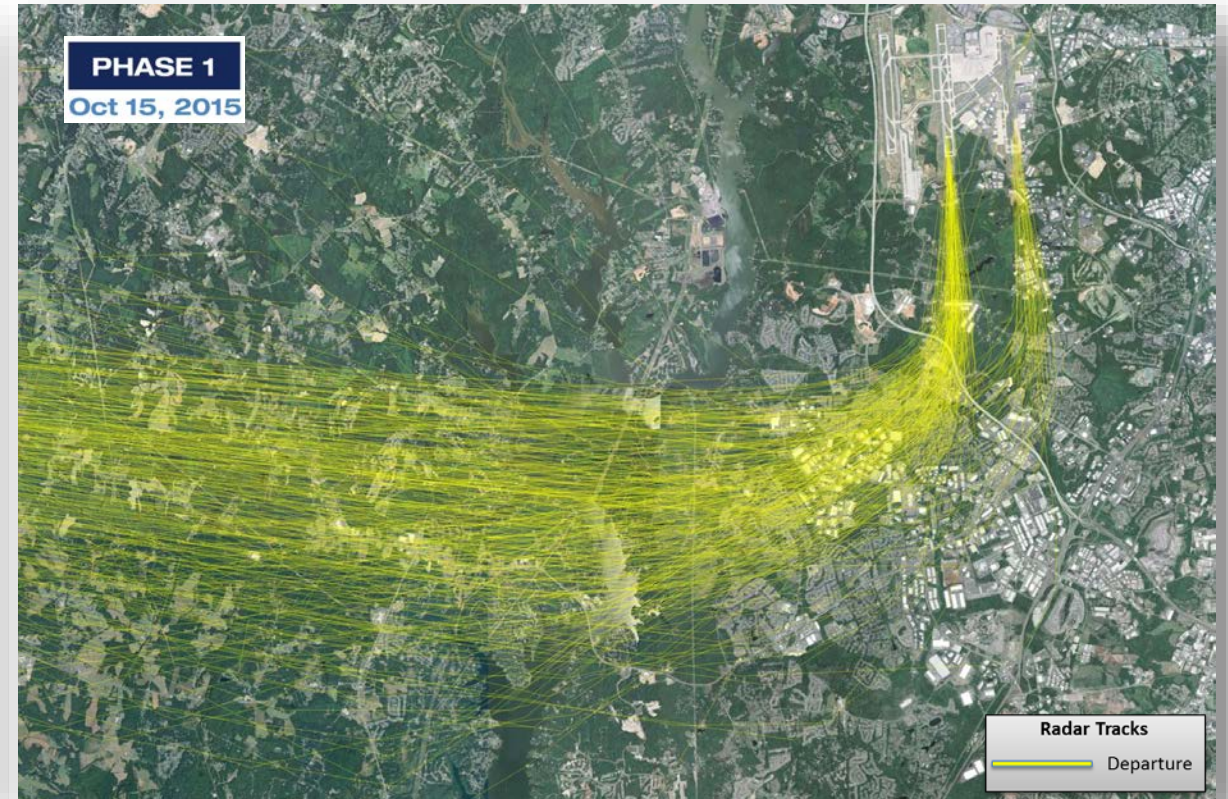
Departure SIDs

Pre Metroplex Departure Tracks (Before Oct 15, 2015)



Concentrated Path (RNAV and Radar Vector)

Post Phase 1 Metroplex Departure Tracks (After Oct 15, 2015)



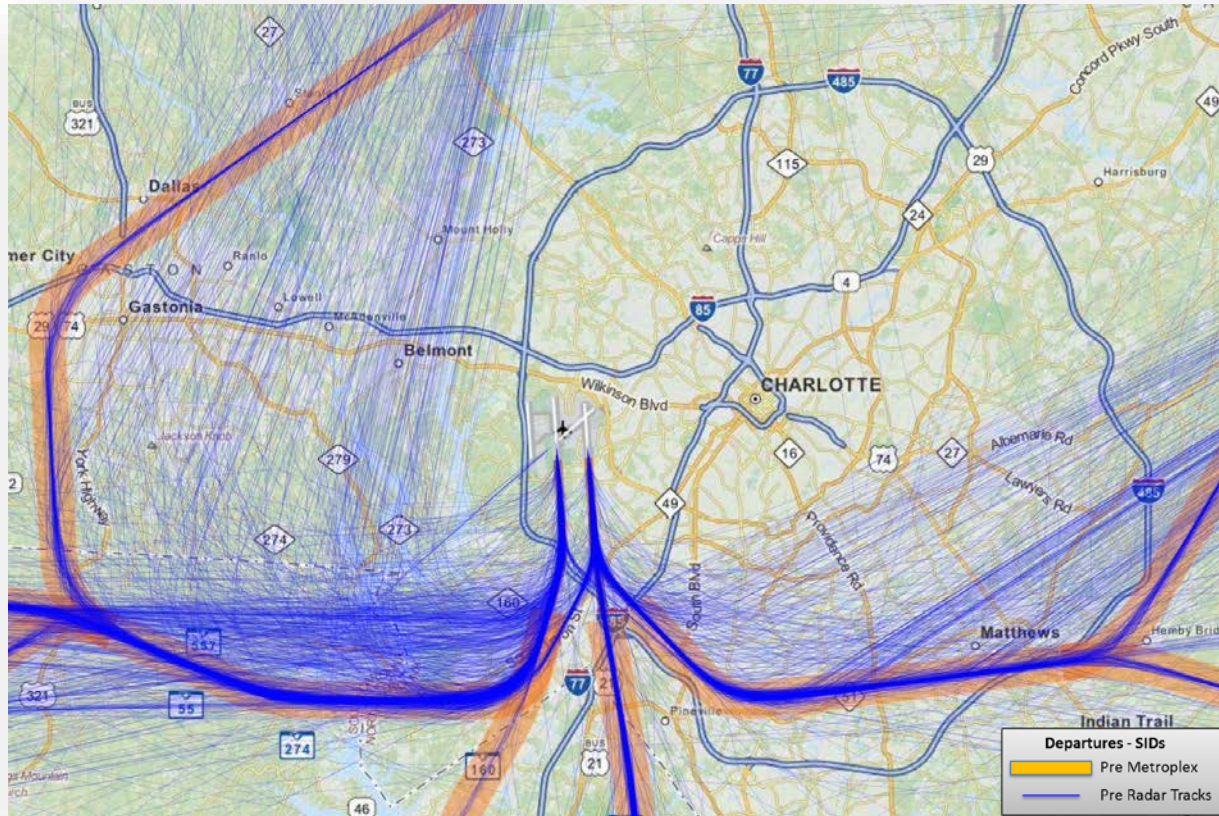
Dispersed Path (Radar Vector)

SOUTH FLOW

From the Ground Up

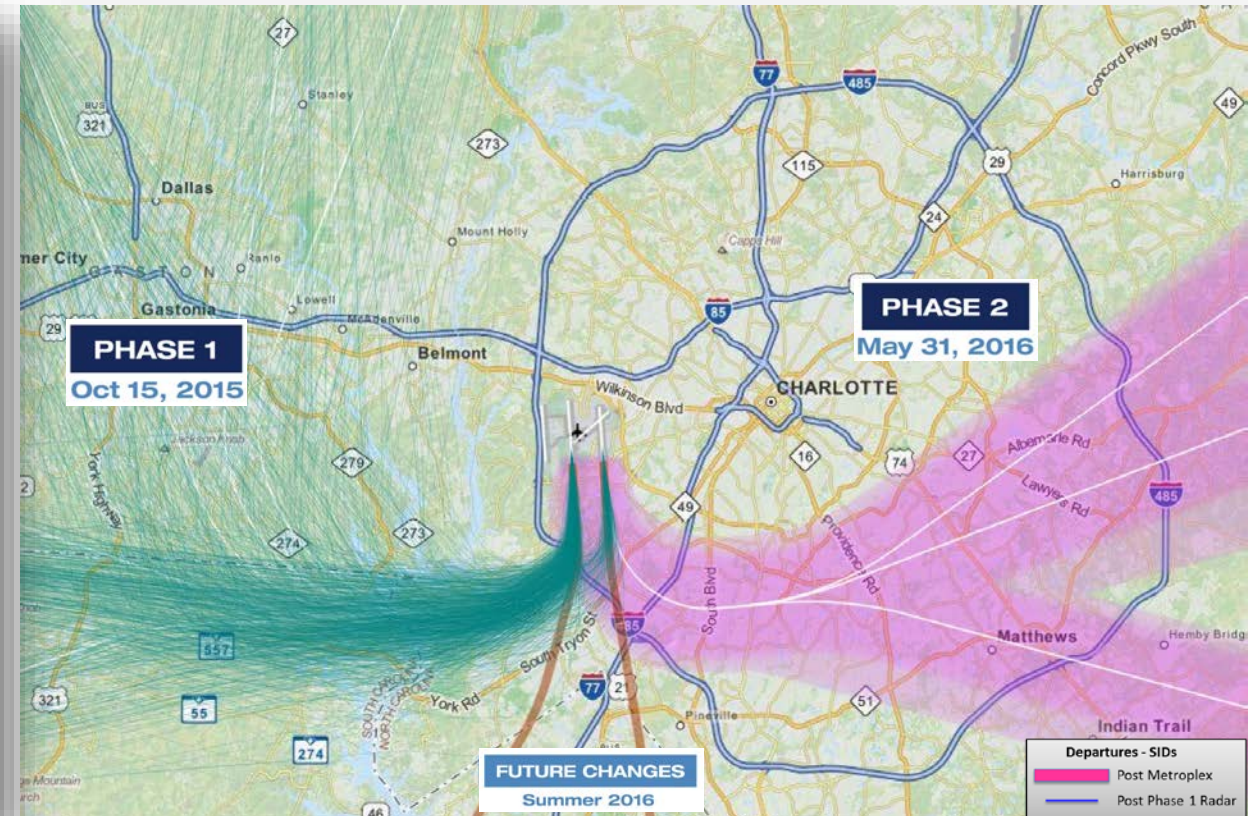
Departure SIDs (Slide 2)

Pre Metroplex Departures – South Flow



Jet Radar Tracks Prior to Oct 15, 2015 Phase 1 – All Paths

Post Metroplex Departures – South Flow



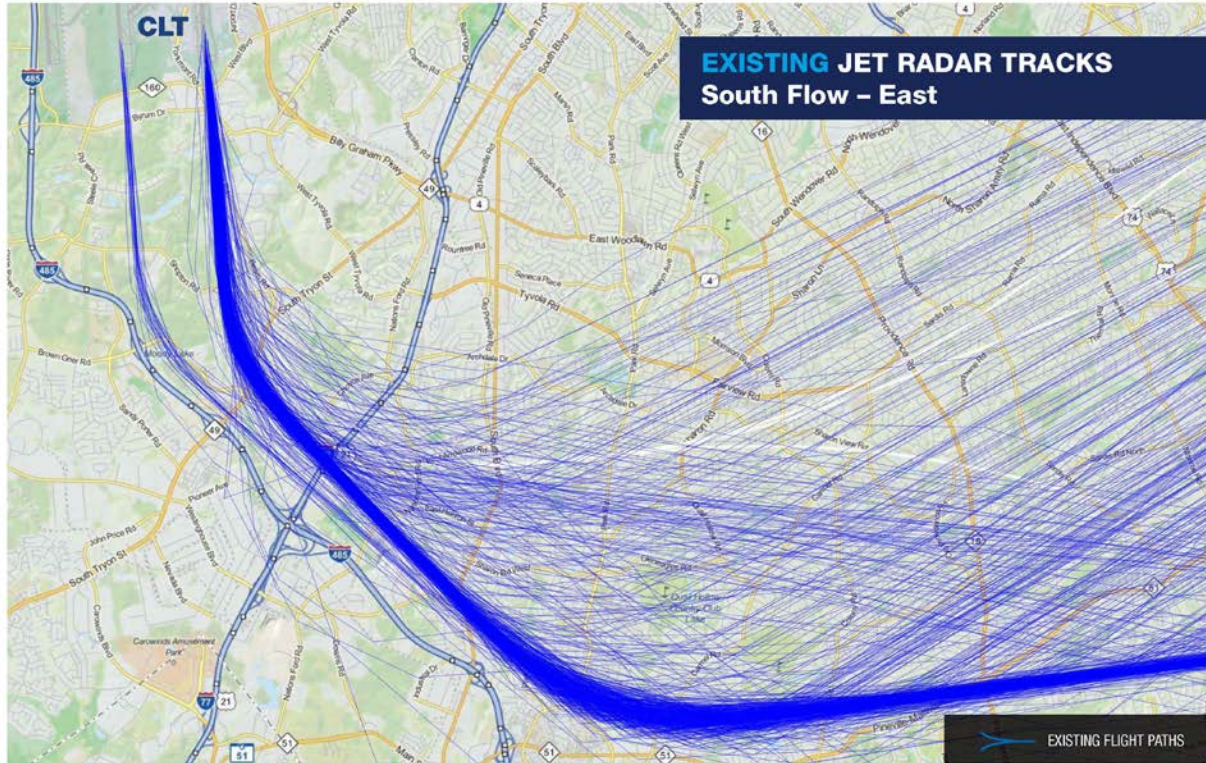
Jet Radar Tracks After Oct 15, 2015 Phase 1 – New Phase 1 Paths Only

SOUTH FLOW

From the Ground Up

Departure SIDs (Slide 3)

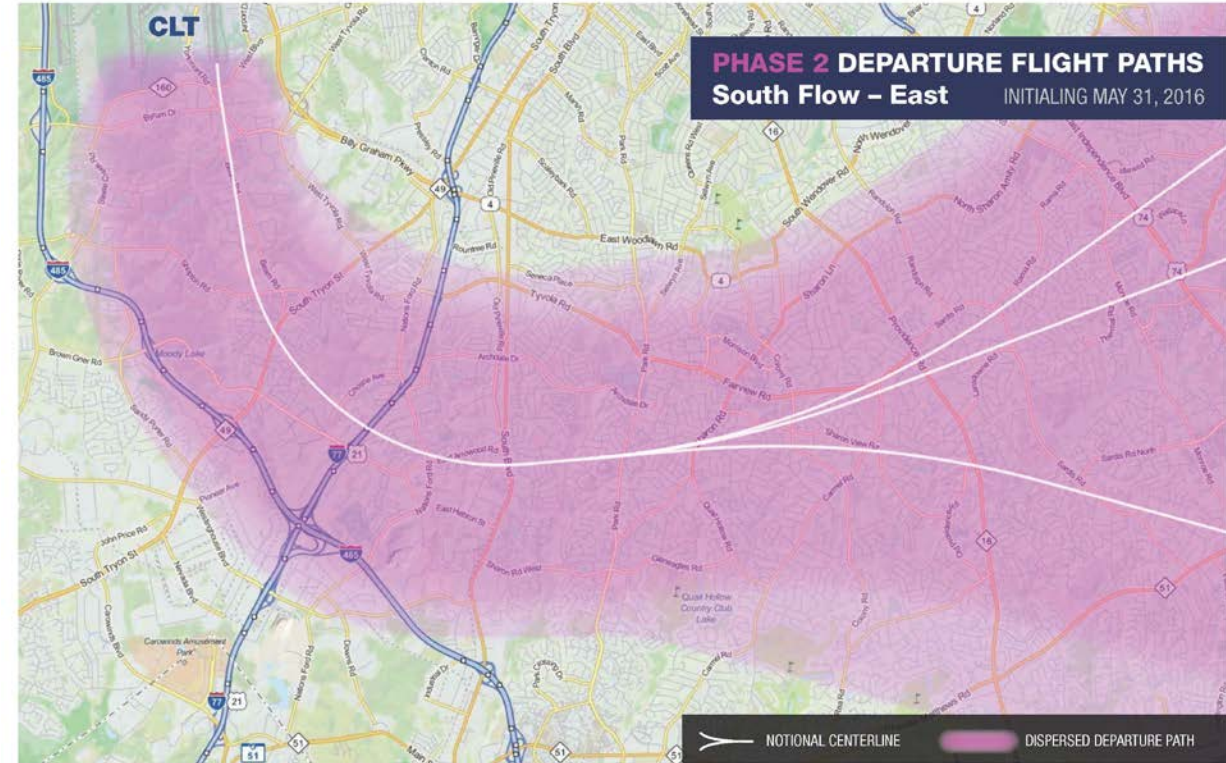
Pre Metroplex Departures – South Flow



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Post Metroplex Departures – South Flow



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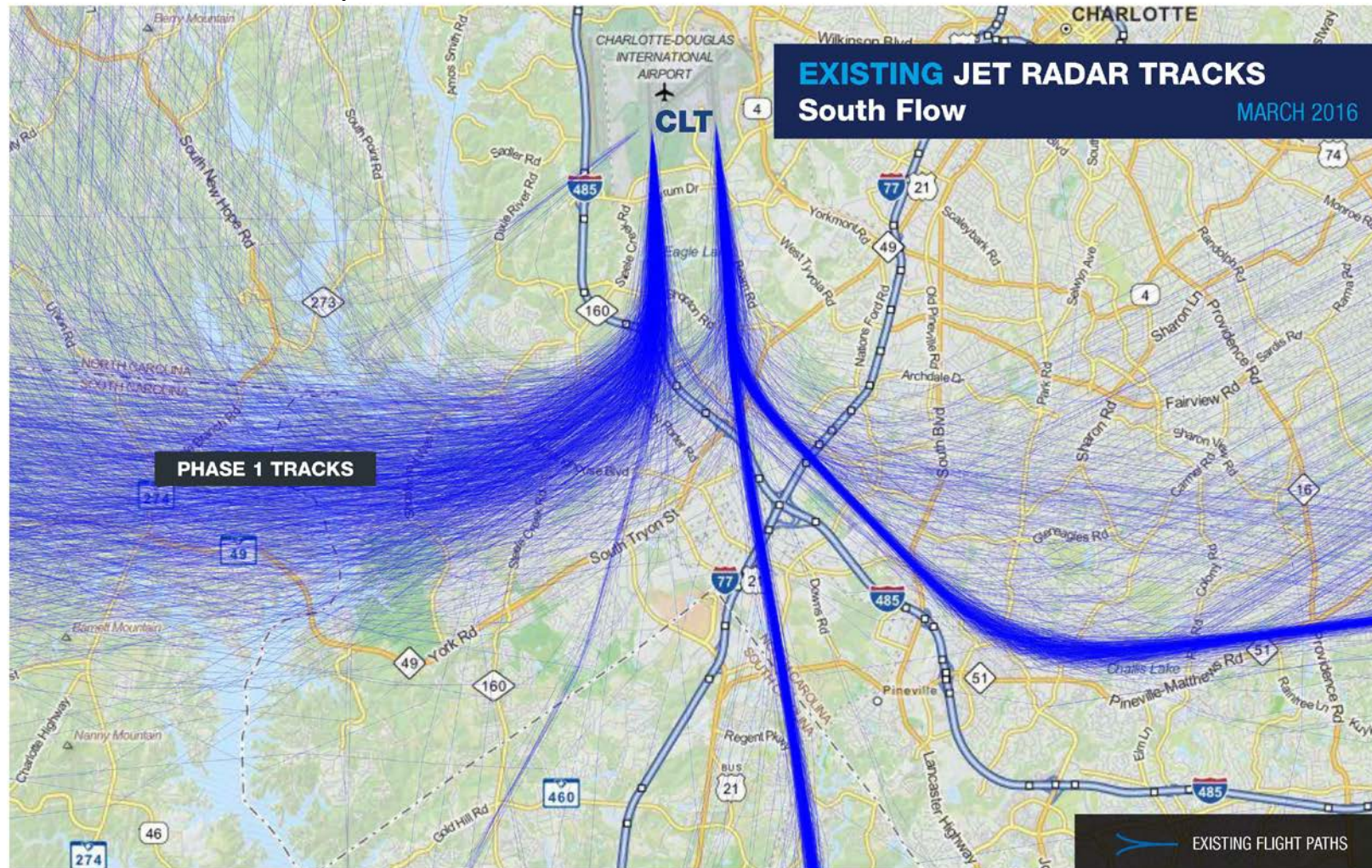
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SOUTH FLOW

From the Ground Up

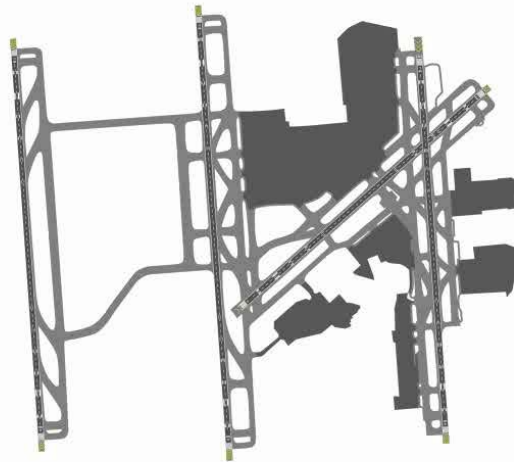
Departure SIDs (Slide 3)

March 2016 Jet Departure Radar Tracks – South Flow



NORTH FLOW – 45% OF THE TIME

Why do we fly this way?



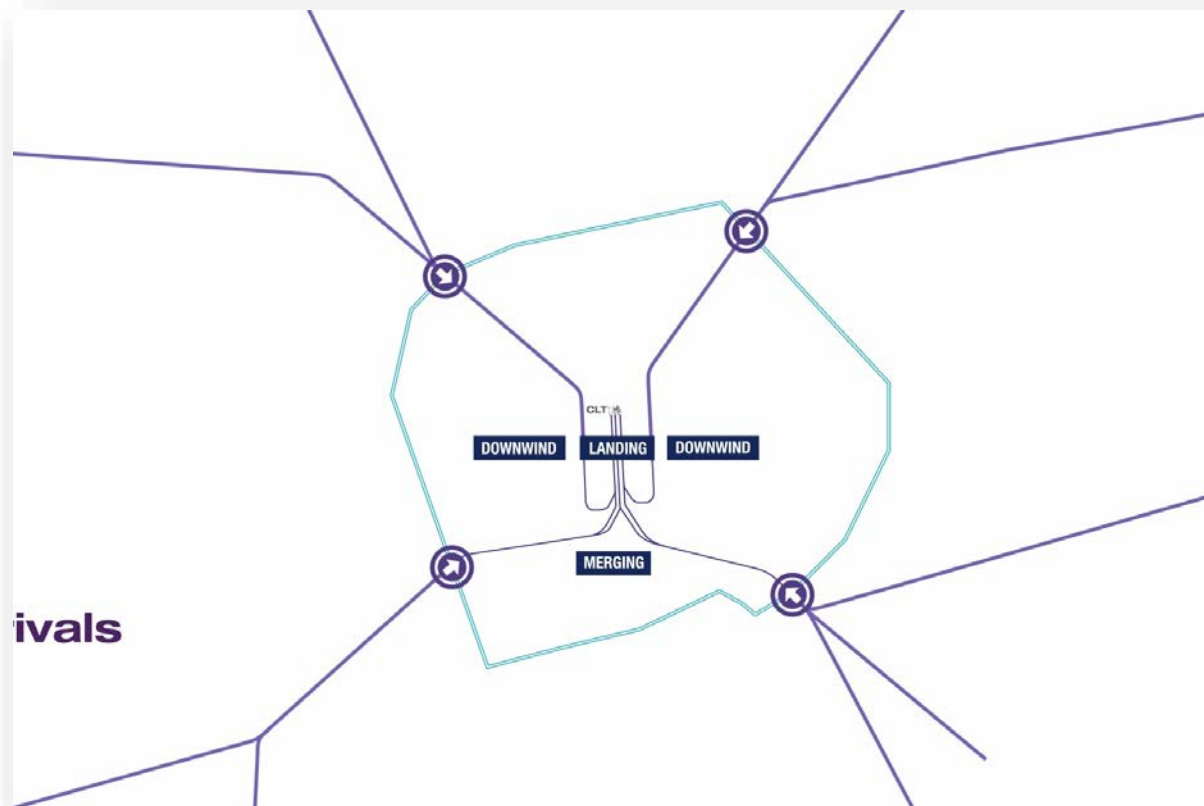
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NORTH FLOW

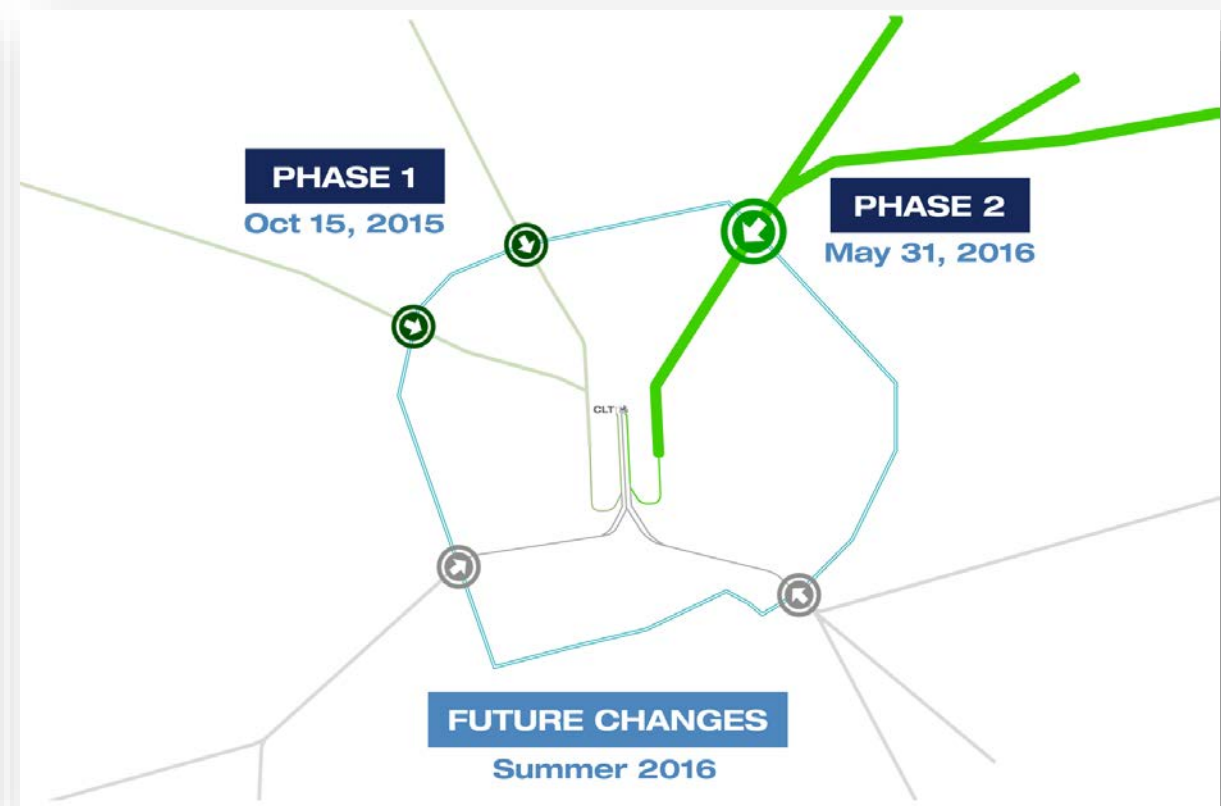
How is it being Improved

Arrivals STARs

Pre Metroplex Arrivals – North Flow



Post Metroplex Arrivals – North Flow

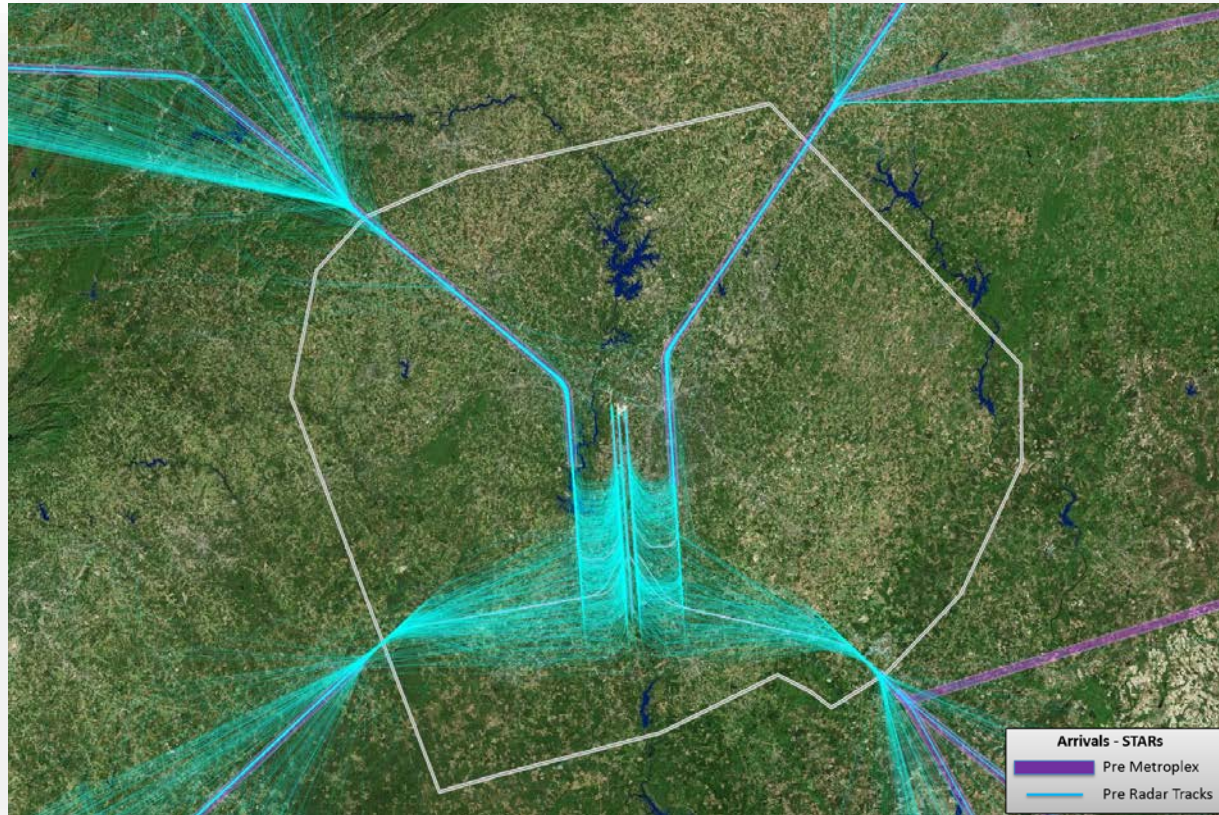


NORTH FLOW

Arrivals into the Airspace

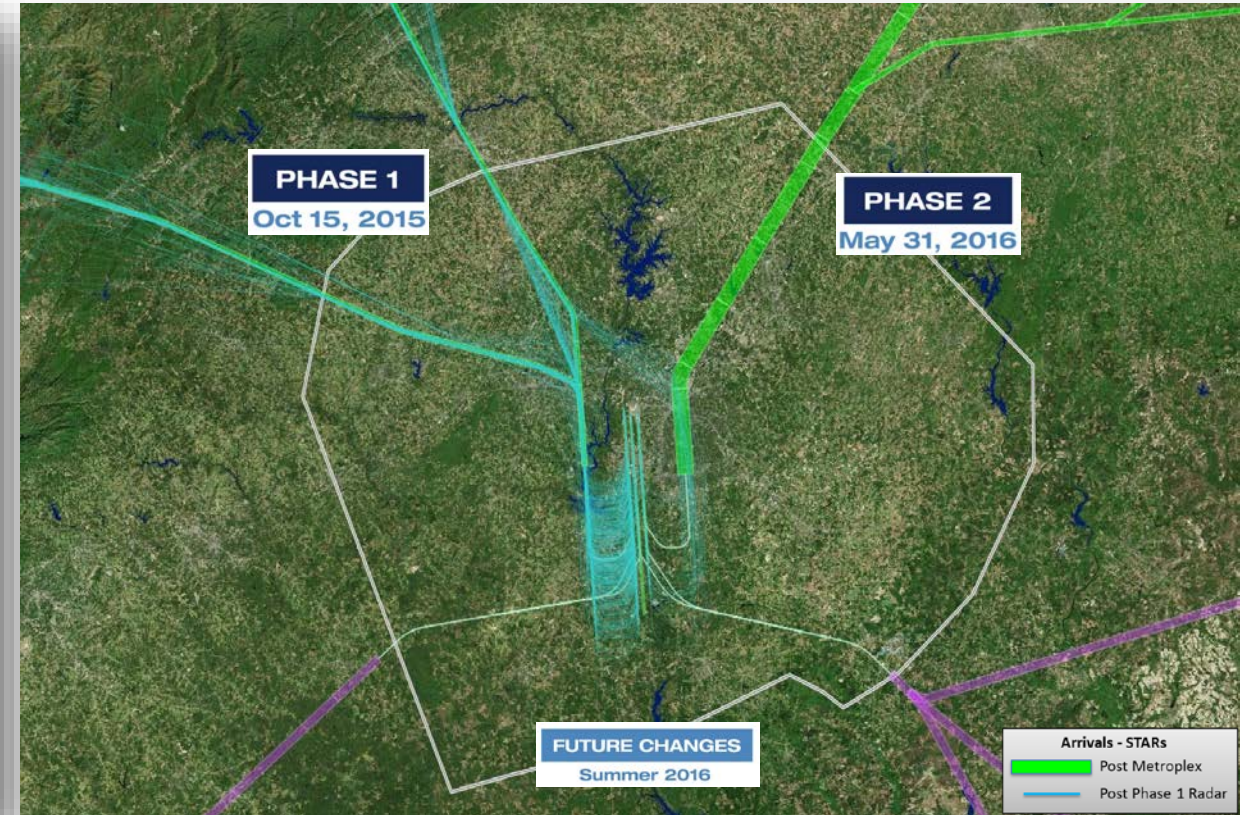
Arrival STARs (Slide 1)

Pre Metroplex Arrivals



Jet Radar Tracks Prior to Oct 15, 2015 Phase 1 – All Paths

Post Metroplex Arrivals



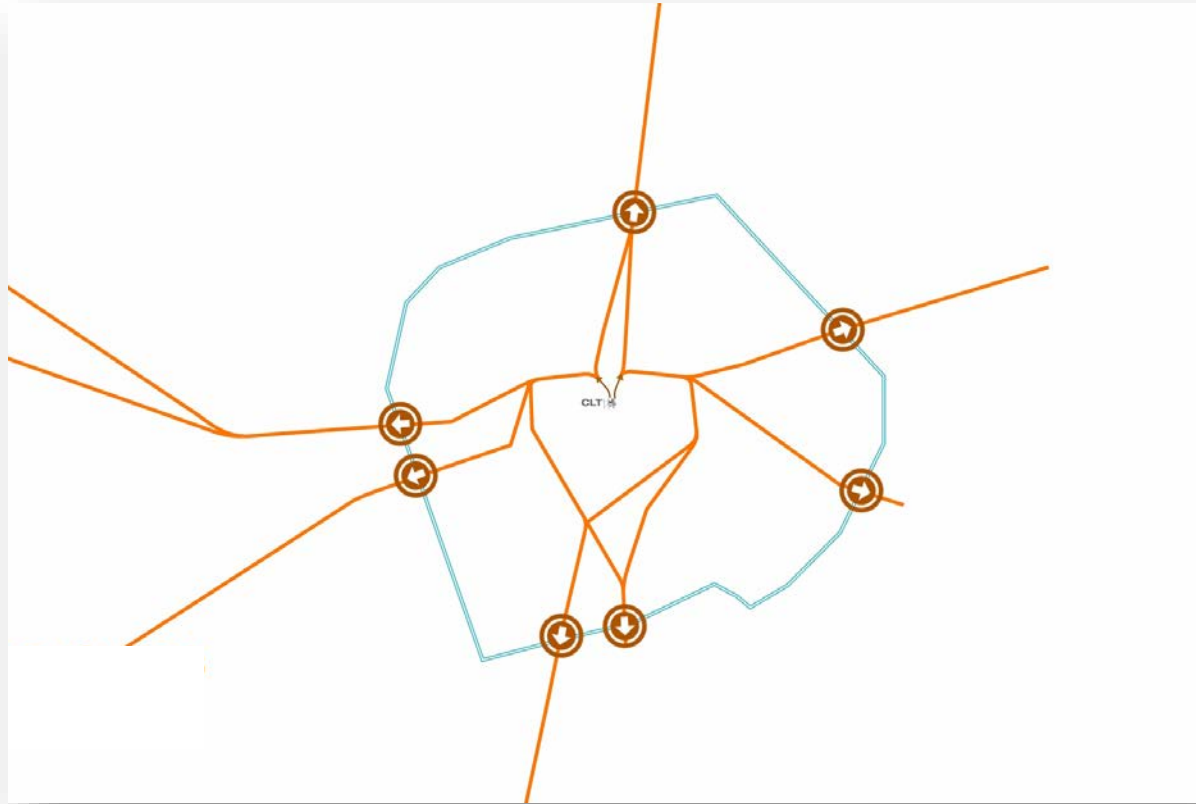
Jet Radar Tracks After Oct 15, 2015 Phase 1 – New Phase 1 Paths Only

NORTH FLOW

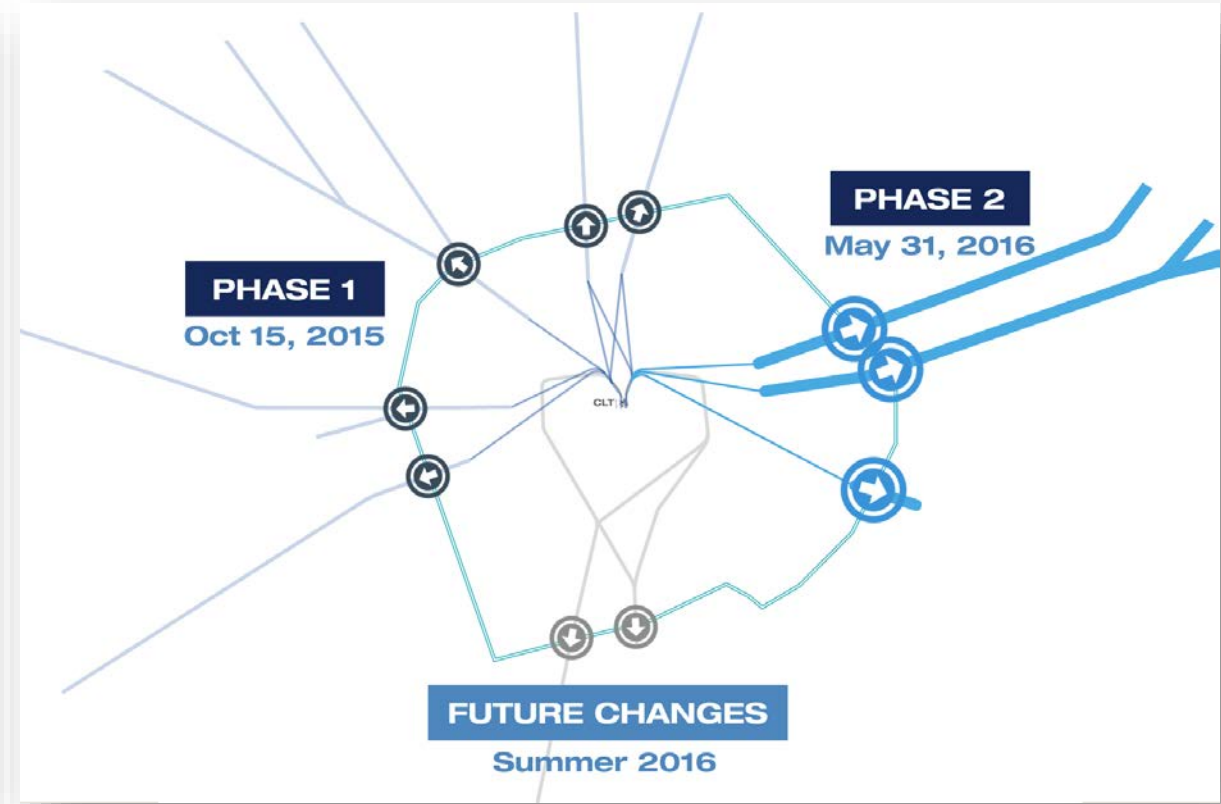
How is it being Improved

Departure SIDs

Pre Metroplex Departures – North Flow



Post Metroplex Departures – North Flow

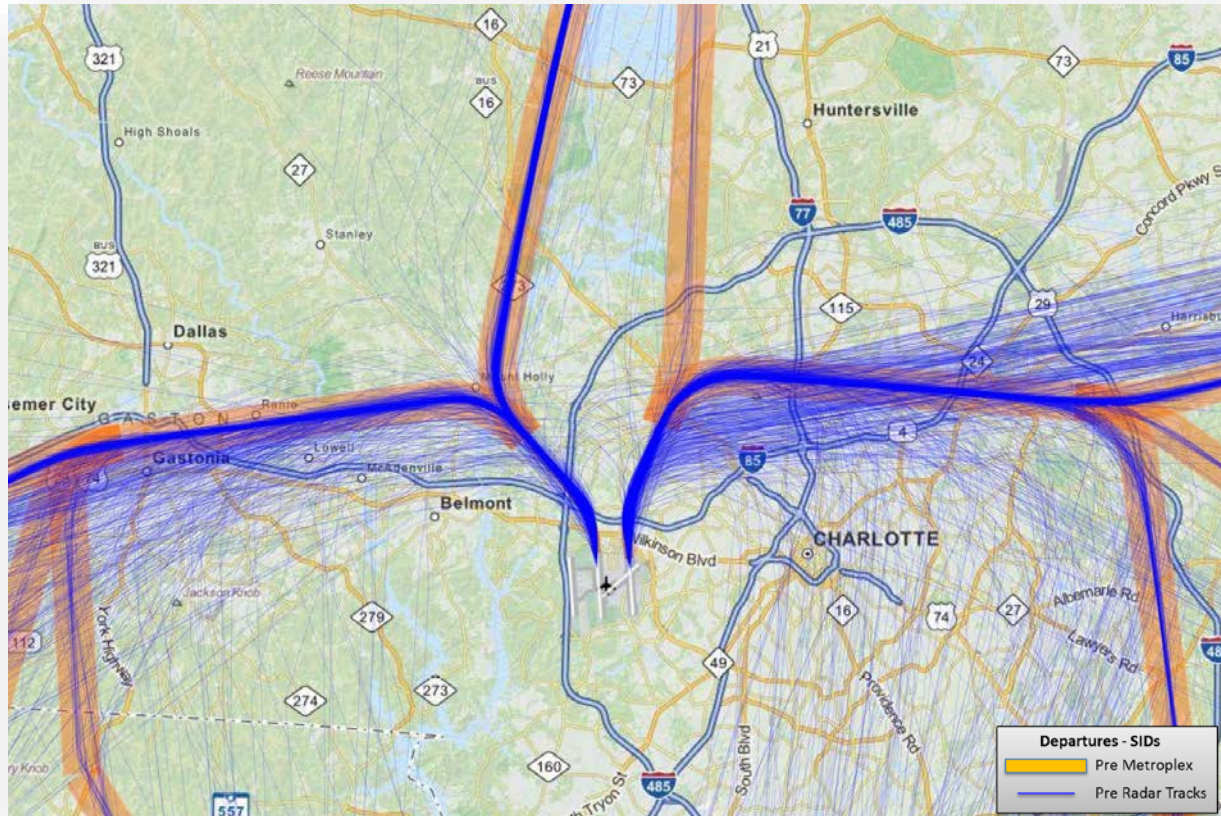


NORTH FLOW

From the Ground Up

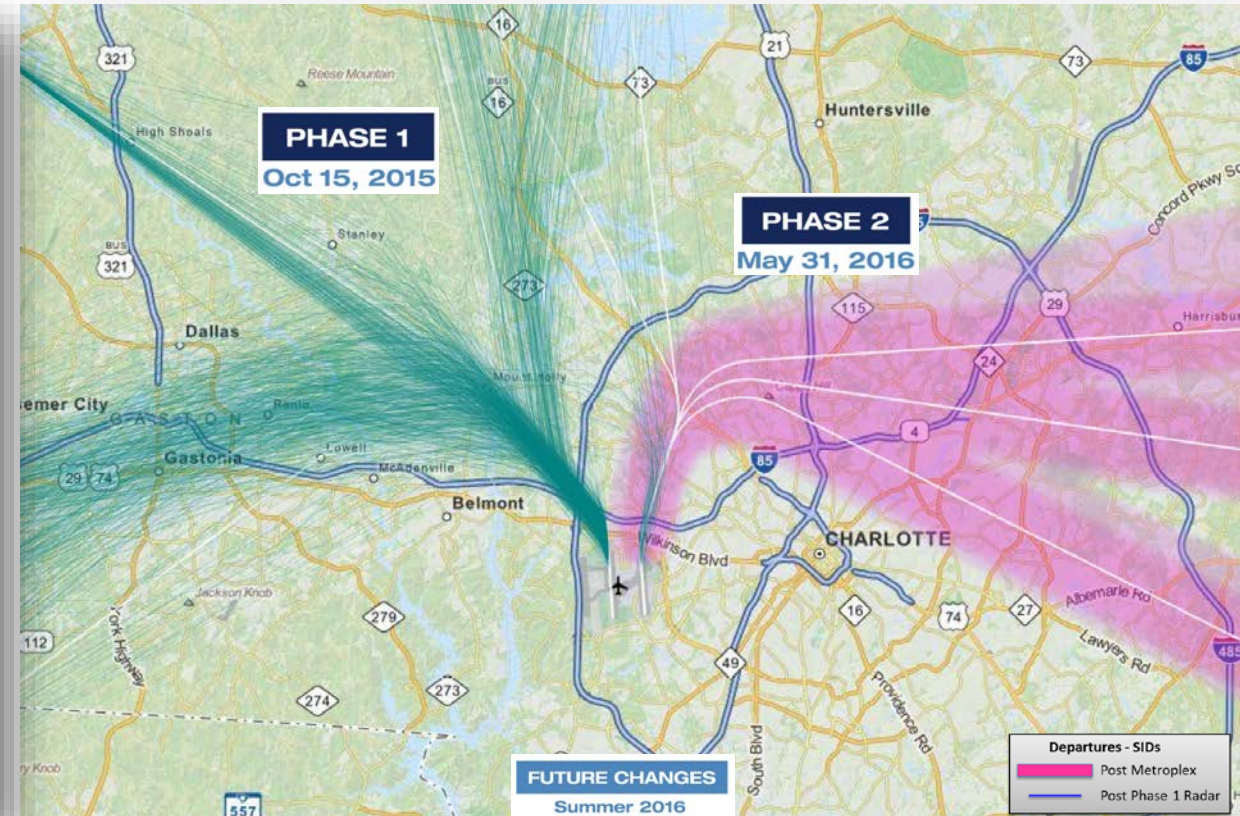
Departure SIDs (Slide 1)

Pre Metroplex Departures – North Flow



Jet Radar Tracks Prior to Oct 15, 2015 Phase 1 – All Paths

Post Metroplex Departures – North Flow



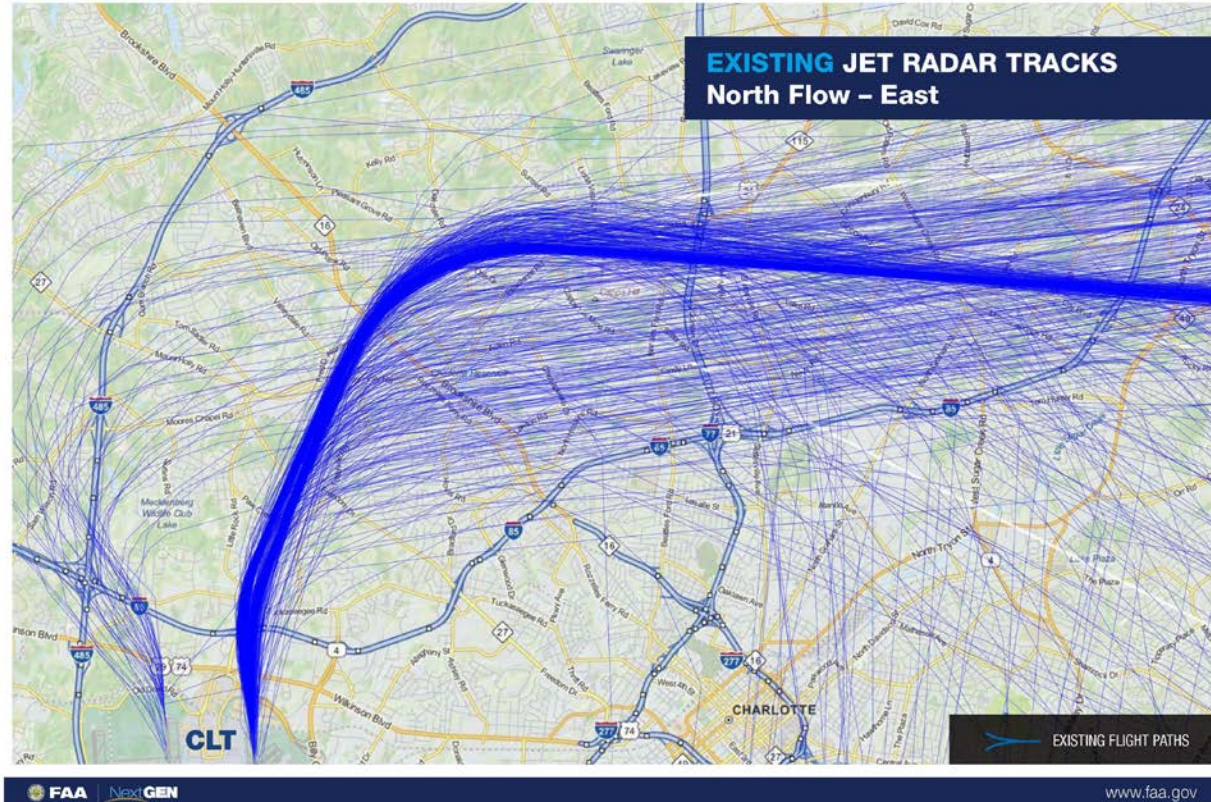
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NORTH FLOW

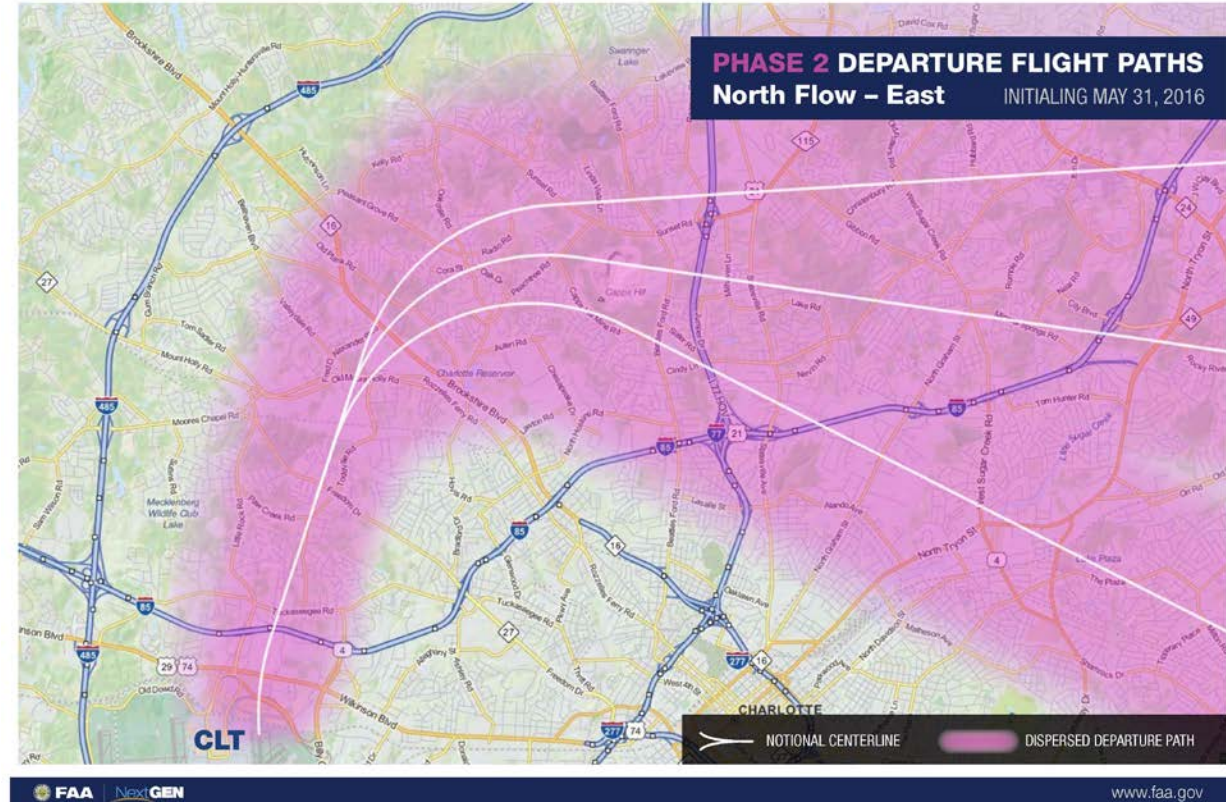
From the Ground Up

Departure SIDs (Slide 3)

Pre Metroplex Departures – North Flow



Post Metroplex Departures – North Flow



Our Commitments

- To partner with our local airports and aviation teams to adhere to established noise abatement policies.
- To update the community on changes the Metroplex project is making to the airspace.
- To make the images from this presentation available on the web and in other mobile applications.

Metroplex

Thank you!



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