

# IOWA HIGHWAY RESEARCH BOARD

*Minutes of September 24, 2004*

## **Regular Board Members Present**

J. Adam	J. Krist
L. Brehm	C. Marker
R. Ettema	M. Nahra
T. Fonkert	G. Parker
R. Gould	C. Schloz
L. Greimann	J. Selmer
J. Ites	C. VanBuskirk
L. Jesse	

## **Alternate Board Members Present**

D. Short for L. Brehm	G. Miller
A. Abu-Hawash	R. Schletzbaum
J. Berger	B. Younie

## **Board Members with No Representation**

None

## **Secretary**

M. Dunn

## **Visitors**

Ed Engle	<i>Iowa Department of Transportation</i>
Sandra Larson	<i>Iowa Department of Transportation</i>
Mohammad Mujeeb	<i>Iowa Department of Transportation</i>
Tom Welch	<i>Iowa Department of Transportation</i>
Sara Buseman	<i>Iowa Department of Transportation</i>
Robert Abendroth	<i>Iowa State University</i>
Ed Jaselskis	<i>Iowa State University</i>
David White	<i>Iowa State University</i>
Tim Ellis	<i>Iowa State University/CCEE</i>
F. Wayne Klaiber	<i>Iowa State University/CCEE</i>
Chris Rehmann	<i>Iowa State University/CCEE</i>
Vern Schaefer	<i>Iowa State University/CCEE</i>
Steve Andrlle	<i>Iowa State University/CTRE</i>
E. Tom Cackler	<i>Iowa State University/CTRE</i>
Shauna Hallmark	<i>Iowa State University/CTRE</i>
Neal Hawkins	<i>Iowa State University/CTRE</i>
Mike Laviolette	<i>Iowa State University/CTRE</i>
Reg Souleyrette	<i>Iowa State University/CTRE</i>
Larry Stevens	<i>Iowa State University/CTRE</i>
Wade Greiman	<i>Snyder &amp; Associates, Inc.</i>
Greg Roth	<i>Veenstra and Kimm, Inc.</i>

The meeting was held in the East/West Materials Conference Room at the Iowa Department of Transportation, Ames, Iowa. The meeting was called to order at 9:05 A.M. by Larry Jesse.

#### **Agenda review/modification**

- No additions or modifications.

#### **Approval of the minutes**

- Mark Nahra moved to approve the minutes from the July 30, 2004 meeting with no additions or corrections. Rob Ettema seconded. Carried with 12 yes, 0 no, and 0 abstaining.

#### **Proposal for continuation of HR-140, “Collection and Analysis of Stream Flow Data”**

- Mark Dunn, Iowa Department of Transportation (Iowa DOT), explained the three areas of focus from the on-going United States Geological Survey (USGS) project, including stream flow data collection, flood information at selected bridge and culvert sites, and flood profiles for Iowa streams.
- The funding history was reviewed. The project had been supported by the Board for several years until 4 years ago, at which time it started being funded through the State Planning and Research Program (SP&R). With using SP&R funds, the entire amount was being supported by the state. It was requested that the Board fund the county and city portions of the project and mentioned that the state portion would likely be funded through Iowa DOT consultant services. It was also noted that USGS used to request 50% of the total project funds and is now requesting 55% from the Board and Iowa DOT. Many states cover 60% of the costs.
- Historically, the IHRB funding splits have been 45% Primary, 45% Secondary, and 10% Street.
- After clarification about the time frame and cost of the project, it was expressed that it was an effort worth continuing.
- Mark Nahra moved to approve the proposal with the recommended funding split of 45% Primary, 45% Secondary, and 10% Street. John Adam seconded. Carried with 12 yes, 0 no, and 0 abstaining.

#### **Proposal, “Investigation of Steel Stringer Bridges: Substructures and Superstructures” (Phase II of TR-452)**

- Dr. F. Wayne Klaiber, Iowa State University (ISU), presented the background from TR-452, “Alternative Solutions to Meet the Service Needs of Low Volume Bridges in Iowa” and the research plan for Phase II, including the possibilities, objectives and tasks of Part I - Substructures; the objectives and tasks of Part II - Steel Superstructures; the implementation plan for the results for Parts I and II; the Iowa DOT and Iowa counties involvement; the staffing; the schedule; and the budget.
- Charles Marker moved to approve the proposal with 100% Secondary funding. Christy VanBuskirk seconded. Carried with 15 yes, 0 no, and 0 abstaining.

### **Final Report TR-424, “Steel Diaphragms in Prestressed Concrete Girder Bridges”**

- Dr. Robert Abendroth, ISU, reviewed the staff, project background, objectives, approach, bridge geometrical characteristics, diagrams of intermediate diaphragm types considered in the study, graphs of typical test results for the different types of diaphragms and alignments, conclusions and recommendations from the research project.
- It was discussed that records show that in 1980, approximately 200 reported vehicle impact incidences happen each year in the United States, however, there are no specifics in the accident history as to the location of the impact on the bridge with respect to the intermediate diaphragm. It was, however, thought that it would be a greater likelihood that a vehicle would be traveling in the lane, so the impact would occur away from the diaphragm.
- It was clarified that the loads used to test the girders were meant to be low enough to allow the concrete to behave elastically.
- John Adam moved to approve the final report. Greg Parker seconded. Carried with 15 yes, 0 no, and 0 abstaining.

### **Final Report TR-495, “Field Evaluation of Compaction Monitoring Technology: Phase I”**

- Dr. David White, ISU, handed out a draft technology transfer summary of the research and reviewed the investigators, acknowledgements of research partners, research objectives for Phases I and II, background and current practices, technology components, type and explanation of equipment, sample output screen shots from the compaction monitoring system, video clips of the system being used, test results, Phase I summary, and Phase II recommendations from the completed research.
- It was also mentioned that the optimum water content for the soil in this project is 12%. If the water content is much lower, it is less efficient due to needing more compaction. If it is over 12%, it will not get to 100% compaction. The compaction energy significantly affects the strength of the soil.
- After this technology is proven, there is another group at Caterpillar, which plans to take the technology and apply it more broadly to other roller systems. It is anticipated, that over the next year, the process will begin in making commercially available products on other roller types.
- Greg Parker moved to approve the final report. Roger Gould seconded. Carried with 15 yes, 0 no, and 0 abstaining.

### **Review proposals received from the 1<sup>st</sup> Solicitation for FY 04-05**

#### ***IHRB 04-01, “Guidelines for Removal of Traffic Control Devices in Rural Areas”***

- One proposal was received from Reg Souleyrette, ISU/Center for Transportation Research and Education (CTRE).
- It was noted that there was a letter included with the proposal explaining the reasoning for the budget increase from the original estimate of funding on the Request for Proposal (RFP).

- *Comments and discussion:*
  - It was mentioned that the RFP solicitation letter states that if a proposal is submitted with additional tasks beyond what the RFP requests, then the extra work and supporting budget for that work are to be kept separate from the specific scope of work requested.
  - With the proposal submitted for this topic, it was stated that the work requested in the RFP couldn't be done for the amount listed; no extra work, however, a higher budget.
  - The reasons stated for the increase were discussed, including the large number of intersections that will need to be monitored since rural crashes are a rare event, and a more experienced research team which increases salaries.
  - It was clarified that the desired focus of the project is to study isolated cases, which seem to be more problematic. With farm-to-market extensions in small towns, where stop signs are used as more of a speed control device, it would be beneficial to have a study to back up removal of any signs. The goal is to have traffic flow well.
  
- *Motion:* Charles Marker moved that since the proposal that was submitted had a substantial increase (approximately 40%) in the budget, that the figure on the RFP be adjusted and it be sent out again for solicitation.
  
- *Additional comments and discussion:*
  - It was estimated that there are approximately 80 people that receive the RFPs.
  - If it were re-solicited, Mark Dunn anticipated that the proposal(s) received would be reviewed at the December IHRB meeting.
  - Arriving at a suggested budget for the RFPs is done by input from those writing and reviewing them. Tom Welch, Iowa DOT, believed that the estimated budget amount for this project was submitted by the Office of Traffic and Safety. With this being such an unusual study, he suggested that the amount was too difficult to determine until a research plan was more scoped out, which is the purpose of the proposal.
  - The only other time that a previous solicited proposal had been submitted to the Board with an increased budget, the additional work and budget were broken down for the Board to consider separate from the requested tasks and budget. This is a new situation (increase in budget but no additional tasks) and the decision will set a precedent.
  - There was concern about resending an RFP and the precedent that would set. Everyone has the same opportunity to respond to the RFP initially and explain any additional tasks. It was felt that there was too much emphasis on the dollar amount on the RFP, which at times, is a rough estimate. It was believed that if the proposal was responsive to the RFP and the tasks and budget are justified, that it should carry more weight than the estimated budget issue.
  - It was suggested that a statement go in the RFPs or letter which accompanies them noting that if there is an issue with budget, the Principal Investigator (PI) should contact Mark Dunn prior to submitting the proposal.
  - Due to the \$75,000 budget guideline, there was a concern that not everyone who may have been interested in the project submitted a proposal. It was assumed that if some PIs see a suggested budget amount and know that they couldn't do it for that amount, no more time may be spent on it. If this RFP is resent with a higher budget, there may be more people interested.
  - It was mentioned that this is a weak point in the Board's process. The Board sets the scope and budget and it can take away from the creativity of the researcher.
  - It was suggested that it may be more appropriate for the PI to break it down to explain what can be done for \$75,000 and also explain the additional budget and tasks separately. It is possible that the tasks covered in the \$75,000 will give the Board what is desired.
  - It was said that the results of the study should help with standardized intersections and give a decision matrix as a tool. Intersections which are too specific should not be included.

- *Second and vote:* Jon Ites seconded the motion. Motion lost with 3 yes, 12 no, and 0 abstaining.
- *Motion and second:* Mark Nahra moved that the PI resubmit the proposal showing separate detailed budgets for the initial \$75,000 and the additional \$31,000 each listing corresponding tasks. Clark Schloz seconded.
- *Additional comments and discussion:*
  - Knowing some of the capabilities of the state universities, it was commented that resending the RFP to the same list, wouldn't draw any additional responses.
  - With this being a non-competing proposal and the PI being present at the meeting, it was asked if the PI had that information on hand. It was also thought that the Board may be more comfortable having something in writing to review.
  - Reg Souleyrette said that they would work on a written response to be submitted at the next meeting. The proposal, however, was looked at holistically when written, and doesn't have a clear break on what could be done for \$75,000. It's possible that the education part could be split out since it was said during the Board's discussion that it may not be a critical part of the project, however, it was mentioned that the Pocahontas County Engineer had expressed to the PIs that it was one of the most important aspects.
  - It was suggested that another possibility could be to look at 2-way or 4-way intersection case studies to break down the tasks and budget.
- *Vote:* Carried with 11 yes, 4 no, and 0 abstaining.

***IHRB 04-03, "Appropriate Traffic Calming Techniques for Small Iowa Communities"***

- One proposal was received from Shauna Hallmark, ISU/CTRE.
- Tom Welch, Technical Contact for the RFP, handed out a summary of reallocation of funds and clarifications of things that were changed since submitting the proposal.
- *Comments and discussion:*
  - Some of the techniques, tasks, proposed changes, and responsibility issues were discussed.
  - Some of the changes to the proposal could help the project come in under budget.
- *Issues/Concerns that the board would like staff to address:*
  - None
- *Vote to approve:*
  - Mark Nahra moved to approve the proposal. John Adam seconded. Carried with 14 yes, 0 no, and 0 abstaining.
  - Mark Nahra moved that the funding be split 25% Primary, 70% Secondary and 5% Street. Jeff Krist seconded. Carried with 14 yes, 0 no, and 0 abstaining.

***IHRB 04-04, "Review of Inconsistencies between SUDAS and Iowa DOT Specifications"***

- Larry Jesse reminded the Board that this RFP was sent to a list of consultants and all the proposals received went through a committee review process. The committee then selected two proposals to be forwarded to the Board for review.
  - Competing proposals were forwarded to the Board from Wade Greiman, Snyder & Associates, Inc.; and Greg Roth, Veenstra and Kimm, Inc.

- *Comments and discussion:*
  - It was felt that the Snyder & Associates, Inc. proposal was more sensitive to some of the aspects that deal with working with the federal requirements and restrictions as well as contract and bid letting information databases. The overall interconnectivity that is already established could lend to a greater chance for success.
  - One of the concerns that was addressed in the committee meeting was discussed. It was mentioned that someone involved in the project from the very beginning may have a feeling of ownership and not give it as true and honest of a review. Both consultants have knowledge of SUDAS and specifications, but Snyder & Associates, Inc. has been involved in the Knoxville project where they attempted to combine the two. Having Veenstra and Kimm, Inc. do the review may be more unbiased and benefit from a new view.
  - It was thought that both proposals responded to the issues of historic bid information.
  - It was said that both proposals were responsive to the request and well done.
  - Both are excellent consulting firms.
  - Through previous discussions with other municipal representatives the Board's city members agreed that the cities would favor selecting Snyder & Associates, Inc. They have been pleased with the services that have been provided in the past and have a good working relationship.
  
- *Issues/Concerns that the board would like staff to address:*
  - None
  
- *Vote to select:*
  - Snyder & Associates, Inc.: 10 votes – **Selected**
  - Veenstra and Kimm, Inc: 1 vote
  - 3 Abstaining
  
- *Vote to approve:*
  - Mark Nahra moved to approve the Snyder & Associates, Inc. proposal with the funding split of 50% Primary, 25% Secondary and 25% Street. Greg Parker seconded. Carried with 14 yes, 0 no, and 0 abstaining.

***IHRB 04-05, “Design Guide for Improved Quality of Roadway Subgrades and Subbases”***

- One proposal was received from Radhey Sharma, ISU/CTRE.
  
- *Comments and discussion:*
  - The importance of this research was discussed. It was mentioned that it fits well with the Business Plan of the Board in using previously completed research to direct further beneficial research.
  - It was stated that this research will be beneficial to all jurisdictions, especially in cases that don't allow for other material to be brought in and the contractor has to use what is there.
  - The proposal was complimented for the amount of work that had gone into it. It was thought to be one of the more complete ones that has come to the Board. The advisory team was already identified.
  - The proposal had the budget listed as two different amounts. It was clarified that \$153,212 was the correct amount.
  
- *Issues/Concerns that the board would like staff to address:*
  - None

- *Vote to approve:*
  - Mark Nahra moved to approve the proposal with the standard funding split of 40% Primary, 50% Secondary and 10% Street. Jeff Krist seconded. Carried with 15 yes, 0 no, and 0 abstaining.

***IHRB 04-09, “Feasibility of Cooperative Development of Wetland Mitigation Projects”***

- One proposal was received from Timothy Ellis, ISU/Center for Transportation Research and Education (CTRE).
- *Comments and discussion:*
  - The proposal expressly listed Iowa DOT, local jurisdiction and some DNR staff involvement as part of the project oversight committee; however, it wasn’t felt that the higher levels of DNR and U.S. Army Corps of Engineers were included as part of the decision process. With the U.S. Army Corps of Engineers being the regulatory agency for wetlands, it was stressed that their input/involvement was critical in the planning stages in making cooperative wetland mitigation work.
  - Steve Andrle, one of the proposal’s investigators, explained that in talking extensively with the DNR and Corps, that there is a Mitigation Banking Review Team that already exists, and this group is included in the oversight panel. There is more structure that is in place than is initially seen in the proposal.
- *Issues/Concerns that the board would like staff to address:*
  - None
- *Vote to approve:*
  - Larry Jesse moved to approve the proposal with the funding split of 75% Primary and 25% Secondary. Mark Nahra seconded. Carried with 15 yes, 0 no, and 0 abstaining.

**Review proposed changes to the Business Plan**

- In the Board packet, Mark Dunn had included a summary sheet of pros and cons for the possible changes to the Business Plan which were discussed at the previous meeting.
- The separate brainstorming / ranking of projects concerning more long-range, fundamental research topics was discussed. It was suggested that a subgroup (including Sandra Larson, Rob Ettema, Lowell Greimann and Mark Dunn) look at developing topics for this idea and ways that this may be accomplished and bring it back to the Board. It was thought that this would help broaden the range of research topics undertaken and bring more people and agencies into the Board’s activities. The subgroup could also address the Business Plan language for this long-term aspect, plus review the possibility of any needed change to the \$25,000 amount or concept for the pilot project option listed. To date, the Board has not received any proposals under the pilot project concept.
- Different ideas were discussed on how to do the ranking so different jurisdictions can show an emphasis their most important projects. The following is a list of ideas reviewed:
  - Re-ranking at mid-year was discussed. Anything that received a vote from the first ranking plus any newly submitted or re-submitted (if it had no votes) topics would be considered in the re-ranking.
  - Another idea which was revisited was that projects could be brought forward and funded entirely by a single jurisdiction. This option was discussed as being a beneficial direction to

take especially considering the balance of the Secondary Road Research fund and projects that have repeatedly fallen below the cutoff line for solicitations, but have still had an interest every year from the counties. Other jurisdictions would be allowed to do the same, as fund balances permit.

- Support was expressed for the idea of a wild card project option. Different variations to this were mentioned: Allow a wild card on the first ranking, but not the second; allow a certain number of wild cards according to the balances in each jurisdiction's budget after the first round of solicitation; allow wild cards according to the standard funding splits (4 Primary, 5 Secondary and 1 Street) if there is money available after the first round; or wild cards could be looked at yet within this year's activities after the second round of solicitation, with or without re-ranking taking place.
  - Another approach mentioned was to take the highly supported topics (by noting the number of members voting, not by the total number of votes) and include them in a group that definitely goes out for solicitation. Then, after that first step is completed, have the rest of the topics re-ranked. This would happen at the same meeting.
  - It was suggested to have the votes kept track of according to jurisdiction and ensure that the top couple in each would be solicited.
  - It was suggested to rank topics three times per year; however this wouldn't fit within the Board's Calendar of Activities or the universities' calendars.
- With some of these ideas, the Business Plan is general enough and would allow for things to be done without having to change the language. Actions that would need the language reviewed could be addressed as the Board decides which direction to take. The Board agreed that some kind of change would be beneficial.
  - If the Board wanted to re-rank the current year's topics, to stay on schedule, submittal of new ones and re-ranking of topics would need to be done at the current meeting.
  - After discussion, it was decided that for the current year, re-ranking would not be done. Charles Marker moved for Mark Dunn to go ahead with the currently ranked list to develop the next RFPs. Roger Gould seconded. Carried with 15 yes, 0 no, and 0 abstaining.
  - At a subsequent meeting the next step will be discussion concerning the possibility of a wild card or single jurisdiction submittal process.

#### **Submittal of new topics and second ranking of 04-05 topics**

- Not done, see above.

#### **New Business**

- None

**Charles Marker moved to adjourn the meeting. Todd Fonkert seconded. Carried with 15 yes, 0 no, and 0 abstaining.**

**Date of Next Meeting: THE NEXT MEETING WILL BE HELD FRIDAY, OCTOBER 29, 2004 AT 9:00 A.M. IN THE EAST/WEST MATERIALS CONFERENCE ROOM AT THE IOWA DOT, CENTRAL COMPLEX, IN AMES, IOWA.**

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Mark Dunn, IHRB Secretary