

Research Need Statement 571

I. Need Statement Author and Information

I.A. Need Statement Author Information

I.A.1. First and Last Name of Need Statement Author: **Olivia Dorow Hovland**

I.A.2. Statement Author's Office: **Office of Transportation System Management**

I.A.3. Statement Author's Phone Number: **651/366-3762**

I.A.4. Statement Author's Email: **Olivia.dorow.hovland@state.mn.us**

I.B. Research Champion

I.A.1. First and Last Name of Research Champion:

I.A.2. Research Champion's Office:

I.A.3. Research Champion's Phone Number:

I.A.4. Research Champion's Email:

I.C. Research Needs Title (115 Characters):

Assessing the economic effects of context sensitive main street highways in small towns

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.

MnDOT's 'Minnesota GO' envisions a multimodal transportation system that maximizes the health of our economy. In small towns in Greater Minnesota, a MnDOT trunk highway is often the town's commercial main street.

MnDOT plans and develops context sensitive projects that are performance-based, using a 'complete streets' approach. When completed, such small town projects have been found to benefit main street businesses, in places in the Midwest, the U.S., and around the world. However, information on, and an understanding of, the economic effects of this evolving approach on Minnesota small town businesses is sparse. As MnDOT develops projects, questions arise as to the potential economic effects on small town businesses. Perceptions vary widely. A lack of good, midwest-based information, along with this range of perceptions (by MnDOT project managers, and local partners and businesses) are sometimes a stumbling-block to fully developing and implementing projects using the complete streets approach.

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?

MnDOT will plan and develop more small town trunk highway projects; a study of select, (future) small town projects is needed to understand the economic effects on small town businesses where projects are developed using the complete streets approach. A small, but rich 'baseline' understanding of business impacts is needed, both for project managers and local project/community partners. Such a study could produce a set of 'case studies' for use by project managers and local partners when planning and developing future small town main street highway projects.

The objective of this research is a consistent set of economic metrics will be needed to determine economic activity and effects, both pre- and post-highway construction. Where studied, economic effects have been measured and evaluated qualitatively (anecdotally) and quantitatively (e.g. business, real estate data).

III. Strategic Priorities, Benefits, and Expected Outcomes

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

III.A. MnDOT Strategic Priorities

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

As MnDOT undertakes more highway projects in small towns, we need to ensure that we, and our partners, understand the potential economic benefits and costs of our projects to small town businesses. This will help MnDOT plan and develop future projects resulting in a wider range of safety, mobility, economic, and quality of life benefits throughout Greater Minnesota.

III.A.1. Innovation & Future Needs: A consistent set of economic metrics will help MnDOT plan and develop future projects that are more responsive to potential economic impacts to small town businesses and deliver a wider range of benefits.

III.A.2. Advancing Equity: Better understanding economic metrics can help advance future projects that support equitable access to safe and efficient transportation systems throughout the state of Minnesota while also respecting and advancing the interests of local businesses and partners.

III.A.3. Asset Management: Developing economic metrics to increase the holistic understanding of Complete Streets projects can lead to more efficient use of MnDOT's right-of-way, with the potential mode shift from automobiles to biking and walking being less damaging to MnDOT's assets.

III.A.4. Safety: Consistent economic metrics can support the planning and design of future complete streets projects that enhance the safety of all roadway users.

III.A.5 Climate Change & Environment: Consistent economic metrics can support the planning and design of future complete streets projects that mitigate congestion and enhance mobility which can enhance air quality and reduce hardscape. Complete Streets projects allow for increased storm water infiltration and promote active transportation. Active transportation has a drastically reduced environmental footprint than automobile transportation.

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 Improved quality of construction

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 Minimize Tort Liability

A consistent set of economic metrics helps ensure that local partners are treated fairly and equitably in the development of small town trunk highway projects.

III.C.8. Reduce Road User Cost Other reduced road user cost. Please describe below.

A consistent set of economic metrics supports the implementation of projects that provide a broad range of benefits that can reduce user cost including safety, mobility, economic, and quality of life benefits throughout Greater Minnesota.

III.C.9. Safety Choose an item.

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.

Jim Rosenow

Philip Schaffner

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 (651)366-3767 brent.rusco@state.mn.us