

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: July 1, 2017 – September 30, 2017

PARTICIPATING AGENCIES:

Western Transportation Institute, Montana State University – Bozeman

PROJECT MANAGER:

Tom Peters and Deborah Sinclair

SP&R PROJECT NO:

MnDOT Contract No.
99006; WO 2

PROJECT IS:

Planning
 Research & Development

LEAD AGENCY:

Minnesota Department of Transportation

Federal Project No.
TPF-5(218)

PRINCIPAL INVESTIGATOR:

Michelle Akin

PROJECT BUDGET:

\$185,000

PROJECT EXPENDITURES TO DATE:

\$184,681

WORK COMPLETED:

Task 1 – Project Management

- general management of project in terms of contractual compliance, budget and schedule, administrative tasks, and communication with technical panel
- teleconference with panel on July 24 to discuss Task 6 deliverable

Task 2 – Literature Search - COMPLETE

Task 3 – List and Categorize Pavement and Overlay Types - COMPLETE

Task 4 – Interviews - COMPLETE

Task 5 – Lab Testing - COMPLETE

Task 6 – Analyze Chemical and Mechanical Interactions

- revised *White Paper* based on comments received during teleconference – not resubmitted

Task 7 – Synthesize Best Maintenance Practices

- nearly completed synthesis, will be submitted in October

Task 8 – Recommend a Plan of Study – no progress during this period

- started designing field testing recommendations, will be submitted in October

Task 9 – Reporting

- submitted Quarterly Report #18

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

Task 1 – Project Management

- general management of project in terms of contractual compliance, budget and schedule, administrative tasks, and communication with technical panel
- teleconference with technical panel in July or August to discuss Task 6 (and possibly Task 7) draft reports

Task 2 – Literature Search – completed

Task 3 – List and Categorize Pavement and Overlay Types - completed

Task 4 – Interviews - completed

Task 5 – Lab Testing - completed

Task 6 – Analyze Chemical and Mechanical Interactions

- submit revised *White Paper*

Task 7 – Synthesize Best Maintenance Practices

- submit draft of *Synthesis of Best Practices*

Task 8 – Recommend a Plan of Study

- submit *Field Testing Recommendations*

Task 9 – Reporting

- write Quarterly Report #20
- finish Draft Final Report

STATUS:

Work Tasks	2017												2018		Task Completion Date		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F			
1 – Project Management																	31-Dec-16
2 – Literature Search																	18-Jun-13
3 – List and Categorize Pavement and Overlay Types																	7-Jan-14
4 – Interviews																	7-Jan-14
5 – Lab Testing																	3-Feb-15
6 – Analyze Chemical & Mechanical Interactions						★		★									31-Jul-17
7 – Synthesize Best Management Practices							★		★								31-Aug-17
8 – Recommend a Plan of Study								★		★							30-Sep-17
9 – Reporting											★			★			31-Dec-17

- ★ Deliverable
 - ★ Literature Search Submittal
 - ★ Categorized List of Porous/Permeable Pavements
 - ★ Synthesis of Interview Results
 - ★ White Paper on Chemical and Mechanical Interaction
 - ★ Synthesis of Best Practices
 - ★ Field Testing Recommendations
 - ★ Final Report
- Draft Due Final Due
- completed
- completed
- completed
- 31-May-17 31-Jul-17
- 30-Jun-17 31-Aug-17
- 31-Jul-17 30-Sep-17
- 31-Oct-17 31-Dec-17