

MnDOT Research Services

List of 2013 Need Statements

Materials and Construction

- [PCC Pavement Thickness Variation Versus Observed Pavement Distress](#)
- [Evaluation of Recycled Aggregates Test Section Performance](#)
- [Design Guideline for Stabilization of Unpaved Shoulder—Phase I \(Synthesis study\)](#)
- [Optimal RAP Content for Minnesota Gravel Roads](#)
- [Modernizing Road Construction Plans and Documentation](#)
- [Alternate Design Methods to Renew Lightly Traveled Paved Roads](#)
- [Full Depth Reclamation \(FDR\) for Urban and Suburban Street Application](#)
- [Prevention of Stripping Under Chip Seals](#)
- [Bio-Fog Seal Evaluation](#)

Traffic and Safety

- [Evaluation of Intersection Conflict Warning Systems](#)
- [Dynamic Traffic Assignment \(DTA\) Mesoscopic Travel Model](#)
- [Driver Performance with Future Warning Sign Delivery](#)
- [Evaluation of Safety and Mobility of Two-Lane Roundabouts](#)
- [Safety study of 35W improvements done under UPA project](#)
- [Development of a Queue Warning System Utilizing ATM Infrastructure](#)

Maintenance

- [Work Zone safety system for workers](#)
- [Examining the Impact of ASE in Work Zones on Driver Attention](#)

Environment

- [Weights and Measurements for Verification of High Organic Soils](#)
- [Automated flocculation dosing rates based on real-time turbidity and flow monitoring](#)

Multimodal

- [Understanding and Communicating the Tradeoffs Associated with Urban Roadway Design](#)
- [Traffic Impacts of Bike Lanes](#)
- [The Economic Impact of Bicycling in Minnesota](#)
- [Coordination of Inter-City Multimodal Investments](#)

Policy and Planning

- [Methods for Evaluating the Economic Development Potential of Transportation Projects](#)
- [Barriers to Right-of-Way Acquisition and Recommendations for Change](#)