

***'Performance of Recycled Asphalt Shingles (RAS) in Hot Mix Asphalt'***  
**National Pooled Fund Study TPF-5(213)**

R. Christopher Williams

Iowa State University

January 14, 2011

During the fifth quarter, October 1, 2010 through December 31, 2010, the TPF-5(213) team achieved the following components on the project:

1. The third TAC meeting was held on October 21-22, 2010, at InTrans in Ames, Iowa. States represented were CalTrans, Iowa, Minnesota and Missouri. State partners participating by web-conferencing were Colorado and Illinois. In addition, representatives from the Illinois Tollway were present at the meeting and by web-conferencing. State project experimental plans, field construction and project condition surveys were reviewed and discussed along with data results for completed laboratory testing. Additional research is underway and a conference call will be scheduled next quarter to discuss the newest research results, low temperature cracking results from University of Minnesota and results on binder extractions from MnRoads. State Demonstration Projects for 2011 were discussed with Caltrans, Colorado and Illinois and tentative workshops are planned for early next year. Colorado recommended a conference call with DOT officials to discuss the successes in using RAS and the 2011 demonstration project. Chris Williams will also be in Colorado next spring and suggested a meeting with DOT and environmental officials to discuss quality control. The Illinois DOT is interested in RAS in SMA and have a draft specification for post-manufacturers and post-consumer RAS but very little experience in using RAS. They suggested a meeting be scheduled to further discuss the specification and upcoming 2011 demonstration project. Ross Bentsen discussed the RAS projects completed by the Illinois Tollway in 2010 and future projects. Partnering with other states on results from parallel projects to the TPF study were discussed.
2. Wisconsin extended their participation in the study for a second year. Colorado and Illinois have joined the pooled fund. A revised budget will be submitted next quarter to include these additions.
3. Caltrans prepared a draft specification that is currently under review by the research team. Caltrans has confirmed that they will be completing two demonstration projects: one in the northern section of the state and one in the southern section. They will be looking at both post-manufacturer and post-consumer RAS.

4. Chris Williams met with Illinois DOT staff to discuss their Draft RAS environmental policy and specification. The meeting went well and revisions to the documents are currently under review. A follow up meeting will be held in partnership with the Illinois Tollway and Illinois EPA to discuss a statewide policy document amenable to all state transportation agencies.
5. Pavement distress surveys were completed for the Iowa, Indiana and Missouri demonstration test sections.
6. Field Reports for Indiana, Iowa, Minnesota and Missouri were completed and will be sent out for state reviews and comment in the next quarter.
7. The TPF home and state web-pages have been designed and the site will be ready for state reviews and comments next quarter.
8. Dynamic modulus testing was completed on the Indiana, Missouri and Iowa demonstration projects.
9. MnDOT delivered extracted and recovered binder samples from the demonstration projects to ISU for binder testing.

Next steps for the study include:

- 1) Schedule a conference call with TAC members to discuss new research results;
- 2) Schedule a conference call with Colorado DOT;
- 3) Schedule a conference call with CalTrans;
- 4) Schedule workshops for Colorado and California;
- 5) Meet with the Illinois DOT, Illinois Tollway and Illinois EPA for developing a harmonized specification;
- 6) Meet with Colorado DOT and Environmental Officials;
- 7) Finalize 2011 demonstration projects with California, Colorado, and Illinois;
- 8) Schedule a meeting with Wisconsin to discuss a 2011 demonstration project;
- 9) Send out TPF website link for state reviews and comments; and
- 10) Revise the budget to include Colorado and Wisconsin's second year and submit for review.

The above accomplishments will be discussed at the next TAC meeting.