

## IOWA HIGHWAY RESEARCH BOARD (IHRB)

*Minutes of June 4, 2021*

D. Claman	W. Weiss
W. Dotzler	T. Roll
J. DeVries	J. Fantz
C. Burke	B. Wilkinson
R. Koester	A. McGuire
R. Knoche	T. Kinney
A. Bradley	
D. Sanders	

### **Regular Board Members Present**

### **Alternate Members Present**

W. Rabenberg

### **Members with No Representation**

M. Rydl

### **Executive Secretary**

V. Goetz

The meeting was held online via Microsoft Teams on June 4, 2021 at 9:00 a.m. by Chair Dave Claman with an initial number of 13 voting members/alternates.

### **1. Agenda review/modification – new business item to discuss**

**Motion to Approve** by J. DeVries; 2<sup>nd</sup> by A. Bradley Motion carried with 12 Aye, 0 Nay, 1 Abstaining

Correction \$182,849 #3

**Motion to Approve** by R. Knoche; 2<sup>nd</sup> by T. Roll Motion carried with 13 Aye, 0 Nay, 0 Abstaining

### **2. Minutes Approval form the April 30, 2021 meeting**

**Motion to Approve** by W. Dotzler; 2<sup>nd</sup> by R. Knoche  
Motion carried with 13 Aye, 0 Nay, 0 Abstaining

### **3. Final Report: TR-785, “Update Load Ratings for Standard Bridges”, Stephen Moffitt, HGM, \$349,885 (15 Min)**

Q. Standard concrete box culvert will all be pulled together for ratings for all the current DOT design standards, so everything is in one place?

A. This study did not include the concrete box culverts, it was only the bridges.

Q. The tandem configuration on the trailer portion needs to be eight feet offset to the back. Is this configuration not one of the standard configurations?

A. The length limit needs to be eight feet one, eight feet and below is considered a

tandem.

**Motion to Approve** by T. Kinney; 2<sup>nd</sup> by R. Koester  
Motion carried with 13 Aye, 0 Nay, 0 Abstaining

\*\*\*member joined\*\*\*

**4. Proposal: “Iowa Granular Road Structural Design Tool”, Halil Ceylan, Iowa State University, \$349,885**

**Abstract**

Over 71,000 miles (i.e., over 75%) of county roads in Iowa are granular (unpaved) roads. Iowa granular roads carry low daily traffic volumes (i.e., 10 to 200 vehicles/trucks per day) yet frequently support heavy vehicle (e.g., farm equipment) movements. According to a recent estimate, Iowa’s county road departments spend over \$145 million annually on maintenance costs, which predominantly includes over \$35 million for blading and over \$110 million for resurfacing. In addition, a wide range in granular material quality, supply, and price available in different regions of the state results in significant differences in the level-of-service. Therefore, Iowa county engineers have a specific set of criteria based on their own experiences when designing and managing granular roads. Considering the lack of granular road structural design standards to meet Iowa county engineers’ requirements for current granular road management practices, significant research is needed to develop a comprehensive but practical structural design tool for cost-effective design and construction of local granular road systems in Iowa. The primary objective of this study is to meet such research needs. This will be achieved through the execution of five concurrent research studies: (1) surveys/interviews, forensic investigations, and laboratory tests to identify the best practices for Iowa granular roads around the state; (2) construction, instrumentation, and performance monitoring of field demonstration sites; (3) development of deterioration prediction models subjected to Iowa granular roadways; (4) cost-effectiveness analysis; and (5) development of a structural design tool and additional guidance documents. The outcomes of this research will substantially improve overall performance, save on maintenance and operation costs, and enhance the safety and mobility of Iowa granular roads by addressing key performance indicators (e.g., drainage, cross-slope, aggregate loss, and freeze/thaw susceptibility) through the granular road design procedure.

**Motion to Approve** by W. Weiss; 2<sup>nd</sup> by R. Knoche  
carried with 14 Aye, 0 Nay, 0 Abstaining

**5. New Ideas Voting: Final Ranking**

1. Fly ash quality and alternative materials (#3184)
2. Ultra-High-Performance Concrete to Repair Steel Bridge Girder Ends (#3273)
3. Effect of Vibration on Concrete Mixtures (#3225)
4. Helical Pile Foundation Implementation for Bridge Structures (#3260)
5. Developing a Crash Modification Factor for Reflective treatment on signposts (#3273)
6. Stream Stabilization Clearinghouse (#3177)
7. Technology Applications for Remote Inspection (#3267)
8. Trail Management Program: A Business Case (#3282)
9. Demonstration and Assessment of SME-PS Deck Sealer (#3183)
10. 2021/2022 Iowa Tribal Summit (3418)
11. Data Driven Approaches to Identifying Multiple Streams of Information to improve TIM Training and collaboration Opportunities. (#3425)

The top 4 ideas will move onto Project Development.

**Motion to Approve by** R. Knoche; 2<sup>nd</sup> by W. Dotzler  
Motion carried with 14 Aye, 0 Nay, 0 Abstaining

**6. New Business**

September IHRB meeting is planning to include a tour of the Bio-Polymer Processing Facility at Iowa State University's BioCentury Research Farm.

**7. Adjourn**

**The next regular meeting of the Iowa Highway Research Board scheduled for June 30, 2021 was cancelled.**

Vanessa Goetz, IHRB Executive Secretary