

Research Need Statement 619

I. Need Statement Champions and Information

I.A. Need Statement Champion Information

- I.A.1. First and Last Name of Research Champion: Lisa Austin
- I.A.2. Research Champion's Office: MnDOT Metro District
- I.A.3. Research Champion's Phone Number: 651/234-7863
- I.A.4. Research Champion's Email: Lisa.Austin@state.mn.us

I.B. Research Co-Champion

- I.B.1. First and Last Name of Research Co-Champion: Gloria Jeff
- I.B.2. Research Co-Champion's Office: MnDOT Metro District
- I.B.3. Research Co-Champion's Phone Number: 651/234-7855
- I.B.4. Research Co-Champion's Email: Gloria.Jeff@state.mn.us

I.C. Research Co-Champion

- I.C.1. First and Last Name of Research Co-Champion: Cyrus Knutson
- I.C.2. Research Co-Champion's Office: MnDOT Metro District
- I.C.3. Research Co-Champion's Phone Number: 651/234-7852
- I.C.4. Research Co-Champion's Email: Cyrus.Knutson@state.mn.us

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

Improving transportation equity for all by centering the needs of marginalized and traumatized communities

I.E. Project Sponsor: MnDOT Research Program

II. Research Need Background and Description

II.A. Research Need Background

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

The killing of George Floyd by the Minneapolis Police Department on May 25, 2020 has sparked an international movement fighting against systemic racism. Historically, decisions about transportation location, service and construction have perpetuated racism and contributed to social injustice. An important step of restorative justice is to address systematic transportation inequities that are often rooted in broader structural features of a society such as discrimination and marginalization. Structural discrimination and marginalization systematically disadvantage certain groups within the cultural, economic, and political systems, resulting in both inequitable outcomes in transportation and

inequitable processes in transportation decision-making. These communities may be socially and/or spatially defined, e.g., single mothers with children, older adults in rural communities, people with disabilities and long-time residents in areas of concentrated poverty and/or areas where there is higher percentage of people of color. The majority of transportation equity research has focused on dynamics between individuals or small groups, which does not fully recognize that the prevailing system of opportunities and constraints in the U.S. have systematically depressed socially marginalized groups. Further, transportation inequities intersect with other inequities such as housing, income, and employment. The insufficient recognition of structural discrimination and the interconnectedness of inequities has led to an understatement of how contemporary transportation practices may have perpetuated the disparities in transportation mobility and accessibility. The research will explore ways state agencies, local governments and non-profits can have a more holistic approach to managing public investments that address disparities including housing, education, economic opportunities, criminal justice **and** transportation. There is an imminent need to apply the "centering the margins" framework to ground transportation decisions in the experiences and perspectives of the marginalized communities. In other words, it is increasingly important to understand the covert, indirect, and cumulative nature of the effects of structural discrimination on the lives of socially marginalized groups in various aspects related to transportation. Such understanding will help transportation policy makers to systematically address the legacy of historical discrimination and the accumulation of disadvantage in transportation and non-transportation sectors.

Centering in the Margins definition:

Ford & Airhihenbuwa (2010)'s definition of "Centering the Margins"--"Making the perspectives of socially marginalized groups, rather than those of people belonging to dominant race or culture, the central axis around which discourse on a topic revolves". See: Ford, C. L., & Airhihenbuwa, C. O. (2010). Critical race theory, race equity, and public health: toward antiracism praxis. *American journal of public health, 100*(S1), S30-S35.

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

The project will built upon previous research at the University of Minnesota related to understanding emotional experiences associated with transportation and the effects of gender, age, and race on transportation mobility and accessibility, as listed below.

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

- Aimen, D., & Morris, A. (2012). *Practical approaches for involving traditionally underserved populations in transportation decisionmaking* (No. Project 8-72).
- Boisjoly, G., & Yengoh, G. T. (2017). Opening the door to social equity: local and participatory approaches to transportation planning in Montreal. *European transport research review, 9*(3), 43.
- El-Geneidy, A., Levinson, D., Diab, E., Boisjoly, G., Verbich, D., & Loong, C. (2016). The cost of equity: Assessing transit accessibility and social disparity using total travel cost. *Transportation Research Part A: Policy and Practice, 91*, 302-316.
- Fan, Y., Ormsby, T., Wiringa, P., Liao, C., & Wolfson, J. (2020) Visualizing Transportation Happiness in the Minneapolis-St. Paul Region. Available at https://maps.umn.edu/transportation-happiness/Visualizing_Transportation_Happiness_in_MSP_FINAL_3.8.pdf

- Zhu, J., & Fan, Y. (2018). Daily travel behavior and emotional well-being: Effects of trip mode, duration, purpose, and companionship. *Transportation Research Part A: Policy and Practice*, 118, 360-373.
- Fan, Y. (2017). Household structure and gender differences in travel time: spouse/partner presence, parenthood, and breadwinner status. *Transportation*, 44(2), 271-291.
- Fan, Y., Brown, R., Das, K., & Wolfson, J. (2019). Understanding trip happiness using smartphone-based data: The effects of trip-and person-level characteristics. *Transport Findings*. <https://doi.org/10.32866/7124>
- Guthrie, A., Fan, Y., & Das, K. V. (2017). Accessibility scenario analysis of a hypothetical future transit network: social equity implications of a general transit feed specification-based sketch planning tool. *Transportation research record*, 2671(1), 1-9.
- Guthrie, A., Fan, Y., Crabtree, S., & Burga, F. (2019). Those Who Need it Most: Maximizing Transit Accessibility and Removing Barriers to Employment in Areas of Concentrated Poverty. Available at <http://www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2768>
- Jocoy, C. L., & Del Casino Jr, V. J. (2010). Homelessness, travel behavior, and the politics of transportation mobilities in Long Beach, California. *Environment and Planning A*, 42(8), 1943-1963.
- Pasha, O. (2018). Social justice implications of municipal transportation apportionments in Massachusetts: A case of disparate impact. *Transport policy*, 72, 109-115.

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

We will identify marginalized and traumatized communities in transportation by applying content analysis to news articles and research papers on persistent transportation barriers and mobility challenges. These communities can be socially and/or spatially defined, e.g., single mothers with children, older adults in rural communities, and long-time residents in the traumatized Rondo neighborhood. After identifying marginalized and traumatized communities, we will select 10-15 high-risk communities based upon the magnitude of their marginalization as well as the strength of their connections with major transportation projects/programs at MnDOT to study the lived transportation experiences of the selected communities. Both urban and rural communities will be included in the study.

We will combine in-depth qualitative interviews with weeklong smartphone-based surveys to piece together ethnographic observations of individuals and families in the selected communities to develop knowledge about how transportation connects to their quality of lives in myriad ways. The qualitative interviews will include interviews in both transportation and non-transportation sectors to uncover the interconnectedness between transportation inequities and other inequities. The knowledge gained will be used to develop innovative methods for assessing the needs of marginalized, high-risk populations so that those needs will be addressed to achieve more equitable transportation policy outcomes and processes for them.

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:

More equitable transportation policy outcomes and processes will better address the future needs of traumatized and marginalized populations.

III.A.2. Advancing Equity:

More equitable transportation policy outcomes and processes.

Supports the Minnesota Go! 50 Year Vision

<http://minnesotago.org/>

Supports the Governor's executive order 1901 and the work of the One Minnesota Diversity Equity and Inclusion counsel. "Gain a deeper understanding of the impact of disparities on various communities" Vision – to be successful in the future, your agency will have to understand the wants, needs and motivations of different constituencies.

Supports MDH Health Equity work. "Minnesota needs to address conditions and disparities that create health as part of a broad spectrum of public investments in housing, transportation, education, economic opportunity and criminal justice."

<https://www.health.state.mn.us/communities/equity/index.html>

III.A.3. Asset Management:

III.A.4. Safety:

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:
- Information that may influence how we conduct more equitable engagement activities.
 - Information that may highlight other areas where we may need more research.
 - Better information and an in-depth understanding of what the transportation needs really are for historically underrepresented populations.
 - Identifying strategies for how we can better coordinate with other agencies, local governments and service providers to address inequities.
 - Presentation for TRB Conference on Transportation and Equity 2021

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 Changed or inform a policy

III.C.5. Lifecycle Choose an item.

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

III.C.7. Reduce Risk Other reduced risk. Please describe below

Reduce risk of delays due to public opposition to a project.

Reduce risk of not meeting the needs of the public in MnDOT projects.

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

III.C.9. Safety Choose an item.

III.C.10. Technology Choose an item.

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

- **More equitably serve the needs of the public**
- **Collaborate more effectively with other agencies and local governments to solve equity issues and provide a better transportation system.**

IV. Technical Advisory Panel

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

Possible candidates

MnDOT

Statewide planning (Hally Turner)

Metro Planning (John Tompkins or Molly McCartney)

Metro Area Management – Melissa Barnes (or other MnDOT Engineer– Hannah P or Sonia)

Office of Transit and Active Transportation – Jake Schutt

Partners:

MN Management and Budget, Office of Diversity, Equity and Inclusion – (Nickya Cogshell or someone she delegates)

Metropolitan Council (or Metro Transit) representative working on equity

MN Department of Health representative working on equity

Health and Human Services working on equity – (Kou Thao, Director of our Health Equity
Kou.B.Thao@state.mn.us)

McKnight representative

CURA representative

Council for Minnesotans of African Heritage

Federal Reserve Bank equity office

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