

Research Need Statement 620

I. Need Statement Champions and Information

I.A. Need Statement Champion Information

- I.A.1. First and Last Name of Research Champion: Ethan Peterson
- I.A.2. Research Champion's Office: MnDOT Office of Traffic Engineering
- I.A.3. Research Champion's Phone Number: 651/234-7380
- I.A.4. Research Champion's Email: Ethan.Peterson@state.mn.us

I.B. Research Co-Champion

- I.A.1. First and Last Name of Research Co-Champion: Sonja Piper
- I.A.2. Research Co-Champion's Office: MnDOT Office of Traffic Engineering
- I.A.3. Research Co-Champion's Phone Number: 651/234-7376
- I.A.4. Research Co-Champion's Email: Sonja.Piper@state.mn.us

I.C. Research Needs Title (115 Characters): **Pavement Marking/Colored Pavement Friction Differential and Product Durability**

I.D. Project Sponsor: Joint MnDOT and Local Road Research Board

II. Research Need Background and Description

II.A. Research Need Background

II.A.1. Describe the problem or opportunity.

Pavement markings, by their nature, tend to be slippery since glass media is added to provide retroreflectivity. Pedestrians (including those with disabilities), motorcyclists, and bicyclists are impacted by slippery pavement markings. There are available pavement marking and colored pavement products that provide additional friction and that show promise from a durability standpoint. These products have been used on MnDOT projects; however, the friction differential between pavement markings/colored pavement and the surrounding pavement is not known. This leads to a concern that there may still be issues with travelers being surprised when the pavement marking/colored pavement is traversed.

II.A.2. If applicable, describe how this project will build on previous research.

II.A.3. If applicable, include the title/s or previous research.

II.A.4. What is the **objective** of the proposed research?

Safety of all modes of travel is one of MnDOT's core values. By continuing to evaluate new products and listening to customer concerns, an improved customer experience can be achieved.

III. Strategic Priorities, Benefits, and Expected Outcomes

Section III. is for MnDOT sponsored and co-sponsored projects only; all LRRB projects proceed to section IV.

III.A. MnDOT Strategic Priorities

Instructions: Briefly describe how the project aligns with the following MnDOT Research Strategic Priorities. Complete all that apply.

III.A.1. Innovation & Future Needs:

By continuing to evaluate new products and listening to customer concerns, an improved customer experience can be achieved.

III.A.2. Advancing Equity:

Addresses concerns of transportation system users for multiple modes of travel.

III.A.3. Asset Management:

III.A.4. Safety:

Addresses safety concerns of users crossing colored pavement markings.

III.A.5 Climate Change & Environment:

III.B. Expected Outcomes

Instructions: Check all expected direct outcomes of this research.

- New or improved technical standard, plan, or specification
- New or improved manual, handbook, guidelines, or training
- New or improved policy, rules, or regulations
- New or improved business practices, procedure, or process
- New or improved tool or equipment
- New or improved decision support tool, simulation, or model/algorithm (software)
- Evaluation of a new commercial product
- New or improved technical standard, plan, or specification
- Other. Please specify below:

III.C. Expected Benefits

Instructions: Select all expected benefits that may be realized if the findings and recommendations from this research is adopted or implemented

III.C.1. Construction Savings Choose an item.

III.C.2. Decrease Engineering/Administrative Costs Choose an item.

III.C.3. Environmental Aspects Choose an item.

III.C.4. MnDOT Policy Choose an item.

III.C.5. Lifecycle Choose an item.

III.C.6. Operations and Maintenance Savings Choose an item.

III.C.7. Reduce Risk Choose an item.

III.C.8. Reduce Road User Cost Choose an item.

III.C.9. Safety Other safety benefit. Please describe below.

By continuing to evaluate new products and listening to customer concerns, an improved customer experience can be achieved.

III.C.10. Technology Choose an item.

III.C.11. Other, please describe below:

IV. Technical Advisory Panel

Instructions: Please list the name and affiliation of individuals to consider for the Technical Advisory Panel.

Your assigned Project Advisor is available to answer questions and provide guidance (assigned by the Office of Research & Innovation).

Your Project Advisor is: Brent Rusco, brent.rusco@state.mn.us