UTC Project Information	
Project Title	Guidelines for Pervious Concrete Sidewalks, Parking Lots, and Shared-Use Paths to Improve Drivers, Bikers, and Pedestrian Safety
University	Washington State University
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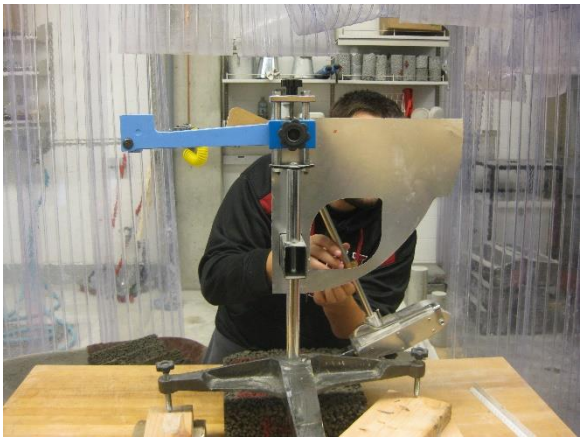
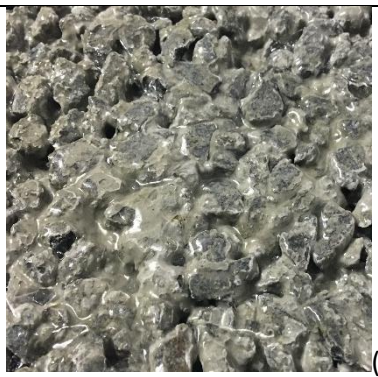
Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans $40,000 Washington State University $ 25,000 Washington State Department of Transportation $15,000
Total Project Cost	$80,000
Agency ID or Contract Number	DTRT13-G-UTC40
Start and End Dates	September 16, 2015– September 15, 2016
Brief Description of Research Project	Objectives of this study are: 1. Test safety aspects of pervious concrete sidewalks/parking lots/bike lanes in winter conditions, 2. Develop additional best-practice guidance for winter maintenance of pervious concrete installations. Our team has combined expertise in the two broad areas of pervious and traditional concrete material characterization and winter maintenance safety. Our expertise will enable us to exactly target the proposed research focus. The project ties with PacTrans' theme of safety and data driven solutions for safe transport. Equally important to our expertise is our access to several pervious sidewalks and parking lots on the WSU Pullman campus, which enables unique infield experiments.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	In this project, guidelines were developed for winter maintenance of pervious concrete pavements. The project findings will be provided on an ASCE book on the application of permeable pavements in cold regions.  (a)  (b) **Figure 1:** Running the friction tester on a PC slab, a) setting up pendulum arm and b) reading the BPN value after the pendulum swing.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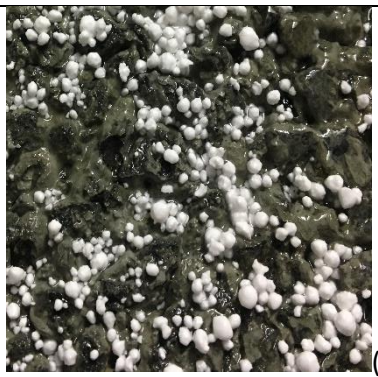
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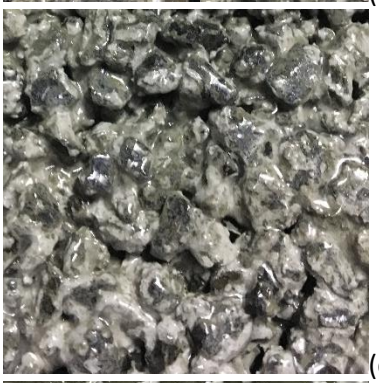
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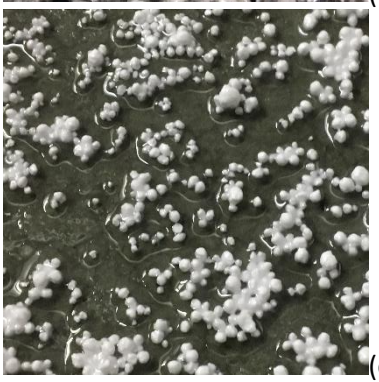
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Figure 2: PC and PCC slabs under different iced conditions. PC slab conditions: a) iced, b) calcium chloride, c) magnesium chloride. PCC slab conditions: d) iced, e) calcium chloride, f) magnesium chloride.

Impacts/Benefits of Implementation (actual, or anticipated)	It is anticipated that with the knowledge gained in this project will set a guideline for winter maintenance- deicing and anti-icing practices- for permeable pavements. The project results will be published in a paper (currently under review) and the ASCE book to be published in 2020.
Web Links • Reports • Project Website	Attached.