

NHDOT SPR2 PROGRAM

RESEARCH PROGRESS REPORT

Project # SPR 42372J		Report Period Year 2021 <input type="checkbox"/> Q1 (Jan-Mar) <input type="checkbox"/> Q2 (Apr-Jun) <input type="checkbox"/> Q3 (Jul-Sep) <input checked="" type="checkbox"/> Q4 (Oct-Dec)	
Project Title: Concrete Slab Jacking			
Project Investigator: Chris Turgeon Phone: 603-448-8951		E-mail: Christopher.L.Turgeon@dot.nh.gov	
Project Start Date: 4/22/2021	Project End Date: 12/31/2022	Project schedule status: <input type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input checked="" type="checkbox"/> Behind schedule	

Brief Project Description:

NHDOT's concrete road sections are a chronic problem to our maintenance Districts. The prime culprit for these conditions is poor quality base materials. The deteriorated base conditions result in excessive vibrations and noise from vehicles driving over these roadway sections. Surficial repair is virtually pointless and driver satisfaction is zero.

Discussions with URETEK, a company that specializes in subsurface injection of polyurethane foam for jacking and sealing purposes, indicate that it is feasible to treat the existing bases through the pavement. Polymer injection would fill the void spaces under the concrete slab. Expectations are similar to the benefits of cement-stabilization of soils, but without the need for total reconstruction of the roadway. In an atmosphere of pavement preservation, a reasonable initial cost to improve these roadways will save money long term, while improving its service to the public.

The purpose of this project is to evaluate the effectiveness of injectable polyurethane foam (such as that used for subsurface jacking applications) as a means of stabilizing unconstructed roadway base materials.

Progress this Quarter (include meetings, installations, equipment purchases, significant progress, etc.):
URETEK experienced mechanical problems and had to delay injection until spring 2022.

Items needed from NHDOT (i.e., Concurrence, Sub-contract, Assignments, Samples, Testing, etc...):
Pavement course next construction season, ride van and vibration data collected post re-surfacing.

Anticipated research next three (3) months:
Prepare for injection and re-surfacing.

Circumstances affecting project:

Tasks (from Work Plan)	Planned % Complete	Actual % Complete
Schedule initial technical data	100	50
Complete polyurethane foam injection	100	0
Schedule post-injection tech data collected by the ride quality van	25	0

Barriers or constraints to implementing research results
None anticipated