The Piedmont Corridor
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Piedmont Corridor – Part of Federal Southeast Corridor

1992 – Federal Railroad Administration designated Southeast High Speed Rail Corridor

• Important Freight Corridor
• Portion of North Carolina Railroad Company Corridor

This designation opened the door to substantial funding opportunities such as ARRA, Congestion Mitigation and CMAQ.
Major Improvement Programs & Initiatives on the Piedmont Corridor

- Southeast High Speed Rail Designation: Charlotte to Washington, DC
- Passenger Safety Program
- Sealed Corridor Program
- North Carolina Railroad Improvement Program (NCRRIP)
- ARRA Award Piedmont Improvement Program (PIP)
- Strategic Transportation Investments (STI)
- Piedmont mid-day added (3rd frequency)
- Piedmont (4th frequency)
- Piedmont (5th frequency)
- CLT-RGH 4 hours 20 minutes
- CLT-RGH 3 hours 10 minutes
- First crossing closed
- Retroreflective crossbucks on passenger routes
- First Traffic Separation Study
- Effort began to signalize passenger route crossings
- Carolinian service resumed after 5-year hiatus
- TBD
Sealed Corridor Program
First of Its Kind in the United States

1994 – 2002
Goal: “Seal” or protect every public rail/highway crossing to improve safety along high-traffic Charlotte to Raleigh corridor

• Funded by Federal grants with State matching funds
• Recommendations included crossing consolidations and associated mitigation projects, grade separations, signal upgrades and recommendations for roadway improvements
• Partnership with municipalities, MPOs, railroads with public input
Why a Sealed Corridor?

- Safety, safety, safety
- High at-grade crossing crash rate
- Federal High Speed Rail designation
  - Speed
  - Capacity
  - Reliability
- Passenger service and investment
  - *Piedmont* – Raleigh to Charlotte
Why a Sealed Corridor?

- Gate runners
- Cost-effective solutions
- Corridor approach
- Can’t close them all…
Sealed Corridor Treatments

Hierarchy of Treatments

- Crossing closure
- Grade separation
- Obsolete signal system
- Median separators
- Longer gate arms
- 4-quadrant gate arms
- Median separators with 4-quadrant gates.
Sealed Corridor Program Implementation

- 53 crossing closures – public & private
- 53 four-quadrant gates
- 4 grade separations
- 2 four quadrant gates with median separators
- 11 median separators
- 81 long gate arms
Sealed Corridor Program Results

• Median Separators – Reduced crossing violations by **77%**
• Four Quadrant Gates – Reduced crossing violations by **86%**
• Longer Gate Arms – Reduced crossing violations by **84%**

*(However, created maintenance issues from gate strikes)*

Video validation performed by NS and NCDOT showed reduction in gate violations from 67% to 98%. A 2009 Assessment by USDOT Volpe Center estimated **19.7 potential lives saved.**
North Carolina Railroad Improvement Program
Expanding Capacity – Expanding Service

2002 – 2010

• Refurbished or built train stations and multimodal centers statewide with FHWA Enhancement Funds and NCDOT Moving Ahead Funds
• Upgraded *Piedmont* equipment
• Added second state-sponsored *Piedmont* service (2010)
• Developed Capital Plan linked to number of train frequencies
• Applied for ARRA funding (2009)
$520 Million ARRA Grant Award Funds Piedmont Improvement Program

2010 – NCDOT awarded $520 million ARRA grant for rail infrastructure improvements

• Rail capacity and safety projects targeted
• Largest program of projects to improve NC rail infrastructure in modern times
• Deadline for all ARRA projects –
  ✓ September 30, 2017 deadline
  ✓ COMPLETED
• Third and fourth state-sponsored Piedmont service
Piedmont Improvement Program Projects

30 Distinct Projects

- 27 miles second main track and 5 miles passing sidings
- 13 grade separations
- Over 40 at-grade crossings closed and 12 improved signal systems
- Over 30 curves improved for increased operating speeds
- Additional passenger equipment
- Improved stations, platforms
Double Track
Passing Sidings
Curve Realignments
Grade Separations
Railroad Bridges
Results

Raleigh to Charlotte – 1992 to present

- **108** grade crossings closed
  (total of 150 grade-separated crossing today)
- Installed 4-quadrant gates at **48** grade crossings
- Installed medians at **12** crossings
- Installed 4-quadrant gates with medians at **4** crossings
- 2 daily round-trip state-sponsored *Piedmont* services
  - ✓ **3**\textsuperscript{rd} services to begin in June 2018
  - ✓ **4**\textsuperscript{th} service to begin in 2020
- 173 mile route – trip time reduction of **1 hour-10 minutes**
  (27% reduction)
Installing crossing signs, signals and gates, and building bridges to separate train and vehicle traffic = fewer crossing incidents

* Does not include trespasser fatalities.
Thank You!
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Hidden Egg

Again, Thank You