

# Research Need Statement 580

## I. Need Statement Author and Information

### I.A. Need Statement Author Information

I.A.1. First and Last Name of Need Statement Author: **Victor Lund**

I.A.2. Statement Author's Office: **St. Louis County Public Works**

I.A.3. Statement Author's Phone Number: **218/625-3873**

I.A.4. Statement Author's Email: [LundV@stlouiscountymn.gov](mailto:LundV@stlouiscountymn.gov)

### I.B. Research Champion

I.A.1. First and Last Name of Research Champion: **Same as above.**

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):

Will lowering roadway speeds change driver speeds?

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.

Speeding is one of the top 5 factors in crashes in Minnesota. Prioritizing the most effective methods to encourage safe speeds is critical to maximizing effort and funding to reach zero deaths on our roadways.

In 2019 legislation passed to allow Minnesota cities to establish speed limits for city streets under the city's jurisdiction without conducting an engineering or traffic investigation. ([https://www.revisor.mn.gov/laws/2019/1/3/%5E\(%3FPlaws.3.35.0%5B0-9%5C.a-zA-Z%5Cs/%5C/%5D+\)§#laws.3.35.0](https://www.revisor.mn.gov/laws/2019/1/3/%5E(%3FPlaws.3.35.0%5B0-9%5C.a-zA-Z%5Cs/%5C/%5D+)§#laws.3.35.0)) In a study published by the Minnesota Department of Transportation, it found that merely changing the posted speed limit sign did not result in significant changes in vehicle speeds (relevant excerpt included at the end of this need statement). Further study should be completed to examine the relationship between changing the posted speed limit sign and the change in vehicle speeds when there is no change in the roadway environment. Additionally, guidance is needed to assist cities with determining city streets that are appropriate candidates for posting a lower speed limit such as 25 mph. Political pressure could result in cities being pressured into establishing artificially low speed limits which may result in less compliance with speeds limits at large.

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

*The LRRB Study, Addressing Citizen Requests for Traffic Safety Concerns, December 2017, provides local agency guidance on a range of traffic safety concerns including setting speed limits.*

<http://www.dot.state.mn.us/research/reports/2017/2017RIC05.pdf>

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

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

This research could help inform local policies and practices statewide on speed limit changes to best achieve the safety goals that they intend to reach.

### 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.

Speeding is one of the top 5 factors in crashes in Minnesota. Prioritizing the most effective methods to encourage safe speeds is critical to maximizing effort and funding to reach zero deaths on our roadways.

III.A.1. Innovation & Future Needs: Supports MnDOT and local agencies *Toward Zero Deaths* initiatives. An opportunity to study safe speeds for our increasingly multi-modal roadway system into the future.

#### III.A.2. Advancing Equity:

This research supports the evaluation of speed limit changes that can advance equitable access to safe and efficient transportation systems.

This research could help inform policy and practices statewide on speed limit changes to best achieve the safety goals that they intend to reach.

#### III.A.3. Asset Management:

#### III.A.4. Safety:

This research supports the Research Strategic Priority to ensure all road users have access to a safe roadway system.

#### 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 Other policy. Please describe below.

This research supports statewide safety policies including *Toward Zero Deaths* initiatives and can inform statewide speed limit policies.

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 Reduction of crash severity

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.

Victor Lund, St. Louis County

Brad Estochen, Ramsey County

Kristi Sebastian, Dakota County

Joe Gustafson, Washington County

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](mailto:brent.rusco@state.mn.us)

# Speed Zoning

Speed Zoning Studies					
Study Location	Before	After	Sign Change +/- MPH	85% Before After	Change MPH
TH 65			-10	34 34	0
TH 65			-10	44 45	+1
Anoka CSAH 1			-5	48 50	+2
Anoka CSAH 24			+15	49 50	+1
Anoka CSAH 51			+5	45 46	+1
Hennepin CSAH 4			-10	52 51	-1
Noble Ave			+5	37 40	+3
62nd Ave N			-5	37 37	0
Miss. St			+5	39 40	+1

Minnesota Department of Transportation (MnDOT)

## Highlights

- In Minnesota, state statutes assign the establishment of speed zones to the Commissioner of Transportation in order to achieve a consistency across all roads in Minnesota.
- Speed zones are established based on an analysis of existing vehicle speeds along a segment of roadway and a variety of other information including road cross-section, density of access, land use and other characteristics of the road environment.
- In a number of cases, local authorities have questioned the outcomes of the technical analysis and requested the posting of a lower speed limit. The table to the left illustrates the outcome of experiments that were conducted – the posted limits were changed and local agencies were invited to apply as much enforcement as staff levels would allow. The outcome was identical in all cases, driver behavior did not change.
- These experiments support the notion that a majority of drivers pick a safe and comfortable speed based on their perception of the road environment and only changing the posted speed did not change their behavior.