

**Importance of
Understanding Equity
and Environmental
Health in
Transportation Studies**



International Commerce Mobility Forum

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Minnesota’s Journey

The journey toward integrating equity into transportation studies has been marked by significant achievements and a growing awareness of the critical role that transportation plays in shaping societal dynamics. The evolution of this field reflects a broader shift in how researchers, policymakers, and practitioners perceive and approach transportation—not merely as a system of moving people and goods but as a pivotal infrastructure influencing access to essential services, economic opportunities, and overall quality of life. This holistic perspective recognizes that transportation is a key determinant of social inclusion, environmental health, and equitable growth.

In recent years, the focus has expanded beyond traditional metrics of transportation efficiency and cost-effectiveness to include the social dimensions of transportation systems. Studies now increasingly explore how these systems affect different segments of the population, particularly focusing on marginalized and underserved communities. This shift has illuminated the disparities and barriers these communities face, driving a more nuanced understanding of what equitable transportation looks like.

Specifically, in Minnesota, the examination of the environmental justice implications is on the rise. For instance, trucking high value exports to Chicago for air cargo shipments to international destinations has an environmental impact element on low-income neighborhoods concentrated around trucking corridors (see appendix). Studying this impact will underscore the complex interplay between transportation, environmental sustainability, and community health. We have proposed to undertake this research to understand the nuanced ways in which transportation realities of today can perpetuate disparities or foster inclusivity and resilience. The insights gained from these types of studies will be instrumental in guiding more equitable transportation planning and policy-making, reflecting a significant stride toward embedding social justice in transportation discourse.

New Dimensions of Public Value in Transportation

While strides have been made in integrating equity considerations into transportation studies, there remains a palpable divide in translating these academic insights into actionable outcomes that resonate across all societal levels. The pursuit of creating greater public value through transportation studies is a societal imperative, calling for a deeper, more nuanced understanding of the interplay between transportation systems and social equity.

Firstly, the challenge of comprehensive data collection persists. Current methodologies often fall short of capturing the full spectrum of experiences and needs within diverse communities, particularly those at the socioeconomic margins. The data's granularity is crucial; without it, policymakers and researchers may overlook subtle yet critical disparities in transportation access or impact. Enhanced data collection strategies should not only be quantitative in nature but also embrace qualitative insights, drawing from the lived experiences of individuals to paint a more complete picture of transportation equity.

Furthermore, the engagement with communities in the planning and decision-making processes remains superficial in many contexts. True progress requires transitioning from token consultations to genuine, sustained partnerships with communities. This entails creating platforms where community voices are not just heard but are influential, contributing to shaping the fabric of transportation policies and initiatives. Such engagement should also be iterative, ensuring that community feedback is continuously sought, heard, and integrated at every stage of the transportation planning and implementation process.

The multifaceted impact of transportation extends beyond mere accessibility; it touches on environmental justice, public health, economic opportunities, and social cohesion. This integrated approach to transportation studies is imperative, one that recognizes and addresses the complex ways in which transportation systems influence and are influenced by broader dynamics. This approach aims to identify strategies that foster a balanced and equitable advancement across these domains.

Trucking high value exports to Chicago for air cargo shipments to international destinations is a good case study. The same applies for the receipt of high value raw materials and medical device components that are often referred to as work-in-progress or semi-finished goods being trucked from Chicago, originating from around the globe. Our lower income communities often live close to these truck routes and are exposed to higher emissions from heavy trucks. Studying the impact of so many trucks on Minnesota roads moving products that could be dispatched to their intended markets as air cargo directly from and to Minnesota is a good case study of public health impact in transportation.

Recommendations

While significant strides have been made in recognizing and analyzing the equity dimensions within transportation systems, there remains a critical need for actionable strategies to transform insights into tangible outcomes. This section outlines a series of targeted recommendations aimed at bridging the existing gaps, ensuring that transportation research and practices not only reflect equity considerations but are also instrumental in fostering more inclusive, accessible, and equitable transportation systems.

1. **Improve Data Collection and Analysis:** Develop more comprehensive and nuanced data collection methods that capture the diverse experiences and needs of different communities. This includes gathering qualitative data through community engagement to complement quantitative metrics.
2. **Enhance Community Engagement:** Establish robust mechanisms for meaningful community involvement in transportation planning and decision-making. This should include outreach efforts that ensure the participation of community members, particularly those from underserved groups to speak about health and economic impact.
3. **Adopt an Integrated Approach:** Encourage interdisciplinary research that examines the intersections between transportation, health, environment, economics, and equity. This approach will help identify holistic solutions that address multiple objectives simultaneously.
4. **Implement Equity Assessments:** Incorporate equity assessments as a standard part of transportation studies and project evaluations. These assessments should consider the potential impacts of transportation decisions on different communities and aim to mitigate any negative health and economic effects.
5. **Promote Equity-focused Policies and Practices:** Advocate for the adoption of policies and practices that prioritize equity in transportation. This includes supporting initiatives that improve accessibility, reduce disparities, and ensure that transportation systems contribute positively to the health and economic well-being of all.

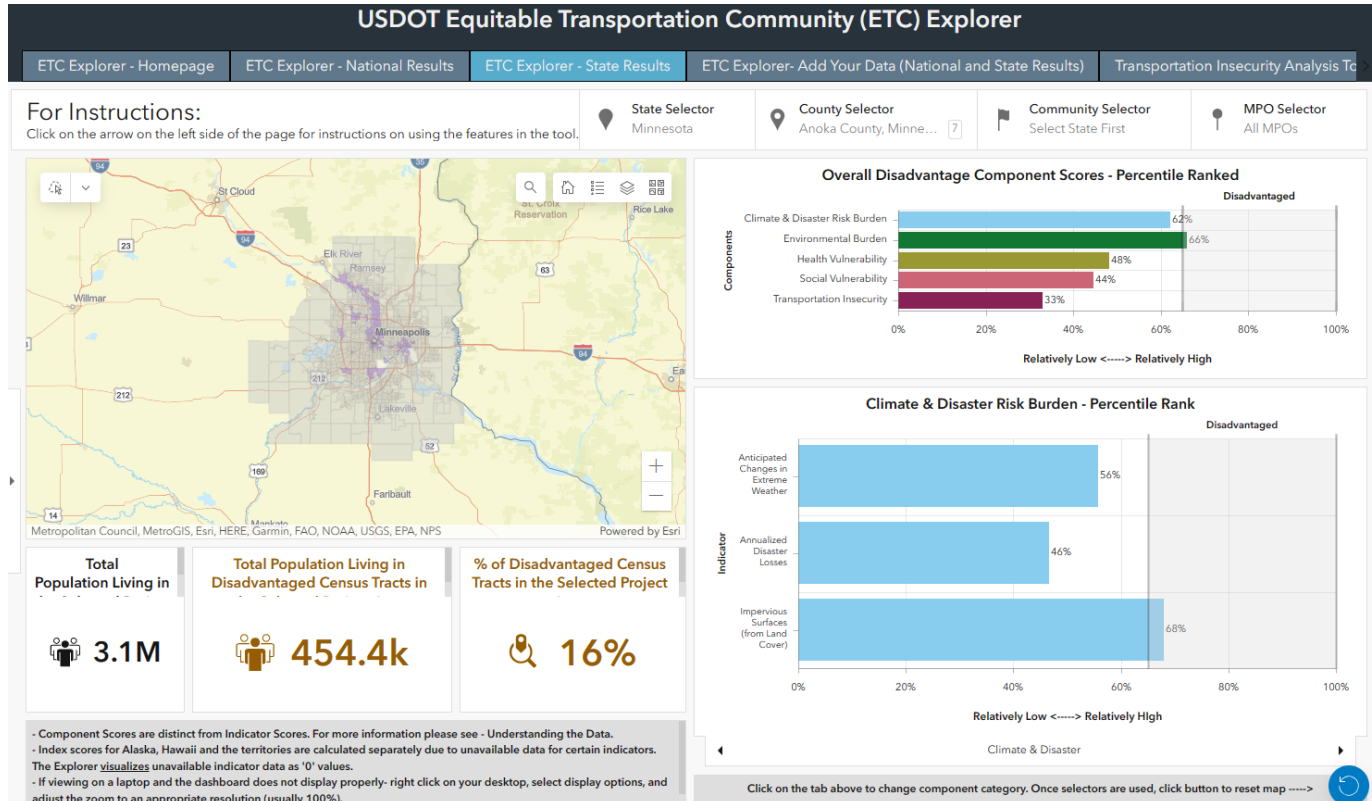
We believe trucking high value products to/from Chicago for air cargo shipments to/from international destinations is an excellent case study in exploring these principles and identifying the community health impact of trucking versus if the same high value product were sent directly to their destinations via air cargo from the Twin Cities.

Summary

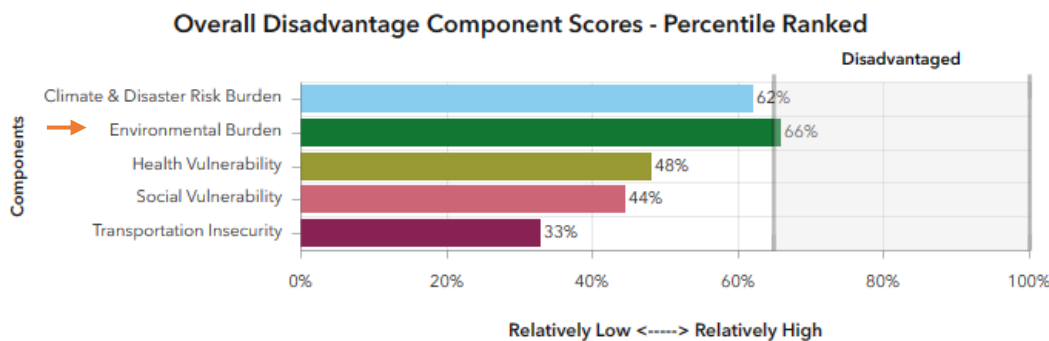
The pursuit of equity in transportation studies is not merely a matter of fairness but a fundamental requirement for creating sustainable and inclusive communities. By embracing the recommendations outlined above, we can build transportation systems that not only move people and goods efficiently but also uphold the values of justice, inclusivity, and public welfare while ensuring our high value products reach their markets. Let us continue to unite in our efforts to ensure that transportation serves as a bridge to opportunity and a pathway to a better future for all Minnesotans.

Appendix: Low-Income, Minority & Transportation Environmental Profiles

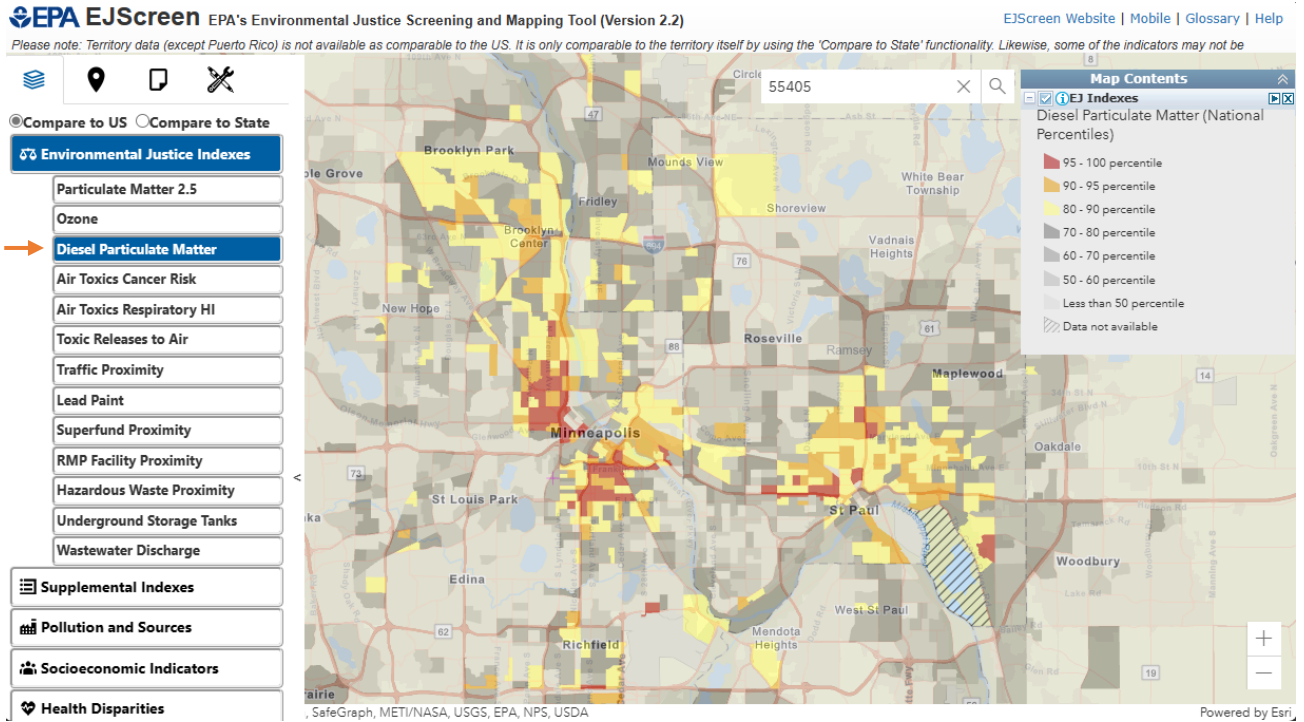
- ➡ 7-County Metro: Some 1.3 million people live in disadvantaged census tracts.
- ➡ Environmental Burden is above threshold.



On the next page, one can see that the diesel emissions, mostly from heavy trucks, map directly onto communities where low-income or minority populations live exposing them to environmental consequences. This project will quantify what fraction stems from heavy truck freight transport from Twin Cities to Chicago.



Diesel Particulates Prevalence Map



Disadvantaged Demographic Index Map

A combination of “percent low-income” and “percent minority”, the two socioeconomic factors that were explicitly called out in Presidential Executive Order 12898 on Environmental Justice

