State Planning and Research Program
Quarterly Report

PROJECT TITLE: Understanding the Chemical and Mechanical Performance of Snow and Ice Control Agents on Porous or Permeable Pavements

OBJECTIVES: The objectives of this research are to identify the primary chemical and mechanical interactions that occur when deicers are applied to textured or porous pavements before, during and after a winter storm to determine optimal winter maintenance strategies and application rates for treating these types of pavements

PERIOD COVERED: April 1, 2013 – June 30, 2013

PARTICIPATING AGENCIES:
Western Transportation Institute, Montana State University – Bozeman

PROJECT MANAGER: Tom Peters and Ashley Duran **LEAD AGENCY**: Minnesota Department of Transportation **PRINCIPAL INVESTIGATOR**: Michelle Akin	**SP&R PROJECT NO**: TPF-5(218) MnDOT Contract No.99006	PROJECT IS: ____ Planning _X_ Research & Development
PROJECT BUDGET: $185,000	**PROJECT EXPENDITURES TO DATE**: $27,262	

WORK COMPLETED:

Task 0 – Project Management
- Check-in teleconference held on April 23, 2013

Task 1 – Literature Search
- Completed literature search

Task 2 –List and Categorize Pavement and Overlay Types
- Identified pavement and overlay types to be included in categorized list
- Identified relevant pavement properties

Task 3 – Interviews
- Prepared preliminary solicitation of interviewees for Clear Roads meeting May 7–9, 2013
- Drafted potential questions for interviewees

Task 4 – Lab Testing – no progress during this period

Task 5 – Analyze Chemical and Mechanical Interactions – no progress during this period

Task 6 – Synthesize Best Maintenance Practices – no progress during this period

Task 7 – Recommend a Plan of Study – no progress during this period

Task 8 – Reporting
- Submitted Task 1 Deliverable: Literature Search on June 18, 2013

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

Task 0 – Project Management

- Teleconference to discuss Task 1 and 2 findings on July 15, 2013
- Teleconference to discuss Task 3 findings and plans for Task 4 around late August/early September

Task 1 – Literature Search – *completed*

Task 2 – List and Categorize Pavement and Overlay Types

- Compile a categorized list of pavement surfaces identified in Task 1 with a description of unique properties for each category

Task 3 – Interviews

- Email request for interviews to Clear Roads states and international sources
- Conduct interviews
- Prepare a synthesis of interview results

Task 4 – Lab Testing

- Prepare lab testing plan based on proposal and information gathered during previous tasks
- Acquire pavement samples
- Modify lab equipment as necessary (e.g., liquid applicator, trafficking device)
- Preliminary CT scans of pavements with potential tracers to track movement of deicers (e.g., iodine or barium contrast media are used in medical CT scans and may be applicable)

Task 5 – Analyze Chemical and Mechanical Interactions – no progress anticipated during this period

Task 6 – Synthesize Best Maintenance Practices – no progress anticipated during this period

Task 7 – Recommend a Plan of Study – no progress anticipated during this period

Task 8 – Reporting

- Write Progress Report 3
- Write and submit Task 2 Deliverable: Categorized List of Porous/Permeable Pavements
- Write and submit Task 3 Deliverable: Synthesis of Interview Results

STATUS:

The project is about 3 weeks behind schedule.