

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 Greg Parker with 12 voting members/alternates at the table.

Agenda review/modification

- Jeff Krist moved to approve the agenda with no additions or modifications. Jon Ites seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Approval of the minutes

- Jon Ites moved to approve the minutes from the September 24, 2004 meeting. It was asked that, in the future, the number of voting members/alternates be noted in the minutes as it changes throughout the meeting. Lowell Greimann seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Proposal for continuation of HR-296, “Local Technical Assistance Program (LTAP)”

- Neal Guess, with Howard R. Green Engineering Firm in Des Moines and current LTAP Advisory Board chair, reviewed the current advisory board’s members and mission; the Iowa Road Scholar Program, including major categories of training, four levels of accomplishment, number of participants in the various programs and sponsors; LTAP’s link to research; 2005 training opportunities; workshop estimates; funding history and 2005 budget request.
- It was discussed that the utility companies have had an increase in numbers for flagger training, thus helping explaining the rise in the Safety Program portion of training.
- It was mentioned that the recommended funding split within the IHRB has stayed consistent through the years.
- It was commented that several people benefit from the programs available through LTAP.
- It was discussed that an additional safety circuit rider would be one area of interest to expand if additional funds were available.
- Two voting alternates joined the table during the presentation, total number of 14.
- Jeff Krist moved to approve the proposal with the recommended funding split of 10% Primary, 45% Secondary, and 45% Street. Charles Marker seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final Report TR-414, “Superpave Mix Designs for Low Volume Roads”

- Ed Engle, Iowa Department of Transportation (Iowa DOT), presented an overview of the superpave process, the scope and objectives of the research, the highlights and data from the paving projects, and the conclusions of the study.
- Mark Nahra moved to approve the final report. Larry Jesse seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final Report TR-486, “Development of Abutment Design Standards for Local Bridge Designs”

- Dr. F. Wayne Klaiber, Iowa State University (ISU), acknowledged the investigative staff, and discussed the objectives; tasks completed, including explanation and contents of the 3 volume report and software; role of the advisory committee in scoping the project; survey results; typical county substructure systems; structural analysis; development of design aids; samples pages from the software; users manual; direction for future work, such as training; conclusions; and acknowledgement of sponsors of the research project.
- Clark Schloz moved to approve the final report. Glen Miller seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final Report TR-487, “Development of Object Oriented Design and Specifications for Iowa DOT and Urban Standards: Phase I”

- Dr. Edward Jaselskis, ISU, acknowledged those included in the research team and those with advisory roles, and presented the objectives, an example of object oriented CAD, the benefits, the deliverables, and the project tasks. Dr. Russ Walters, ISU, continued with information on the survey, committee involvement, software structure, and software demonstration. For a complete interactive program, it was estimated that it would involve approximately 15,460 hours, a cost of \$575,000 and a 2 to 3 year time frame. Dr. Jaselskis then discussed the user feedback; the overall findings, including advantages and disadvantages; the recommendations for Phase II; and the long term vision, which, based on feedback, was a more project specific application. Dr. Walters demonstrated a Road Plan software prototype, which was developed in response to the feedback, and summarized the project’s conclusions.
- It was questioned if the project had been misdirected from its original intent. There was concern that the original purpose was to tie specifications to plans, like was recommended for Phase II, instead of developing a more general 3D model.
- Dr. Jaselskis answered that the original scope was a 3D model which would link to Urban or Iowa DOT specifications. The idea of a more project specific application was not the initial scope; that concept was a result of feedback received.
- It was reviewed that one of the features of the program is that a date is able to be selected which will allow the drawings to be linked to the specifications that were current at the time the project was let.
- It was discussed that after the program’s completion, it would most likely take a fulltime person to maintain the software. This would include duties of developing new 3D models, keeping links correct as specifications change and providing training.
- It was mentioned that the potential for the software is quite wide; it could include video clips on proper installation techniques if desired.
- A concern was expressed that many of the counties use AutoCAD and Microstation is the program that is used in the project. It was explained that end user would be reading the information in a more universal format, such as pdf.

- It was asked if county or city specifications would be available in the program as well. It was said that it would be possible; however, if the specifications are not available electronically, they would need to be converted to an electronic format to be able to be linked. It was noted that inclusion of federal requirements is taken into account when state specifications are developed.
- After additional discussion on the concern with scope of the project, Mark Nahra moved to table approval of the final report until it can be clarified if the 3D model was the intended direction of the project. It was then decided that the proposal would be pulled from the file and reviewed after a short meeting break. The motion was withdrawn.
- After reviewing the proposal, it was agreed that the deliverables received were as originally proposed.
- Mark Nahra moved to approve the final report. Jon Ites seconded. Carried with 13 yes, 0 no, and 1 abstaining.
- Discussion following the approval included the concern that this project may be broader and larger scale than is appropriate for the IHRB. It was agreed that helpful things were learned from this pilot study, however, the next step needs more direction. A technical committee was recommended. It was suggested to investigate if anything similar to this is being developed in industry. It was thought that the 2D model may be a more usable application in the field. It was recommended if further work is done, that TR-524, “Review of Inconsistencies Between SUDAS and Iowa DOT Specifications” be dovetailed with this project.

Final Report TR-500, “Evaluation of the Iowa Department of Transportation’s Compensatory Wetland Mitigation Program”

- Terry VanDeWalle, Principal Investigator, presented the problem statement, research objectives, research plan, 24 site locations, and results of the research.
- This project lends itself to the next IHRB funded project TR-526, “Feasibility of Cooperative Development of Wetland Mitigation Projects” regarding banking within a region.
- It was mentioned that this was not a functional assessment of wetlands; it was based on area, which is the permit requirement (no net loss/one-to-one ratio). This was initially presented to the IHRB as a pilot study which would lead into a much larger study which would address the functional aspects. A proposal has been submitted for grant money from the U.S. EPA to do that study.
- In comparison to other states, Iowa is in line with, or performing a little better than, national findings. An additional encouraging aspect, is Iowa’s program is also showing improvements.
- It was agreed that weather in an individual year makes a difference, especially when monitoring wetlands. However, using the delineation methods in the U.S. Army Corps of Engineers Manual, roughly the same number of acres should be reached whether it’s a wet or dry year.
- Charles Marker moved to approve the final report. Rob Ettema seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Review of remaining proposals received from the 1st Solicitation for FY 04-05
IHRB 04-01, “Guidelines for Removal of Traffic Control Devices in Rural Areas”

- Dr. Reg Souleyrette, ISU/Center for Transportation Research and Education (CTRE) resubmitted a proposal with the amounts broken down showing the original \$75,000 and the additional costs in separate budgets as per the IHRB’s request made at the previous meeting.
- *Comments and discussion:*
 - It was noted that there was a letter included with the proposal explaining that the outreach and community education component was the portion of research that was included in the additional costs.
 - The additional work could be approved at a later date if the counties and the Board felt it was necessary.
- *Issues/Concerns that the board would like staff to address:*
 - None
- *Vote to approve:*
 - Mark Nahra moved to approve the \$75,000 portion of the proposal with 100% Secondary funding. Christy VanBuskirk seconded. Carried with 14 yes, 0 no, and 0 abstaining.

IHRB 04-08, “Development of a New Process for Determining Design Year Traffic Demands”

- One proposal was received from Neal Hawkins, ISU/CTRE. It was noted that this project is submitted as a joint effort between ISU and The University of Iowa, Dr. Paul Hanley, Key Staff.
- *Comments and discussion:*
 - The RFP for this topic had been sent after the group of others to allow time for further needed development.
 - This project is geared more toward cities, however, with the Street Fund balance, it would need to be carried by the other jurisdictions as well. There is benefit in it for all the jurisdictions.
- *Issues/Concerns that the board would like staff to address:*
 - The proposal refers to Iowa DOT and local jurisdiction involvement; it was requested that a county representative also serve on the Technical Advisory Committee. Dallas or Warren counties were recommended to be asked due to the growth in that area. This was noted by staff and the Principal Investigator was also present for the comment.
- *Vote to approve:*
 - Larry Jesse moved to approve the proposal with funding split of 1/3 Primary, 1/3 Secondary and 1/3 Street. Jeff Krist seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Review of RFPs for the 2nd Solicitation for FY 04-05

IHRB 04-11, “Evaluation of Design-Flood Frequency Methods for Iowa Streams”

- Mark Dunn reviewed the changes in the RFP since the mailing of the Board packet. The following changes were due to suggestions from the Iowa DOT Preliminary Bridge Design Office:
 - It was recommended to look at return periods which include 50 and 100 years.
 - Clarification was given to show more clearly that the Rational Method is only good for 200 acres or less.

- It was asked to look at the Iowa Runoff Chart vs. the SCS method since it has never really been compared.
- The RFP is broken out into 3 comparisons. To get a statistically sound study for the Rational Method, there needs to be a sufficient number of gaging stations in areas of 200 acres or less. If needed, it may be necessary to go outside of the state borders to collect data.
- There are studies available that cover the 50 and 100 year floods for larger watersheds; this study will focus on the smaller watersheds.
- It was realized that in the revision process the 10 square mile restriction was unintentionally dropped from the Objective paragraph. That will be added back into the final RFP.
- It was felt that the estimated budget was reasonable.

IHRB 04-13, “Evaluation of Transverse Joint Forming Methods in PCC Pavement”

- It was pointed out that there was no technical contact on this draft RFP. At times during the review process, it is beneficial if there is a technical contact recommended by a member(s) of the Board who is aware of someone who is actively involved in the topic area. If there is an RFP that is sent for Board review without a technical contact and there is a question on it, contact Mark Dunn for any clarification. The person or group that submitted each topic is named in the topic description list that is sent out in the Board packet with the RFPs.
- For this particular project, Mark Dunn mentioned that he was involved in the Buchanan trial project and could serve as the technical contact.
- It was explained that the expectation of the research is a small scale trial of different designs to see what may work best. With that in mind, the budget and time frame were felt to be appropriate.
- No changes other than addition of technical contact.

IHRB 04-14, “Design Procedures and Field Monitoring of Submerged Barbs for Streambank Protection”

- The Iowa DOT is supportive of this research and there are already areas in mind for testing, pending approval of funds.
- The performance of the barbs will be able to be evaluated well enough with increased flow; there does not need to be a reliance on a flood occurrence. The time frame was thought to be adequate.
- No recommended changes.

IHRB 04-17, “Effective Granular Shoulder Design and Maintenance”

- Mark Dunn asked for input on a technical contact. Wade Weiss, Greene County Engineer, brought this topic to the Board. Mark Nahra said that he would be willing to serve as technical contact.
- No changes other than addition of technical contact.

IHRB 04-20, “Rating Effectiveness of Erosion and Sediment-Control Measures”

- Mark Dunn discussed the complexity of this topic. With the need of controlling several variables, a lab study seems to be the most appropriate for this research; however, that would likely be quite expensive. Input was requested from the Board on what would like to be received from this study. The original budget was based on a field study, however in receiving comments from the Iowa DOT Roadside Section, it was suggested that it might not be able to be done well in a field setting.
- Mark Masteller, Iowa DOT Roadside Section, commented that there are so many variables that go into the success or failure of these, that it would be hard to field test. To give an example of the anticipated effort needed, it was mentioned that Texas Transportation is doing controlled testing at an old Air Force base with 3 to 1 built up slopes of various materials, simulated rain, and sediment being caught at the bottom of the slope then measured.
- It was mentioned that the EPA has a guideline book to measure effectiveness on best management practices and some data has been collected as well.
- It was discussed that if the goal is to quantify a rock ditch and compare it to a silt fence, that’s doable in the field; however, if the goal is to see if something is successful with different types of materials at different slopes and develop a usable manual for different situations, a more in depth, controlled study is required. This could also look at whose product is better and if something is put in correctly and used in the right place.
- The Board agreed that the basic motivation is good; however, it needs work on the direction. Mark Dunn will work on the development of this RFP with consideration to the completed research projects TR-464, “Erosion Control for Highway Applications - A Critical Review of Published Literature” and TR-485, “Erosion Control for Highway Applications - Phase II: Development and Implementation of a Web-Based Expert System for Erosion and Sediment Control Measures”, plus comments from this discussion.

IHRB 04-21, “Development of an Improved Integral Bridge Abutment-to-Approach Slab Connection”

- This topic originated from the Iowa DOT Bridge Office. The research was geared toward two or three different new details that the Bridge office would like to try out and monitor, along with other ideas that would be brought in by the principal investigator(s).
- There was concern with the sentence in the Objective section, “The researcher will be required to review any preliminary data from ongoing research projects being conducted at Iowa State University in regard to integral abutments and settlement of approach paving.” It was felt that there is more wide spread information available on this. It was clarified that the mention of the Iowa State University project was in reference to a specific project that contained information on what other states are using for those types of connections. However, that can be reworded so it is broader.

IHRB 04-19, “Surface Characteristics of Pavements that Optimize Safety, Noise and Ride”

- Mark Dunn explained that this topic is on the PC Center’s priority list. There is a meeting in Kansas City on November 10 and 11 which could lead to an opportunity for a pooled funding situation or give us a better idea on an appropriate direction.

- This topic will be discussed again at a later meeting taking into consideration the information from the Cooperative Agreement meeting.
- A breakdown for each funding jurisdiction was requested for the next meeting, taking into account the estimated percentages and amounts from the above RFPs.

New Business

- None

Mark Nahra moved to adjourn the meeting. Clark Schloz seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Date of Next Meeting: THE NEXT MEETING WILL BE HELD THURSDAY, DECEMBER 9, 2004 AT 1:00 P.M. IN THE EAST/WEST MATERIALS CONFERENCE ROOM AT THE IOWA DOT, CENTRAL COMPLEX, IN AMES, IOWA.

Mark Dunn, IHRB Secretary