

Recommendations Regarding TRB Research Priorities

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Overview

- We have many concrete research needs
- One funding source that we are not widely using is NCHRP

NCHRP Submittal Process

- Make a submittal by July for 2015
 - Best if everybody is behind it

TRB Research Priority

- All current permeability modeling and testing is done with concrete that is not cracked.
- Concrete cracks...
- We need to better understand how these cracks impact how water and aggressive chemicals move in concrete
- **This project is not about how to stop cracking**
- We will need the support of the bridge folks

Real problems

- When a bridge deck cracks it directly exposes the reinforcing steel
- When we saw joints in our pavements we are microcracking the surrounding concrete
- Both of these shorten the life of our structures but we don't know by how much

Objective

- This project would help us understand what cracks are important, how to maintain these cracks, and how these cracks will impact our service life

Tasks for Project

1. Modify laboratory tests to evaluate the impact of cracking on permeability
2. Establish field protocols and test methods to evaluate the impact of cracking on permeability
3. Use these findings to develop guidance for acceptable and unacceptable levels of cracking and suggestions for maintenance
4. Modify service life prediction software and life cycle cost analysis with cracking parameters

Problem Statement

A rough draft of the problem statement has been prepared by:

- Tyler Ley, Okla. State
- Farshad Rajabipour, Penn State
- Jason Weiss, Purdue

Ending Comments

This is an opportunity to start tackling one of the biggest and least studied problems in concrete.

This impacts every state.

We need your support to make this successful.