

Welcome!

Advisory Council on Traffic Safety

October 20, 2025

Note: Today's meeting will be recorded for record keeping purposes only



Welcome and Introductions

- Chairs' Welcome and Introductions
- Approve Today's Agenda
- Approve Minutes from August 13 Meeting

- Kyle Shelton, Center for Transportation Studies

UMN Center for Transportation Studies Overview

ACTS Meeting
Oct 20, 2025



Traffic Safety in Action!



About CTS



Mission

CTS cultivates improvements and innovation in transportation through research, engagement, and education.

Vision:

In collaboration with public-sector, industry, and academic partners, CTS shapes transportation systems that are sustainable, serve the needs of all users, support a strong economy, and improve our collective quality of life.



CTS staff outside Huntington Bank Stadium

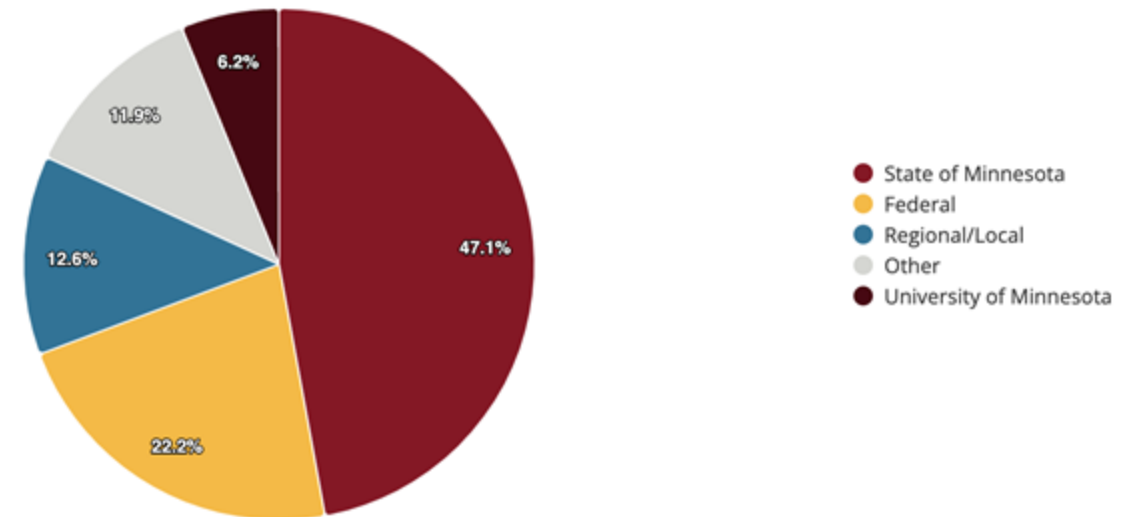


About CTS

- Work closely with faculty and research staff in more than 30 colleges and departments
- 31 staff; \$20.4 million budget
- University-wide Center within Research & Innovation Office
- Established by the Minnesota legislature in 1986 to apply U of M research to solve real-world issues.

FY25 Budget - \$20.4 million

Revenues: \$20.04 million





How we work

- CTS coordinates efforts to strategically invest in research and partnerships that answer the most pressing transportation challenges.
- CTS supports and develops the transportation workforce of the future.
- CTS informs public policy and decision-making processes with research-driven conclusions.



CTS's connected and automated research vehicle

Research Expertise and Knowledge Development



CTS works with faculty and research staff in over 30 departments across the University of Minnesota system to address a wide range of critical transportation topics, including:

- Safety
- Equity
- Access to opportunity
- Sustainability
- Resilient infrastructure/materials
- Future mobility technologies



Knowledge Transfer and Education



- Improving the skills and knowledge of practitioners
- Preparing U of M students for careers in transportation and related fields
- Sparking interest of K-12 students in transportation



Training session for maintenance professionals



Teenage summer campers inspect a worksite

Access to Trauma Care in Rural Minnesota

- Eric Lind, Accessibility Observatory, University of Minnesota's Center for Transportation Studies



Measuring access to essential destinations in rural Minnesota: rural areas of risk

Eric Lind, PhD
Accessibility Observatory
University of Minnesota
October 20, 2025

What is Accessibility?



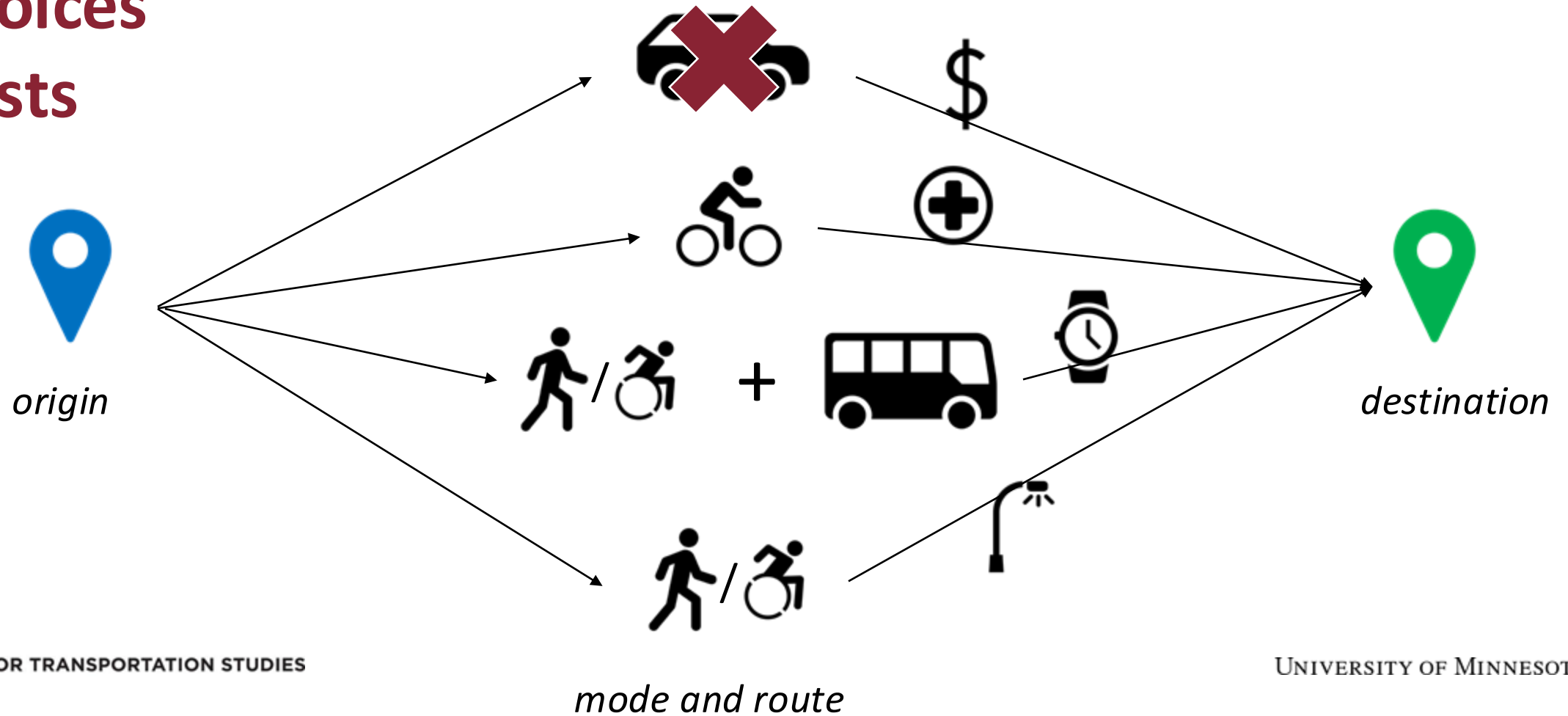
The *ease* with which a traveler *could* reach valued destinations



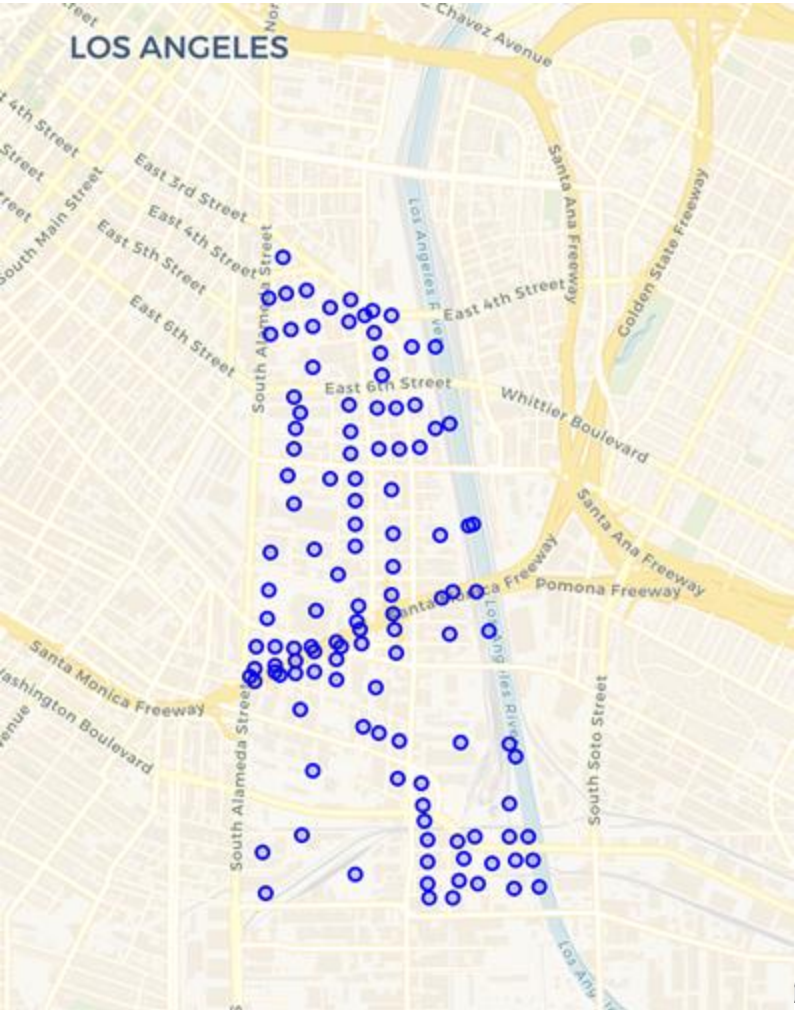
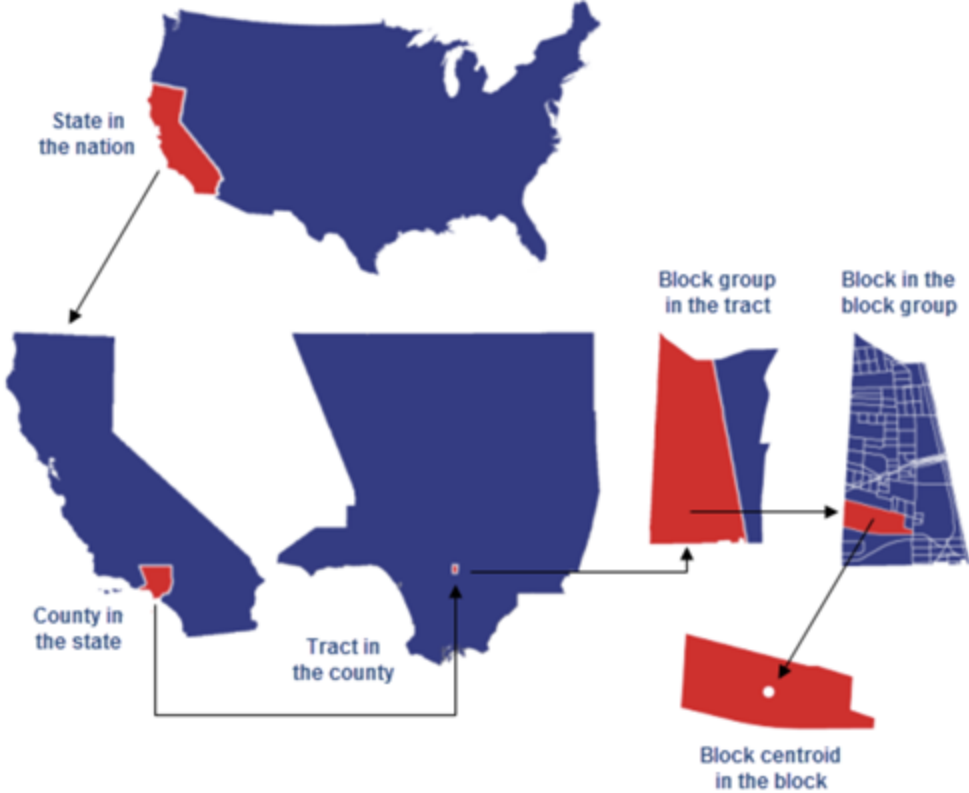
How is Accessibility Measured?



**choices
costs**







Calculating Accessibility: block origins





Calculating Accessibility: network inputs

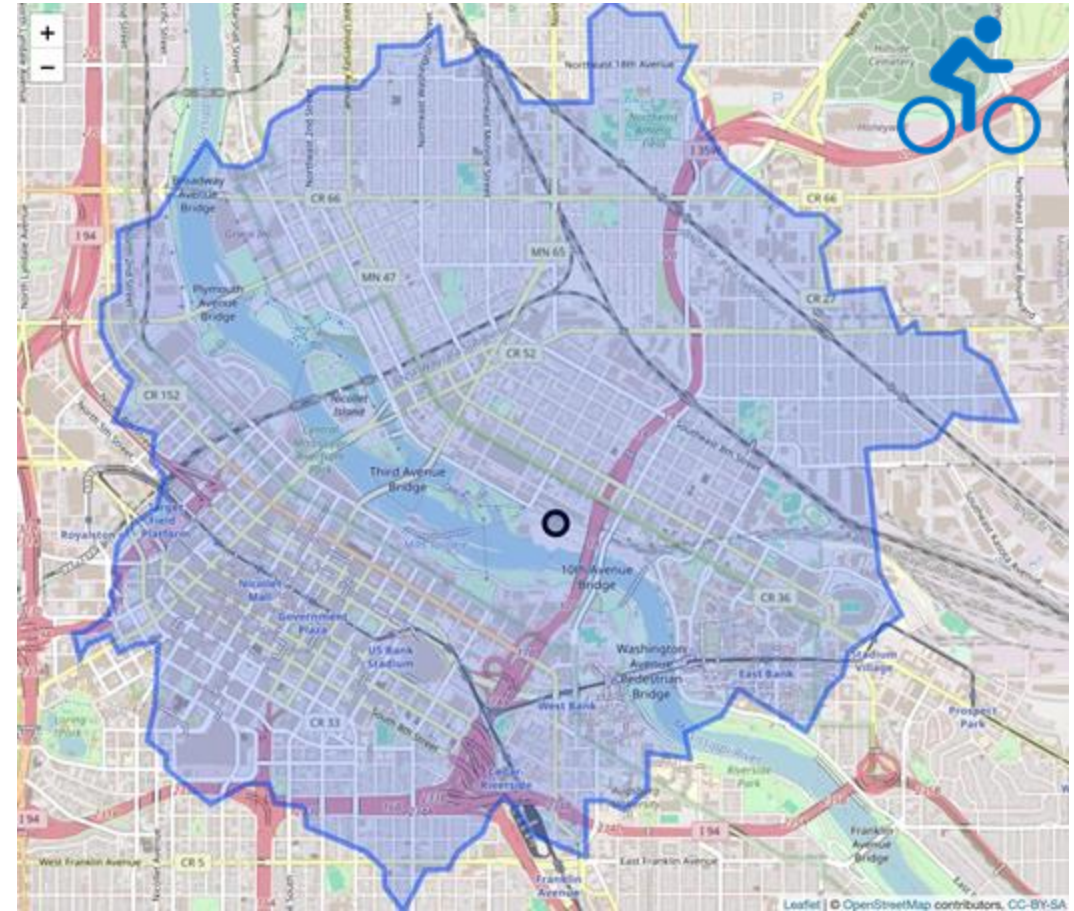
	purchase observed speeds by segment, time of day
	GTFS schedule feeds (1000+ nationwide)
	Open Street Maps, algorithm to score safety + comfort
	Open Street Maps

Calculating Accessibility

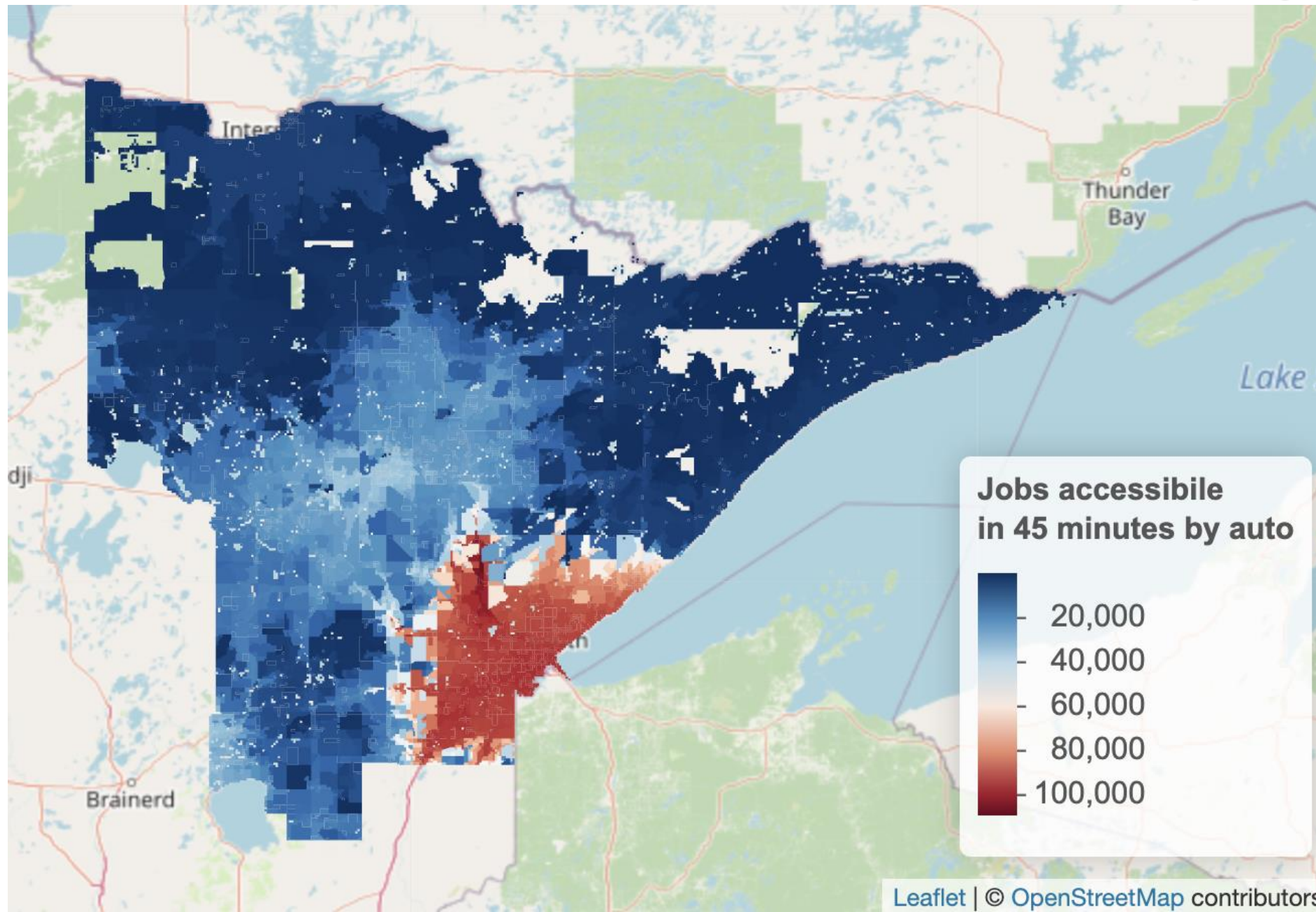


for each origin,
for each mode,
for each time of day,
measure *travel times* to
destinations

for each travel time,
what can be reached?



Job accessibility by auto: Arrowhead





Access to what kinds of Destinations?

Jobs




- Enumerated job sectors

Education



- Childcare centers
- Public and Private K-12
- Post-secondary schools
- Libraries & Museums

Healthcare & Services




- Primary care clinics
- Urgent Care
- **Trauma Centers**
- Social Security Offices

Food




- Grocery Stores (SNAP retailers)

Entertainment

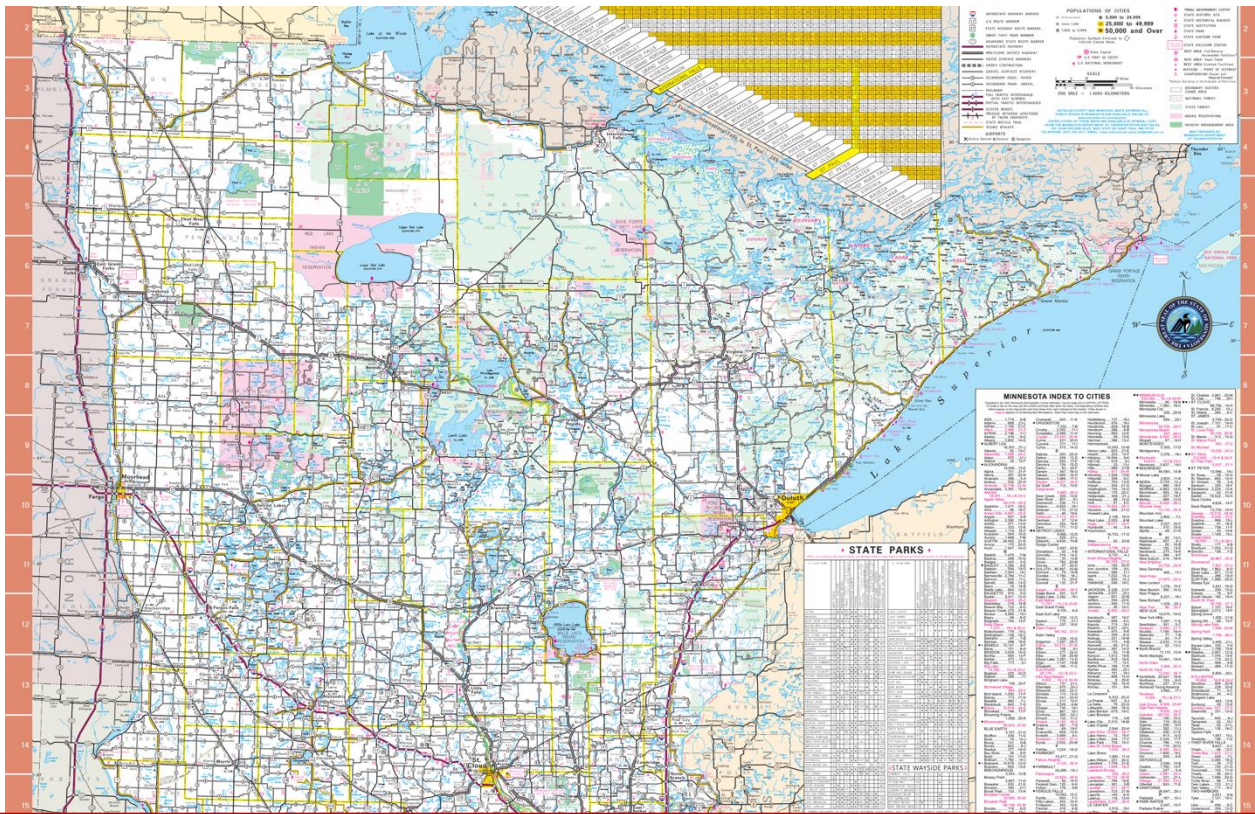


- Convention Centers
- Major Sports Venue
- Fairgrounds

Intermodal Freight



- Airports with Cargo Facility
- Pipeline terminals
- Rail terminals
- Ports



Road Miles by State

1. Texas
2. California
3. Illinois
4. **Minnesota**
5. Kansas

Minnesota Traffic Fatalities

TZD Goal: No more than 225 by 2025



2025 YTD:

298



2024 YTD:

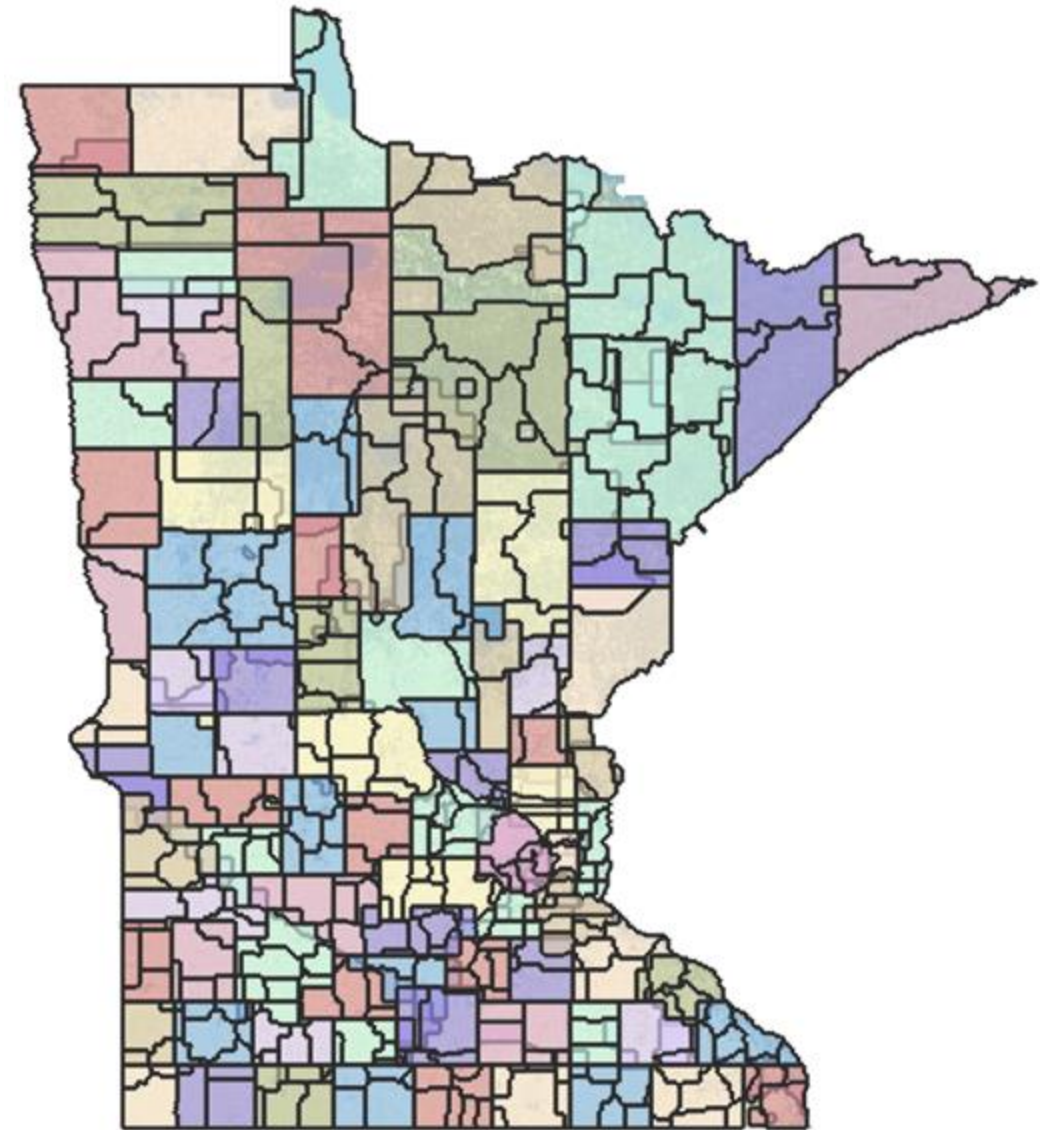
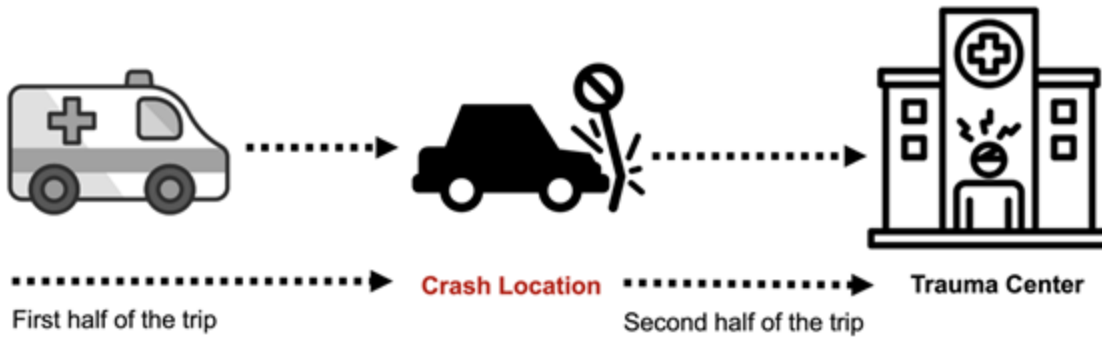
371



2024 Total:

477*

What are overland **response travel times** to traumatic crashes in Minnesota?

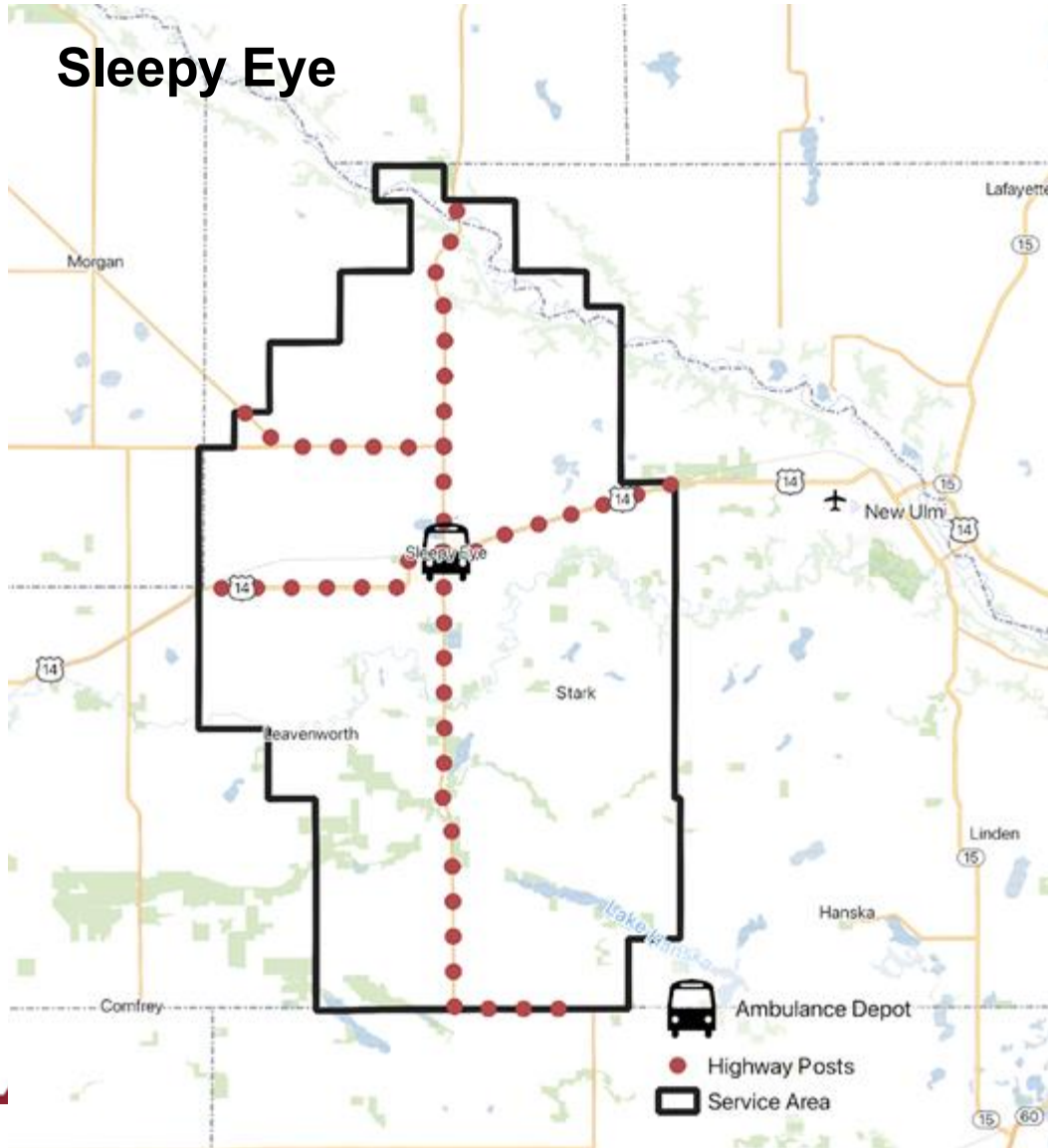


Minnesota EMS response boundaries & county boundaries

Methodology: Calculating Travel Times



Sleepy Eye



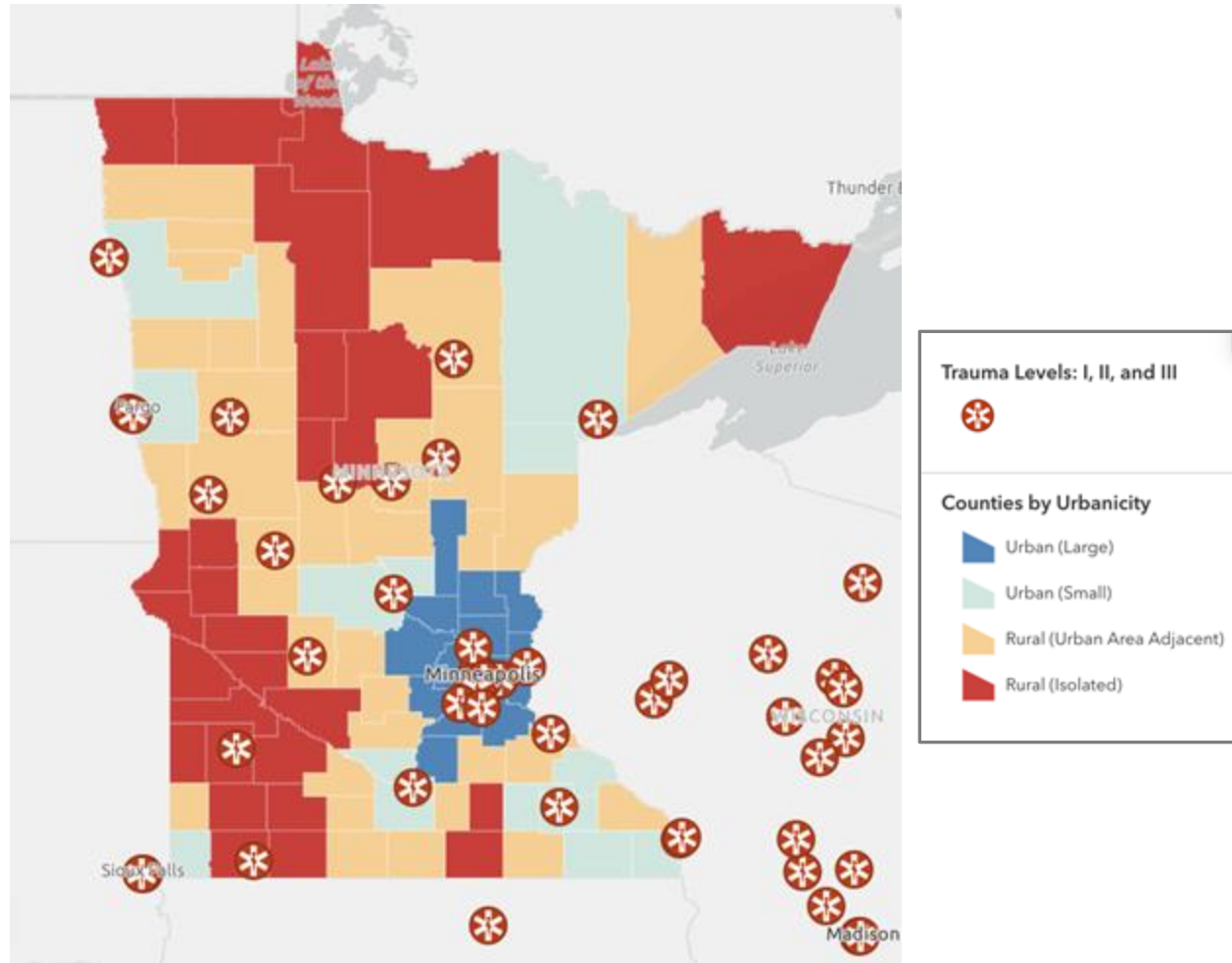
Step 1: Travel Time by EMS Service Area

- depot to each highway mile marker
- Average times by service area

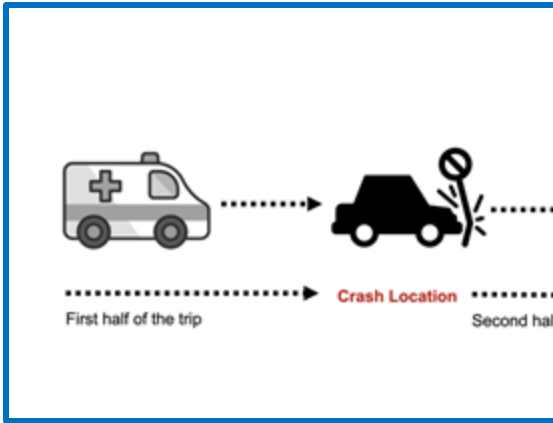
Methodology: Calculating Travel Times

Step 2: Travel time to Trauma Center

- travel time from each highway mile marker to reachable trauma centers
- take shortest time
- Level 1 and 2 centers *comprehensive surgical services 24/7*
- Level 3 centers *general+ surgical services 24/7*
- **Level 4 centers *variable surgical services***
- includes 88 hospitals across Minnesota

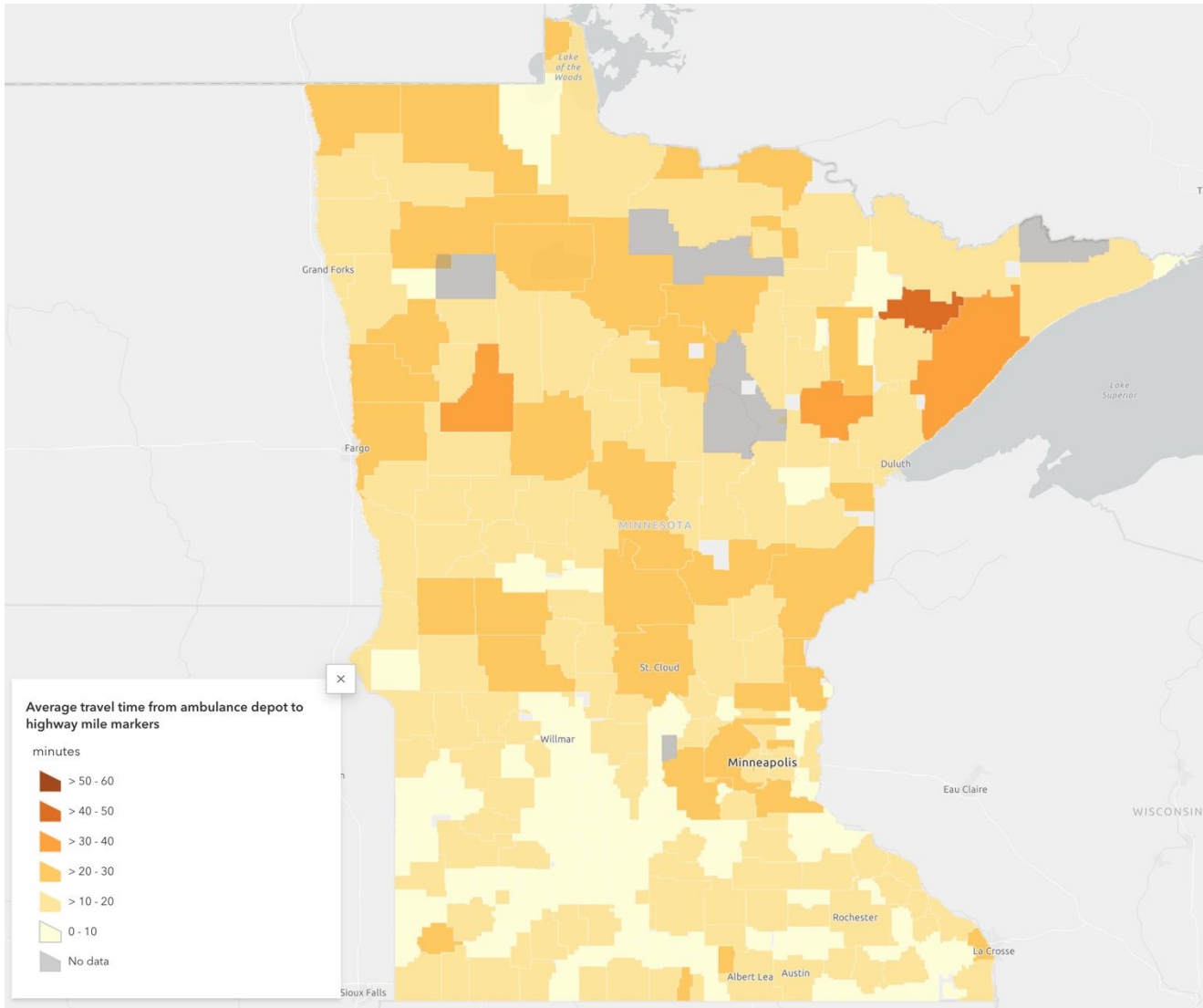
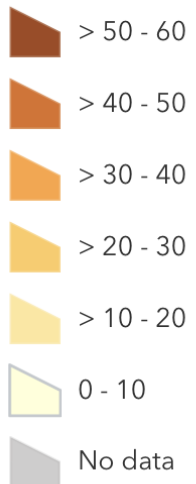


Mapping Travel Times



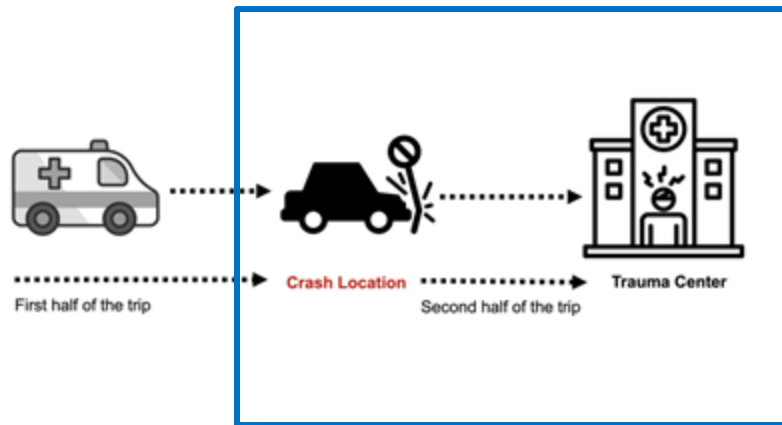
Average travel time from ambulance depot to highway mile markers

minutes



EMS to Highway Roadside

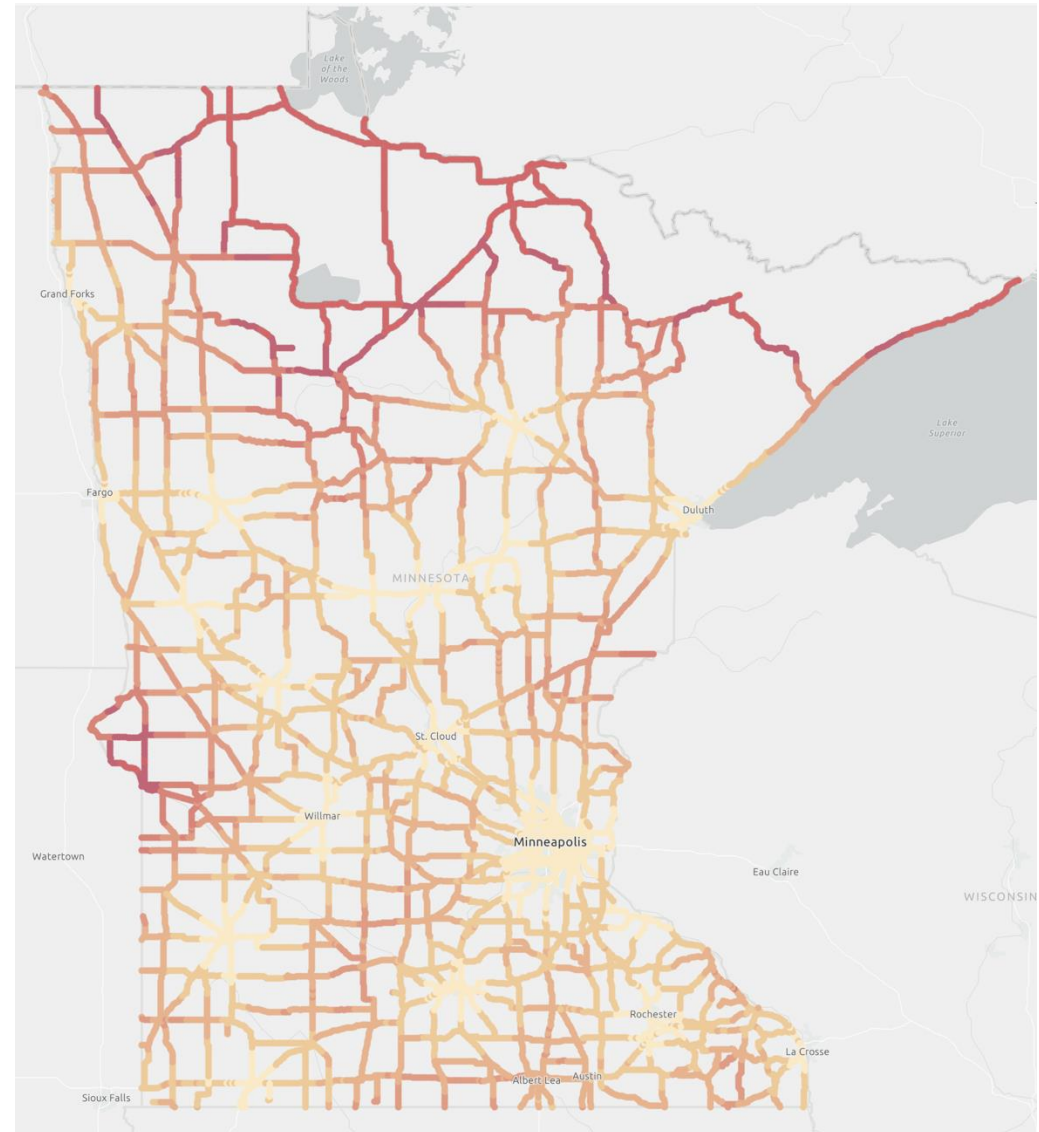
Mapping Travel Times



Travel time from highway mile marker to nearest trauma center

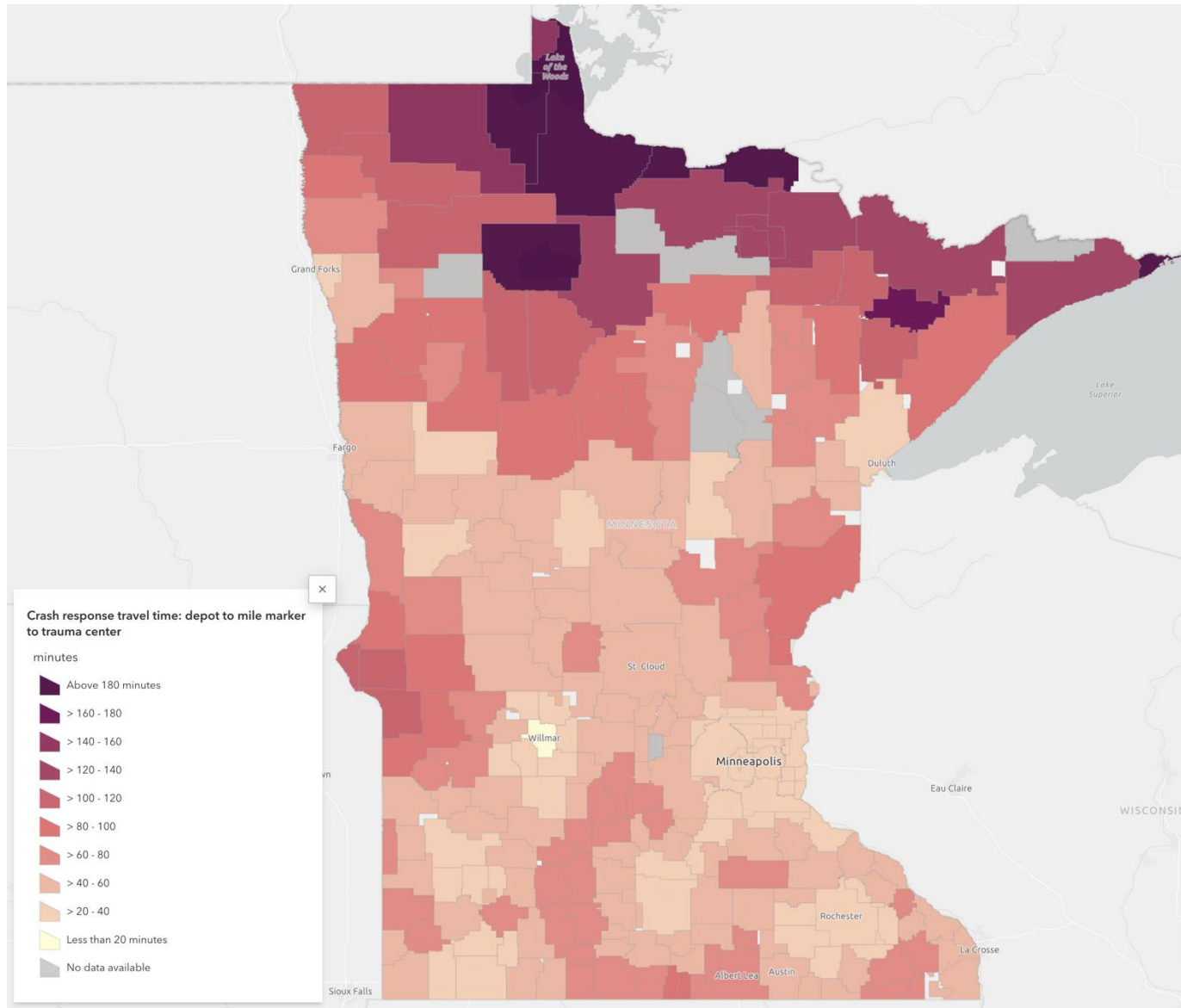
minutes

- > 100 - 120
- > 80 - 100
- > 60 - 80
- > 40 - 60
- > 20 - 40
- Less than 20 minutes
- More than 120 minutes



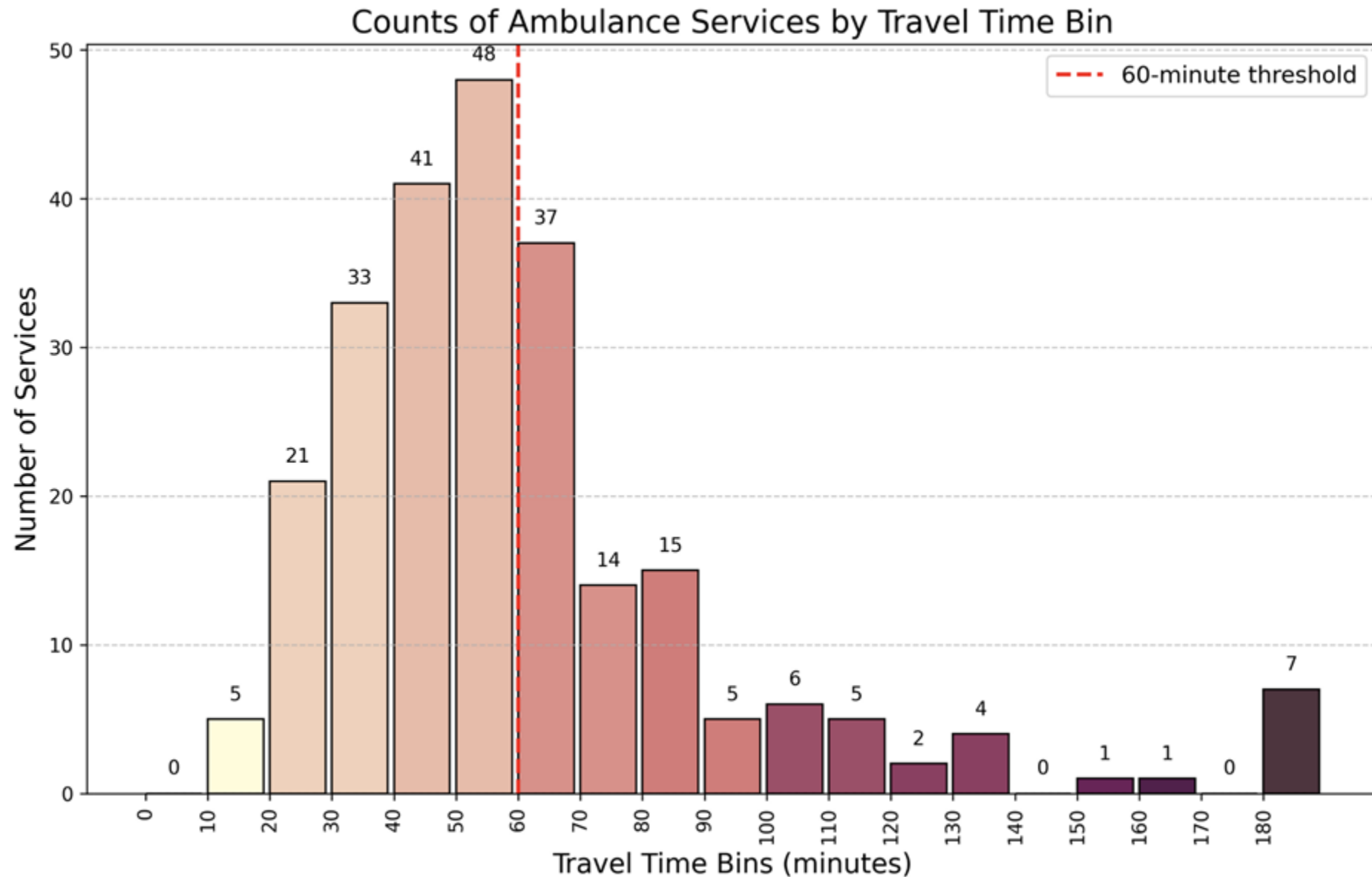
Roadside to Trauma Center

Access to Trauma Centers: Total Travel Time

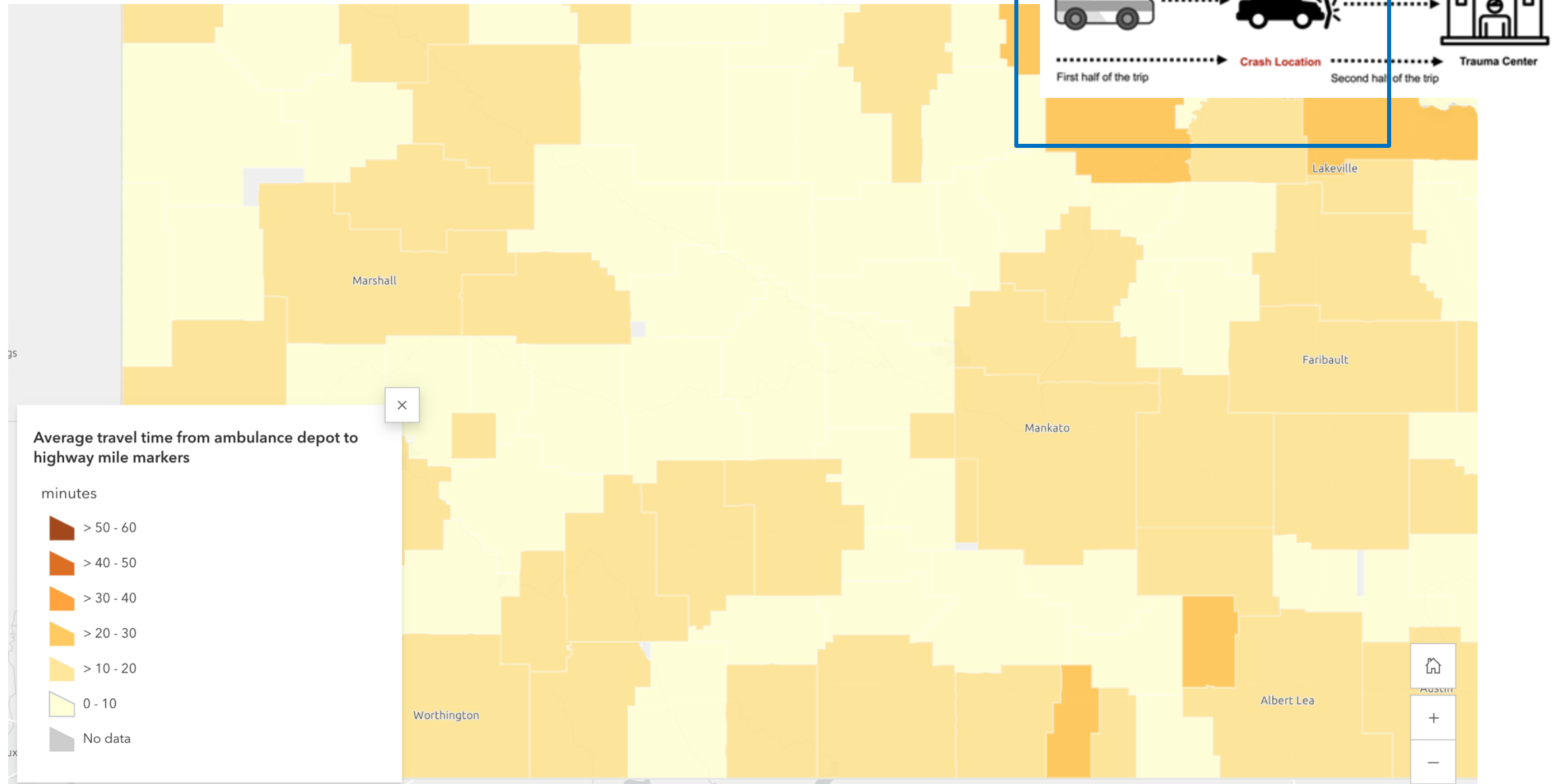


- Total travel times added across stages.
- Some depots take over 2 hours to get to nearest trauma center.
- Travel times vary widely by rural areas.

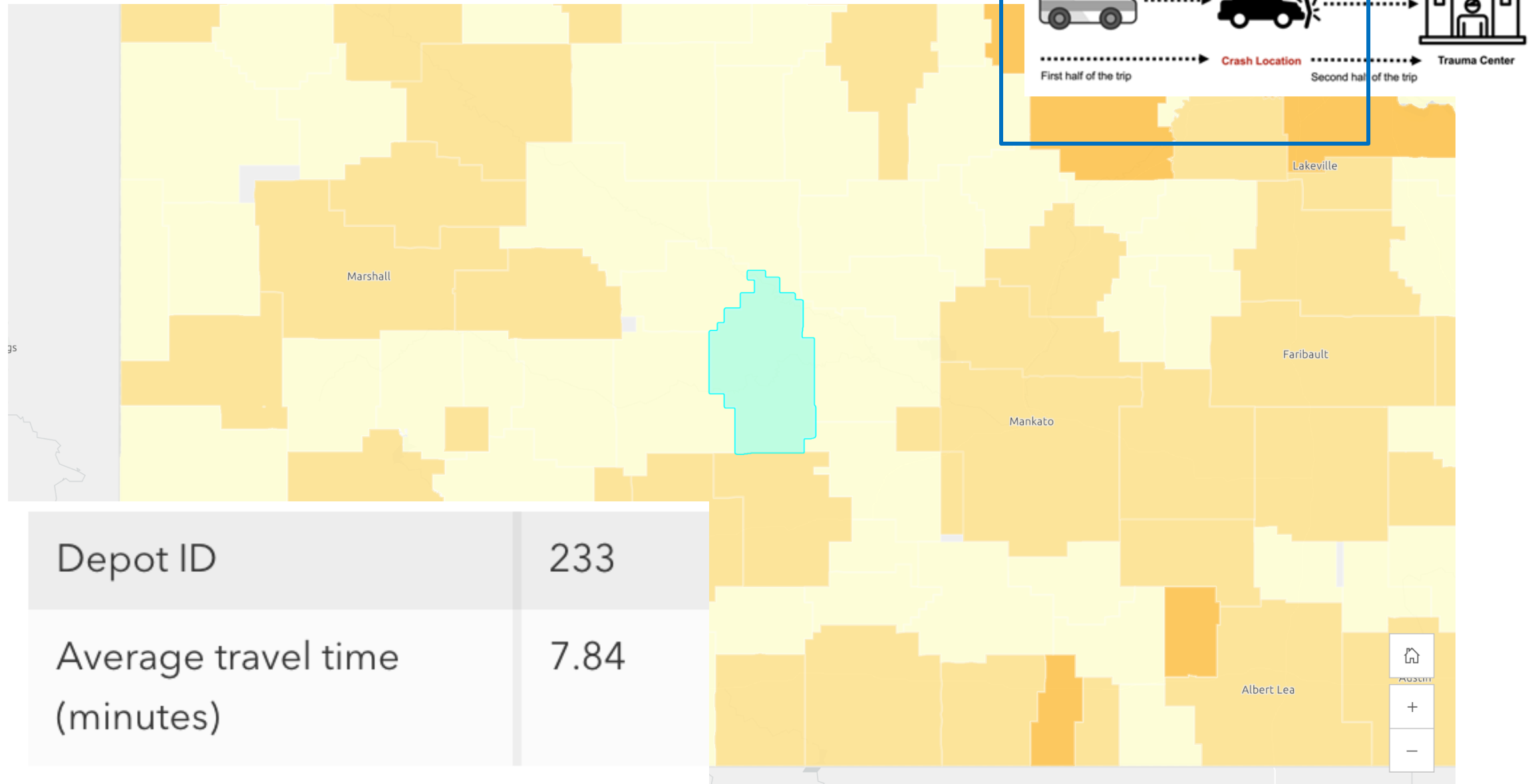
Access to Trauma Centers: Total Travel Time



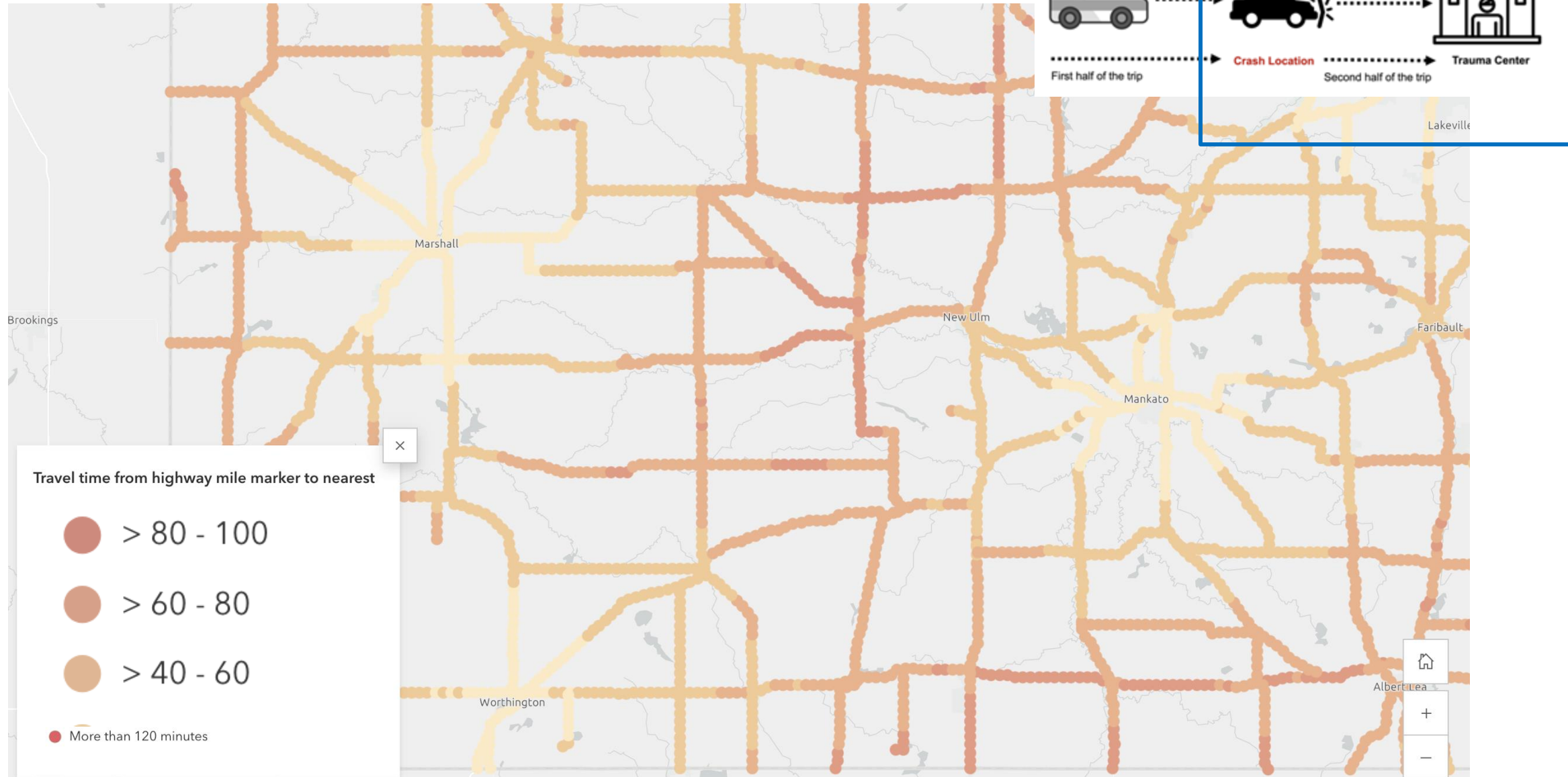
Focus: Southwest MN



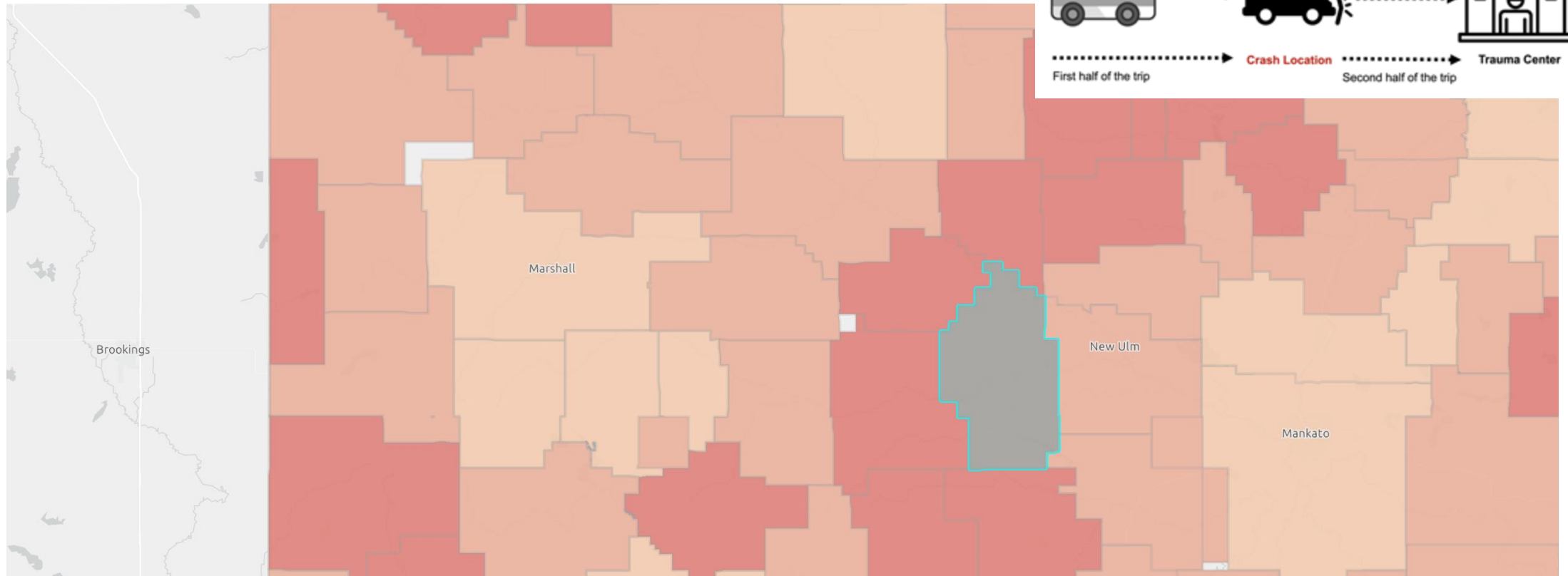
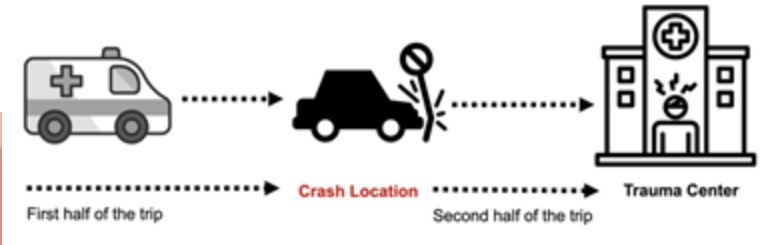
Focus: Southwest MN



Focus: Southwest MN

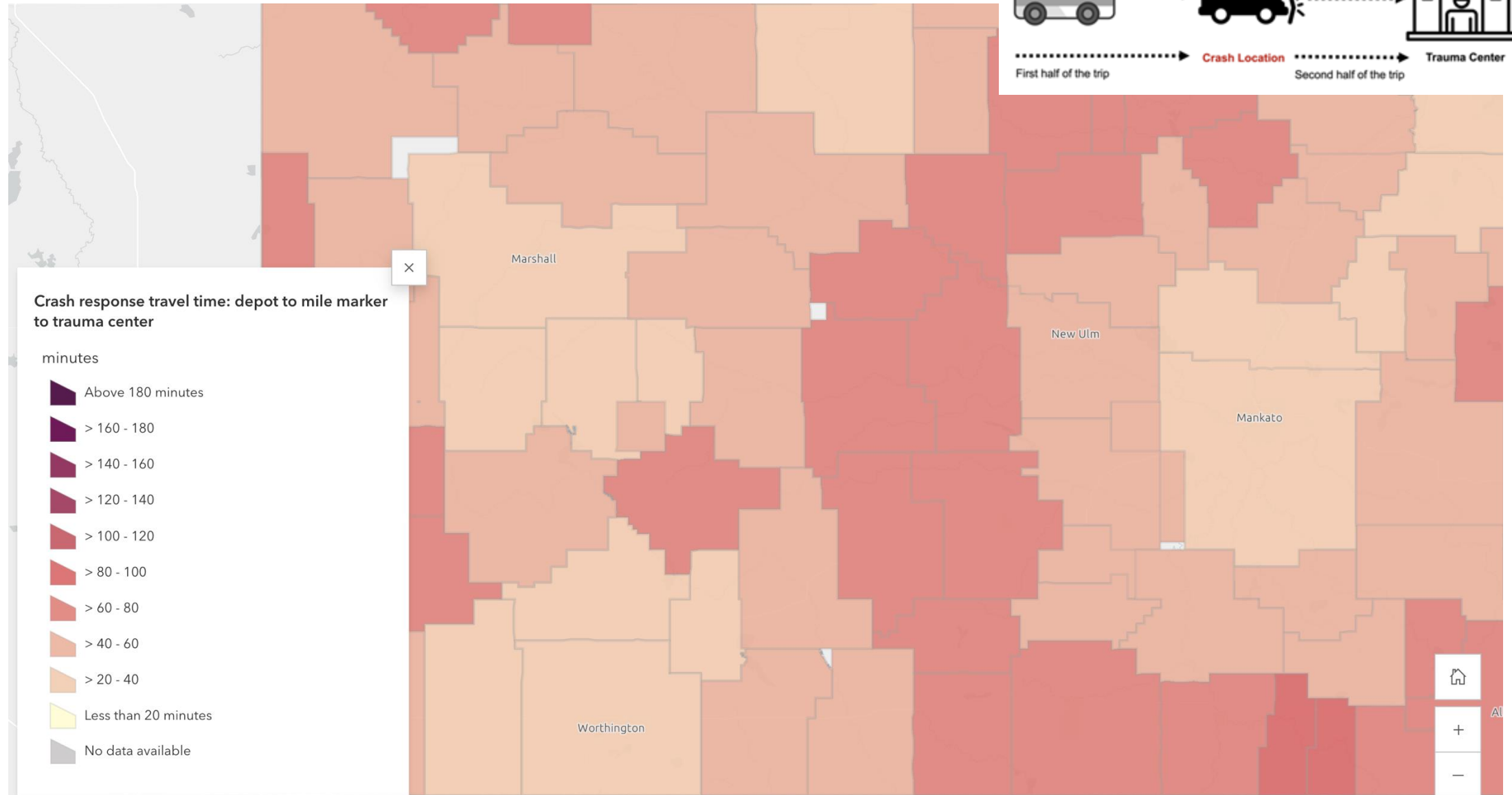
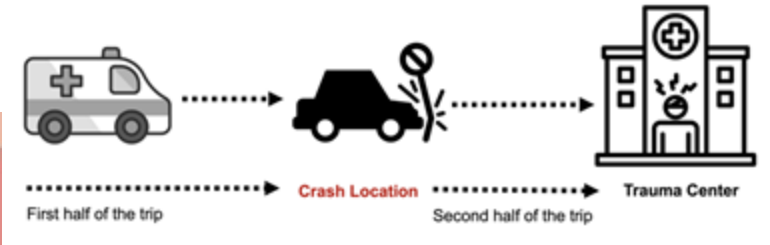


Focus: Southwest MN



depot_id	233
Mean total travel time (minutes)	69.31

Focus: Southwest MN



Telehealth: solving travel time challenge?



Health

Hannah Yang · September 13, 2024 4:00 AM

EMS receives \$9.9 million to expand ambulance-based telemedicine



A physician in the AVEL system walks two Murray County EMTs through some training exercises via a video conference call. The video device was mounted on the back wall of a Murray County ambulance in Slayton. 📸 Jackson Forderer for MPR News

- Can remote guidance improve outcomes in lieu of short travel times to trauma center?

MPRnews
Stay Curious. Stay Connected.



Questions & Suggestions?

More on our work and data

<https://access.umn.edu>

- Access Across America
- Reports
- Data

elind@umn.edu



What's local across rural Minnesota?
story map

Telemedicine in SW and Arrowhead EMS Regions

- Anna M. Jenson, SW-EMS Director
- Patricia Jewett, Ph.D., University of Minnesota

Southwest Minnesota Advancing Remote Tele-EMS (SMART-EMS)

Ann Jenson, Southwest Minnesota EMS

Annette Larson, MN DOT

Patricia Jewett, University of Minnesota

October 2, 2025



UNIVERSITY OF MINNESOTA

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The Team



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Southwest MN EMS



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Executive Director, Translational
Center for Resuscitative Trauma
Care
University of Minnesota



Trish Jewett
Assistant Professor
University of Minnesota



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Manager of Emergency & EMS
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Avel eCare



Greg Beilman
Director of Translational Center for
Resuscitative Trauma Care and
Professor of Surgery
University of Minnesota



John Gruber
EMS Operations Manager
Avel eCare



Rural Health Challenges

- **#1 Cause of death** under 46
- **72%** of rural trauma deaths occur on scene (urban: 41%)
- **40% higher** rate of occupational injuries in rural states
- **transport times** affect injury mortality

Trauma

- Stroke **1.45x more prevalent** in rural areas (NHIS, 1996)
- **Higher AMI mortality** at 30 & 90 days in rural hospitals (Loccoh, 2022)
- AHA (2021): **Telemedicine** is critical for rural STEMI care

Stroke and Heart Disease

- **Suicide risk is 2x higher** in rural communities (CDC, 2021)
- Narcotics death rates **higher** in rural subpopulations
- **85%+** live in mental health professional shortage areas
- Barriers: **Stigma, distance, & privacy concerns**

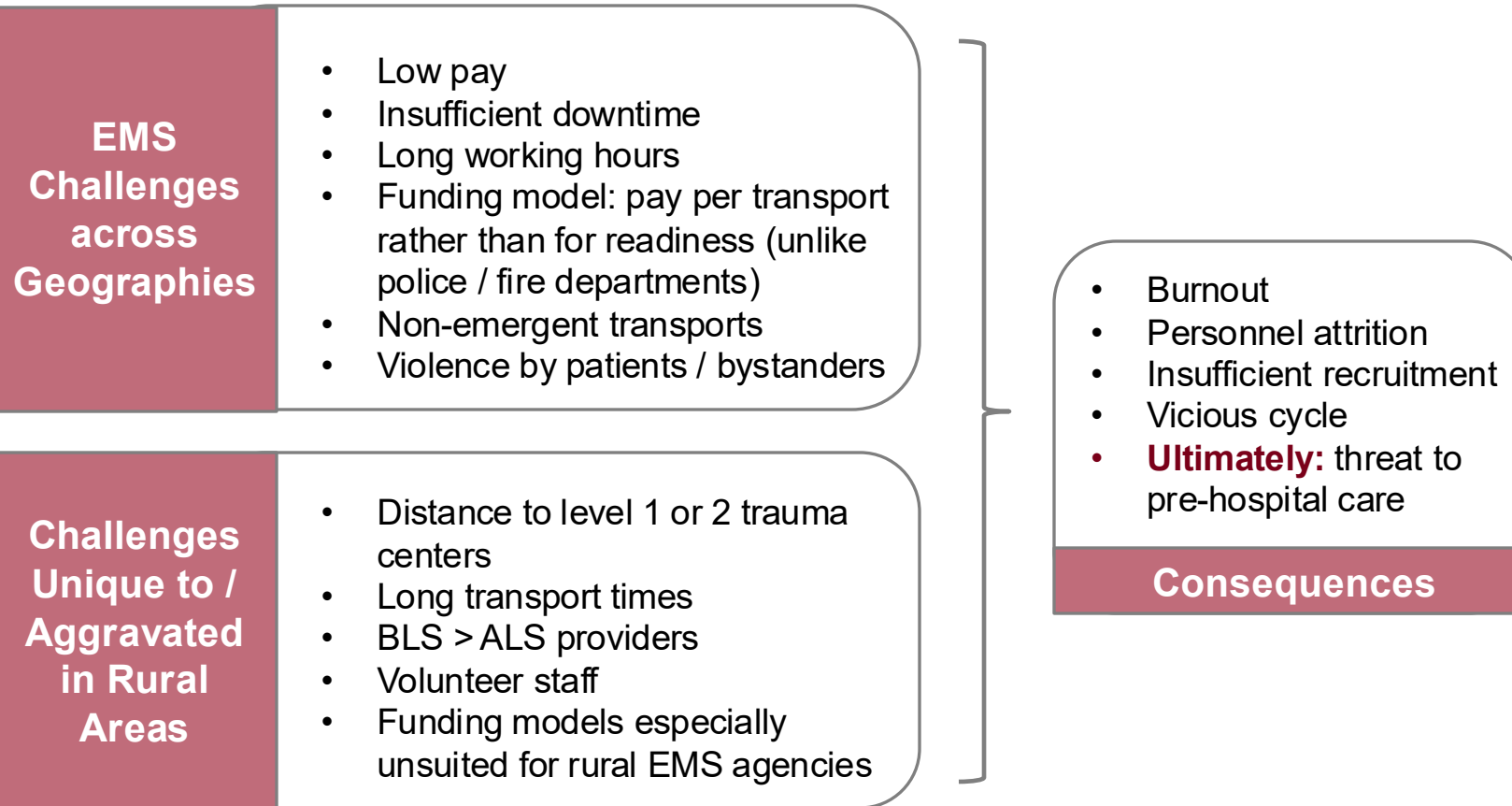
Behavioral Health

- EMS often **volunteer-based, BLS trained**
- **Delayed response & transport times**, worsened by weather, distance, & hospital scarcity
- **No added resources during seasonal tourist spikes** (e.g., Cook County: 1.5M)

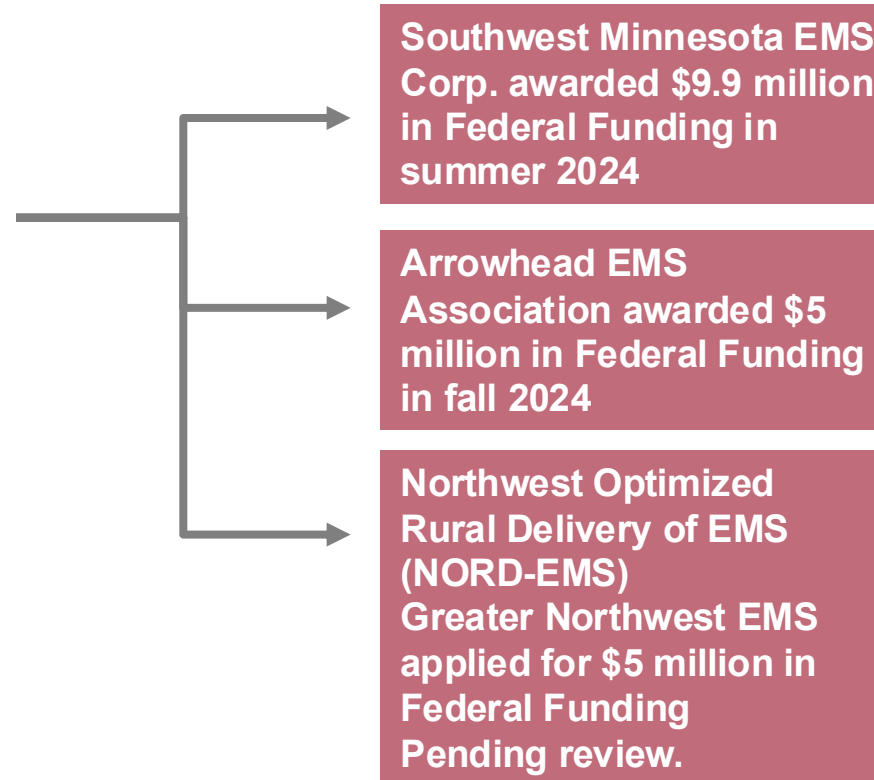
Barriers to Care



EMS Challenges



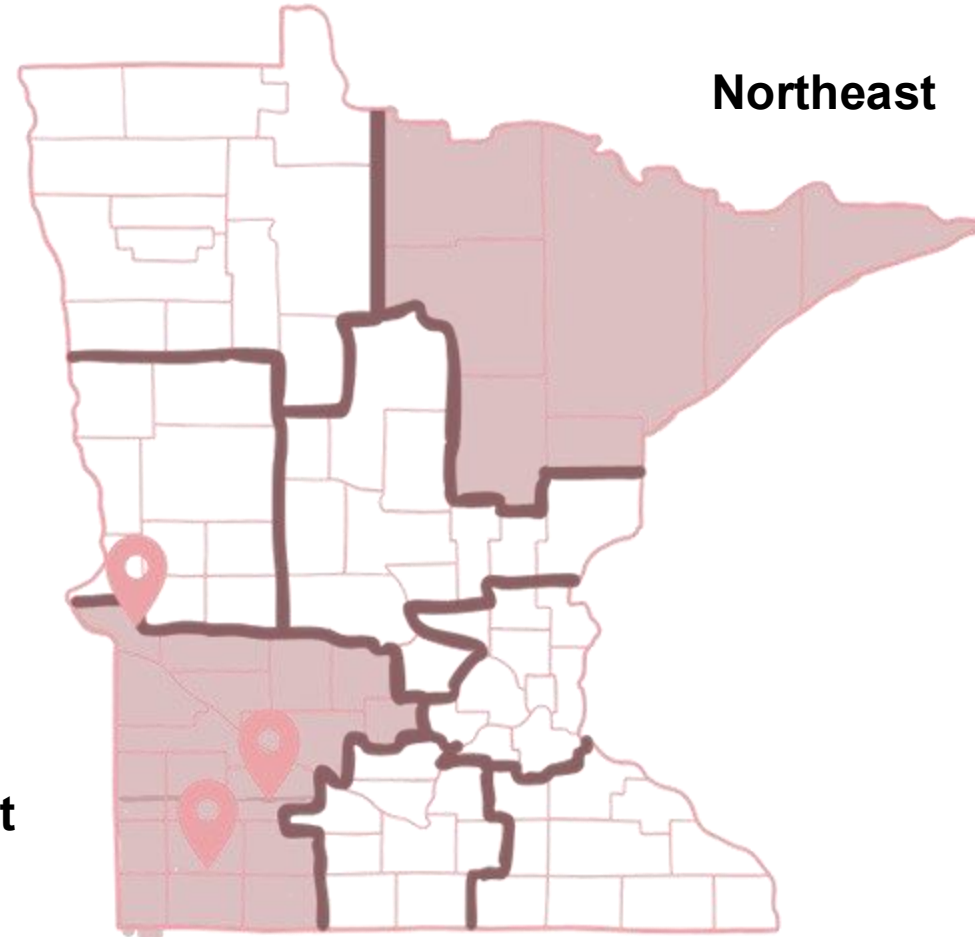
The Grant(s)



The Project – where and what?

- **2 Rural Minnesota EMS regions**
- **Telehealth-in-transport implementation in EMS agencies**
- **Evaluation of process and clinical outcomes**

Southwest



The Intervention – how it works



The Project – what will we measure / evaluate?

- 30 Day mortality
- ED mortality
- Hospital mortality
- Hospital length of stay

Patient Outcomes

- Retention
- Acceptability / satisfaction surveys
- Pre/post occupational health (at baseline and 6 months after telehealth implementation)

Provider Outcomes

- Airway
- Tourniquet
- Pelvic binder
- Opioid antagonist use
- Epinephrine use

Procedures - Interventions

- Number of transfers
- Number of stops
- EMSRB Clinical Advisory Performance measures
- Time to definitive care / level 1, 2, 3, 4 trauma center
- Type of transport (ground, air)
- Time to procedures (e.g., EKG, glucose measurement)

Procedures - Timing



Project Partners



Questions?





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Crookston Duluth Morris Rochester Twin Cities

The University of Minnesota is an equal opportunity educator and employer.



Break

Policy and Legislative Affairs Subcommittee

- Paul Aasen
 - *Minnesota Safety Council*

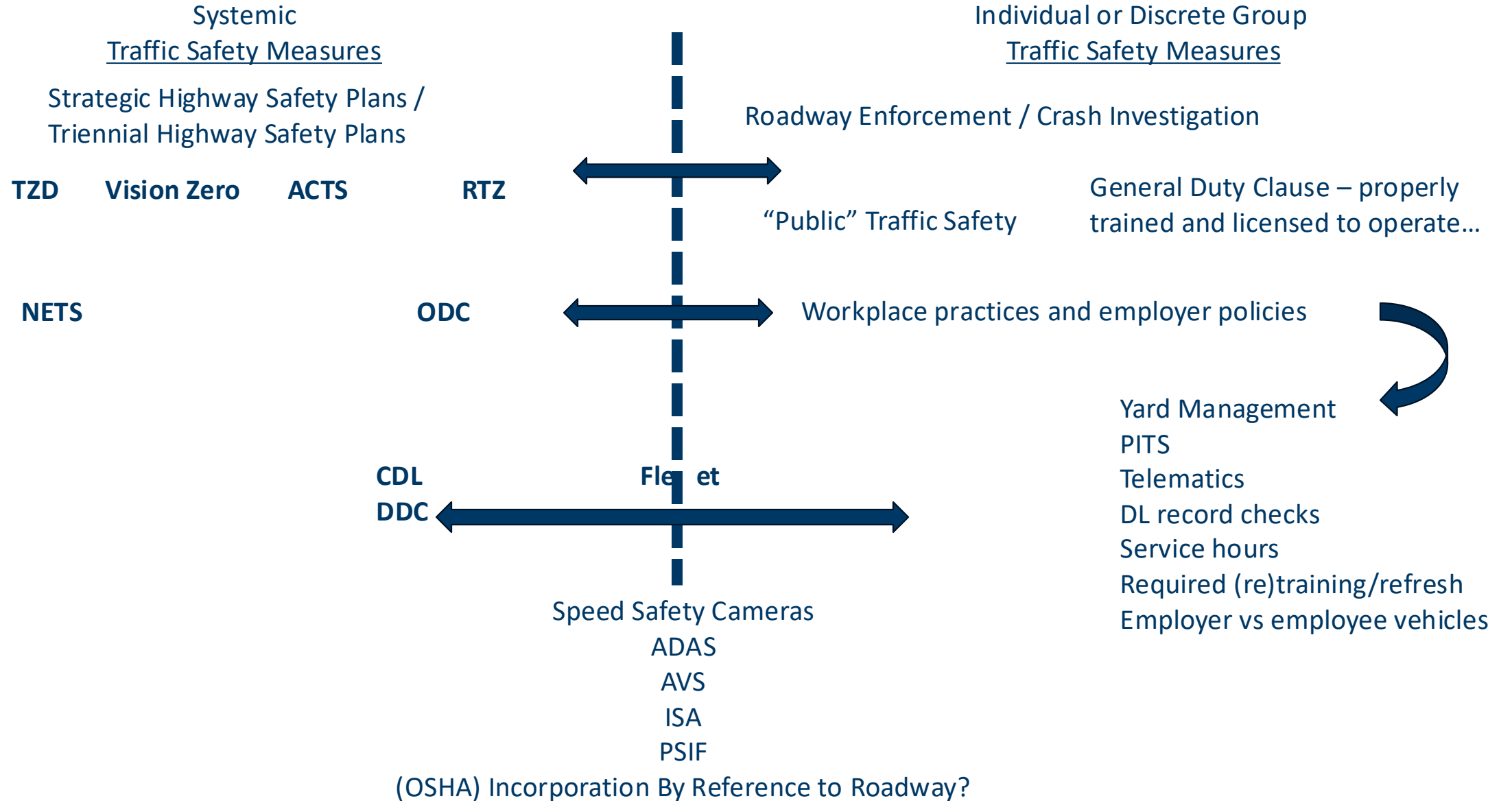
2025-2029 Strategic Highway Safety Plan (SHSP) Update and Discussion

Policy and Legislative Affairs Subcommittee Update

Member Updates

Federal Updates

Traffic Safety and the Workplace



- Mike Hanson
 - *Department of Public Safety*

ACTS Annual Report

TZD Conference Reminder

State appeals court ruling: school bus stop arm law

Council Business: Subcommittees and Working Groups

- TIM Working Group
 - *Reed Leidle, Safety Signs*
- Safe Road Coalitions Working Group
 - *Annette Larson, Statewide TZD Program and Operations Director*
- E-Bike Policy Advisory Committee
 - *Michael Wojcik, BikeMN*

Public Comment

Public comment is limited. The number of commenters and length of time permitted is at the discretion of the chair, and is subject to change.

Thank You

