

# Dynamic Transportation Options Study

Caroline Miller, AICP | MnDOT Office of Transit and Active Transportation

# Legislation Definition

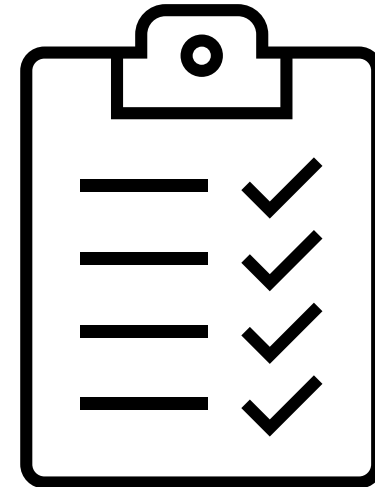
**“Dynamic Transportation Options”** includes but is not limited to:

- nonfixed route options,
- prearranged and dial-a-ride options arranged via telephone, digital application, or website;
- demand response microtransit service for last-mile connection;
- and private transportation companies, including but not limited to transportation network companies or taxi companies



# Study Overview

- Legislatively mandated study due 2/15/2025
- Key study components:
  - Analyzing existing transit conditions in greater MN
  - Recommendations on a pilot program in coordination with an RTCC
  - Stakeholder engagement



- How is MnDOT involved in the “Dynamic Transportation Options” space?
  - Long range planning
  - Shared Mobility
  - Mobility Management
- Dynamic Transportation Options Study



# Long Range Planning

MnDOT Contact: Nathan Abney | Transit Planner

# Long Range Planning

- The Greater Minnesota Transit Plan (GMTP) development recently kicked off.
- The GMTP will be a policy-based plan with innovative planning recommendations intended to provide a practical vision for maintaining and improving transit service in Greater Minnesota.
- The plan will focus on providing policy direction that reflects recent trends and guides priorities for transit service in Greater Minnesota.
- Core of plan focused on public transit - but key trends, existing conditions analysis, and public engagement will identify where more dynamic transportation options are needed.



## Sustainability and Carbon Reduction

- Transit is a key mode to carbon reduction solutions
- Fleet transition



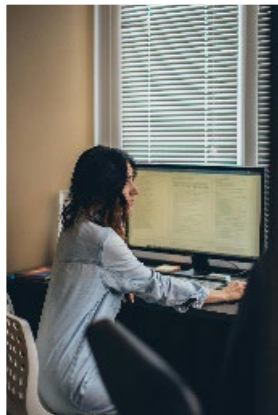
## Equity

- Developing transit solutions for underserved and underrepresented communities



## Technology and Mobility

- Shared mobility and micro transit
- Emerging technologies



## Transportation Behavior

- Modal shifts
- Flexible work arrangements





## Equitable Funding Formula

- Shift in operations funding
- Equity criteria



## Coordination and Partnerships

- Sharing of resources
- Coordinating service



## Service Performance

- Establish baseline
- Goal setting



## Demographic Shifts

- Population changes
- Age distribution and diversity



# What is shared mobility?



- Transportation services are shared among users
- Users may use the service at the same time or independently of one another
- Same time: public transportation, taxi and ride hail, and carpooling and vanpooling
- Independently: car sharing, bike sharing, scooter sharing, delivery

# Why shared mobility program is important

## Meeting demand for public transit in Greater Minnesota

- Meet legislative mandate to MnDOT for Greater MN transit funds that requires meeting 90% of transit demand
- Shared mobility fills in where traditional transit is not economical or cannot provide service



# Why shared mobility program is important

## Meeting MnDOT's goals to reduce GHG emissions

- Rich public transit and shared mobility options offer choices over SOVs
- More choices mean more viable options for GHG emission offsets for new construction



# Why shared mobility program is important

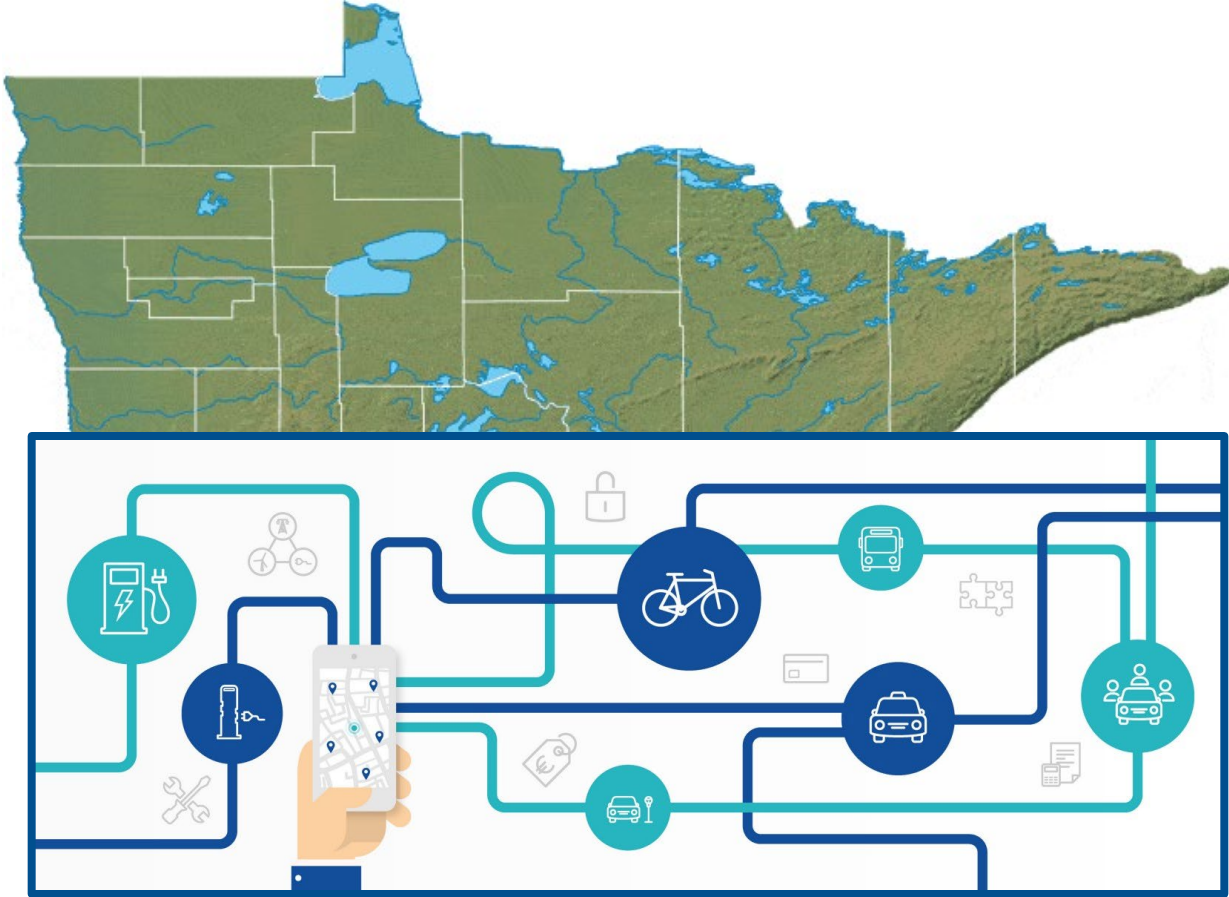
## Improve quality of life for rural, tribal and small urban communities

- 2020 MnDOT funded research study with North Dakota State University found:
  - 23% of rural transit riders would have to leave the community that they live in if they did not have public transit services
  - 63% said that they would lose their job if they did not have public transit as an option



# Greater Minnesota Shared Mobility

## Program Projects



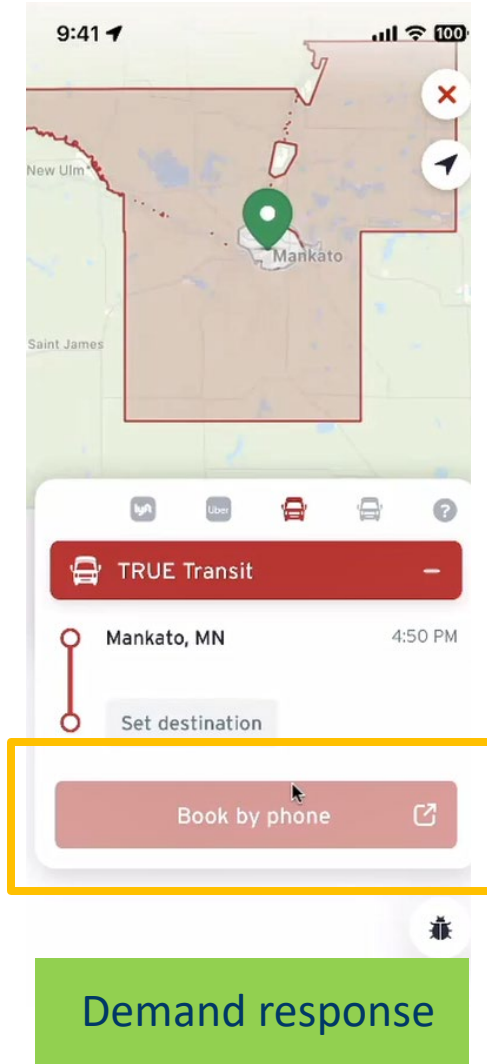
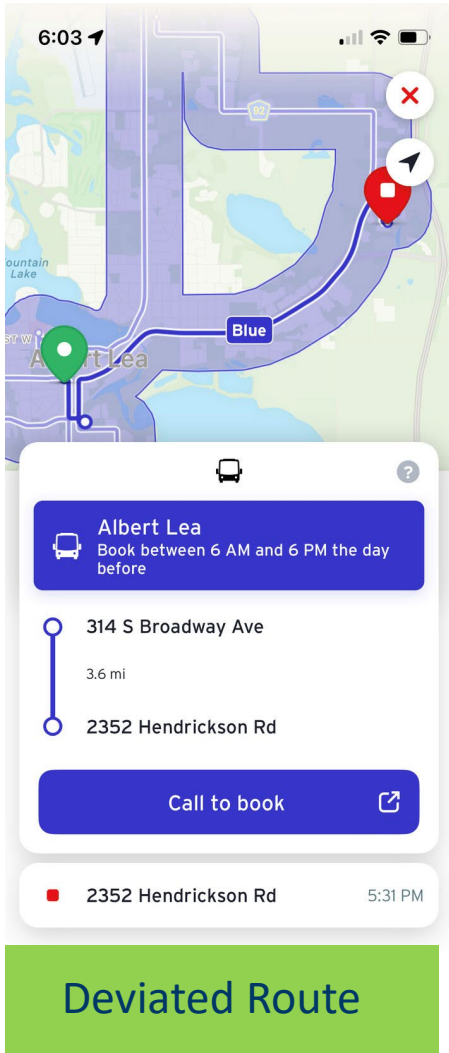


# Minnesota Mobility-as-a-Service Platform

- Created regional trip planning, booking and payment platform with 13 transit agencies + private providers
- 1<sup>st</sup> time rural providers on major trip planning app with payment/booking integration
- Received 2 FTA innovation grants and Mn Technology Modernization Fund award



# Examples of non-fixed route searches



# Minnesota Mobility-as-a-Service Platform

## MaaS Results to date:

- Over 11,000 monthly app users
- Over 4% increase in rural transit ridership in first 9 months versus flat for agencies w/o MaaS
- Flattening peak volume of dial-a-ride calls
- Expanded non-English speaker access



# Minnesota Mobility-as-a-Service Platform

## Maas moving forward

- Current state grant to add web-based booking and real-time arrival
- Add Arrowhead Transit in early 2025 under goMARTI expansion grant
- Pending federal grant to expand to rest of Greater Minnesota, intercity bus integration



# Want to learn more about MaaS?

**MPTA Session: Wednesday 11:00 am- 12:00 pm**

*Plan, Book, Pay: Mobility-as-a-Service in Greater Minnesota*

Room 247

- **Elliott McFadden**, MnDOT
- **Raphael Barcham**, Cambridge Systematics
- **Asst. Professor Alireza Khani**, University of MN







**THE LEAN  
STARTUP**

- **Problem/solution focused**  
*Is this a problem worth solving?*
- **Human centered design**  
*Involve customers as much as possible as early as possible*
- **Resource light**  
*Building the least amount you need to test an idea, i.e. your MVP*



THE LEAN  
STARTUP

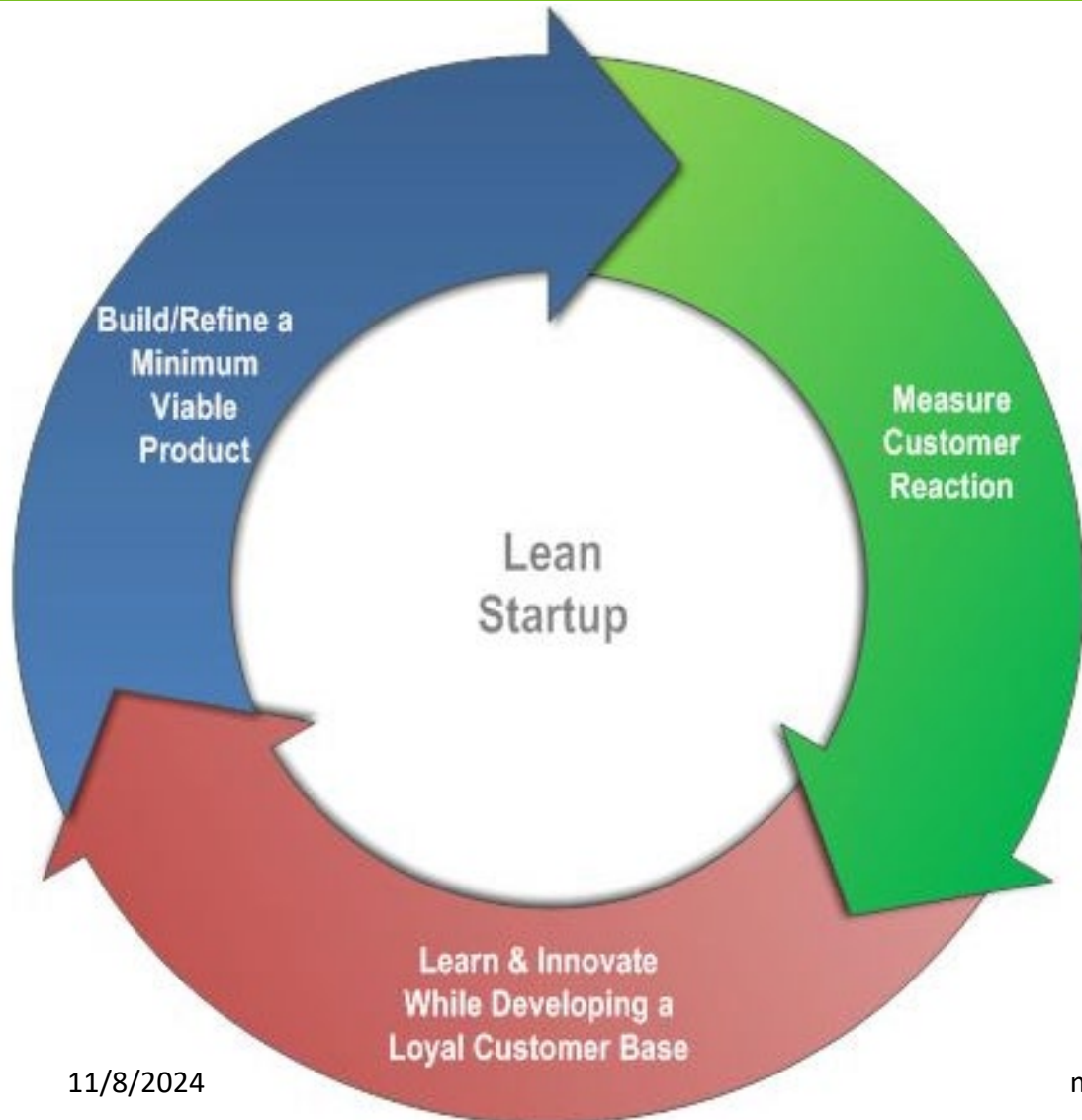


- **Built on scientific method**  
*Projects must have provable hypothesis*
- **Metric focused**  
*Impact of actions must be measurable*
- **Only scale when idea meets or exceeds hypothesized results**  
*Refine or pivot in the meantime*



THE LEAN  
STARTUP

# The Lean Model



- **Save Time and Money**
- **Reduce risk**
- **Make a better product**

# Moving Greater Minnesota Forward

## Phase 1: Idea Development

Program: 10-week Lean Startup course plus 6-months of coaching

Participants: Local government and community organizations, public transit agencies, small biz, startups, mobility providers

Timing: New cohort of up to 12 projects every six months

*Phase 1 completion*

## Phase 2: Testing

Program: Up to two years of pilot funding

Participants: Projects that partner with Greater Minnesota communities

Timing: \$500K solicitation in Winter 2025

*Phase 2 completion*

## Phase 3: Scaling

Program: Ongoing funding to scale success

Participants: Phase 2 projects working with Greater Minnesota communities

Timing: Successful completion of Phase 2

# 2024 Phase 2 project awards

Applicant	Project description	Length of project in months	Awarded amount
Bicycle Alliance of Minnesota	Employer-based e-bike share pilot in Duluth and Red Lake Nation (Funding Year 1 of request only)	24	\$147,493
Cook County Public Health and Human Services	Support of new Boreal Partners Transit demand response service for adults 65 years old and older in Cook County	24	\$4,215
Leaf Rides	Public shared e-bike service expansion to historically underserved communities in Duluth	24	\$62,550
The Plum Catalyst	Expansion of goMARTI electric vehicle microtransit service area to east side of the Leech Lake Band of Ojibwe reservation area (Funding Year 1 of request only)	24	\$265,742
Waypoint Transit Solutions	Pilot of low-cost electronic bus arrival signs in partnership with Duluth Transit Authority	16	\$20,000

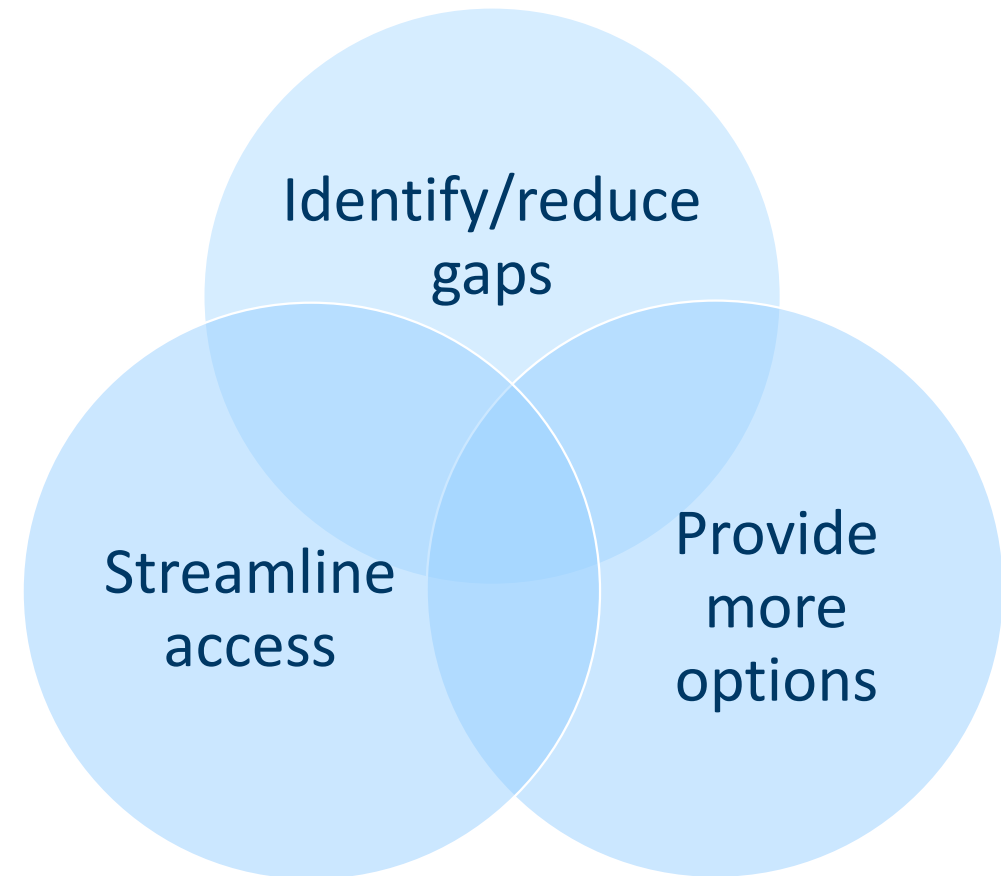


# Mobility Management

MnDOT Contacts: Tom Gottfried, Elliott McFadden

# Greater MN Mobility Management

- **VISION:** Minnesotans will have access to coordinated transportation services to meet their mobility needs.
- **MISSION:** To work together to remove obstacles that prevent the successful coordination of transportation programs and resources among their respective customers.
- **FOCUS:** Transportation access and coordination for older adults, people with disabilities and people with low income.



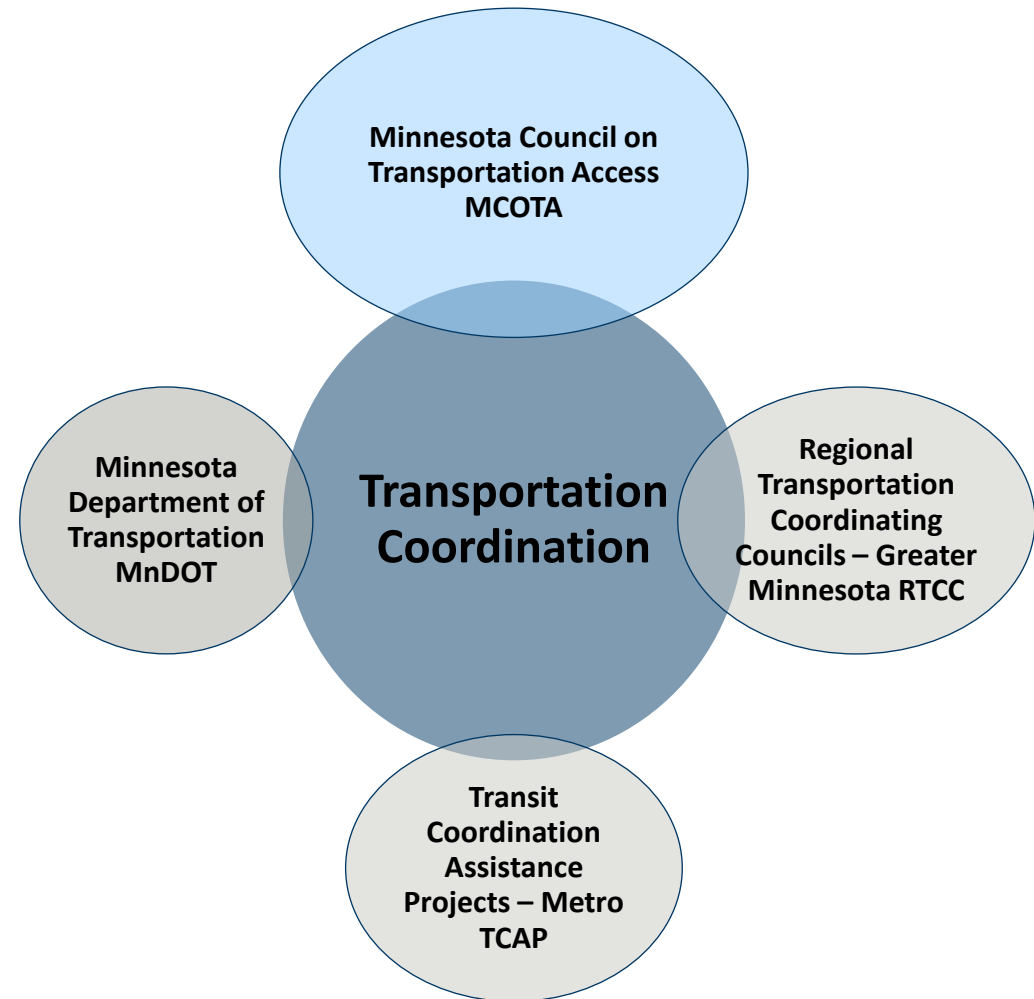
# Current Statewide Mobility Management Structure

**Minnesota Council on Transportation Access (MCOTA)**- Supports transportation coordination through 13 state agencies and organizations as members

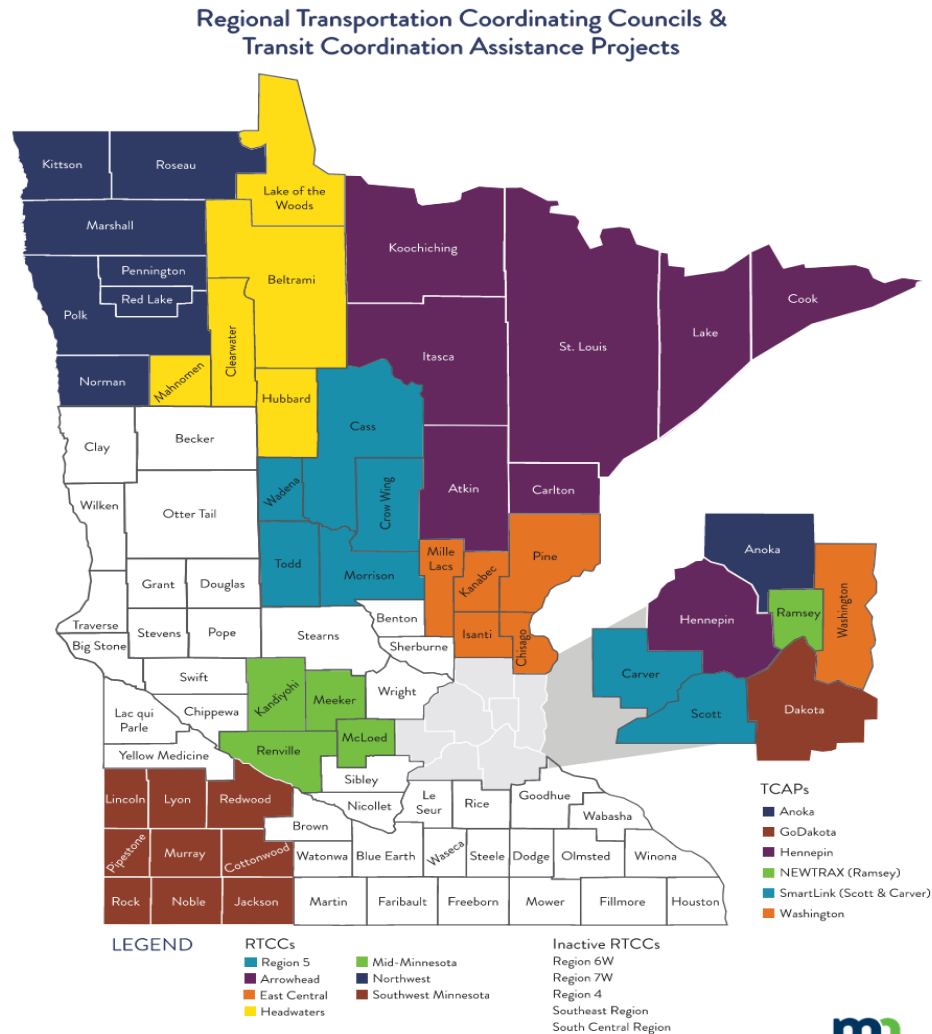
**Minnesota Department of Transportation – Office of Transit and Active Transportation (MnDOT-OTAT)** Supporting coordination in Greater Minnesota and Metropolitan Council in the Metro

**Regional Transportation Coordinating Councils – Greater Minnesota RTCC**

**Transit Coordination Assistance Projects Metro -TCAP**



# Regional Transportation Coordinating Councils (RTCC)



## Seven Regional Transportation Coordinating Council RTCCs in Greater Minnesota

- **Arrowhead/Arrowhead Regional Development Commission**
- **Northwest/NW Regional Development Commission**
- **Region Five/Region Five Regional Development Commission**
- **East Central/East Central Regional Development Commission**
- **Headwaters/Headwaters Regional Development Commission**
- **Mid-Minnesota/Mid-MN Regional Development Commission**
- **Southwest/United Community Action Partnership**



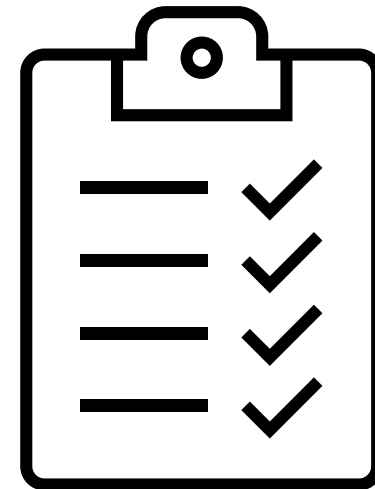
# FY 2024 RTCC highlights

- **Arrowhead** – Transportation Access Subcommittee focused on addressing transportation needs to medical appointments
- **East Central** – Destination or Transfer Station project through MnDOT's Moving Greater MN Forward program
- **Headwaters** – Conifer Transit pilot (exclusive on-demand service) through MnDOT's Moving Greater MN Forward program
- **Mid Minnesota** – Willmar area fare-free ride pilot
- **Northwest** – Worked to support legislation clarifying volunteer drivers as different from drivers for hire to address insurance challenges
- **Region Five** – Survey effort and multi-agency coordination to address aging community transportation needs
- **United Community Action Partnership** - Identified language barriers for riders in booking trips; considering 3<sup>rd</sup> party interpreter options

# Dynamic Transportation Options Study

Caroline Miller | Supervisor, Data, Innovation, Asset Mgmt, Transit Planning

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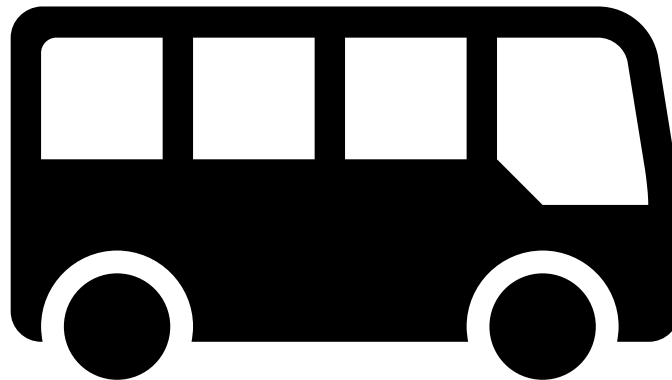


# Existing Conditions

- Routing/Service
- Coordination opportunities between providers
- Service gaps
- Opportunities to improve dispatch
- Opportunities to improve ambulatory and non-ambulatory vehicles
- Analyze impact of FTA rules on mobility service improvements
- Analyze impact of Medicare services on transportation availability and options
- Non-emergency medical transportation issues
- Moving Greater MN Forward program connections
- Funding sources

# Pilot Program

- Recommendations on establishing a proposed rural dynamic transportation options pilot program in coordination with an RTCC for a 2-year duration
- Pilot program will likely use Moving Greater Minnesota Forward framework that is already in place



# Stakeholder Engagement

- Legislatively required stakeholders
  - Minnesota Council on Disability, American Council of the Blind of MN, National Federation of the Blind of MN, and MN DeafBlind Association
  - Rep from TNC, taxicab company
  - Rep with familiarity in transit vehicle dispatching and routing
  - 2 Reps from MN RTCC, one with volunteer driver experience
  - County commissioner from a nonmetropolitan county
  - Private transit or transportation services provider
  - Rep from 5307 program, and rep from 5311 program

# Stakeholder Engagement

- Dynamic Transportation Options Summit Event – October 29<sup>th</sup>
- Follow up virtual and one-on-one stakeholder engagement – November/December
- Study information posted on MnDOT website



## Thank you!

- Dynamic Transportation Options Study – Caroline Miller – [Caroline.miller@state.mn.us](mailto:Caroline.miller@state.mn.us)
- Greater Minnesota Transit Plan – Nathan Abney – [Nathan.abney@state.mn.us](mailto:Nathan.abney@state.mn.us)
- Shared Mobility/Mobility Management – Elliott McFadden – [Elliott.mcfadden@state.mn.us](mailto:Elliott.mcfadden@state.mn.us)
- MCOTA – Tom Gottfried – [Tom.Gottfried@state.mn.us](mailto:Tom.Gottfried@state.mn.us)



# Small Group Discussion