

IOWA HIGHWAY RESEARCH BOARD (IHRB)

Minutes of September 27, 2024

Regular Members Present

J. Hauber
D. Skogerboe
D. Harness
R. Koester
A. Bradley
D. Sanders
J. Thorius
T. Roll
A. Clemons
B. Skinner
D. Snead

Alternate Members Present

J. Lang
J. Ferro

Members with No Representation

R. Knoche
B. Wilkinson

Executive Secretary

V. Goetz

Administrative Assistant

T. Bailey

Visitors

Khyle Clute	Iowa County Engineers Association
Lee Bjerke	Iowa County Engineers Association
Allen Karimpour	Iowa Department of Transportation
Sunghwan Kim	Iowa State University
Araz Hasheminezhad	Iowa State University
Sri Sriharan	Iowa State University
Halil Ceylan	Iowa State University
Chris Cromwell	Federal Highway Administration
Josh Stott	Federal Highway Administration

1. Agenda review/modification
Motion to Approve by J. Thorius 2nd by A. Clemons
Motion carried with 12, 0, 0
2. Minutes Approval from the meeting
Move to defer approval to the next meeting.
Motion to Approve by T. Roll 2nd by A. Clemons
Motion carried with 12, 0, 0

*1 member joined.

3. Final Report TR-763, "Design of Drilled shafts in Iowa - Validation and Design Recommendations", Sri Sritharan, Iowa State University, \$150,000 (15 min)

Q. What is the DOT doing to implement these recommendations that you have?

A. The DOT has all of our recommendations and design examples.

Motion to Approve J. Thorius by 2nd by A. Bradley

Motion carried with 13, 0, 0

4. Final Report TR-781, "Development of Approaches to Quantify Superloads and Their Impacts on the Iowa Road Infrastructure System", Halil Ceylan, Iowa State University, \$389,926 (15 min)

Q. How does it decipher temperature damage?

A. The software predicts the damage based on the maximum speed and deformation is used to transfer function to relay the response to the damage.

Q. When you design the experiment how did you factor joints into it or joint spacing?

A. This is why we made hundreds of thousands of runs. The thicknesses, what kind of joint spacing, what kind of width and how thick the subbase layer is.

Q. Were you using legal load limits or actual measured load limits like those grain carts? Did you use measured results?

A. Yes, we are staying within the legal load limits.

Q. Did the increase that you investigated still maintain compliance with the Federal bridge formula?

A. All projects were focusing on the road infrastructure system.

Q. Are you adding additional axle configuration?

A. Same axle configuration.

Q. Has there been any discussion of any other States interested in this project?

A. No.

Motion to Approve by T. Roll 2nd by B. Skinner

Motion carried with 13, 0, 0

5. Final Report TR-792, "Assessing the Flood Reduction Benefits of On-Road Structures", Larry Weber, University of Iowa, \$449,363 (15 min)

Q. Has there been any thought put into ponding easements and the impact it has on crops from the back water?

A. The structures that went on the ground and were built secured easements.

Q. Does the State of Iowa DNR have any comments on this?

A. We haven't engaged with DNR.

Q. Have you had any economic impact analysis?

A. This is a potential future direction for this research.

Q. Has there been any thought of using an embankment that is designed to hold up a road and have it hold back water.

A. Absolutely, they have designed embankment to account for that extra pressure.

Q. Is long term maintenance assumed to be on the local road system?

A. This was done through the NRCS. We haven't built anything in a while.

Motion to Approve by A. Bradley 2nd by A. Clemons

Motion carried with 13, 0, 0

6. Final Report TR-810, "Use of Iowa Eggshell Waste as Bio-Cement Materials in Pavement and Gravel Road Geo-Material Stabilization", Halil Ceylan, Iowa State University, \$60,000 (15 min)

Q. Do you think you could mix it with water and apply it like a liquid form to the roads?

A. Yes, this will keep down the dust on the roads.

Q. Has there been any analysis on heating it to the 1000 Celsius in a kiln and applying the powder as grinded to the roadway mixing it in.

A. This way, we are not showing the benefit that we want.

Q. Has there been a pilot plan inside, in the near future.

A. Yes, we have plans for a common share.

Motion to Approve by B. Skinner 2nd by A. Clemons

Motion carried with 13, 0, 0

7. Rank IHRB Ideas

Motioned 3.0 and above projects move ahead.

Motion to Approve by J. Hauber 2nd by A. Clemons

Motion carried with 13, 0, 0

#	Idea	Final IHRB Ranking
4162	Monitor and Evaluate Proprietary Products E5 Liquid Fly Ash and E5 Internal Cure on New Bridge Deck	3.5
4186	Local Tax on Dyed Fuels: Possible Revenue and Implementation Strategies	3.5
4188	Back to the Future for Reinforced Concrete Box End Sections	3.5
4155	Impact of Low Carbon Cement Systems on Concrete Properties	3.3
4187	Online Permitting System for County Secondary Road Permits	3.2
4194	Advancing the UHPC Deck Overlay Technique: Phase I: Assessment of strategies to improve deck durability and reduce cost	3.2
4190	Automated Data and Feature Extraction from Bridge Plans - Phase II	3.0
4195	Evaluation of the potential for Galvanic Corrosion of Dissimilar Materials in Iowa Bridges and Structures	2.5
4196	Designing State Bridges for Minimum Maintenance	2.3

8. New Business

- We have two projects out for Request for Proposals. Proposals are due November 1st.

- IHRB covers the cost for City and County regular board members who attend the annual Research Board Conference. Next meeting will be January 5-9, 2025. V. Goetz sent the details for how to get the travel and reimbursement process started. If you are planning on registering, we would prefer that you register before November because this is a cheaper registration rate.

The board discussed opening up the opportunity to all city and county board members. Priority will be given to regular members first, the open spots offered to alternates.

J. Thorius motioned, City and County Regular and Alternate members can attend TRB. 9 travel slots will be available each year. Priority given to regular members before offering opportunity to alternates.

Motion to Approve by J. Thorius 2nd by J. Hauber

Motion carried with 13, 0, 0

9. Adjourn

Motion to Approve by J. Thorius 2nd by J. Hauber

Motion carried with 13, 0, 0

The next regular meeting of the Iowa Highway Research Board is scheduled for October 25, 2024 in the East/West Materials Conference Room at the Iowa DOT Ames Complex.

The General Agenda Announcements have moved to Govdelivery System. To register to receive IHRB notifications and agendas, please sign up at

https://public.govdelivery.com/accounts/IACIO/subscriber/new?qsp=IACIO_100

For a list of current members or more information about the Iowa Highway Research Board visit our website. To submit Project Ideas visit: <https://ideas.iowadot.gov/>

TB/VG