TIMELINE AND EXPECTATIONS OF ABC INITIATIVES AT DELDOT

Presenter: Barry Benton
State Bridge Engineer
<table>
<thead>
<tr>
<th>Component</th>
<th>Life Expectancy (Years)</th>
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## Bridge Age and Condition

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BRIDGE AGE AND CONDITION

• Interstate Bridge Decks: All of the interstate bridges received low permeability concrete overlays in the 1980s and 1990s. These overlays have a life expectancy of 30 years and are starting to show signs of deterioration. This equates to over 1 million square feet of concrete bridge decks that are, either, already starting to show signs of deterioration or is expected to within the next 5 – 10 years.
BRIDGE PROGRAM EXPENDITURES

FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | FY17
-----|------|------|------|------|------|------|------
 24  | 21   | 32   | 34   | 37   | 38   | 44   | 50   

Millions
CONVENTIONAL BRIDGE CONSTRUCTION
25 YEARS AGO

- Mostly C.I.P construction
- Mostly Sequential Construction
- Longer cure times on concrete
- General acceptance that bridges took some time to build
- Limited use of precast elements (mostly culverts and prestressed beams)
ACCELERATED BRIDGE CONSTRUCTION

- Mostly prefabricated elements.
- Enough labor to tackle concurrent activities.
- Rapid cure times for concrete.
- Limit impacts to traffic.
- Get in, get out, stay out mentality.
CN 95-071-01: BR 1-435 ON N477 OVER CYPRESS BRANCH

- CIP Concrete Frame – 21’ Span
- C.I.P. Concrete Footing on a Deep foundation
- 400’ of Roadwork
- Assigned 100 Calendar Days
CN T201407305: BR 3-653 ON RUM BRIDGE ROAD

- Precast Concrete Frame – 21’ Span
- Shallow foundation on Precast Concrete Footing
- 300’ of Roadwork
- Assigned 40 Calendar Days
CN 93-073-01: BR 3-241 ON THARPE ROAD

- Spread Prestressed Box Beams (50’ Span) with C.I.P. Deck
- C.I.P. Abutments on Monotube Pile Foundation
- 300’ of Roadwork
- Assigned 120 Calendar Days
CN 97-073-04: BR 3-305 ON S492 IN LAUREL

- Spread Prestressed Box Beams (50’ Span) with C.I.P. Deck
- C.I.P. Abutments on Precast Prestressed Pile Foundation
- 700’ of Roadwork
- Assigned 70 Calendar Days
CN T201407104: BRIDGE 1-438

- Adjacent Prestressed Box Beams (50’ Span) with PPC Riding Surface
- Precast Abutments on Precast Prestressed Pile Foundation
- 550’ of Roadwork
- Assigned ? Calendar Days
CN T200607102: BR 1-234 ON KIRKWOOD HWY

- C.I.P. Deck Replacement Project for WB half of the bridge
- Replace all bearings and paint existing steel
- Rehabilitate abutments and place scour protection
- Phased construction on Kirkwood Highway in 2 phases
- 900’ of Approach Roadwork
- Assigned 130 Calendar Days
CN T201407402: BR 1-191 ON MILLTOWN ROAD

- C.I.P. Deck Replacement Project for entire bridge
- Replace all bearings, joints and paint existing steel
- Rehabilitate abutments
- Construct sidewalk and bridge approaches
- All work in one phase
- 400’ of Approach Roadwork
- Assigned 80 Calendar Days
CN T201507407: BR 1-717 ON I-95 OVER SR 7

- Deck Replacement Project using precast panels for NB Lanes
- Replace all bearings, joints and paint existing steel
- Rehabilitate abutments
- Work in 2 phases
- Approach Roadwork
- Assigned ? Calendar Days

CONFIDENTIAL
SUMMARY

• We’ve already seen a change in DelDOT’s approach to bridge construction over the last two plus decades.
• Technology and innovation allow us to now construct bridges faster than we ever have before.
• The travelling public is not accepting of large travel delays and demands that we do business differently.
• Secretary Cohan has a platform of innovation, efficiency and transparency. ABC lines up with all of her initiatives and has her support.
• This is a very exciting time to be a bridge designer or constructor.
DeIDOT’s ACCELERATED Bridge Program
THANK YOU!