

# Building North Carolina's Preservation Program

Southeast Bridge Preservation  
Partnership Meeting

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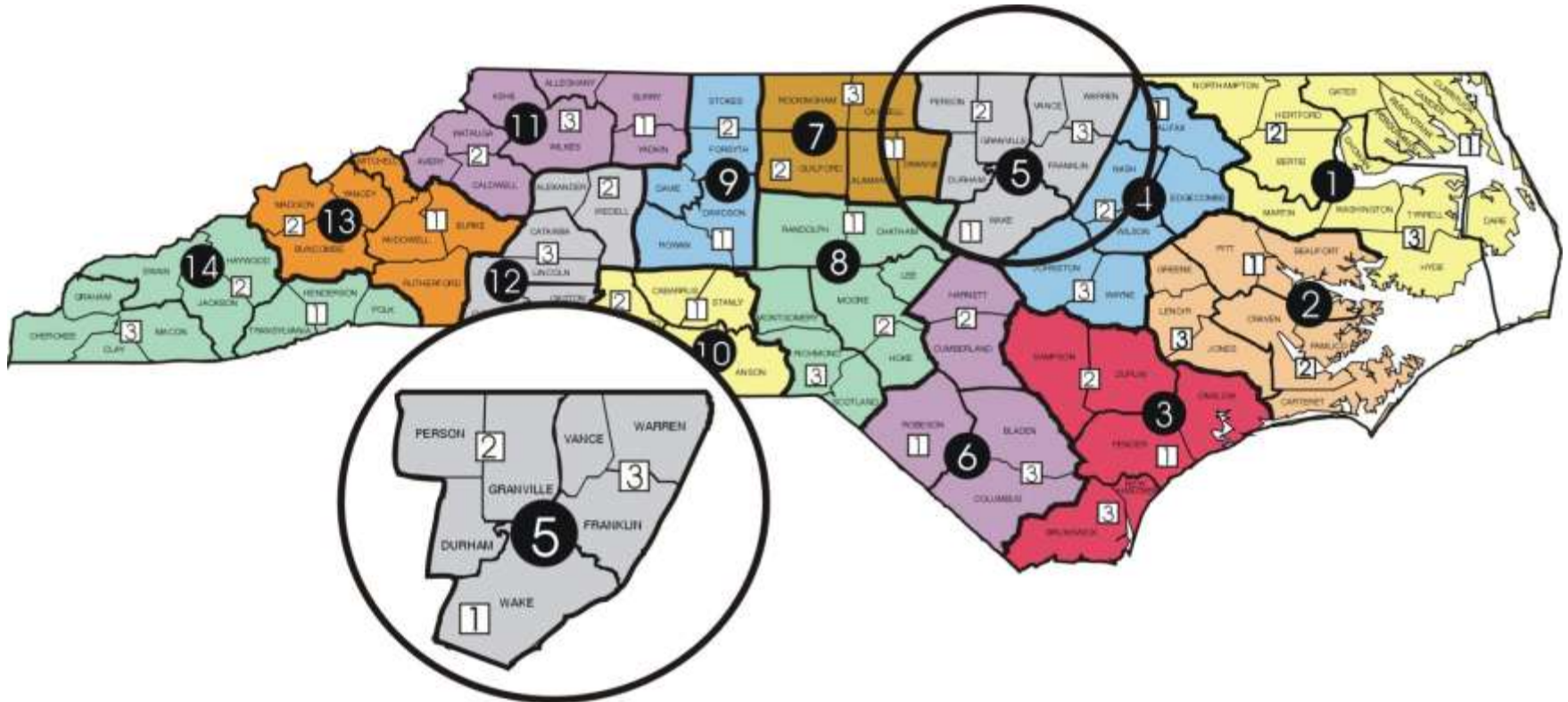
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# Outline

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- North Carolina DOT Structure & Stats
- The Beginnings: Pavements to Bridges
- Implementation Strategy
  - Funding (Federal & State)
  - Interstate Maintenance Preservation Program
  - Next Steps (Bridge Management System, Training & Research)

# North Carolina DOT Structure



# North Carolina Statistics

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<b>Total Miles</b>	<b>79,185</b>
<b>Paved Lane Miles</b>	<b>160,630</b>
<b>Total Structures</b>	<b>18,205</b>
<b>Deck Area (sq. ft.)</b>	<b>88.1 Million</b>

# Why Preservation?

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- Cost Effective Approach
  - Planned vs. Reactive Strategy
  - Up to a 6:1 savings ratio vs. “worst first”
- Good Assets remain Good Assets
  - Prevents failures before they occur
  - Results in smoother, safer roads & bridges
  - Reduces vehicle operating costs
  - Improved highway/user satisfaction
  - Reflects favorably on agency and industry

# Pavements to Bridges



- **Early 2000's began Pavement Preservation Initiatives**
  - Training
  - Dedicated Funding
  - Research
- **Program Development**
  - 2 Non Recurring Funding sources  
"Shot in the Arm" for System Preservation
  - State Recurring Funding Source for System Preservation

# Pavements to Bridges

- Through successes of pavement preservation....
  - NCDOT Personnel “Get” Value of Preservation
  - Easier “Sell” to Bridge Community
- Program Development: Funding
  - State Funded System Preservation \$15M/yr
  - Federal Preservation Fund: \$5M/yr
  - Non-Recurring ARRA Funds: \$8.7M
  - Non-Recurring Preservation & Replacement Funds: \$32M/yr (09-10)

## Implementation: Federal Funds

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- Non Recurring Federal Funds:
  - \$ 2.5 Million on 5 Projects (BK) 2009
  - \$19.1 Million on 26 Projects (BK) 2010
  - \$ 8.7 Million on 4 Projects (ARRA) 2010
- Recurring Federal Preservation Funds:
  - \$ 8.7 Million on 9 Projects 2009
  - \$25.9 Million on 22 Projects 2010

**2009: \$11.2 Million (14 Projects)**

**2010: \$53.7 Million (52 Projects)**



# Project Types: Federal Funds

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Projects Developed and let through State Bridge Management Unit (SBMU)

- Painting
- Hydrodemolition & Overlays

SBMU developed Programmatic Agreement with FHWA on Bridge Preservation Activities April 2008

# Implementation: State Preservation Funds

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Local Division Bridge Offices (14 Statewide)  
Force Account Work and Contracts

- Joint Repair/Replacements
- Painting Beam Ends
- Shrub Removal
- Epoxy Overlays
- Deck Sweeping
- Washing

## New Program - IMPP

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- Opportunity to do Preservation on Interstate System
- Develop long term plan for managing our Interstates
- Multi-year “strategic” program
- Allows NCDOT to administer program without contract specific FHWA approval

# Interstate Maintenance Preservation Program

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- Used 2008 Bridge Preservation Agreement as starting point
  - Agreement Requirements
  - Eligible Activities/Environmental Compliance
  - Division Allocations
  - Systematic Selection Criteria
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- A photograph of a multi-lane highway interchange. The road is paved and has several lanes in each direction. There are several vehicles, including cars and trucks, driving on the highway. In the background, there are green overhead signs with white text, likely providing directions to nearby locations. The sky is overcast and grey. The overall scene is a typical view of a major interstate highway interchange.

# Eligible Bridge Activities

The background of the slide is a photograph of a multi-lane concrete bridge. The bridge has several large, rectangular concrete piers supporting the deck. The sky is overcast and grey. In the distance, there are some trees and a road with a few cars. The text is overlaid on the left side of the image.

- Deck Joints
- Painting of structural steel (complete, spot and zone)
- Deck Preservation (concrete & epoxy overlays, sealers and chloride extractors)
- Deck washing
- Superstructure Preservation (structural steel repairs, concrete girder and diaphragm repairs; bearings)
- Substructure Preservation (Bent/End Bent repairs and cleaning)
- Scour Countermeasures

# Eligible Flexible Pavement Activities

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- Crack Sealing
- Milling/Replacing one lift of HMA (one lane)
- Micro Milling
- Seals on Flexible Shoulders (chip, fog and slurry)
- OGFC or UTBWC on Flexible Pavement
- Microsurfacing

# Eligible Rigid Pavement Activities

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- Clean and reseal concrete joints
- Repair expansion joints
- Diamond grinding
- Grooving
- Dowel bar retrofit
- Stitching of broken slabs
- Slab Jacking (including approach slabs)
- Microsurfacing
- Punchout repair of CRC on programmatic basis
- UTBWC

# Eligible Roadside Feature Activities

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## Drainage

- Replace/Repair Paved Lateral Ditches
- Line/Repair Crossline Pipes
- Inlet Repair/Retrofit
- Shoulder Drains

## Traffic

- Pavement Markings
- Pavement Markers
- Signs
- Guardrail
- Lighting
- Attenuators



# Division Allocations

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Allocation based on:

75% Lane Mile

25% Square Foot Bridge Deck Area

2010 TIP

\$10 Million

# Systematic Selection: Bridge

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## 4 Worksheets with Supporting Documentation

Deck Activities

Superstructure Activities

Substructure Activities

Miscellaneous Activities (Deck Washing)

# Systematic Selection: Bridge

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- Aids in Selecting Type of Activity
- Compares “like” Activities

Theory:

The Higher the Points, the Better the Candidate

# Agreement Location

- Agreement
- Supporting Documentation
- Samples
- Training Documents



<http://www.ncdot.gov/programs/srmu/default.html#123>

## **Interstate Maintenance Preservation Program**

The Interstate Maintenance Preservation Program (IMPP) is a planned strategy of cost effective treatments to interstates; including bridges, pavements, and roadside features that prevent/retard future deterioration and extends service life without increasing structural or traffic capacity. The IMPP is to be used in conjunction with an effective interstate maintenance program to extend the life of bridges, pavements, and roadside features.

CONTACT: Emily McGraw at (919)835-8257, or [Contact Us](#).

### **FHWA/ICDOT Agreement**

-  [IMPP Eligibility Requirements \(Revised 12/01/2010\)](#)
-  [IMPP National Environmental Policy Act Requirements \(Revised 12/01/2010\)](#)



### **Supporting Documentation**

-  [Plans, Specifications, and Estimate Checklist](#)
-  [IMPP Environmental Checklist](#)
-  [Right-Of-Way Field Certification Form](#)
-  [IMPP Eligible Routes](#)
- [FHWA Contract Administration Website](#)
-  [Division TIP and WBS Element Guidance](#)
-  [Requesting Federal Funds Sample](#)

### **Bridge**

-  [Introduction](#)
-  [Bridge Preservation Selection Tool Worksheets](#)
-  [Deck Preservation Supporting Documentation](#)
-  [Superstructure Preservation Supporting Documentation](#)
-  [Substructure Preservation Supporting Documentation](#)
-  [Miscellaneous Preservation Supporting Documentation](#)

# Next Steps

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- Continue Delivering System Preservation Projects
- Successfully Deliver IMPP Projects
- Bring new Bridge Management System on line (Data Mining and Data Driven Decisions)
- Training – Develop and Deliver
- Research – Products



Questions???