Triennial Report to the Standing Committee on Highways (SCOH) on the Transportation System Preservation Technical Services Program (TSP·2)

May 2016

The National Center for Pavement Preservation (NCPP) is pleased to present the second triennial report on the progress and status of the Transportation System Preservation Technical Services Program (TSP·2) to the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Highways (SCOH). This report is to inform you of the Program’s achievements and effectiveness, and to outline its future direction.

Strategic and Annual Work Plans

Each three years, the TSP·2 Oversight Panel, with the assistance of the TSP·2 Contractor, develops a Strategic Plan containing the Program’s Mission, Vision, Values, and Goals. The approved plan assures that the program continues to have value for the AASHTO members and remains effective. Current goals include:

I. Facilitate the Exchange of Preservation Information
II. Assist with Implementation of Preservation Practices
III. Maintain and Increase the Knowledge Base of Transportation Asset Preservation
IV. Quantify and Promote the Effectiveness of Preservation Practices

Based on the Strategic Plan, the Contractor develops Annual Work Plans containing specific actions and tasks that are directly correlated with the Strategic Goals. The TSP·2 Oversight Panel approves each Annual Work Plan.

Part 1: Accomplishments

- **Pavement Preservation Partnership Meetings** – The substantial benefits of attending a partnership meeting include technology exchanges, focus area task forces, and problem solving opportunities. During 2013, 2014, and 2015, four regional pavement preservation partnership meetings were held each year. In that period, 1,257 people attended at least one regional meeting. In October 2016, instead of scheduling separate regional meetings, the four pavement preservation partnerships will be combined to host the National Pavement Preservation Conference in Nashville, Tennessee.

- **Bridge Preservation Partnership Meetings** – Bridge preservation is substantially more coordinated and mature than three years ago. During 2013 and 2015, four regional bridge preservation partnership meetings were held each year, generating substantial interest and high participation with 994 people attending at least one regular partnership meeting. In April 2014, the TSP·2 and FHWA co-hosted a National Bridge Preservation Conference in Orlando, Florida. The conference attracted 442 registered delegates, 68 speakers, and 59 exhibitors. The program continues to experience strong industry support with growing lists of national industry members, including 59 national industry members in 2014.

- **Task Forces / Working Groups** – From time to time, a Partnership’s Board or Steering Committee may appoint working groups of persons possessing special knowledge or expertise for the development of programs, tasks, and activities, or to perform other actions which promote the objectives of the Partnership. Several examples of task force topics include, Research, Certification, Specifications, Communications (including Social Media), Local Agency Outreach, Performance Measures, and Asset Management. The Task Forces, their activities and deliverables, are listed on the TSP·2 website.

- **Transportation System Preservation Research, Development, and Implementation Roadmap** – The roadmap, published in January 2008, provided a strategic approach to address critical pavement and bridge preservation research needs. In the past three years, the TSP·2 has updated and extended the database to calculate research priorities based on the gaps between the actual research completed and the objectives of the original R & D needs statements.
produced by the 2008 Needs Workshops. The database is fully operational and is being continuously updated, including the re-calculation of research priorities.

- **AASHTO Bridge Product Technology Database** – The TSP•2 is developing a National database listing available bridge deck preservation products / technologies and their respective technical attributes. The database, which will be a dynamic resource for bridge owners, academia, and industry, is being designed to allow it to be extended to include other products and technologies used in the highway environment, e.g., pavements and associated appurtenances.

- **Northeast Pavement Preservation Specifications** – States in the Northeast Pavement Preservation Partnership (NEPPP) have made available their pavement preservation specifications arranged in 52 treatment categories. Each category contains one or more actual specifications. The specifications are available under “Pavement Special Provisions” on the TSP•2 Website.

- **Research Needs Statements (RNSs)** – Most of the Regional Partnerships have Task Forces / Working Groups devoted to Research. In some cases, the research is narrowly focused on a particular area or component, while others are more general. Typical products of these groups are research summaries and research needs statements.

- **Bridge Recoating Practices** – The Regional Bridge Preservation Partnerships formed a National Coatings Working Group and initiated a NCHRP domestic scan of bridge recoating practices. The focus areas included recoating option decision making, evaluation, surface preparation, removal, and replacement best practices.

- **NCAT1-MnROAD2 Partnership** – The TSP•2 has played a role in helping to form a partnership between NCAT an Alabama and MnROAD in Minnesota. By sharing resources and expertise, this collaboration will expand the scope of pavement preservation research to include implementable solutions for cold weather climates.

- **Articles for Publication** – The regional partnerships have contributed various technical and non-technical articles to publications such as Road and Bridge, Better Roads, and the Pavement Preservation Journal. These articles make substantial contributions to advance preservation concepts and technology across the country.

- **Contractual Services** – The National Center for Pavement Preservation provides the state DOTs with a range of customer services intended to create a positive program experience for agency personnel. Services include:
  - Planning all meeting / conference logistics,
  - Arranging travel and hotel reservations for agency participants,
  - Facilitating monthly conference calls with the regional partnerships,
  - Developing and finalizing meeting agendas, brochures for the regional partnerships, and taking and writing business meeting minutes,
  - Processing travel reimbursements for agency personnel,
  - Paying all incurred expenses for meetings and conferences,
  - Posting and maintaining daily news, event, and other updates on the TSP•2 website,
  - Digitally recording, editing, and posting all session video presentations, and
  - Maintaining and sharing of state and industry contact information.

**Part 2: Goals / Objectives**

MAP-21 is significantly affecting investment decisions to preserve our assets and minimize their whole life costs in a financially sustainable manner. Performance-based asset management plans must now be adopted to preserve and improve pavement and bridge conditions, particularly on the National Highway System. Pavement and bridge preservation activities offer cost-effective solutions that are socially responsible, environmentally friendly, and economically sustainable. We are already seeing a greater integration of pavement and bridge preservation into agency programs as they strive to achieve and sustain their infrastructure investments in a state of good repair.

---

1 NCAT = National Center for Asphalt Technology (Auburn University)  
2 Minnesota DOT’s Test Road near Albertville, Minnesota
Following are the TSP•2 program goals with actions / tasks that specifically contribute to their attainment. These are the program planning mechanisms defining planned accomplishments between 2013 and 2018.

**Goal I: Facilitate the Exchange of Preservation Information** – This goal is supported by the following activities:
- Organizing National Partnership Meetings in 2016 (Pavement) and 2018 (Bridge).
- Coordinating research needs through SCOBS, SCOM, and TRB.
- Facilitating agency and industry cooperation.
- Arranging industry preservation treatment demonstrations at Annual Meetings.
- Improving the technical functionality of the bulletin board, ListServ, on-line library, news section, events calendar, photo gallery, and regional partnership information.
- Making preservation-related presentations at strategically targeted venues.
- Developing training programs for contractors to improve construction quality for pavement and bridge preservation and establishing a credible preservation certification program for pavement treatments.

**Goal II: Assist States with Implementation of Preservation Practices** – This goal is supported by the following activities:
- Disseminating bridge maintenance practices.
- Constructing a Deck Product Matrix.
- Designing and implementing a Bridge Product Technology Database.
- Maintaining a Preservation Help Desk.
- Facilitating technical exchanges with FHWA of sound preservation practices for bridges and pavements.
- Collected and compiled performance-based specification for deck overlays and coating treatments currently in use. Developed a draft performance-based specification for deck overlays.
- Developing Bridge Performance Measures.

**Goal III: Improve the Knowledge-Base of Transportation Asset Preservation** – This goal is supported by the following activities:
- Facilitating bridge deterioration modeling.
- Developing agency training needs.
- Providing outreach services to local agencies.
- Assisting Bridge Partnerships in developing research needs.
- Assisting with research needs statements and cost estimates.
- Assisting with the implementation of small research projects in a 50% cost participation with regional universities.
- Publicizing and demonstrating the Research Roadmap Database.
- Actively encouraging and promoting development of bridge and pavement preservation training courses.
- Planning scanning tours and disseminating findings for future implementation.
- Stimulating research and offering research management services that promote technical excellence in preservation programs.

**Goal IV: Quantify and Promote the Effectiveness of Preservation Practices** – This goal is supported by the following activities:
- Publicizing successful bridge deck preservation practices.
- Providing technical advice to NCAT.
- Summarizing Asset Management Plans.
- Promoting systematic preventive maintenance for bridges.
- Formulating, reviewing, and collecting probable life extensions that owner agencies could expect from preservation treatments and repairs.
- Analyzing combinations of preservation treatments and repairs with traditional rehabilitation and reconstruction alternatives over various time periods.

**Part 3: Financial Assessment**

For the success of TSP•2, it is crucial that all financial records be complete, accurate and represent the whole program. Following is a functional view of all revenues and costs associated with the TSP•2 program.

### Financial Budgets and Expenditures

<table>
<thead>
<tr>
<th></th>
<th>Meeting Costs/Travel</th>
<th>Administration</th>
<th>Office Supplies/Expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Budgeted</td>
<td>Spent</td>
<td>Budgeted</td>
<td>Spent</td>
</tr>
<tr>
<td>2012-13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement</td>
<td>224,864.00</td>
<td>210,603.74</td>
<td>247,953.99</td>
<td>247,950.99</td>
</tr>
<tr>
<td>Bridge</td>
<td>122,778.00</td>
<td>117,538.72</td>
<td>225,356.01</td>
<td>225,356.01</td>
</tr>
<tr>
<td>2013-14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement</td>
<td>124,138.00</td>
<td>117,175.87</td>
<td>224,285.50</td>
<td>224,285.49</td>
</tr>
<tr>
<td>Bridge</td>
<td>226,718.00</td>
<td>222,028.08</td>
<td>237,863.50</td>
<td>237,863.50</td>
</tr>
<tr>
<td>2014-15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement</td>
<td>124,138.00</td>
<td>110,218.21</td>
<td>277,829.50</td>
<td>277,830.49</td>
</tr>
<tr>
<td>Bridge</td>
<td>124,138.00</td>
<td>65,512.22</td>
<td>266,167.50</td>
<td>266,167.50</td>
</tr>
<tr>
<td>Total</td>
<td>473,140.00</td>
<td>437,997.82</td>
<td>750,068.99</td>
<td>750,066.97</td>
</tr>
<tr>
<td>Pavement</td>
<td>473,140.00</td>
<td>437,997.82</td>
<td>750,068.99</td>
<td>750,066.97</td>
</tr>
</tbody>
</table>

**Note:** The expenses shown above do not include AASHTO administrative expenses.

All funds are held by AASHTO. Contractor pays all expenses and is cost reimbursed by AASHTO upon receiving invoice with detailed receipts.

### TSP•2 Benefits

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disseminating technical documents and news</td>
<td>Developed new preservation specifications</td>
</tr>
<tr>
<td>Opportunities to share good and bad practices</td>
<td>Produced educational videos and PowerPoints</td>
</tr>
<tr>
<td>Briefings on new legislation and regulations</td>
<td>Linked on-going research projects</td>
</tr>
<tr>
<td>Collaborating on the development of guidelines and specifications</td>
<td>Demonstrated new products, equipment, and applications</td>
</tr>
<tr>
<td>Listening to and speaking with technical experts on preservation subjects</td>
<td>Restructured websites to make information more accessible</td>
</tr>
<tr>
<td>Viewing treatment demonstrations using best practice techniques</td>
<td>Organized national meetings for pavement preservation and bridge preservation</td>
</tr>
<tr>
<td>Learning about new products</td>
<td></td>
</tr>
<tr>
<td>Advancing technical training</td>
<td></td>
</tr>
<tr>
<td>Serving on technical task forces</td>
<td></td>
</tr>
</tbody>
</table>