Timely Preservation Performed Today...

Better Bridge
Infrastructure Tomorrow.

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PRESERVATION

- Identify
  - What
  - Where

- Quantify
  - How bad is bad?
  - Future progression & effects

- Solve
  - Cost-effective solutions
  - Exceed design life
What is Preservation?

- All activities that help to realize or exceed design life
- Question: what is the difference between maintenance and preservation?
- Maintenance: proactive & reactive; Preservation: proactive, *both are necessary*
- Patching – reactive / Washing – proactive
What is Preservation?

- Preservation is not...
  - Reactive (emergency repair)
  - Structural (structural improvement)
  - Operational (widening)

- Philosophical shift
  - From “reactive putting out fires” to “proactive planning for tomorrow’s problems”
Owner did not change oil in a very long time…

A $100 savings turned into a $3,500 loss

Initial outlays would have been greater, long-term cost would have decreased

Results: significant cost savings, longer service lives
PROBLEMS

What are the Problems?

- Early replacements
  - Decks replaced in 25 to 35 years
  - Substructures replaced in 40 to 50 years
- Design lives – 75 to 100 years
- Home replacement?
PROBLEMS

What are the Problems?

- Rust never rests – even during economic downturn / funding decrease
- Structures built in 1950’s and 1960’s will need increasing attention
- We have to do more with less
FUTURE PROBLEMS

What will we face?

- Currently – very expensive to replace
- Currently achieving only 50% of design life, thus doubling the cost
- Structure conditions going from bad to worse
- Increasing future tax burden due to the increasing number of assets to manage
What are the Solutions?

- Be proactive – identify and quantify problems early using correct tools
- Every tool has its limits but can be very useful
  - NDT, rate of deterioration, other tests
- Deterioration is like cancer
What are the Solutions?

- The earlier we quantify the problem, the easier it is to solve.
- Once problems are understood, our resources help you make decisions.
- There is no “one size fits all” evaluation methodology or solution.
What are the Solutions?

- Power washing
- Membranes
- Sealers
- Overlays
- Inhibitors
- Corrosion protection
- Concrete coatings
- Steel coatings
- Joint repair
- Deck repair
- Seismic
OBJECTIVES

To help provide answers

- **Overlay** – if underlying corrosion delaminates overlay:
  - Overlay job was fine; just not the solution

- **Corrosion protection** – not all types are appropriate for every problem

- **Hydrodemolition** – deck contaminated with chlorides:
  - May drive chlorides deeper into structure
OBJECTIVES

What Do We Promote?

- Exceeding design life (increased service life)
- Tools necessary to quantify and solve given problems
- Documented evidence to promote best practices
- Life Cycle cost savings outweigh initial investments = Preservation
OBJECTIVES

What Do We Promote?

- Education relating to preservation – best practices
- Doing more with less time, less funding
- $2M repair or $10M replacement?
  - Repair = $8M savings
  - Over 20 years at 5% = $21M savings (more than pays for repair)
WHY BPA?

The BPA exists to:

- Provide a knowledge bank and forum for best practices, materials, and tools
- Seek active members to contribute and learn
- Develop best practices – what has worked, where, when, and how
WHY BPA?

The BPA exists to:

- Provide resources to advance knowledge for preservation
- We are **not** an authority – instead, we partner with you
- Support research/education in economic, safety, and performance advantages of preservation
What is the History of BPA?

- Concept: St. Louis (April, 2007)
- Roundtable: TRB 2008
  - FHWA
  - NCPP
  - FP²
  - Agencies (VDOT, NCDOT, LA DOTD, Caltrans, NYSDOT)
What is the History of BPA?

- Steering Committee (February 2008)
- AASHTO & FHWA (May 2008)
- AASHTO Monterey - rollout (July 2008)
- Official Corporation Formation (Dec. 2008)
- Supported AASHTO TSP2 Development (2009)
- NHI Webinar w/ FHWA, AASHTO, & BPA (Jan. 2010)
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<thead>
<tr>
<th>Name</th>
<th>Representing</th>
<th>Specialty</th>
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<tbody>
<tr>
<td>Mike Stenko</td>
<td>Transpo</td>
<td>Polymer concrete &amp; overlays</td>
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<tr>
<td>Siva Venugopalan</td>
<td>SCS</td>
<td>Corrosion, NDT, materials, life extension</td>
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<td>Lorella Angelini</td>
<td>BASF</td>
<td>Materials, chemicals, &amp; products</td>
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<td>Sam Knaster</td>
<td>Ammann &amp; Whitney</td>
<td>Architectural &amp; engineering services</td>
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PROSPECTIVE MEMBERS

Seeking More Experts

- Industry Representatives
- Consulting Engineers
- Bridge Owners
- Contractors
- Academia
 Seeking Owners, Experts, and Leaders

- Foundations
- Super Structure
- Bearings
- Joints
- Drainage
- Steel Coatings
- Concrete Coatings
- Corrosion Protection
- Surfaces/Waterproofing
- Deck Repair
- Seismic
Future Webinar Topics:

- Proactive NDT Assessment Prevents Sudden Failures or Costly Replacements
- Thin Overlays: Proper Material Selection & Detailed Specifications Assure Desired Results
- Can Severely Deteriorated Substructures be Cost Effectively Rehabilitated?
- Does Bridge Management Need a More Consistent & Concise Rating & Reporting System?
GOALS

In 2010…

- Facilitate the exchange of information
- Increase the awareness of preservation benefits
- Improve the quality and understanding of bridge preservation technologies
- Inspire the creation of new ideas
GOALS

In 2010...

- Jointly sponsor and undertake workshops, seminars, and webinars – focus on bridge preservation and maintenance
- Cooperate with other associations, agencies, and groups on issues of common concern
CLOSING

Where the BPA is Going…

- Preservation → Owner Equity → Liquidity → Launch new projects
- Stay on the cutting edge of the industry
- We welcome new experts and members!
CONTACT INFORMATION

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