Mobility on Demand (MOD) and Mobility Services for All Americans (MSAA): How are these Programs relevant to Rural Transit?

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Today’s Objectives

• Introduce FTA’s Office of Research, Demonstration, and Innovation (TRI) and its programs

• Provide an overview of and information about relevant TRI programs:
  - Mobility Services for All Americans (MSAA)
  - Mobility on Demand (MOD)
  - Accessible Transportation Technologies Research Initiative (ATTRI)
Federal Transit Administration - TRI

- Office of Research, Demonstration, Innovation
  - Mobility Innovation (TRI-10)
  - Infrastructure and Asset Innovation (TRI-20)
  - Research Management and Outreach (TRI-30)

- Focus areas:
  - Research, demonstration/pilot deployment, evaluation, and deployment planning through 5312 funds
  - Innovation through technology and collaborations
  - Mobility for ALL!
TRI-10 Programs

- Mobility on Demand (MOD)
- Mobility Services for All Americans (MSAA)
- Multimodal Payment Integration (MPI)
- Transit Automation
- Small Business Innovative Research (SBIR)
- Transit Cooperative Research Program (TCRP)
- Next Generation Vehicle Technologies
- TRI Website:
  - [https://www.transit.dot.gov/about/research-innovation](https://www.transit.dot.gov/about/research-innovation)
TRI-10 ITS JPO Programs

- Accessible Transportation Technologies Research Initiative (ATTRI)
- Smart Cities
- Integrated Corridor Management (ICM)
- Connected and Automated Vehicle Technologies (C/AV)
- Autonomous Vehicle Technologies
- Intelligent Transportation Systems (ITS) and Transit Technology Integration Programs
Imagine the Future of Transportation

Video: U.S. DOT Connected Vehicle Technology for Mobility
Mobility Services for All Americans (MSAA)
MSAA Goal and Objectives

• Increase mobility and transportation accessibility for transportation disadvantaged and general public

• Overcome technical and institutional barriers to promote system interoperability
  – Involve at least two human service transportation programs and providers
  – Establish operational data sharing and coordination between multiple technology platforms
  – Demonstrate functional common fleet information platform to, at a minimum, view each other’s trip scheduling and vehicle location information in real time
Travel Management Coordination Center (TMCC)

Replicable/Scalable TMCC:

- Provides one-stop, unified, customer-based travel information and trip planning services
- Supports coordinated human service transportation
## TMCC Vision

- **Interoperable** system that adds value to customer, service provider and human service program

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<tr>
<th>Customer</th>
<th>Provider</th>
<th>Program Manager</th>
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| • Simplified Access  
• Trip Planning  
• Information  | • Operational efficiency  
• More service (rides) with same costs & resources | • Streamlined program management, billing, and accounting |
TMCC Concept

MSAA Program Website: [https://www.its.dot.gov/research_archives/msaa/index.htm](https://www.its.dot.gov/research_archives/msaa/index.htm)
MSAA Deployment Planning Sites

• San Luis Obispo County TMCC - United Cerebral Palsy of San Luis Obispo/Ride-On Transportation
  - Enhancing personal mobility using Common Fleet Information Platform through TMCC’s real-time Ride Coordination System (RCS) cross the county

• Northwest Metro Denver Coordination System – Via Mobility Services
  - Expanding Via Mobility Services to other urban communities within NW Denver Metro Area (Northglenn, Federal Heights, Broomfield, and Thornton). Building on DRMAC’s VTCLI Trip Exchange Project.

• Simply Get There Trip Triage Design – Atlanta Regional Commission
  - Atlanta region Travel Management Coordination Platform (TMCP) - Developing open-source TMCP designed for complexity of HST trip transactions

• Travel Management Coordination Center (TMCC) of Southern Wisconsin – Greater Wisconsin Agency on Aging Resources
San Luis Obispo County TMCC

- Explore potential local institutional **barriers**
- Identify opportunities to **coordinate** public, private, and non-profit agency paratransit trips through ITS
- Provide customers with **real-time information** and services
- Create a detailed set of **systems engineering** documents to build, fund, and sustain the TMCC
San Luis Obispo County TMCC

• Stakeholders
  – United States Department of Transportation (USDOT), Federal Transit Administration (FTA)
  – United Cerebral Palsy of San Luis Obispo County/ Ride-On Transportation
  – San Luis Obispo Regional Transit Authority (RTA)
  – San Luis Obispo Council of Governments
  – RouteMatch Software
  – Community Health Centers
  – San Luis Obispo Regional Rideshare
  – San Luis Obispo Safe Ride
  – Yellow Cab
  – Smart Shuttle
  – California Department of Transportation (CalTrans)
  – City of San Luis Obispo (SLO Transit)
  – CenCal Health (Medi-Cal)
  – City of Morro Bay
  – Other Human Service and Community Organizations
  – Technology Partners
San Luis Obispo County TMCC

• Challenges (examples):
  o Transportation Providers
    ✓ Inter-agency agreements and business processes, services/requirements, cost/accounting, organized labor contractual requirements, trips sharing/ownership (customer care), driver training, insurance, maintenance, communication, service provision consistency, etc.
  o Funding Sustainability
  o Technology systems
    ✓ Transportation Provider - ITS, telephony
    ✓ TMCC access for all persons
    ✓ Existing vs. future communication platforms (i.e. 511, 211, and others)
San Luis Obispo County TMCC

• For more information, visit the SLO County MSAA project website at:
NW Metro Denver Coordination System

**LEGEND**

- **Seniors Resource Center Boundary.** Service covers all of Jefferson County and continues south into Metro Denver.

- **Via Mobility Services** cover all of Boulder County. Via does not serve the City and County of Broomfield. Via also serves portions of Adams, Arapahoe, and Denver counties under contracts.

- **Broomfield Easy Ride** operates within the City and County of Broomfield except for a larger boundary for medical trips.

- **Broomfield Easy Rides Medical Trips Boundary**

- **Call-and-Ride** service area boundaries for those in the MSAA project.
NW Metro Denver Coordination System

• Challenges:
  • Expanding to additional providers adds complexities
  • Building a common understanding and working toward a common goal has been challenging.
  • Providers have different interests, objectives, & approach than the vendors.
  • Stakeholders have different perspectives, language, agendas, skills, knowledge, and understanding

• Via Mobility Paratransit website:
  - https://viacolorado.org/service/paratransit/
ARC Simply Get There Website:
MOBILITY on DEMAND
What is Mobility on Demand?

An integrated and connected multi-modal network of safe, affordable, and reliable transportation options that are available to all.

- **Traveler-centric**: promotes choice in personal mobility
- **Technology-independent**: leverages emerging technologies & innovations
- **Partnership-driven**: emphasizes collaboration and transformation
- **Mode-agnostic**: encourages integrated multimodal approach
User-centric Travel Options

- **Carsharing**: Provides members with access to a car for short-term use.
- **Bikesharing**: Provides members with access to a bike for short-term use.
- **Ridesharing**: Carpooling, vanpooling, and real-time ridesharing services.
- **TNCs and Taxis**: Transportation Network Companies (TNCs) and Taxi Services.
- **Car Rental**: Conventional Rental Car Services.
- **Public Transportation**: Public Bus, Light Rail, Heavy Rail and other Public Transport Services.
- **Integrated Payment**: Allows users to pay for services using a smartphone app.
- **Incentives**: Rewards and incentivizes users for good travel choices.
- **Smart Parking**: Allows users to reserve and pay for parking using a mobile app.
- **Trip Planning & Navigation Services**: Includes public agency and private sector traffic data.
- **Real-Time Travel & Operations Data**: Includes public agency and private sector traffic data.
Example MOD Sandbox Projects

- **Pinellas Suncoast Transportation Authority (FL)** - PSTA was awarded $500,000 to create a central dispatch system in which taxis and rideshare vehicles can be used to provide **paratransit service at a cheaper per-ride price** than what the authority currently spends.

- **Vermont Agency of Transportation (VT)** - VTrans was awarded $480,000 to create a statewide trip planner covering both **fixed-route and flexible transit**. The software will be built on OpenTripPlanner and modified to support flexible transportation information in addition to standard GTFS.

- **Dallas Area Rapid Transit (TX)** - DART was awarded $1,204,000 to integrate ridesharing into its GoPass ticketing app. The agency also plans to use ridesharing-style mobile technology to overhaul its existing **public demand-responsive service**.

- **Los Angeles County Metropolitan Transportation Authority (CA)** - Metro was awarded $1,350,000 to partner with transit agencies in Washington’s Puget Sound on a dual-region pilot using Lyft as a first mile/last mile connector for transit. The agencies will experiment with payment structures and support **telephone dispatch to serve unbanked customers**.
Links and Resources

• **MOD Sandbox Program:** [https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program.html](https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program.html)

• **MOD Sandbox Projects:** [https://www.transit.dot.gov/research-innovation/fiscal-year-2016-mobility-demand-mod-sandbox-program-projects](https://www.transit.dot.gov/research-innovation/fiscal-year-2016-mobility-demand-mod-sandbox-program-projects)

• **Shared Mobility Mapping Tool** (by FTA, Shared Use Mobility Center, (SUMC) and ITS America): Nationwide geo-database of partnerships searchable by the type and number of modes, and the purpose of the partnership (e.g., first/last mile, paratransit, trip planning). [http://maps.sharedusemobilitycenter.org/sumc/](http://maps.sharedusemobilitycenter.org/sumc/)

• **Shared Mobility Policy Database** (by FTA, SUMC, and ITS America): Comprehensive collection of 800+ policies, plans, and studies from across North America is being expanded to integrate new information on emerging public-private partnerships from across the U.S. [http://policies.sharedusemobilitycenter.org/#/policies](http://policies.sharedusemobilitycenter.org/#/policies)

• **MOD FAQ:** [https://www.transit.dot.gov/shared-mobility](https://www.transit.dot.gov/shared-mobility)
ACCESSIBLE TRANSPORTATION TECHNOLOGIES RESEARCH INITIATIVE
ATTRI Complete Trip Concept

- If any part of a trip is inaccessible, the whole trip becomes inaccessible.

After his doctor's appointment, Andy decides to take a spontaneous trip to meet a friend at a coffee shop in an unfamiliar part of town. Using ATTRI's **pre-trip concierge, wayfinding and navigation, robotics and automation, and safe intersection crossing** applications, Andy can travel with confidence throughout his trip.

1. **Plan and Book a Trip**
   Andy uses a **pre-trip concierge application** to plan and book his trip from the doctor's office to the coffee shop.

2. **Travel to Transit Station**
   An **automated shuttle (rideshare service)** is dispatched to take Andy to the transit station based on his booked trip. Once there, an **assistive robot** helps Andy to his bus platform.

3. **Ride the Bus**
   While on the bus, Andy receives direction on when to pull the Stop Request cord from his **wayfinding and navigation application**. After he departs the bus, the application provides Andy with turn-by-turn walking directions to the coffee shop.

4. **Cross the Street**
   As Andy approaches an intersection, his **safe intersection crossing application** communicates with the traffic signal to ensure sufficient time for him to safely cross the street, and notifies him when it is safe to begin crossing. The application also communicates with nearby cars to notify them of Andy's presence in the intersection.

5. **Arrival at Destination**
   Andy safely arrives at his destination, while the **pre-trip concierge application** plans his return trip home.
Rural Transit: A Visionary Approach

Video: SoftBank’s self-driving bus project [https://youtu.be/g4f_HEplM5A](https://youtu.be/g4f_HEplM5A)
Contact and Links

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FTA TRI Website:  [https://www.transit.dot.gov/about/research-innovation](https://www.transit.dot.gov/about/research-innovation)

MSAA:  [https://www.its.dot.gov/research_archives/msaa/index.htm](https://www.its.dot.gov/research_archives/msaa/index.htm)

MOD:  [https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program.html](https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program.html)

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