Prior to 2005 New Jersey was one of the few remaining “bare concrete deck” States in the Northeast. Due to the overwhelming number of maintenance deck repairs being done annually needed a deck preservation strategy:

- Asphalt Overlays
- Thin Polymer Overlays
NJDOT Deck Strategies

• Asphalt Overlays
  1. Looked @ membranes both spray on and sheet type
  2. Looked at “water-proof” asphalt – known as Rosphalt
  3. Asphaltic Plug Joints over the deck joints
NJDOT Deck Strategies

- Asphalt Overlay (cont).
  Based on our evaluations and trial applications we have developed a standard treatment & specification called: Bridge Deck Waterproof Surface Course – basically a generic form of Rosphalt which any asphalt supplier can provide.
NJDOT Deck Strategies

• Asphalt Overlay (cont).

• Plagued by asphalt plug joint failures. The first joint system we utilized was the Deery Joint System
NJDOT Deck Strategies

- Asphalt Overlay (cont).
- Next system used was TronFlex with some success, but noticeable issues
NJDOT Deck Strategies

• Asphalt Overlay (cont).
• Currently using the Silspec 900 system a Dow Corning product with no issues.
NJDOT Deck Strategies

• Asphalt Overlay – Plug Joint (cont.)
• Based on positive feedback and results from our Maintenance staff the standard Joint treatment is:

1. Silspec 900 by Dow Corning preferred by Maintenance as replacement application or

2. Silicoflex or V-Seal by RJ Watson and DS Brown respectively for new applications
NJDOT Deck Strategies

• Thin Polymer Overlays are another solution to sealing existing concrete bridge decks, which New Jersey is utilizing.

• Experience with the following 3 systems:
  1. Bridgemaster by Stirling Lloyd
  2. T-18 Polymer Concr. Overlay by Transpo
  3. Kwikbond Polyester Polymer Concr. Overlay
NJDOT Deck Strategies

- Premature failure of the Bridgemaster High Performance Polymer Slurry Overlay by Stirling Lloyd
NJDOT Deck Strategies

• T-18 MMA Polymer Concrete Overlay System by Transpo – In place on Rt. 72/Manahwkin Bay Viaduct
NJDOT Deck Strategies

• Recent application of Kwikbond Polyester Polymer Concrete overlay on Route I-80 over Route 46
NJDOT Deck Strategies

• Everyone of the Thin Polymer Overlay type products have their “champions”. In an effort to sort out application and production issues as well as measured in field performance behaviors, NJDOT will be performing some side-by-side product evaluation on a 5 mile section of Route I-295 in Mercer County.
## NJDOT Deck Strategies

### FHWA Bridge Preservation 2010

**Route 295 NB/SB MP 56.8 to 60.4**

**Bridge Deck Treatment Cost Calculations**

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<th>M.P.</th>
<th>Bridge Number</th>
<th>Bridge Description</th>
<th>Area</th>
<th>Product</th>
<th>Mfr.</th>
<th>Unit Cost</th>
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<td>I-295 NB Over Burlington Street</td>
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<td>Control</td>
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NJDOT Deck Strategies

• New Jersey’s experiences can be best summed up as, there are many different ways to preserve and extend the useful life of bridge decks, but “one size does not fit all”.

• Contact Information:
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