PROJECT OVERVIEW REPORT

1. Center Identifying Number
   IOWA-RU0944

2. Project Title
   Comprehensive Bridge Deck Deterioration Mapping of Nine Bridges by Ground Penetrating Radar and Impact Echo

3. Principal Investigator
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5. Project Description
   Iowa Department of Transportation (IDOT), like many other State DOTs, is faced with the need of identifying and deploying means for rapid, nondestructive and accurate condition assessment and performance monitoring of bridge decks. Finding the right technologies will make a tremendous difference in the financial resources spent for their renewal. The data collected from nondestructive testing (NDT) of bridge decks should complement other information in understanding of its lifecycle costs, deterioration mechanisms, and the effectiveness of preservation techniques at various stages of the aging process, and most importantly, prevent premature and unexpected failure. One of very important objectives in the design of the testing program will be to ensure that the NDT methods used can cover the entire lifespan of a concrete bridge deck. There are two main objectives of the proposed bridge deck evaluation:
   - Demonstrate capabilities of NDT, GPR and IE in particular, in condition assessment and monitoring of bridge decks, and
   - Evaluate and describe condition of the nine bridge decks proposed by IDOT.
   Such an evaluation will be of benefit to the IDOT for both future selection of technologies of the highest interest, and for raising the confidence level regarding the long term application of the selected technologies in project and network level bridge deck evaluation.

6. Dates and Budget
   Start date 7/29/2009
   End date: 12/31/2009
   Total Dollars: $182,106

7. Keywords
   Ground penetrating radar, impact echo, bridge deck condition assessment, mapping