



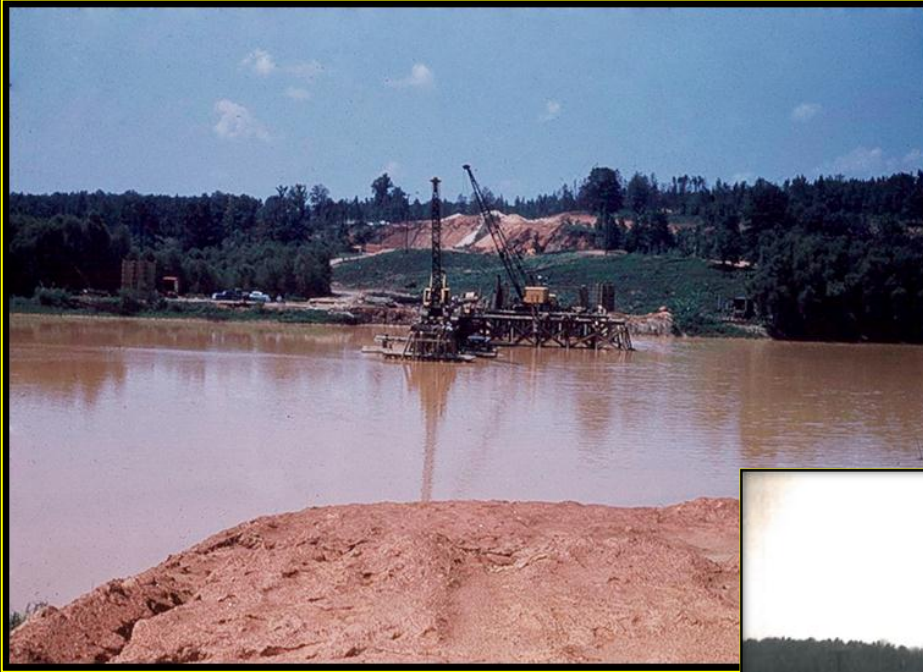
# I-85 Yadkin River Bridge Project



# Yadkin River Project History



# Yadkin River Project History



**Built in 1955**



# Yadkin River Project History

Planning began in 2000...

- Structurally Deficient/Functionally Obsolete
- Crash rate – 77% higher than the average
- Requires regular/costly repairs



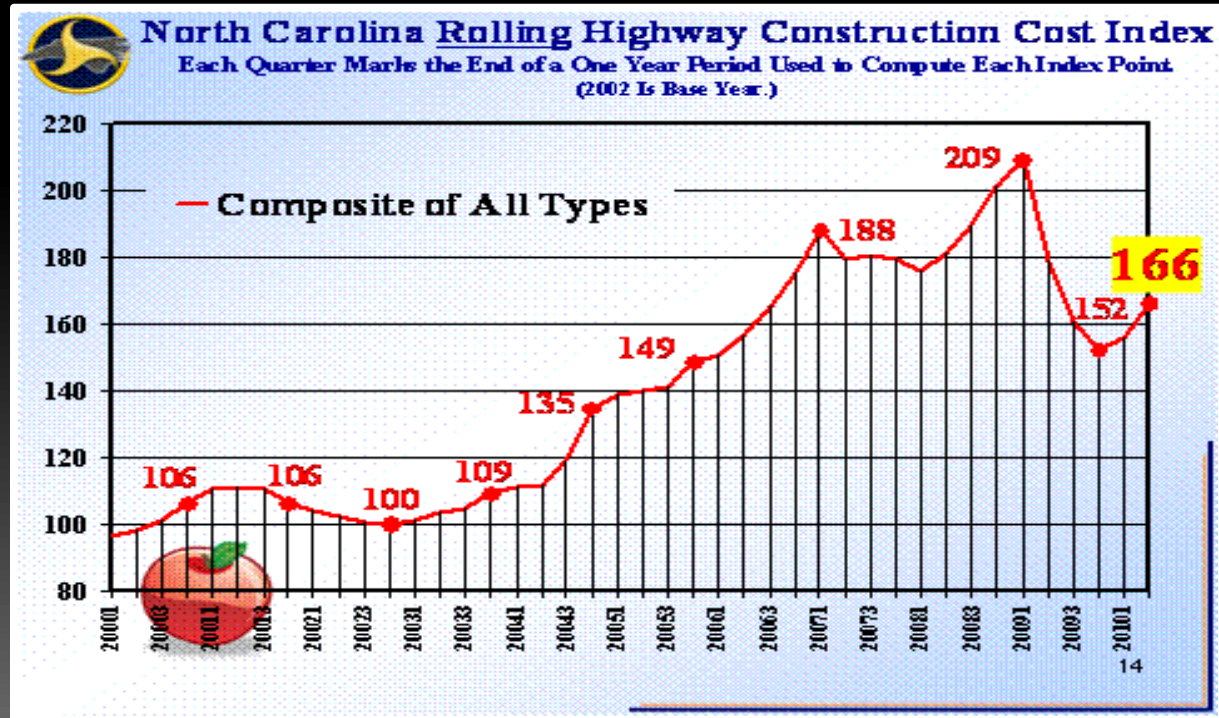
# Yadkin River Project History

- I-85 – Most heavily traveled route between Richmond and Atlanta
- Carries 60,000+ vehicles per day
- 24% of traffic = truck traffic
- Projected increase – 112,000 vehicles per day by 2025

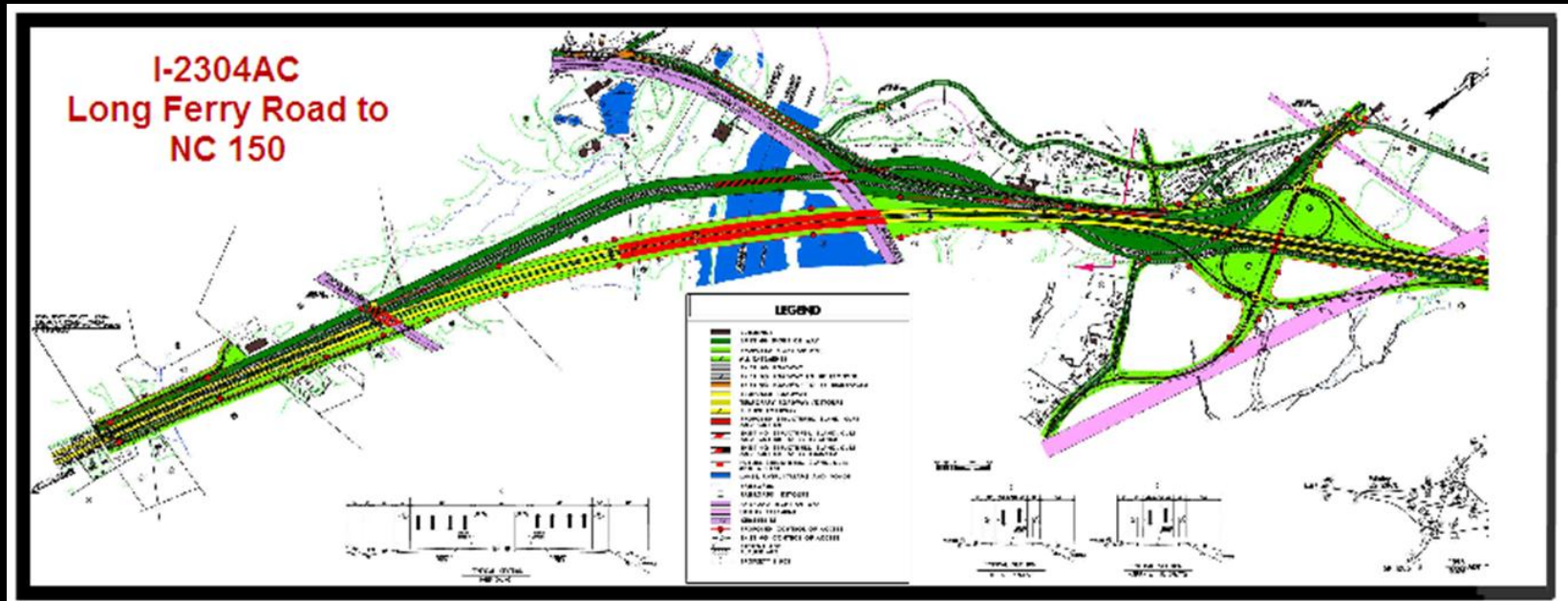


# Yadkin River Project History

- ❑ Project intended to be let in late 2004
- ❑ Historical Concerns - Trading Ford
- ❑ Fiscal constraints prohibited project - 2004 Bidding Environment - Cusp of Inflation
- ❑ Equity Formula
- ❑ Toll Studies
- ❑ 2008



# Yadkin River Project History

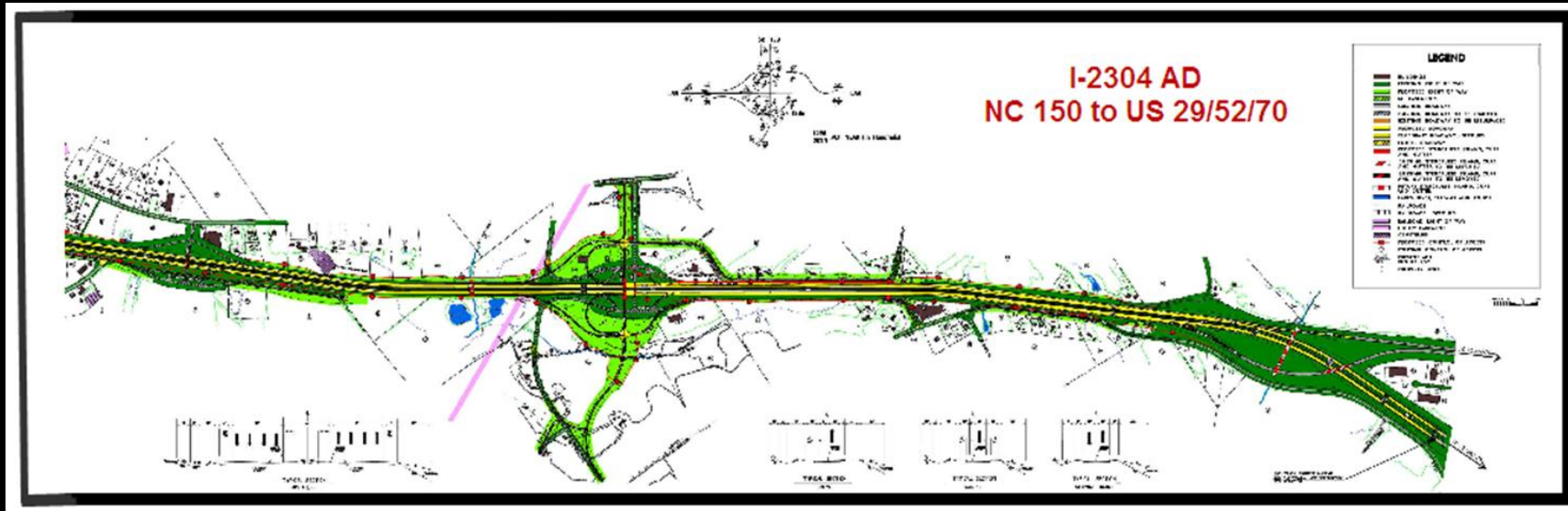


## Phase 1

- 2010 ARRA Stimulus
- GARVEE Bonds



# Yadkin River Project History



## Phase 2

- 2012 Mobility Funds







# I-85 Yadkin River Bridge Project



# Overview

- ◉ Project limits: Long Ferry Rd (Exit 81) to North of the NC150 Interchange
- ◉ 3 Miles of Road Widening Existing 4 Lanes to 8 Lanes
- ◉ 6 New Bridges
- ◉ Rehab Historic Wil-Cox Bridge



# Project Details

- ◉ Design Build Project
- ◉ Awarded to Flatiron Lane Joint Venture
- ◉ STV/Ralph Whitehead designed the Bridge
- ◉ 136 Million Dollars for Design & Construction
- ◉ Completion Date – January 26, 2013



# Challenges

- ◉ Environmental Concerns
- ◉ Safety
- ◉ Constructability
- ◉ Accelerated Schedule
- ◉ Railroad
- ◉ Historic



# I-85 YADKIN RIVER BRIDGE PROJECT



Trestle Construction



I-85 YADKIN RIVER BRIDGE PROJECT



Trestle Construction



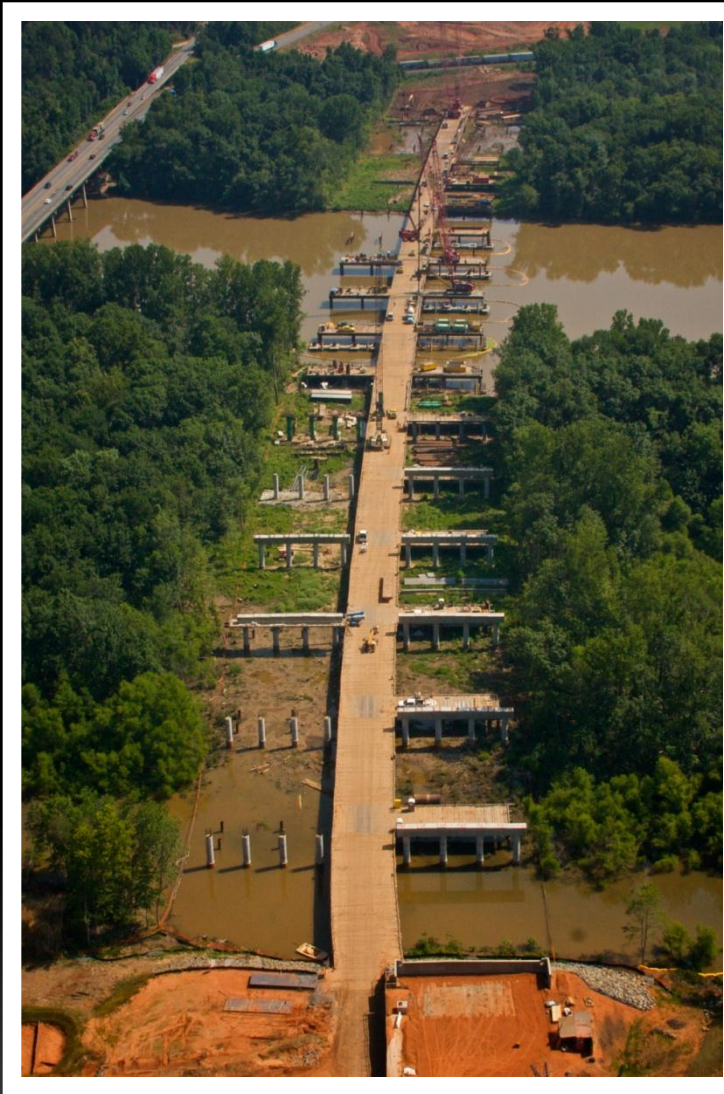
# I-85 YADKIN RIVER BRIDGE PROJECT



Trestle Construction



# I-85 YADKIN RIVER BRIDGE PROJECT



Completed Trestle  
June 10, 2011





# I-85 YADKIN RIVER BRIDGE PROJECT



Vibrating in Permanent Steel Casing



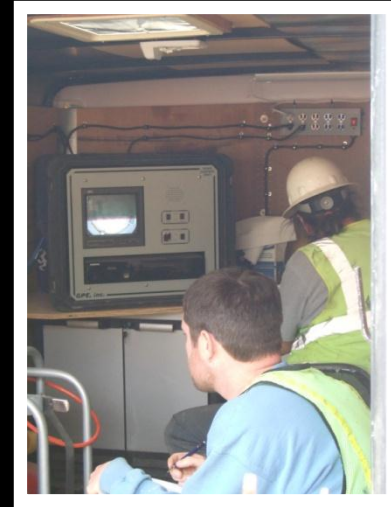
# I-85 YADKIN RIVER BRIDGE PROJECT



Foundation Installation



# I-85 YADKIN RIVER BRIDGE PROJECT



SID (Shaft Inspection Device)



I-85 YADKIN RIVER BRIDGE PROJECT



Drilled Shaft Concrete Pour



I-85 YADKIN RIVER BRIDGE PROJECT



Cleaning off Concrete from Drilled Shaft



# I-85 YADKIN RIVER BRIDGE PROJECT



Building the Substructure



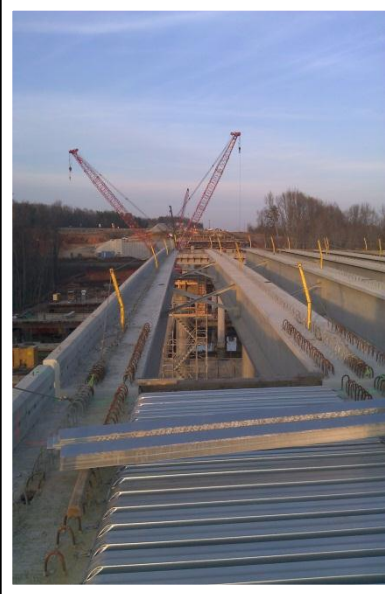
I-85 YADKIN RIVER BRIDGE PROJECT



Setting First Girder  
6/13/2011



I-85 YADKIN RIVER BRIDGE PROJECT



Bridge Deck Construction





# I-85 YADKIN RIVER BRIDGE PROJECT



MSE Wall

# I-85 YADKIN RIVER BRIDGE PROJECT



Railroad Span



# Bridge Quantities

- ◎ 40,000 Cubic Yards of Concrete  
Over 4,400 Full Concrete Truck Loads
- ◎ 8 Million Pounds of Reinforcing Steel
- ◎ 8500 ft. of Drilled Shafts  
Over 1.5 miles of Concrete Foundations  
below ground



# I-85 YADKIN RIVER BRIDGE PROJECT



Concrete Testing  
(Over 5000 Concrete Cylinders)



# Project Personnel

- ◉ 20 to 30 DOT Engineers/Field Technicians
- ◉ 200 to 250 Contractor Workers
- ◉ 50 or more Design Engineers
- ◉ FHWA, DENR, USACE, ALCOA
- ◉ NCRR and NSR



I-85 YADKIN RIVER BRIDGE PROJECT



June 10, 2011



I-85 YADKIN RIVER BRIDGE PROJECT



December 8, 2011



# I-85 YADKIN RIVER BRIDGE PROJECT



March 28, 2012





I-85 YADKIN RIVER BRIDGE PROJECT



March 2013



I-85 YADKIN RIVER BRIDGE PROJECT



Yadkin River Veterans Memorial Bridge

