



IOWA HIGHWAY RESEARCH BOARD (IHRB)

Minutes of April 28, 2025

Regular Members Present

M. Nop
D. Harness
J. DeVries
R. Koester
R. Knoche
A. Bradley
J. Thorius
T. Roll
B. Wilkinson
T. Wolken
A. Kersten

Alternate Members Present

B. Younie
B. Billings
J. Ferro
D. Davenport

Members with No Representation

D. Sanders

Executive Secretary

V. Goetz

Administrative Assistant

T. Bailey

Visitors

Khylee Clute
Lee Bjerke
Linda Su
Todd Kinney
Beena Ajmera
Kejin Wang
Jeremy Ashlock
Justin Dahlberg
Dan King
Inya Nlenanya
Sunghwan Kim
Judy Thomas
Shauna Hallmark

[illegible]

1. Agenda review/modification

Common Consent

2. Minutes Approval from the March 28, 2025 meeting

Common Consent with minor correction. Tyler Olson is from Iowa City.

3. Final Report TR-816, "Field Performance of Fiber-Reinforced Concrete Overlays", Peter Taylor, Iowa State University, \$191,898, (20 min). <https://ideas.iowadot.gov/subdomain/ideas-main/end/node/3067?qmzn=ikfryf#Completed> presented by Dan King.

- Q. Did you observe any actual failures?
A. Most sections didn't see enough traffic to reach high stress levels. A few with extended joint spacing showed 100% panel cracking, but it hadn't yet impacted pavement performance or caused failure.
- Q. When comparing bonded overlays, how much of the performance difference is due to the bond itself versus the underlying pavement section or the overlay?
A. In unbounded overlays, the old layer acts mainly as a base and thickness has less impact. In bonded overlays, especially concrete over asphalt, thickness matters more because the layers work together to carry load, improving performance by reducing stress.
- Q. Would it be usable to repeat this study in 5-10 years to look for temporal type issues?
A. Yes, Fiber-reinforced overlays have only been commercially available for about 10-15 years, so few sections have reached advanced stages of performance. Minroads has done some limited work on this through accelerated testing.

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

Motion carried with 13, 0, 0

- Member joined

4. Idea Ranking:

Idea # - Title

4265 - Superloads Phase II: Evaluation of Increased Legal Loads and Their Impact on Iowa

4237 - Heat & Moisture vs. Concrete: Innovative Solutions for Preventing Buckling in Iowa's Pavements and Overlays

4260 - Low-Cost Smart Device-Powered Road Inspection: Innovative Surface Distress Detection and Measurement - Phase II

4262 - Analysis of Friction Characteristics using the Scanning Electron Microscope

4276 - Design and Construction of a Bridge Deck to Include Provisions and Recommendations of ACI 224R and ACI 350

4245 - Integrated Lab-Field Assessment on the Use of Calcined Clay Concrete in Iowa Pavements

4256 - Evaluating the Effectiveness of Modified Culverts for Flood Mitigation in Iowa

4263 - Implementation of TR-791 - Bridges Designed for Minimum Maintenance

4239 - Revolutionizing Roadways: Eggshell Bio-Cement for Sustainable Pavements & Granular Roads: Phase II Study: Large-Scale Evaluation

4189 - UHPC Waffle Deck for Multi-Span Bridges - Phase I: Establishing Design Parameters Suitable for ABC

Pavement Service Life

4215 - Polymer external curing to improve the durability of bridge decks

4253 - Helical Piles for Low Volume Road Bridges

- Motion to move to approve all items except the two lowest ranked. Move to amend the motion to review the last three items individually.

Motion by R. Knoche 2nd by J. Thorius
Motion carried with 14, 0, 0

- Motion to move that item 4189 be considered separately.

Motion by A. Kersten 2nd by M. Nop
Motion carried with 14, 0, 0

- Motion to remove the bottom two items for consideration.
 - 4215 Polymer external curing to improve the durability of bridge decks
 - 4253 Helical Piles for Low Volume Road Bridges

Motion by J. DeVries 2nd by R. Knoche
Motion carried with 14, 0, 0

5. Project Updates - No action

V. Goetz reviewed updates on various ongoing projects, including those in pre-development, idea development, and contract negotiation stages.

6. New Business

- We're updating the 50-year IHRB History book with a 75-year summary of the board's last 25 years and publish it for the July meeting. It will be 75 Years since the first meeting of the IHRB in 1950.

7. Regular Meeting Adjourn by 11 am

8. ISU Civil Engineering Geology and Materials Lab Tours

The next regular meeting of the Iowa Highway Research Board is scheduled for May 30, 2025 in the East/West Materials Conference Room at the Iowa DOT Ames Complex.

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

TB/VG