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Bridge Maintenance Survey for Indiana Counties

Indiana LTAP

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Bridge Maintenance Survey
for
Indiana Counties

January 2008
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by

Indiana LTAP Center

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January 26, 2008

To Whom It May Concern:

Please find attached a summary of the results of the Bridge Maintenance Survey for Indiana Counties. The objective of this report is to summarize the current bridge maintenance practices of the different counties within Indiana. This information is intended to help others understand which maintenance practices seem to be working and what does not seem to work. Further, this report will be used to assess the need for specialized training and information courses to be offered through the Indiana LTAP office.

Of the all of the Indiana counties surveyed, a total of 50 responses were received. The data contained within this report is based upon the number of responses received.

The basic findings of this study indicate that certain bridge maintenance practices have consistently had the same results, whether successful or unsuccessful, throughout several counties. This survey was also used to determine the number of counties that utilize a bridge crew to regularly take care of the bridges in their county. A number of counties that either could not support a bridge crew or that choose not to have a bridge crew regularly contract out any bridge work that must be done.

For questions related to the information included in this report, please contact me at the phone number or address listed below.

Sincerely,

[Signature]

John Habermann
Program Manager, Indiana LTAP
Counties with Bridge Crews

- Full Time: 48%
- Part Time: 42%
- No Bridge Crew: 10%

Counties Performing Bridge Maintenance

- Deck Repair: 27%
- Structure Repair: 19%
- Erosion Control: 14%
- Inspection: 13%
- General: 27%
County Bridge Questionnaire

Summarization of written responses regarding bridge joints, deck patching, and erosion practices

1. Bridge Joints

What is working:
- Contract work out - 3
- Caulk material
- Expansion joints
- Reinforced concrete approach slabs supported on end bents/abutments - 2
- Clean joints - 3
- Dow 902 silicone joints - 2
- BS joints - 2
- 1A joints (no open or integral design) - 2
- Cracker sealing - 2
- More information and teaching for joint maintenance would help
- Rubber flex joints - 2
- Jointless bridge decks - 1

What is not working:
- Type 1A joints (where they are cut in the wrong location)
- Repair of modular joints due to corrosion
- BS joints - 2
- Open joints - 2
- Sealed joints (asphalt on joint material)
- SS joints
- Rubber joints - 2
- Dirty joints
- Old fiberboard covered with AE 905
2. Deck Patching

What is working:
- Contract work out - 4
- Latex modified cement - 5
- High strength rapid set concrete - 6
- High density concrete patches - 2
- Thoroc 10-60 w/ ACRYL 60
- Fabric with asphalt overlay - 2
- Asphalt crack sealer - 3
- Epoxy coated fiber fill
- Spray dura patcher on asphalt surface - 3
- Plastic cement
- AE 90
- Set 45 - 3

What is not working:
- When spalling has occurred over a majority of the deck, and it is saturated with de-icing salts, nothing seems to work
- Asphalt deck patching - 3
- Cold patch - 6
- Ordinary concrete and asphalt - 2
- Spot patching concrete decks with “blue line”
- Ordinary spot patching
- Elmer’s glue
3. Erosion Practices

What is working:
- Vegetation - 6
- Rip rap - 36
- Slurry
- Trying articulating concrete mat
- “Shot rock”
- Gabions - 9
- Precast concrete blocks used for high water velocities - 2
- Hydromulch stabilized with erosion control malting
- Underpinning and encasement of piling
- Silt fence
- Straw bales
- Used concrete - 2
- Metric sheet piling
- Cleaning of debris - 3
- Geotextile
- Crown beech
- Erosion control blankets - 9
- Check dams - 2
- Concrete Slabs
- Proper 3/1 slopes
- Proper wing walls
- Proper channel alignment

What is not working:
- Seed and mulch - 2
- Loose rip rap - 4
- Deep water scour difficult to fix
- Erosion blankets in flood plain
- Tree planting in flood plain
- Rip rap check dams
- Berm removal
- Concrete slope walls
- Straw Pads
Appendix
COUNTY BRIDGE CONFERENCE 2008
County Bridge Questionnaire

County: ___________________ Person Completing Report: ___________________

Does your county operate a Bridge Crew: Yes No

If so, what level of maintenance do you perform?

<table>
<thead>
<tr>
<th>Maintenance Type</th>
<th>Yes</th>
<th>No</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deck Repair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure Repair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erosion Repair</td>
<td></td>
<td></td>
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<tr>
<td>Inspection</td>
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<tr>
<td>General Maintenance</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Painting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many Bridges has your County painted in the last three years? ___________

Would you be interested in learning more about Bridge Painting and Coatings? Yes No

1. **Bridge Joints**
   What is working?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   What is not?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

2. **Deck Patching**
   What is working?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   What is not?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

3. **Erosion Practices**
   What is working?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   What is not?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________