Using Emerging Transportation Technologies to Address Rural Mobility Needs

Jenna Goldberg, EBP

TRB Conference on Sustainability & Emerging Technology
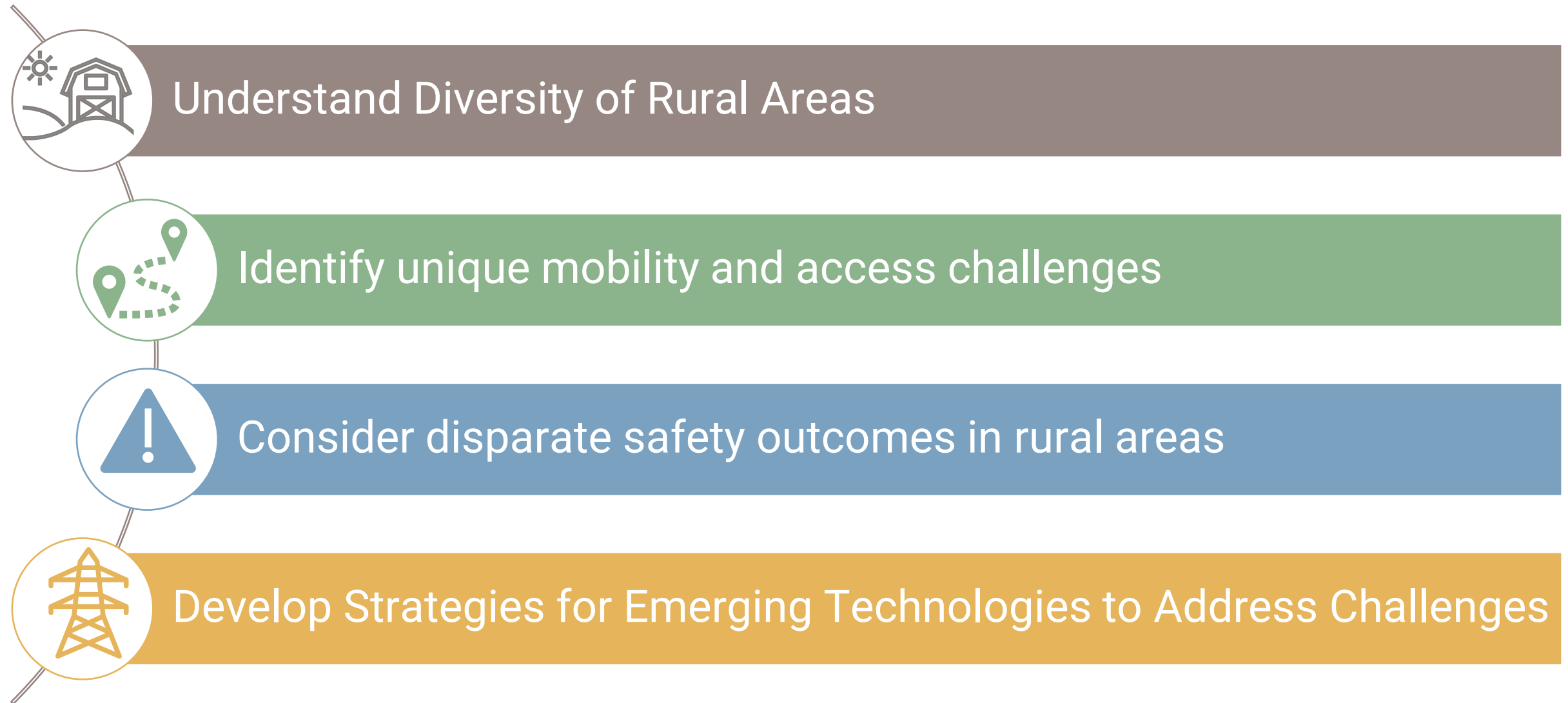
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We provide superior economic expertise, tools, and analysis to help our clients make better decisions on policies, programs, and investments in the transportation, energy, environment, and economic development sectors. We shape the future through innovative solutions to public and private sector challenges to create a more sustainable world.
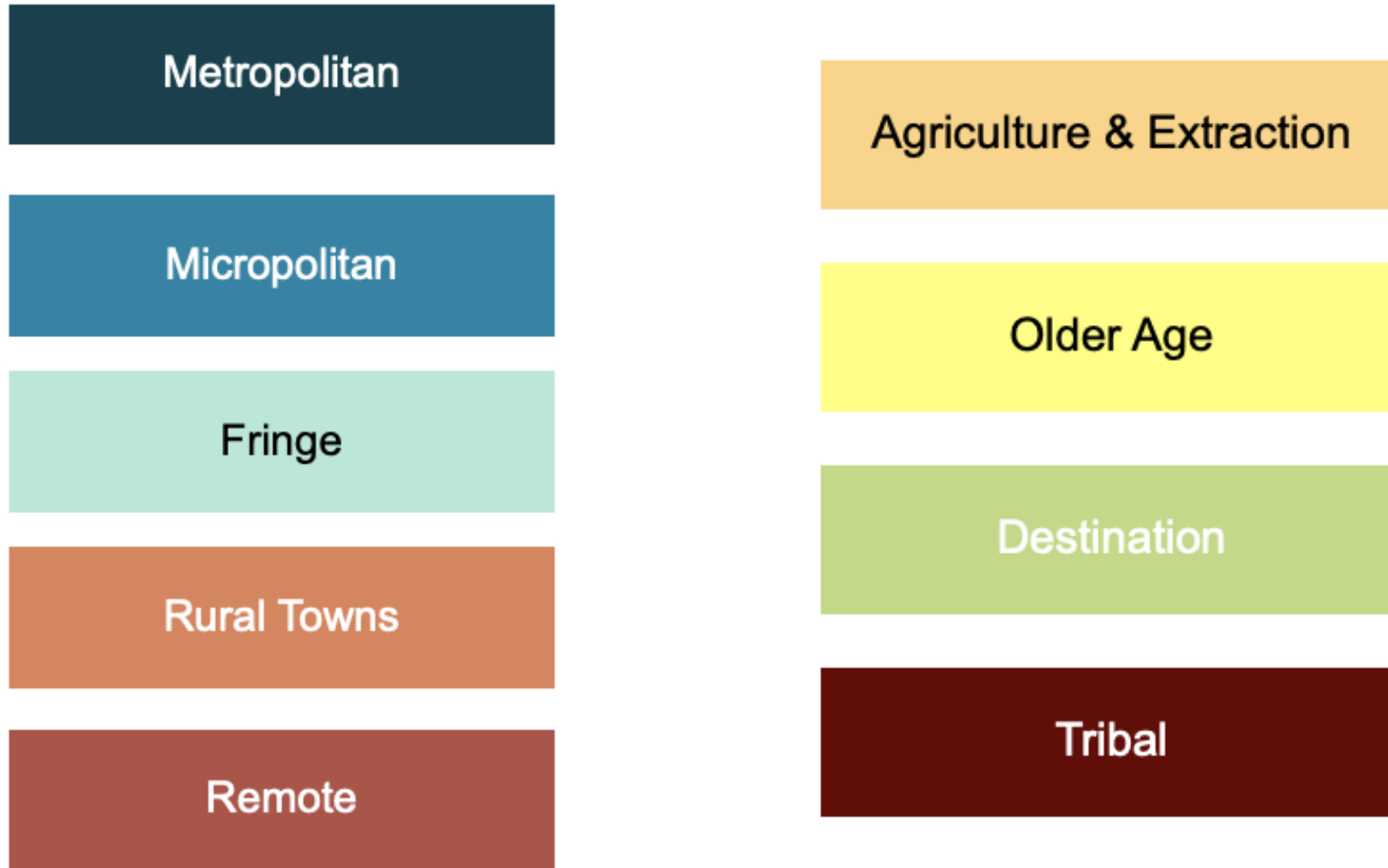
With offices in the United States and beyond, we provide a culture of interdisciplinary teamwork, de-centralized and client-oriented leadership, and global collaboration and efficiency. Through our tailored and comprehensive approaches, we tackle our clients' most complex challenges and provide viable and visionary solutions that help shape the future.

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Project Introduction

Understand Diversity of Rural Areas

Identify unique mobility and access challenges

Consider disparate safety outcomes in rural areas

Develop Strategies for Emerging Technologies to Address Challenges

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Metropolitan

Micropolitan

Fringe

Rural Towns

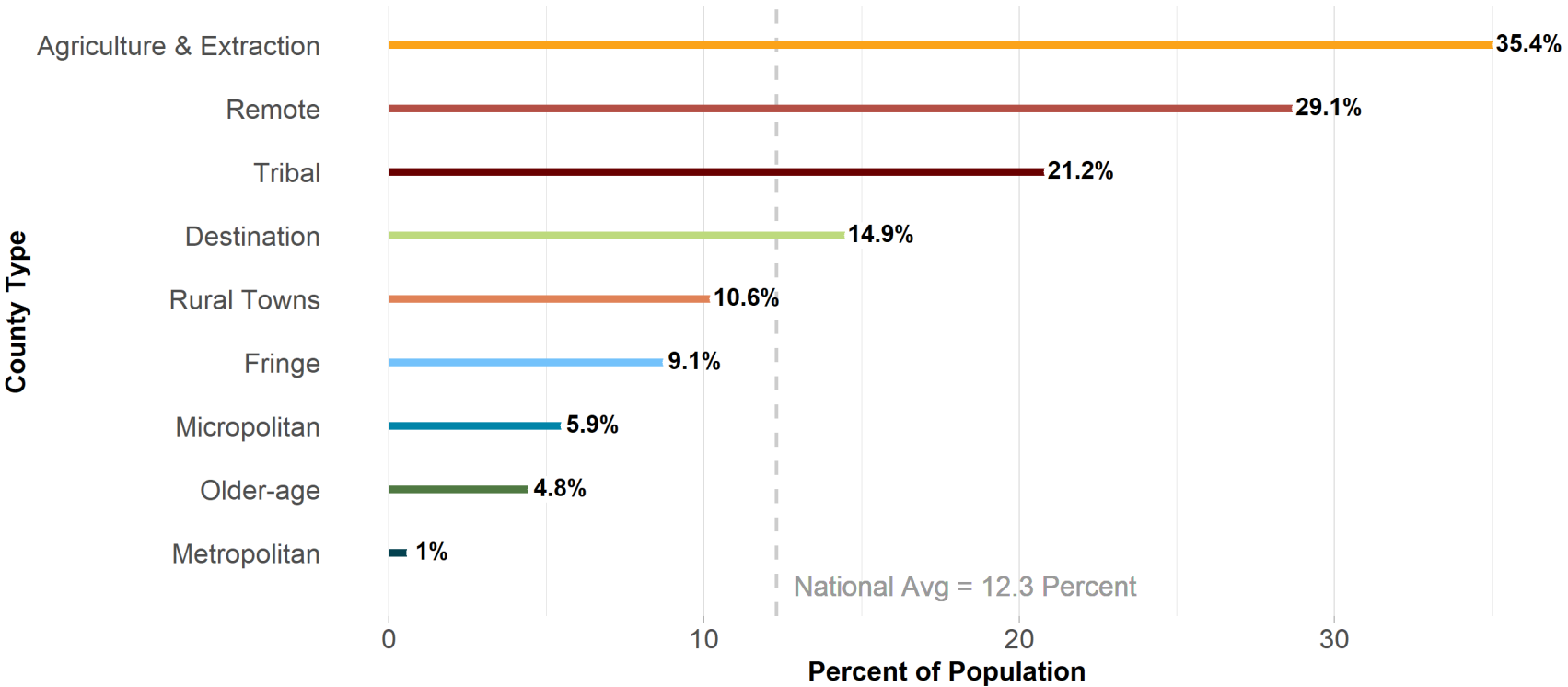Remote

Agriculture & Extraction

Older Age

Destination

Tribal

Classes / Characteristics	Population	Population Density	Metro Adjacency	Industry Composition	Age Composition	Indian Reservation Status
Metropolitan (Urban)	◯	◯				
Fringe		◯	◯			
Micropolitan	◯		◯			
Rural Towns	◯					
Remote	◯	◯				
Agriculture & Extraction				◯		
Older-age					◯	
Destination				◯		
Tribal						◯

Unmet Needs & Challenges

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Average Percentage of Population Living 10+ Miles from a Grocery Store

County Type

County Type	Percent
Agriculture & Extraction	35.4%
Remote	29.1%
Tribal	21.2%
Destination	14.9%
Rural Towns	10.6%
Fringe	9.1%
Micropolitan	5.9%
Older-age	4.8%
Metropolitan	1%

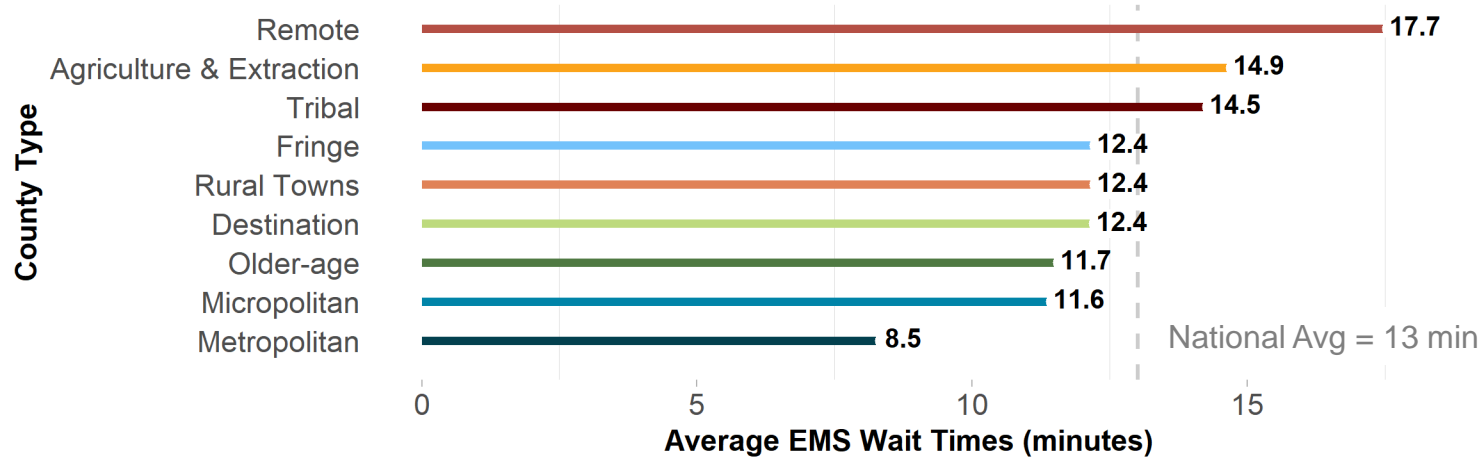National Avg = 12.3 Percent

Percent of Population

Need for affordable and readily available transportation options to reach grocery stores.

Car ownership rates are low in vulnerable rural households. Nationwide, 90% of individuals on public assistance do not own a car (USDA).
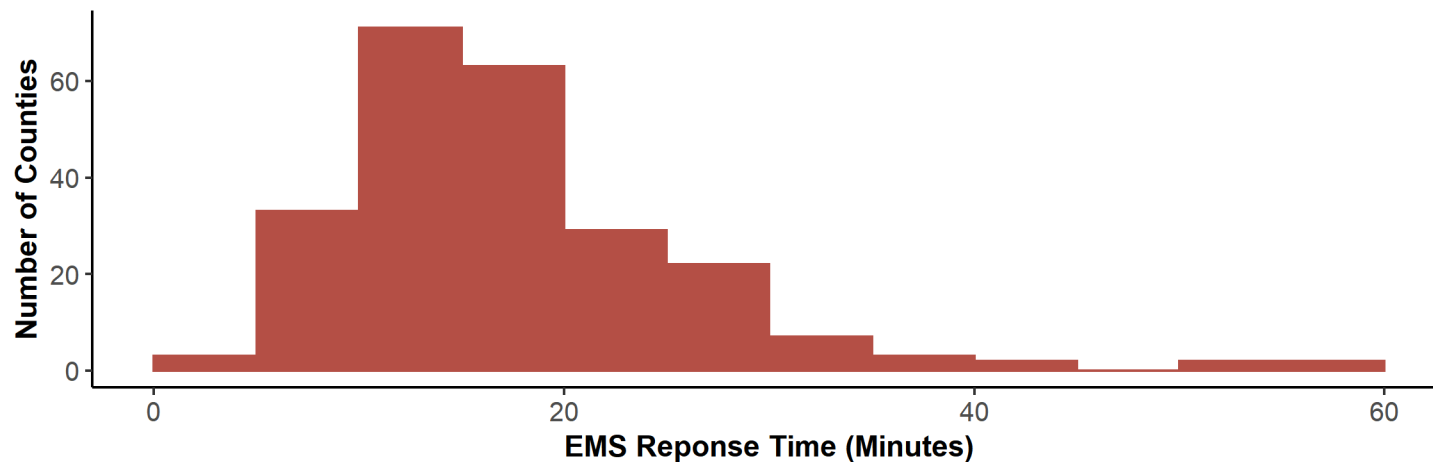
Public transportation in rural areas may still be inaccessible without a car.
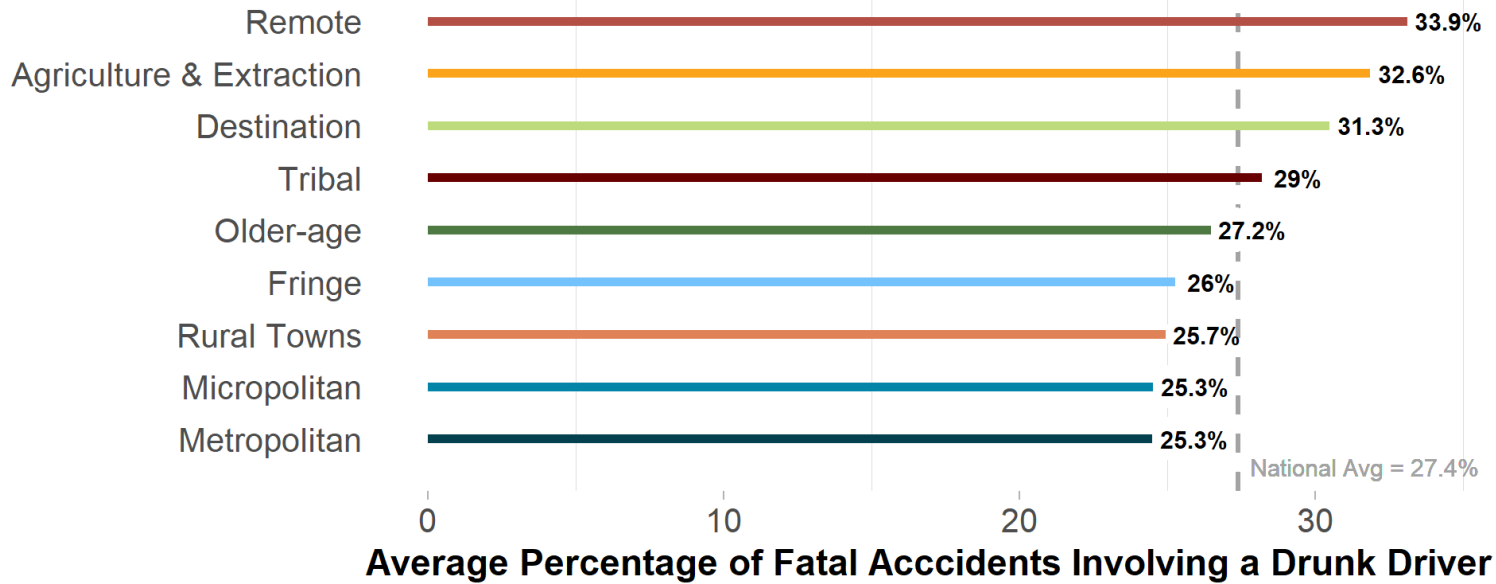
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Average EMS Response Times for Fatal Accidents

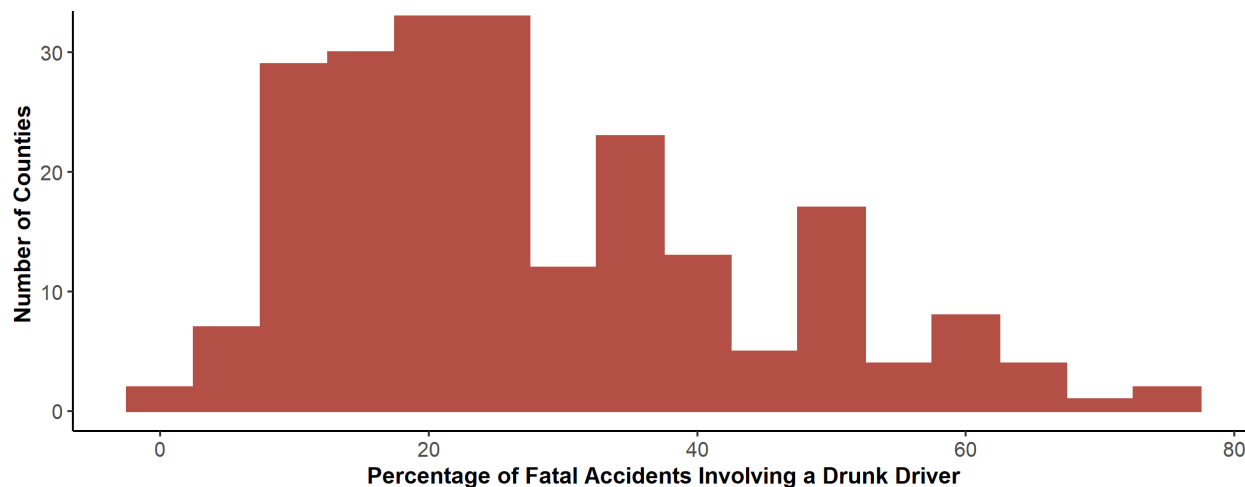EMS response times used as a proxy for urgent care access.

Remote area response times almost double that of Metropolitan areas, significantly higher than other types of counties.

Need for fast and reliable medical care and emergency services.

Distribution of EMS Response Times in Remote Counties

Average Percentage of Fatal Accidents Involving a Drunk Driver

Percentage of Fatal Accidents Involving a Drunk Driver

High incidence of fatal accidents involving a drunk driver in Remote, Agricultural, and Destination communities.

Need for safer, nighttime transportation options, especially where public transportation is not available as an alternative.

Opportunities & Challenges for TNCs or Ridesharing Services

- First or last mile to existing public transportation

  - Rural bus networks often exist but could be inaccessible to rural households without walkable access to a nearby stop.

- Grocery Store Access Programs

  - Public-Private Partnerships have been tested in several urban areas, first with Lyft in Washington D.C.

- Non-Emergency Medical Transport (NEMT) Programs

  - TNCs frequently used for this purpose unofficially in urban areas

  - Uber and Lyft have launched official services, including services targeting low-income and elderly populations who may not have access to a smartphone.

The most significant problem regarding TNCs in Rural Areas is the lack of cell phone reception and lack of infrastructure to provide high-speed internet access in rural areas. TNCs rely on this connectivity for users to book and cancel their rides.

Furthermore, some rural areas may not have their road network mapped in Google Maps, from which TNCs tend to draw the expected paths of drivers. This has resulted in at least one driver who signed up to drive for a TNC in Alaska being kicked off the platform (Villwock-Witte, New Mobility Opportunities in a Rural Context 2019).

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Expansion of Rural Broadband

Ridesharing Services

Carsharing Services

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