



# **Trending Topics in Accessible Transportation**

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# Trending Topics in Accessible Transportation

- National survey of transit providers, human service agencies, mobility managers, and other stakeholders
- Information gleaned from NADTC and FTA technical assistance requests
- Data gathered from national, regional and state conferences



Bus driver and passenger

# Crossing Jurisdictional Boundaries

- Outside of major cities, at least ¼ of the U.S. lacks public transportation services to travel to a neighboring county
- Local transit funding sources can limit boundaries of service area
- Inability to cross county or state lines on public transit – barrier to needed services



Cutaway transit bus

# Potential Solutions

There is a need for:

- funding source flexibility
- improved cooperation
- better coordination
- Increased communication



# Shared Ride/Transportation Network Companies

- Connect paying passengers with drivers who provide transportation in private vehicles – scheduled through an app on a smart phone (Uber/Lyft/Liberty)
- Difficult in a rural environment due to lack of population density

# Shared Ride/TNCs

- Uber/Lyft have partnered with other organizations to enable customers without smart phones to access their services (available in limited areas: CA, FL, AZ, TX, but will grow)
- MedStar Health in MD/DC partner with Uber to arrange rides on hospital website for patient appointments

Image of Uber and Lyft logos



# Shared Ride/TNCs

- Lyft has relationship with National MedTrans Network in NY to provide Medicaid rides
- Liberty is partnering with local transit agencies in rural areas to offer rides when public transit service is not available (evenings, weekends, holidays, etc.)

# Fixed Route – First Mile/Last Mile

## Connecting passengers to the public transportation system

- Lack of service connections & coordination between providers
- Incomplete sidewalk systems or no sidewalks at all
- Insufficient availability of alternatives to reach final destination after leaving transit system bus stop
- Inadequate information on bus availability/route structure



sidewalk that dead-ends into grass



# First Mile/Last Mile Potential Solutions

There is a need for:

- improved pedestrian access
- benches along routes to bus stops
- coordination between public and private providers (TNCs, taxis, human service transportation)

# Accessible Bike Share

- Offers increased transportation choices as an alternative to driving while assisting people to move about in their communities



Side-by-side accessible bike

- Helps people who do not own a bike or want to try out an accessible bike before purchasing one
- Some communities who have bike share programs are still slow to adopt accessible bicycles

# Accessible Bike Share

To be truly accessible, bike share programs should include:

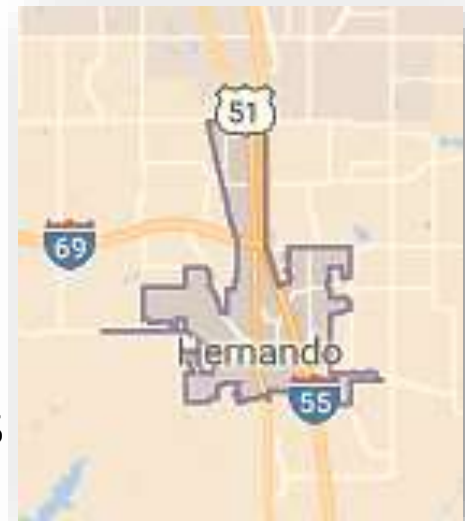
- E-bikes (electric bicycles) – assist in propelling & pedaling
- Hand bikes – eliminate the need for foot pedaling
- Trikes (3-wheeled devices) – provide stability & balance

# Accessible Bike Share Examples

- Montgomery County, PA uses libraries to facilitate short-term bike loans where people can rent a bike for up to a day at a time at no cost. Bikes can be returned to any library in the county, not just to the point of origin.
- College Park, MD
- Ohio State University Bike Share
- Westminster, CO

# Accessible Bike Share

The **City of Hernando, MS** received a grant from NADTC in 2017. As part of the grant, they are initiating a bike share which includes accessible bikes which can be loaned out at no cost through senior centers and the library. This program is just getting underway – Stay tuned for results as the program progresses!



Map showing Hernando, MS

# Rural Travel Training

Travel Training teaches independent travel skills allowing people to travel safely & independently using public transportation.

Teaches 3 major skill sets:

1. Orientation to outline options and services available; learn how to reserve a ride
2. Learn how to board the bus with or without a mobility device; overcome anxiety about riding the bus
3. Learn how to use the transit system by riding the bus; learn how to pay the fare; learn how to get home again

# Rural Travel Training

Small programs often rely on:

- Volunteers
- Peer-to-Peer models (Travel Ambassadors)
- Train-the-Trainer programs with other agencies (human service centers; senior centers; independent living centers; veterans programs; etc. that train their clients/participants how to ride)

# Rural Travel Training Example



Transportation  
Education workshop  
using an out-of-service  
bus

## STAR Transit Client Advocate Program, Terrell, TX

- Peer-to-Peer Model
- Volunteer Client Advocate matched with a rider in need
- Volunteer is picked up first/dropped off last
- Volunteer stays with passenger
- No cost to passenger for the service
- Assistance is repeated until traveler can safely travel alone
- Assistance can continue indefinitely if rider cannot travel independently



# Rural Travel Training Example

## **Delmarva Community Services One Stop Travel Program, Rural Eastern Shore, MD**

- Train-the-Trainer model
- Multi-disciplinary program includes agencies that serve people with disabilities & older adults
- Trainers include human service agency staff; senior center staff; & Hispanic services outreach staff

# Seamless Mobility through Technology, Route Design & Coordinated Systems

Seamless mobility is made possible by connected infrastructure that allows people to reach their desired destinations. This includes:

- Public transportation
- Sidewalks
- Biking/walking trails
- Ramps
- Signage

# Seamless Mobility

Seamless mobility uses technology to help people:

- Plan trips
- Schedule rides
- Pay for tickets/rides
- Receive real-time information while en route

# Coordinated & Connected Transit Systems

- Regional transit coordination
- Ability to cross city/county/state lines
- Integrated fare collection
- Joint reservation systems (one call/one click)
- Mobility management
- Pedestrian safety-conscious, designated pick-up and drop off zones shared by taxis, buses, & TNCs, with places to secure bicycles

# Example

## Portland, OR

Integrated pass system: TriMet, C-Trans buses, the Streetcar, MAX light rail, & WES commuter rail (including Vancouver) all use the same payment system.



Integrated transit pass

# Real-Time Technology for Public Transit

Common frustration among public transit riders:

- Inability to predict when a pick-up is going to be late
- What the destination arrival time will be
- If there are outages in accessibility functions (i.e., elevators, escalators, lifts)

Automated Vehicle Location (AVL) technology uses GPS to monitor time, location and speed to determine vehicle location in real-time, but it still doesn't translate to the rider.

# Real-Time Technology for Public Transit

## What do we like about TNCs?



Mobile app on cell phone

- Know exactly when we will be picked up for our ride
- Know who to look for
- Ease of payment
- May or may not be a shared ride

# Real-Time Technology & Public Transit

**Can this be accomplished with public transit?**

The answer is yes! The issue is cost and the ability to procure the necessary technology.

**Who does this technology benefit?**

Passengers who can access the technology (e.g., has a smart phone)

**What about those who do not have a smart phone?  
Can they still benefit from the technology?**



# Real-Time Technology & Public Transit

Real-time information can be made available to passengers through mobile apps on computers or phones and by using texts or email.

Information provided can include:

- Status of reservation request
- Pick-up times or notice of delayed pick-up
- Destination arrival time
- Updates on elevator, escalator, or lift outages

# Autonomous Vehicles & Their Technology

How many of you are old enough to remember the cartoon “*The Jetsons*”?



Cartoon image for “The Jetsons”

# Autonomous Vehicles & Their Technology

Self-driving cars have been the stuff of fact & fiction since the early days of the automobile.

- 1925 – *Time* magazine reported on a radio-controlled self-driving car on NYC streets
- 1939 World's Fair Futurama Exhibit – GM featured a self-driving car designed by Norman Bel Geddes

# Autonomous Vehicles

**Google** has had 2 iterations of a self-driving car:

- 1) “Waymo” had a steering wheel & brakes for back-up in case a driver had to take over operation of the vehicle
- 2) Second generation version is entirely driverless – no steering wheel or brake pedal. The design is appropriate for people who are unable to operate a standard vehicle.

**Goal: To enhance mobility for all while providing safe, efficient and affordable transportation.**

# Autonomous Vehicles

- **Nissan's** CEO has promised it will offer a vehicle with autonomous drive technology by 2020, although it will require an able driver as back-up for operating the vehicle if needed.
- **Audi** recently obtained a permit to test self-driving cars on California's public roads (but these cars also have manual controls so a driver can take over if necessary).

# Autonomous Vehicles

- **University of Michigan, Ann Arbor** tested driverless 15-passenger shuttle buses and will be providing transportation to students & staff within a 2-mile radius while driving with regular vehicles on the road in early 2018.



University of Michigan  
driverless shuttle

# Potential Benefits of Autonomous Vehicles

- Increased safety
  - Reduction in traffic accidents
  - Fewer vehicle/pedestrian accidents
  - Fewer injuries as a result of accidents
- Increased mobility
- Relieves drivers of navigation chores
- Facilitates business models for transportation as a service – especially shared rides

# Obstacles for Autonomous Vehicles

- Technological challenges
- Liability issues
- Government regulations
- Resistance to change/fear
- Time period needed to replace existing stock of vehicles (mixed use on public roads for decades)
- Security concerns such as hackers/terrorism



# Where Can I Learn More About These Trends?

[www.nadtc.org](http://www.nadtc.org)

# National Aging & Disability Transportation Center

- Launched December 2015
- Partnership of National Association of Area Agencies on Aging (n4a) and Easter Seals, Inc.
- Builds on the earlier work of the National Center on Senior Transportation and Easter Seals Project ACTION

Older man boarding bus



# NADTC

- Promotes the availability & accessibility of transportation options that serve the needs of:
  - Older Adults
  - People with Disabilities
  - Caregivers
- Focus on Section 5310 Formula Grant



Man in wheelchair  
using lift on bus

# Goals of the NADTC

- Promote the use of accessible public transportation for employment, healthcare, education, recreation, and to support independent living.
- Increase the effectiveness, efficiency, and quality of coordinated human service transportation.
- Ensure transportation planning is done in conjunction with broader planning activities at all levels.
- Highlight and assist in developing promising practices to solve transportation challenges, maximizing the effectiveness of federal investments in specialized transportation.

# What We Do...

## ■ Communication and Outreach

- ✓ Website
- ✓ Blog
- ✓ Facebook
- ✓ YouTube
- ✓ Twitter
- ✓ Linked In
- ✓ Yearly Trends Report
- ✓ Technology-focused White Paper & Resources
- ✓ Information & Referral Resources



Image of homepage on NADTC Website

# What We Do...

- Provide person-centered technical assistance
  - 800# Information & Referral Hotline
  - Information Clearinghouse (resources including past documents from National Center on Senior Transportation and Easter Seals Project ACTION)
  - New Online Publications
  
- Training
  - Webinars
  - Online Courses
  - In-person Events

# What We Do...

- **Coordination and Partnerships**
  - Stakeholder Review Committees
  - Open Dialogues
  - Forums
- **Investing in Community Solutions through Community Grant Programs**

# Resources

- National Aging & Disability Transportation Center: [www.nadtc.org](http://www.nadtc.org)
- National Center for Mobility Management: [www.nationalcenterformobilitymanagement.org](http://www.nationalcenterformobilitymanagement.org)
- National Rural Training Program: [www.nrtap.org](http://www.nrtap.org)
- National Shared Use Mobility Center: [www.sharedusemobilitycenter.org](http://www.sharedusemobilitycenter.org)



# Questions and Discussion



# Many Thanks for Having Me at Your Conference!



# nadtC

NATIONAL AGING AND DISABILITY  
TRANSPORTATION CENTER

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