

Title: Optimal Design for Porous Concrete Pavement – Phase III

SPR No: 709

Project Description: The overall long-term goal of this research project can be subdivided into three phases. The first phase is the development of a mathematical model of the behavior of water in a porous concrete pavement and the creation of a computer program that will solve the equations inherent in this model. In the second phase faculty and students from the University of Vermont will apply the model to a VTrans test site, the porous Park and Ride facility located in the town of Randolph, to demonstrate the model's ability to accurately predict behavior in the field. Finally in the third phase the resulting 'calibrated' model will be used in combination with an optimization algorithm to examine the benefits and costs of various design strategies where the design variables are those presented earlier in this section.

Phase I was completed in FFY09 and FFY10. Phase II was completed in FFY10 and FFY11. The scope has increased somewhat due to the ability to obtain additional field information from the existing and new wells as well as from the meteorological instruments that have been installed and from soil characteristic information obtained from the laboratory via our new experimental apparatus.

Start date: 2011

End date: 2012

Status: Active Inactive Completed

Total Dollars: \$75,000

Index Terms: Administration Bridges Construction Environment

Geotechnical Maintenance Materials Pavements Safety Traffic Transit

Sponsor Organization

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Subjects: Porous Concrete, Pavement,
Environmental

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