

Tribal Transit: Demographic Indicators, Funding Needs, and Livability

National Transportation in Indian Country Conference

Big Sky, MT

September 17, 2019

Elvis Ndembe

Jeremy Mattson

Ranjit Godavarthy

Jill Hough

Small Urban and Rural Transit Center

- Established in 2002
- Mission is to conduct relevant research for small urban and rural transit systems and offer outreach and training
- Partners in the UTC Small Urban, Rural and Tribal Center on Mobility (SURTCOM) since 2016
 - Western Transportation Institute at Montana State University is the lead and Urban & Regional Planning Program at Eastern Washington is another partner
- Have published 89 technical research reports plus journal articles
- Develop and conduct training for rural and small urban transit agencies, typically 1,200 transit providers and more than 3,300 contact hours per year
- New Tribal Training Modules



SURTC Team

- **Jill Hough, Ph.D.** - Director
- **Ranjit Godavarthy, Ph.D.** - Associate Research Fellow, Assistant Professor
- **Rob Lynch** - Trainer and Outreach Coordinator
- **Jeremy Mattson, Ph.D.** - Associate Research Fellow, Assistant Professor
- **Elvis Ndembe, Ph.D.** - Research Analyst
- **Del Peterson** - Associate Research Fellow
- **Dilip Mistry, Ph.D.** - Post Doctoral Fellow
- **Kenechukwu Ezekwem** - Graduate Student Research Assistant
- **Antonio Moline** - Graduate Student Research Assistant
- **Ali Rahim Taleqani** - Graduate Student Research Assistant

Session Agenda

- What is livability?
- Previous research on transit and livability
- Demographics of tribal areas and transit needs
- Trends in tribal transit – funding and operations
- Next steps
 - Identifying need for additional services and funding
 - Case studies

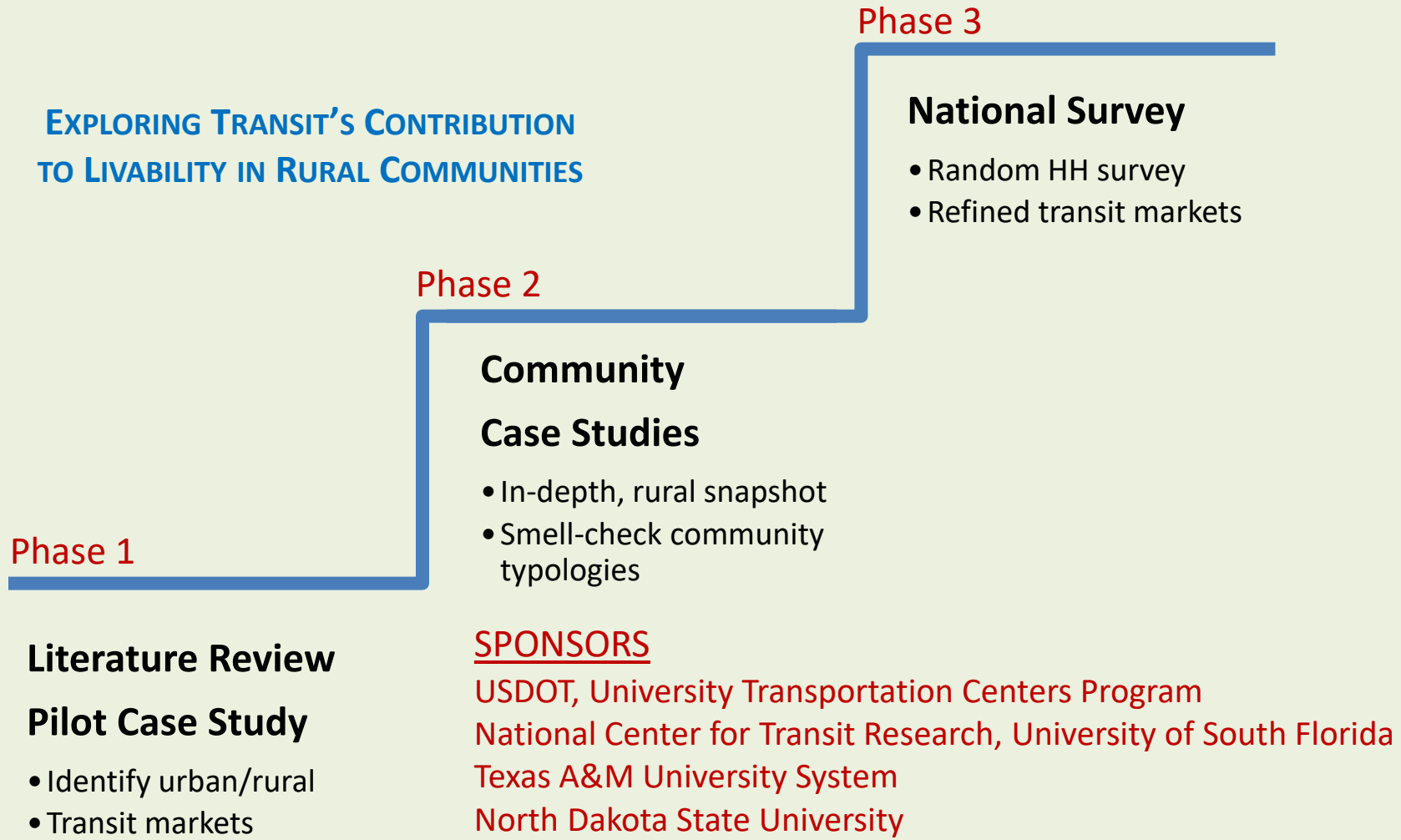


Transit and Livability

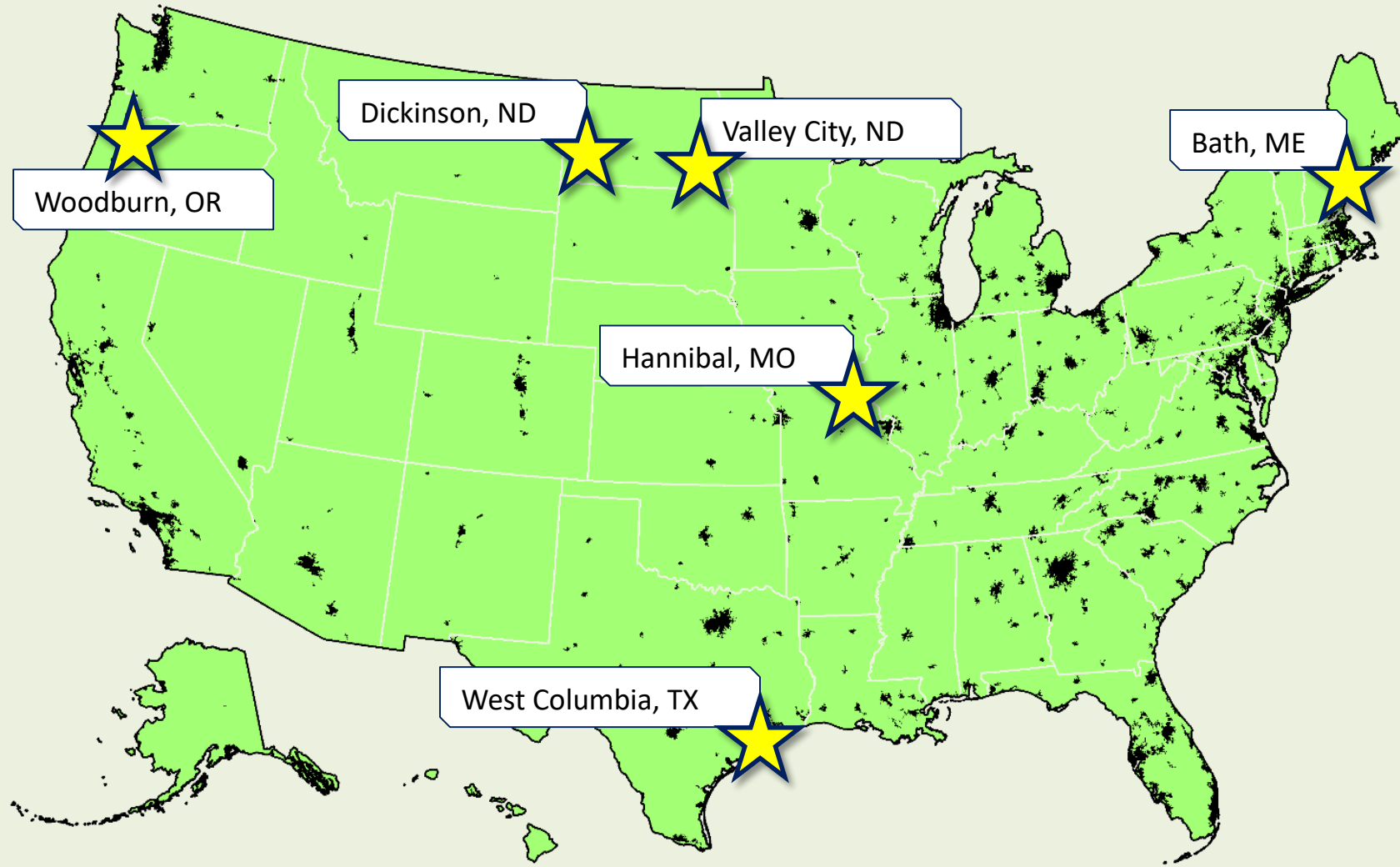
Livability Dimensions and Indicators

Dimension	Social	Physical/Climate	Functional	Safety
Livability indicator	Sense of community	Parks and recreation facilities	Ease of travel	Crime
		Clean environment	Available jobs	
		Street characteristics	Quality healthcare	
		Walkability	Quality public schools	
		Weather	Cultural institutions	
			Affordable housing	
			Overall cost of living	
			Shopping and entertainment options	

Previous Research



Six Case Studies

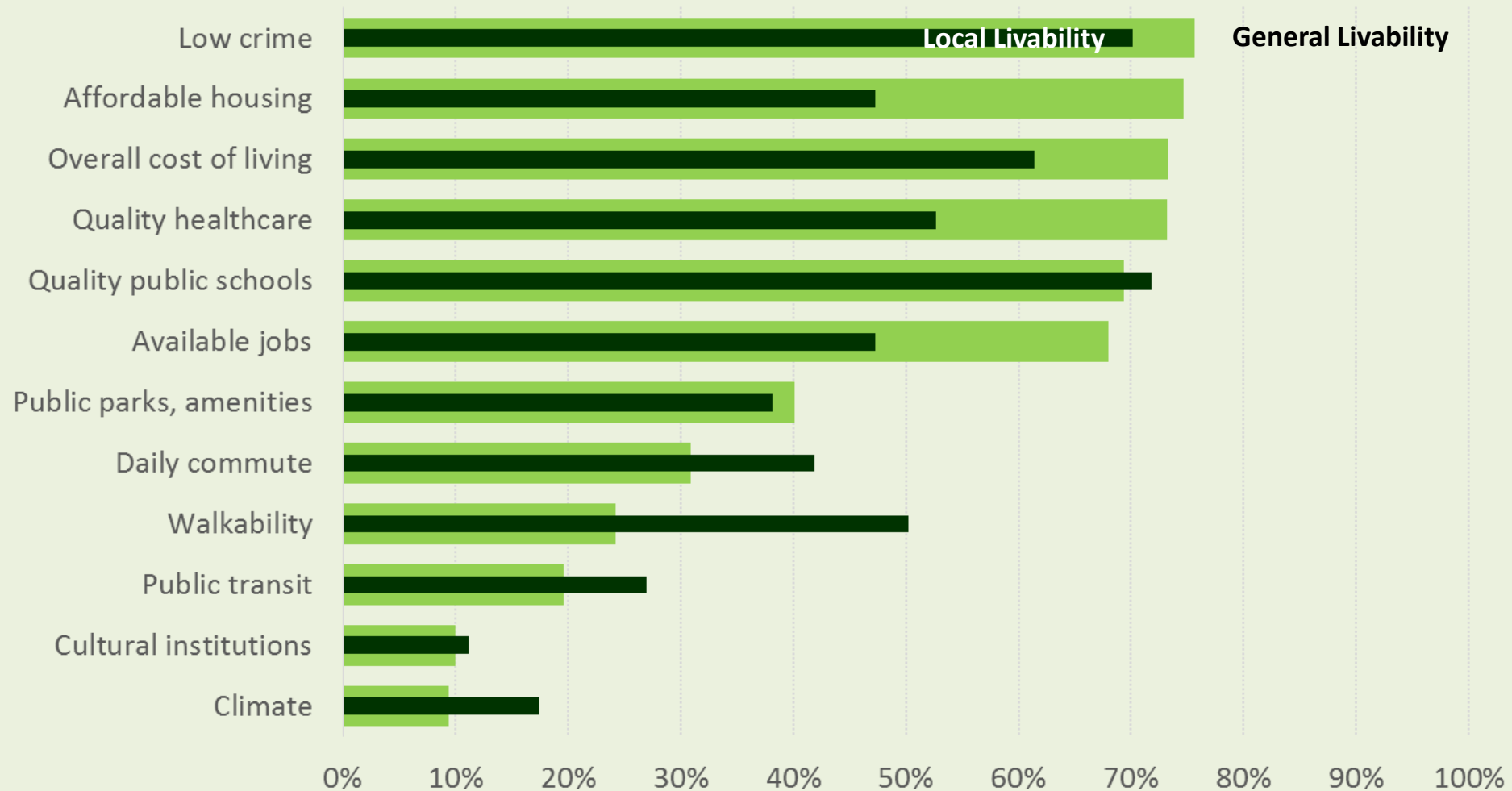


General Public Findings


- Factors of Livability
 - General to any community
 - Specific to residents
- Satisfaction with Quality-of-life
- Transit Importance
- Support for Funding Sources
- Hypothetical Scenarios
- Personal Use of Transit



Comparison of Livability Factors: Valley City, ND



Modeling Impact of Desired Improvements on Local Quality of Life



Results showed that people who desired better ***public transportation***, better ***climate***, better ***public schools***, or better ***cost of living*** than what was currently available in their community were less satisfied with local quality of life.

Observations from Case Studies

The method identified...

- Factors residents in small cities believe contribute to livability
- Potential improvements to improve individual community livability

Residents...

- Believed it was important for transit service to be available (seniors, individuals with disabilities, and people who cannot drive)
- Supported funding from a variety of sources
- Would be likely to use transit if they could no longer drive

Transit Riders...

- Agreed transit service is important for their quality of life
- Many have limited or no other travel options
- Generally satisfied with the services being provided

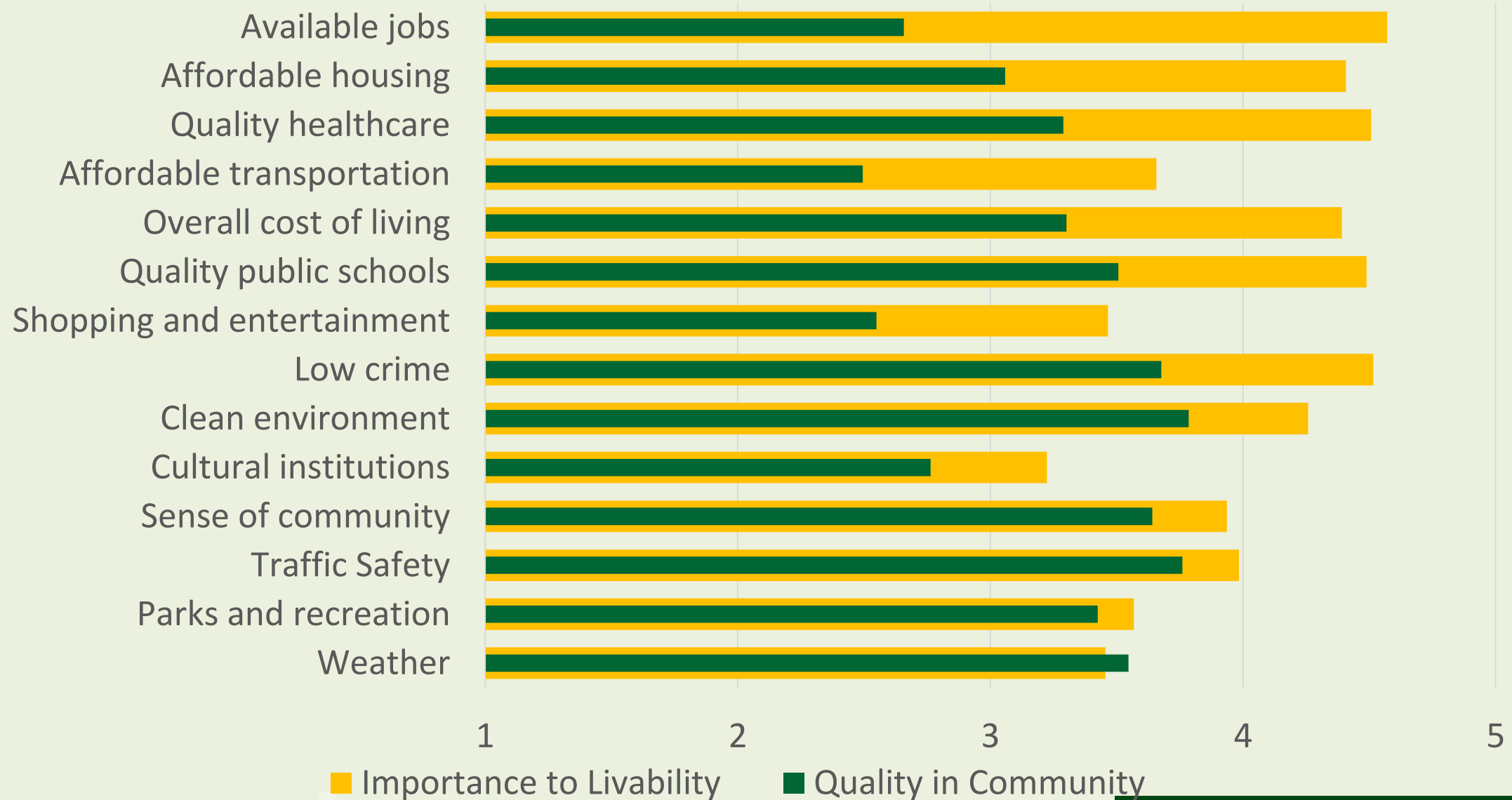
National Community Livability Survey

Random sampling conducted Summer/Fall 2017

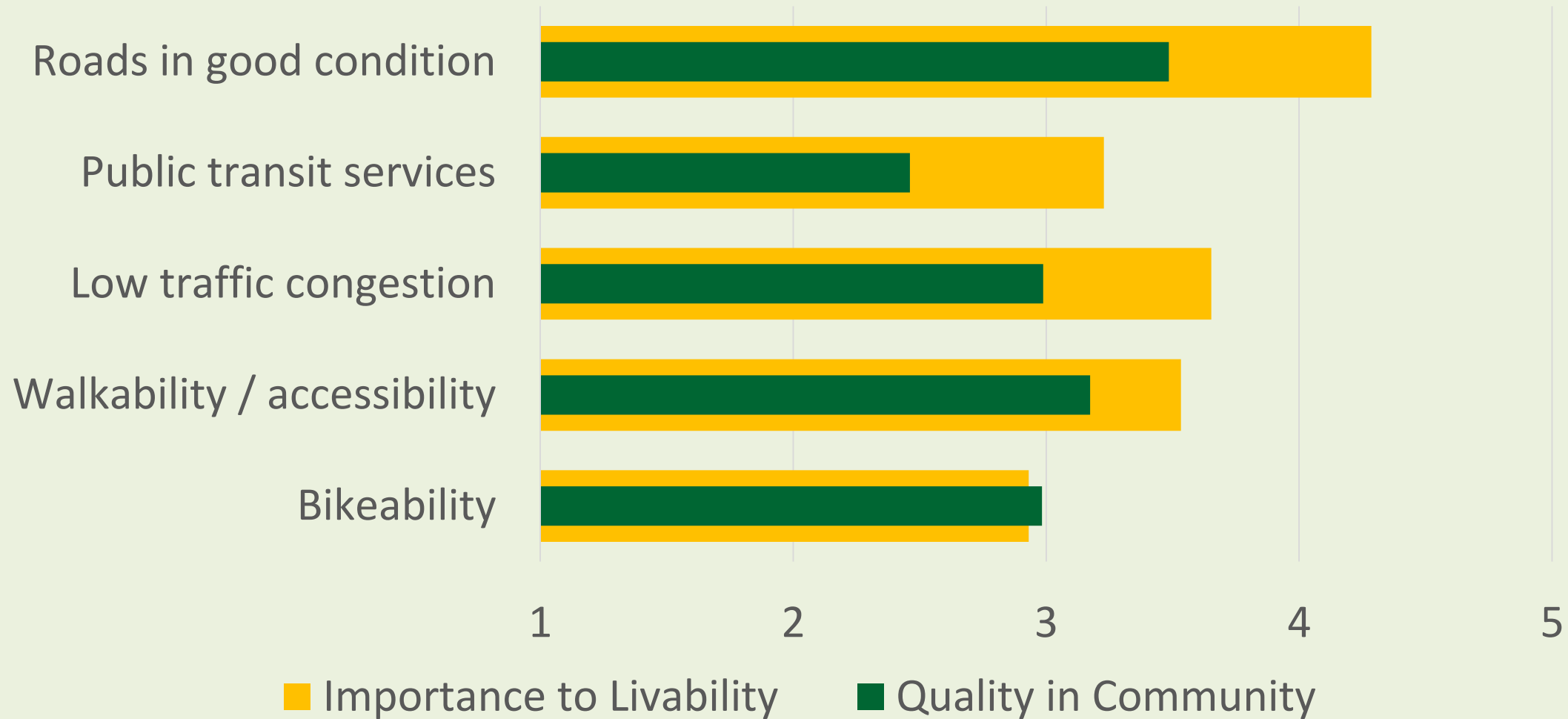
Rural and Urban Populations

994 Usable Responses

Gaps for Livability Factors, Non-Metro Areas

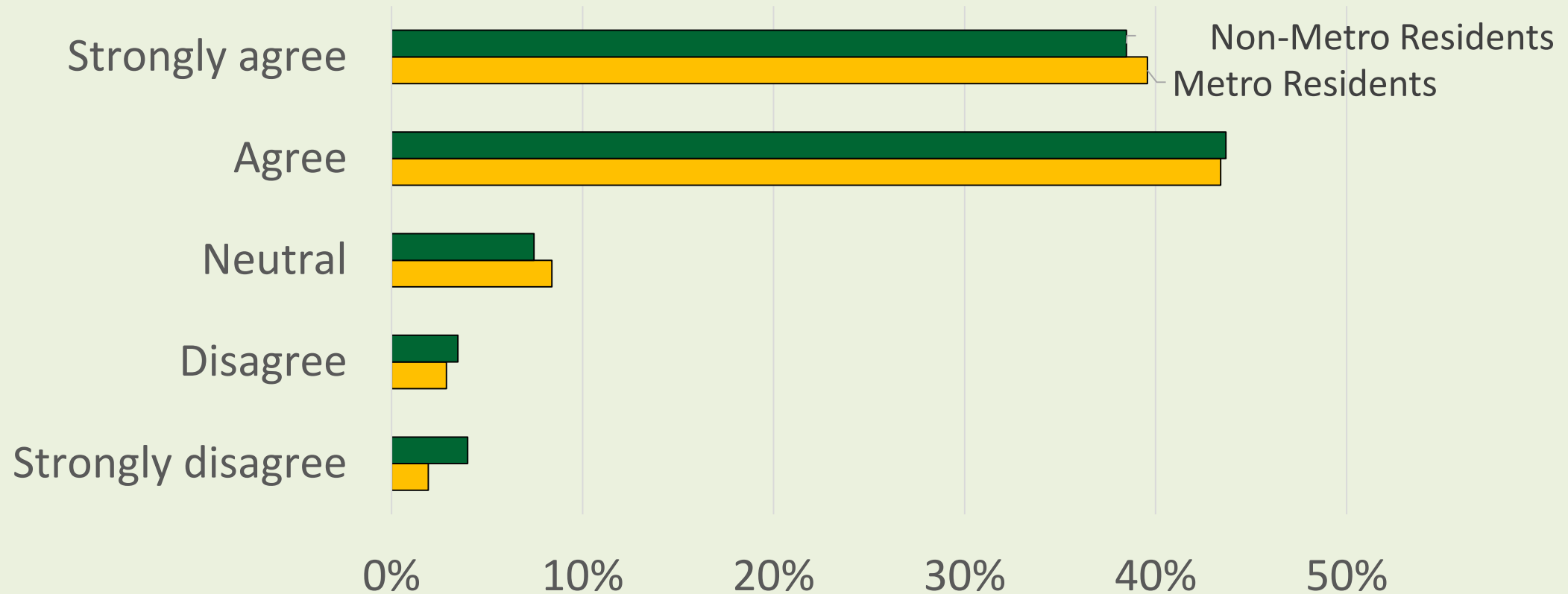


Gaps for Transportation Factors, Non-Metro Areas



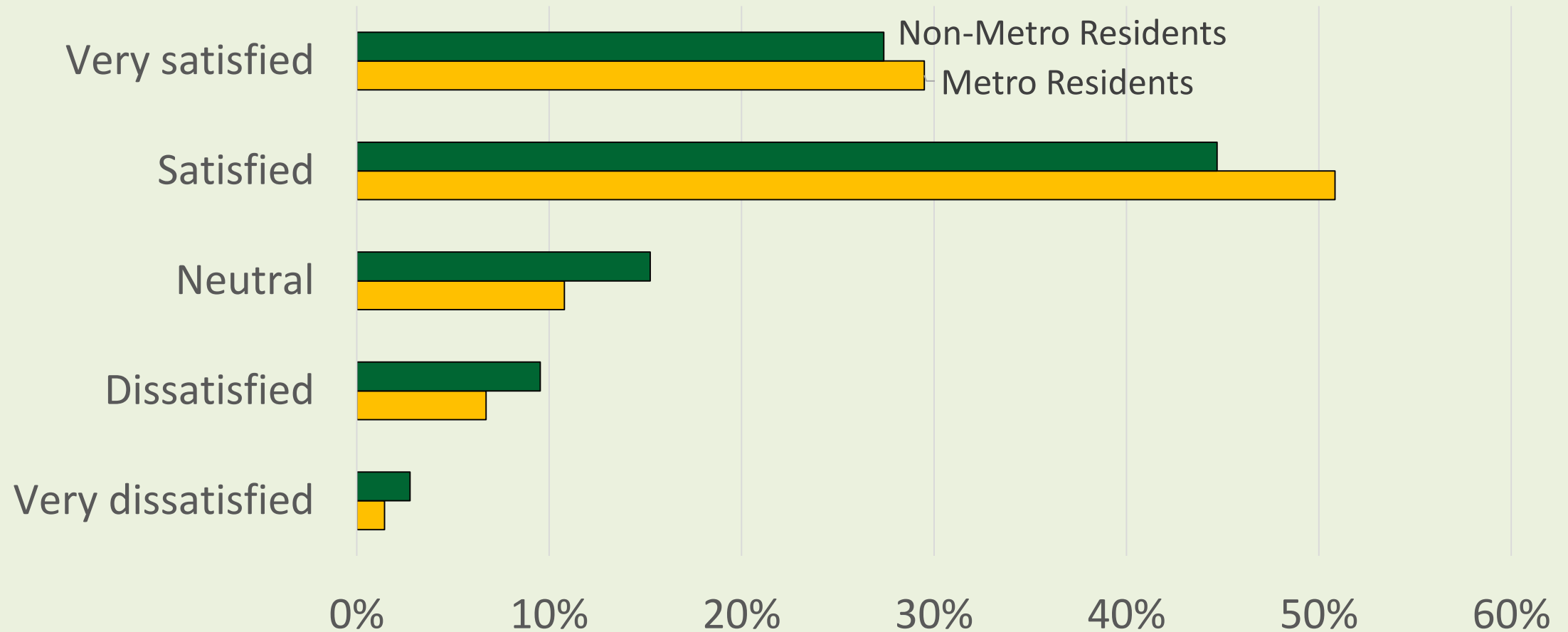
Ease of Travel

I can easily travel to places I need to go in my community using my current travel options.



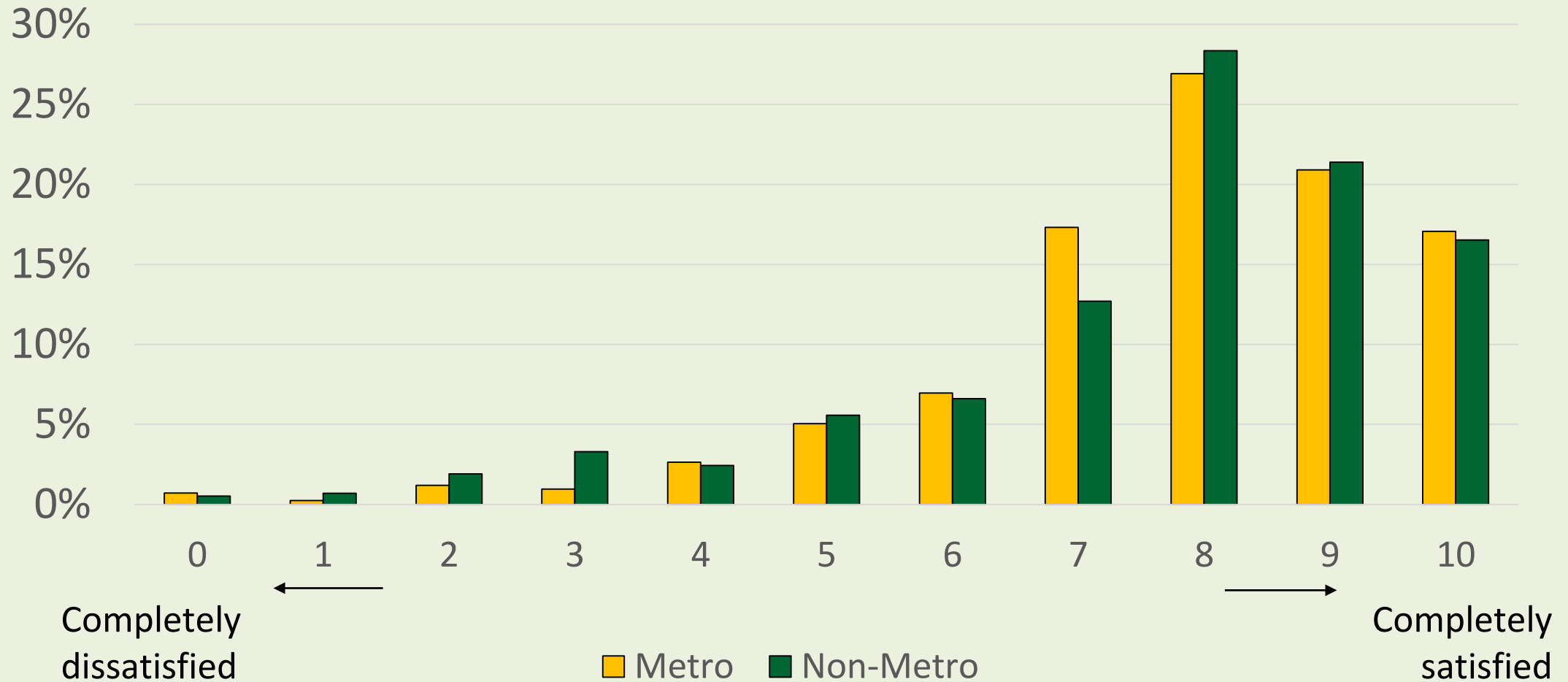
Community Quality of Life

How satisfied are you with the quality of life in your community?



Life Satisfaction

All things considered, how satisfied are you with your life as a whole these day?



Results

Community quality of life is affected by:

- Sense of community
 - Street type
 - **Walkability**
 - **Ease of travel**
 - Quality healthcare
 - Quality public schools
 - Cultural institutions
- Not significant for non-metro areas
- Clean environment
 - Weather
 - Available jobs
 - Shopping and entertainment options
 - Crime

Results

Overall life satisfaction is affected by:

- Community Quality of Life
- Health
- Employment status
- Age
- Living arrangement

Other Data Collected in Survey

- Support for transit
- Travel behavior and use of transit
- Access to amenities by transit or walking
- Neighborhood/street characteristics
- Technology and transportation

Reports

Exploring Transit's Contribution to Livability in Rural Communities: Case Study of Valley City, ND and Dickinson, ND, November 2016

Transit and Livability: Results from the National Community Livability Survey, December 2018

www.surtc.org/research

Future Tribal Case Studies

- Show livability needs in tribal communities
- Compare results to other rural communities and national survey data
- Study impact transit could have on improving livability





Tribal Demographics, Transit Trends, Funding

Outline

❑ Reservation Identification and Features

- Size (land area)
- Population
- Population density (people/sq. mile)

❑ Demographic Needs

- Mobility dependent population and proportion
 - ❖ Low income, Seniors, Disabled, School age youth and No vehicle households

❑ Tribal Transit Systems Growth

- Number of tribal transit systems
- Ridership and operation (rides and vehicle miles)

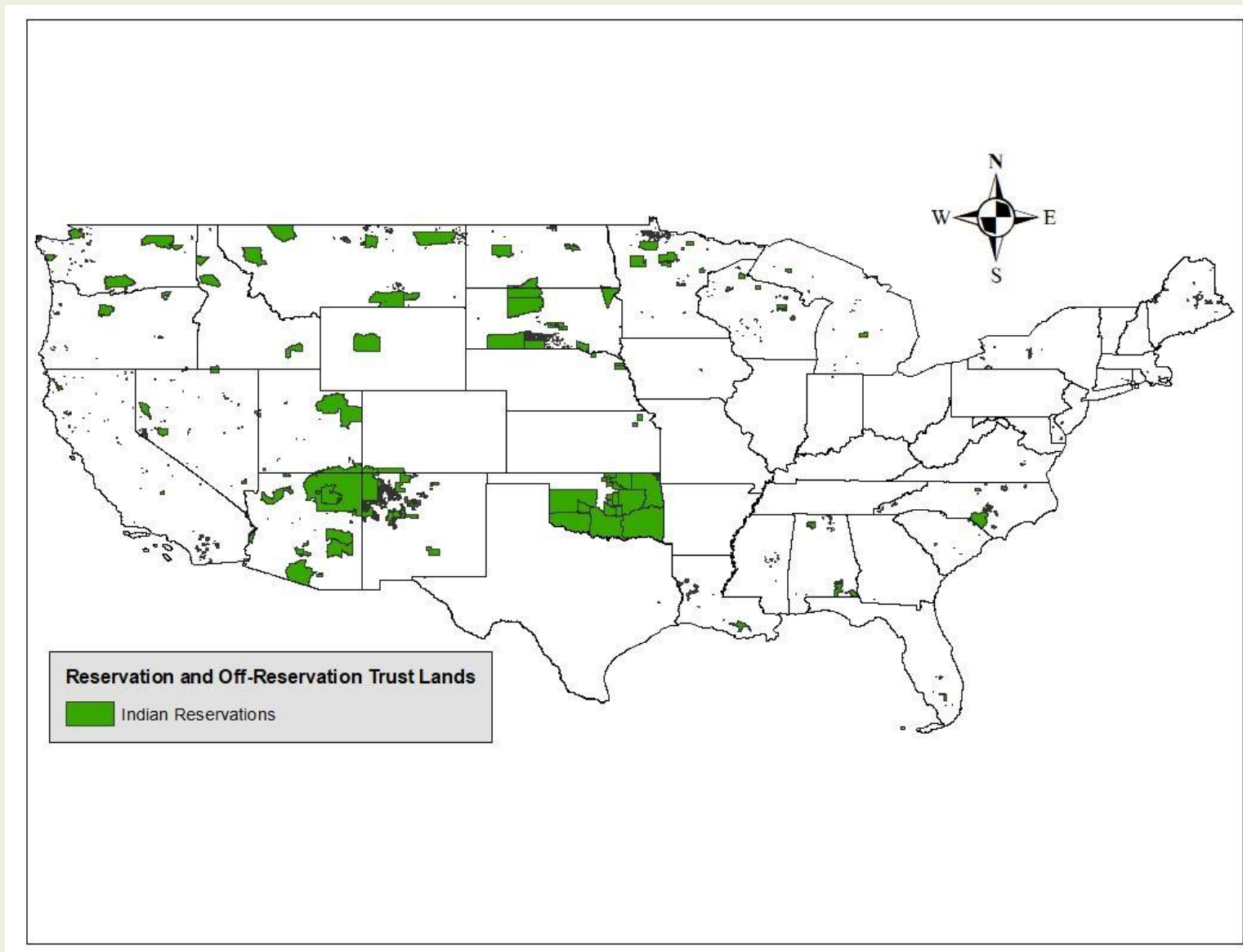
❑ Funding Needs

- Sources and Trend in Funding Types
 - Federal, State, Local, tribal, and Other
 - Operating budget by funding source
- Federal funding (5311 c)
 - Changes over time (MAP 21 and FAST ACT)
 - Formula-based funding (vehicle revenue miles)
 - Discretionary (competitive grant funding)
- Funding Gaps

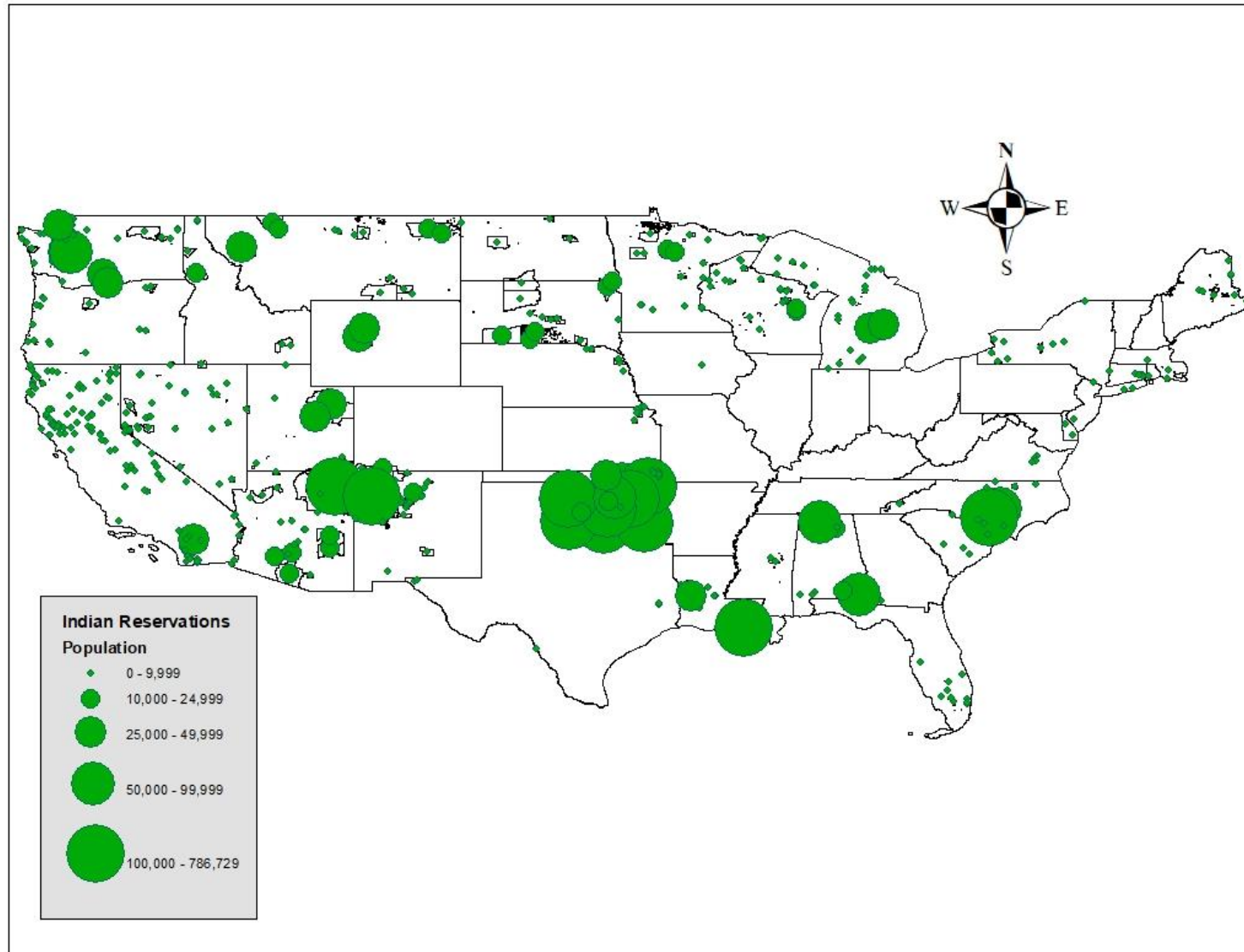
Demographic and Geographic Comparison

Feature	Description	National	Reservation and Off-Reservation Trust Lands
Population	Total Population	321,004,407	2,632,102 (0.82%)
Area	Land Area Sq. Miles	3,535,493	187,441 (5.3%)
Population Density	People/Sq. Miles	<u>85</u>	<u>14</u>

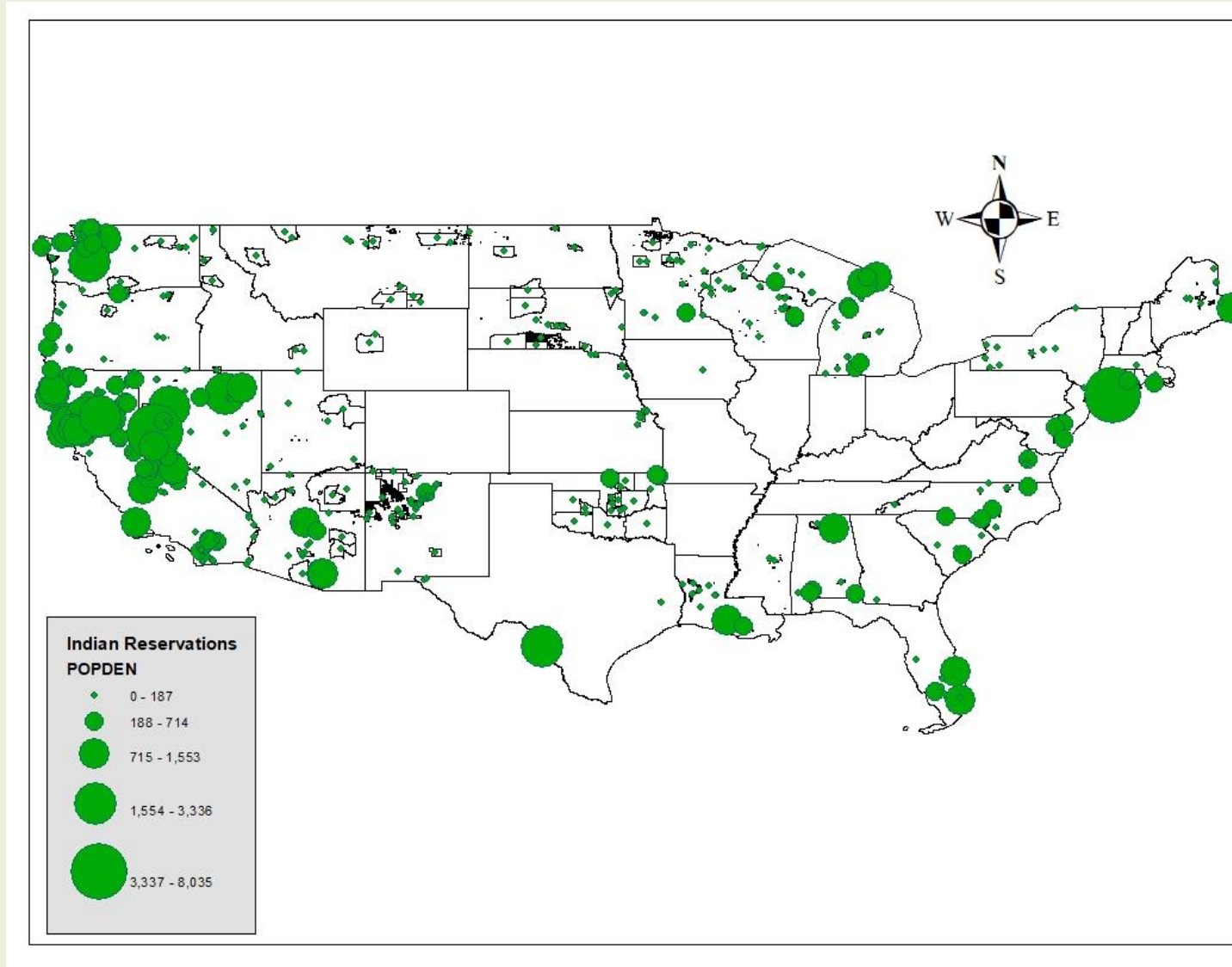
Indian Reservation Sizes



Indian Reservation Populations



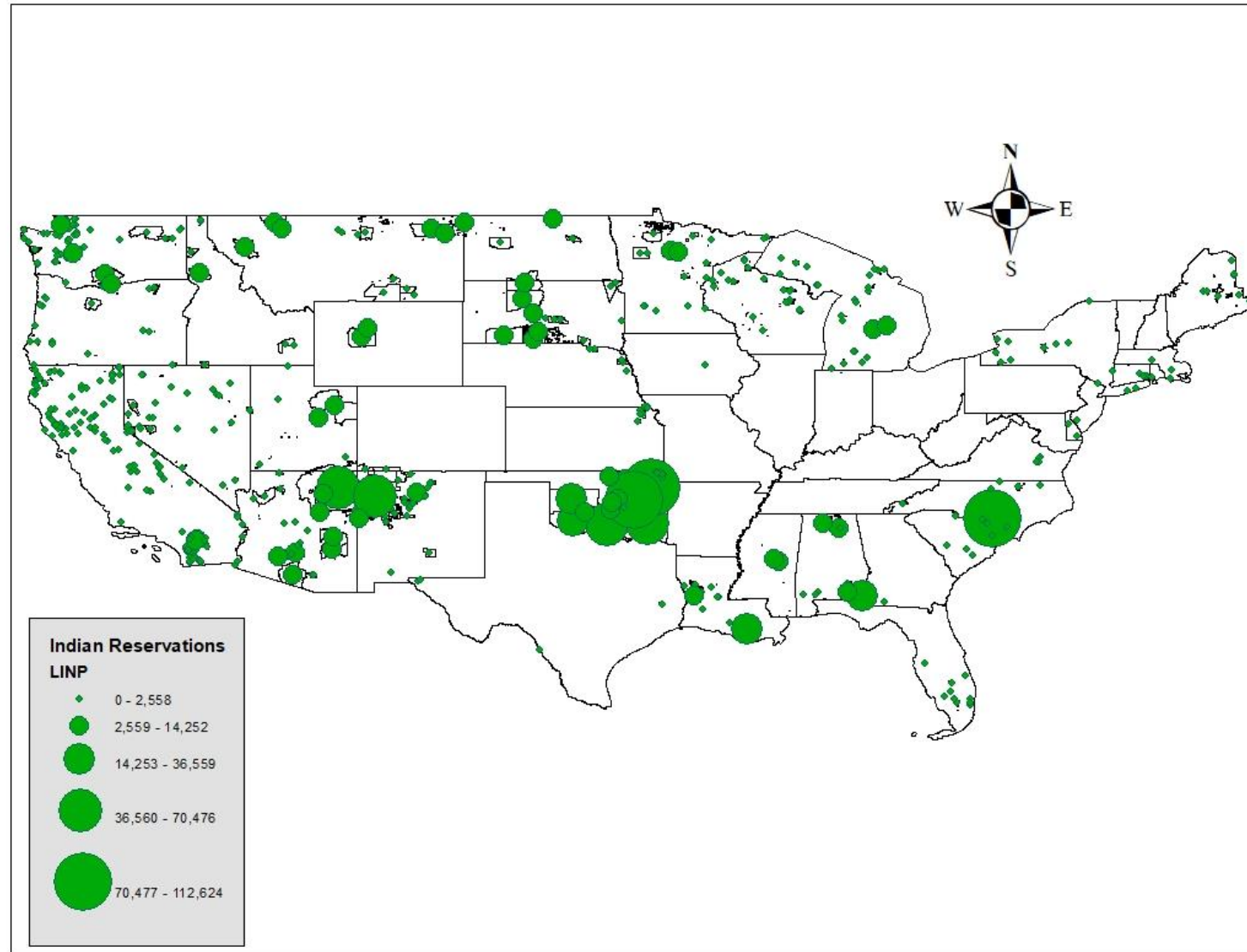
Indian Reservation Population Density (people/Sq. Miles)



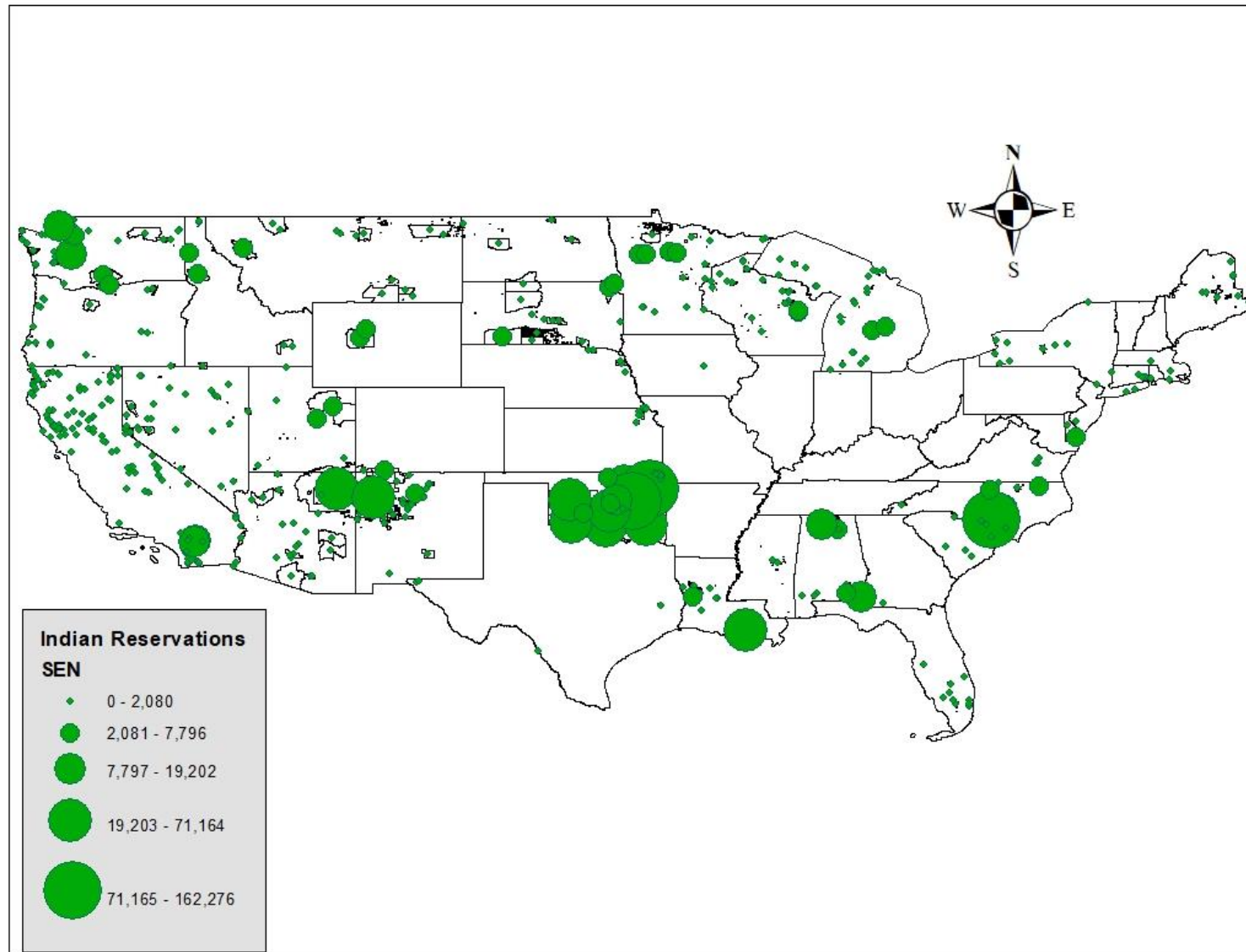
Comparative Mobility Dependence

Demographic Need Indicator	Description of Demographic Need	National Average	Reservation and Off-Reservation Trust Lands
Income	% population under the poverty line	14.6%	<u>293 of 399</u> reservation above 14.6%
Seniors	% population aged 60 years and older	20.8%	<u>133 of 399</u> reservations above 20.8%
Youth	% Youth aged 5 to 19 years old	19.5%	<u>256 of 399</u> reservations above 19.5%
Vehicle	% No vehicle household	8.8%	<u>150 of 399</u> reservations above 8.8%
Disability	% Population with a disability	12.6%	<u>262 of 399</u> reservations above 12.6%
Overall	Overall mobility dependent average	15.3%	<u>19.0%</u>

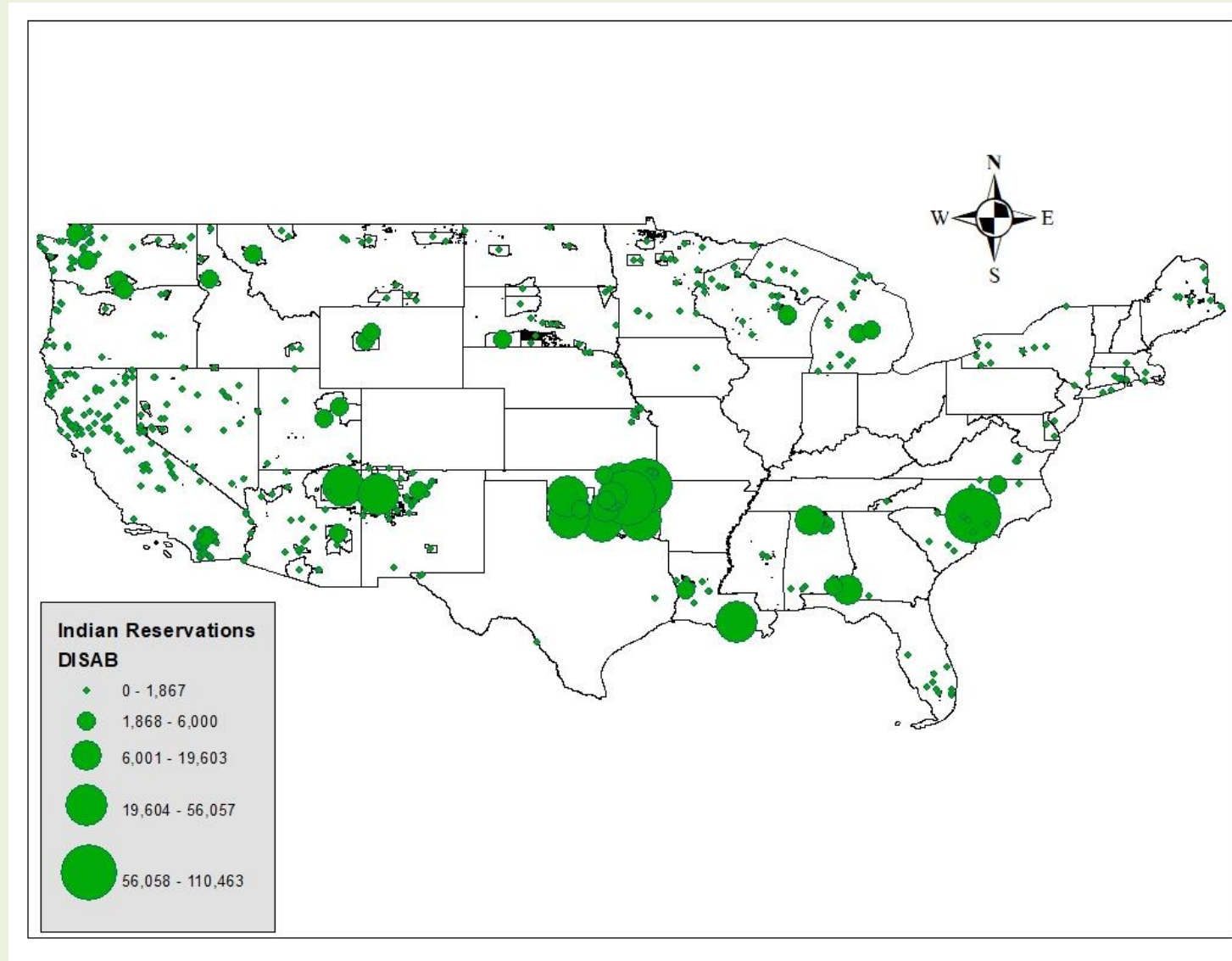
Indian Reservation Low Income Population



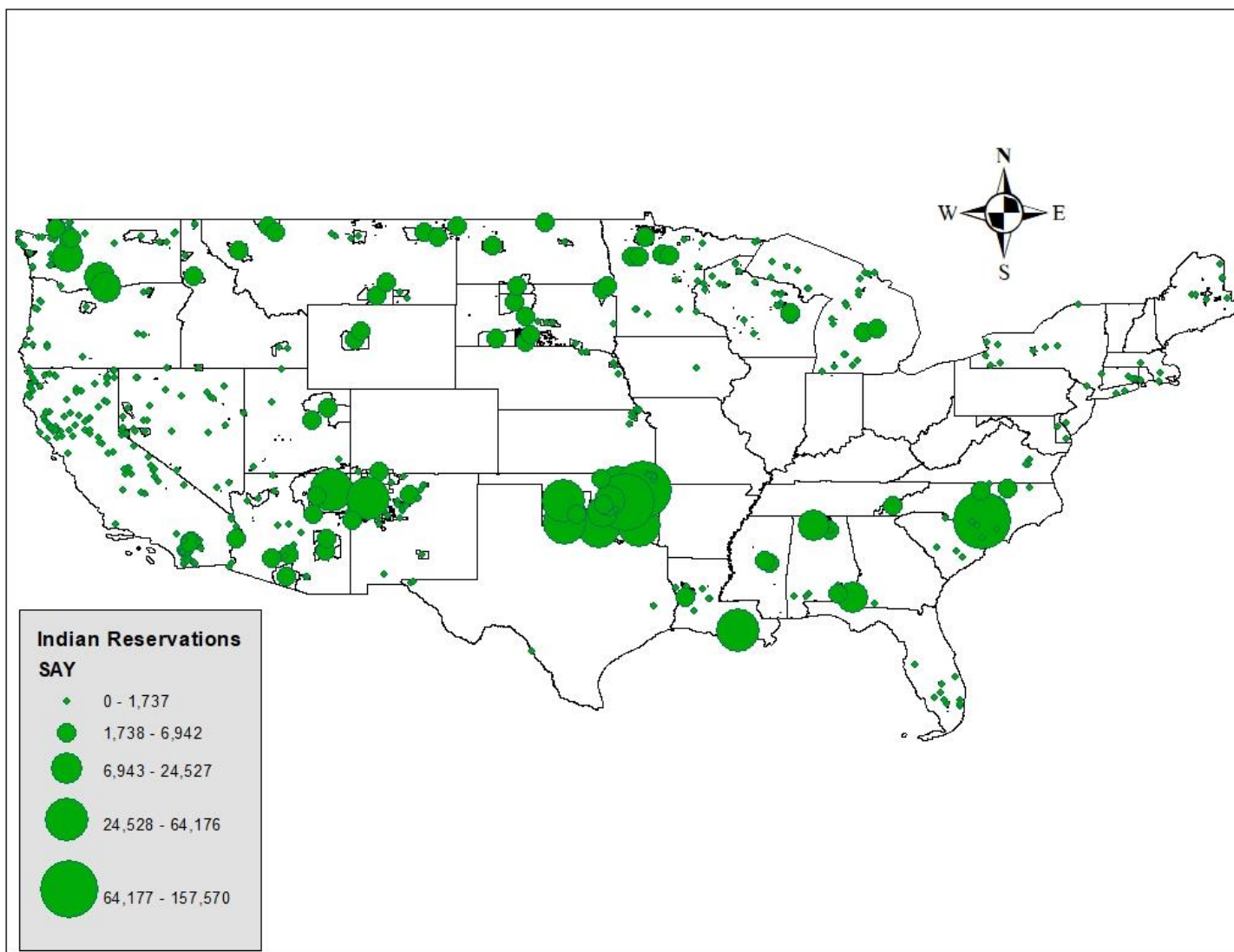
Indian Reservation Senior Population (60+ yrs.)



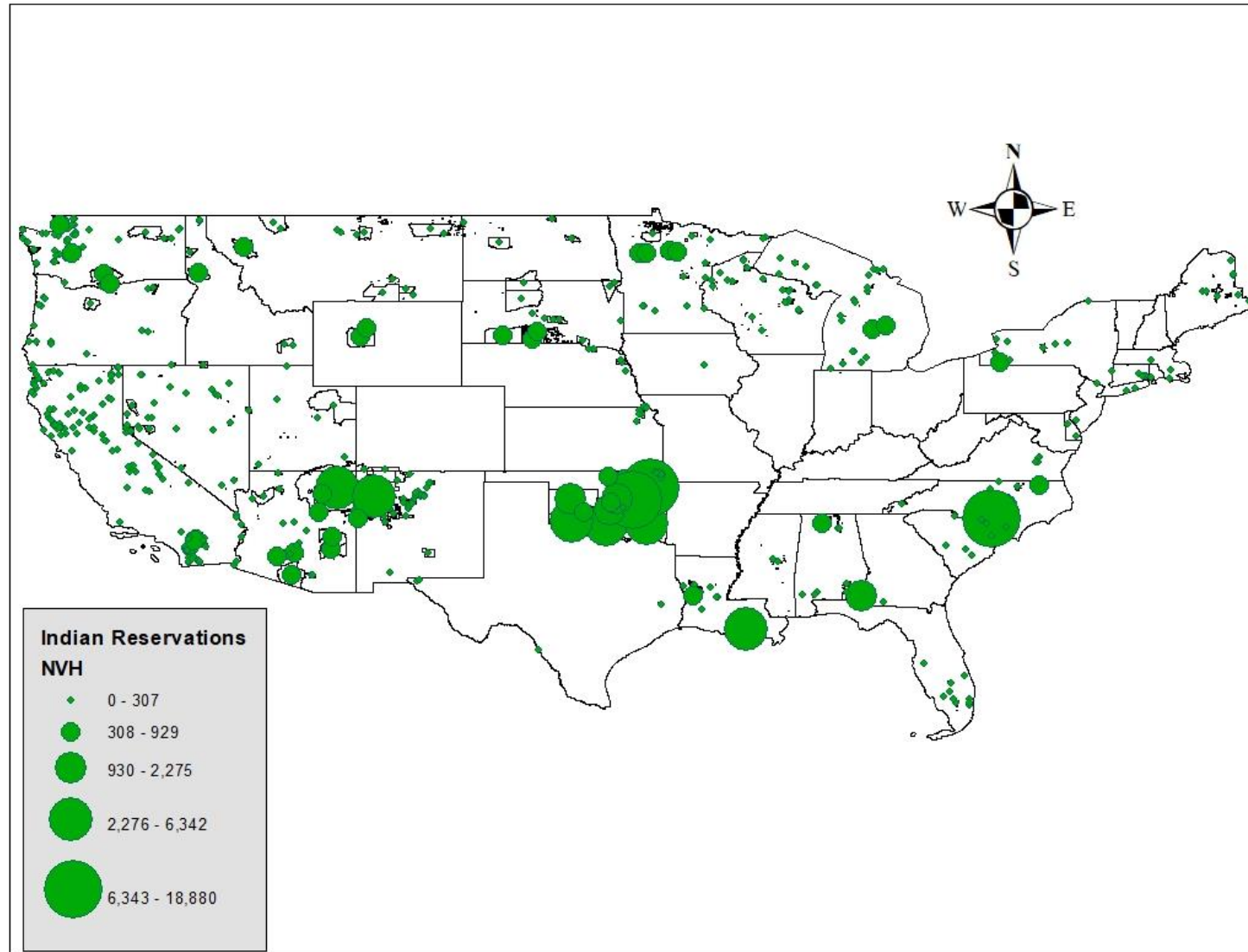
Indian Reservation Disabled Population



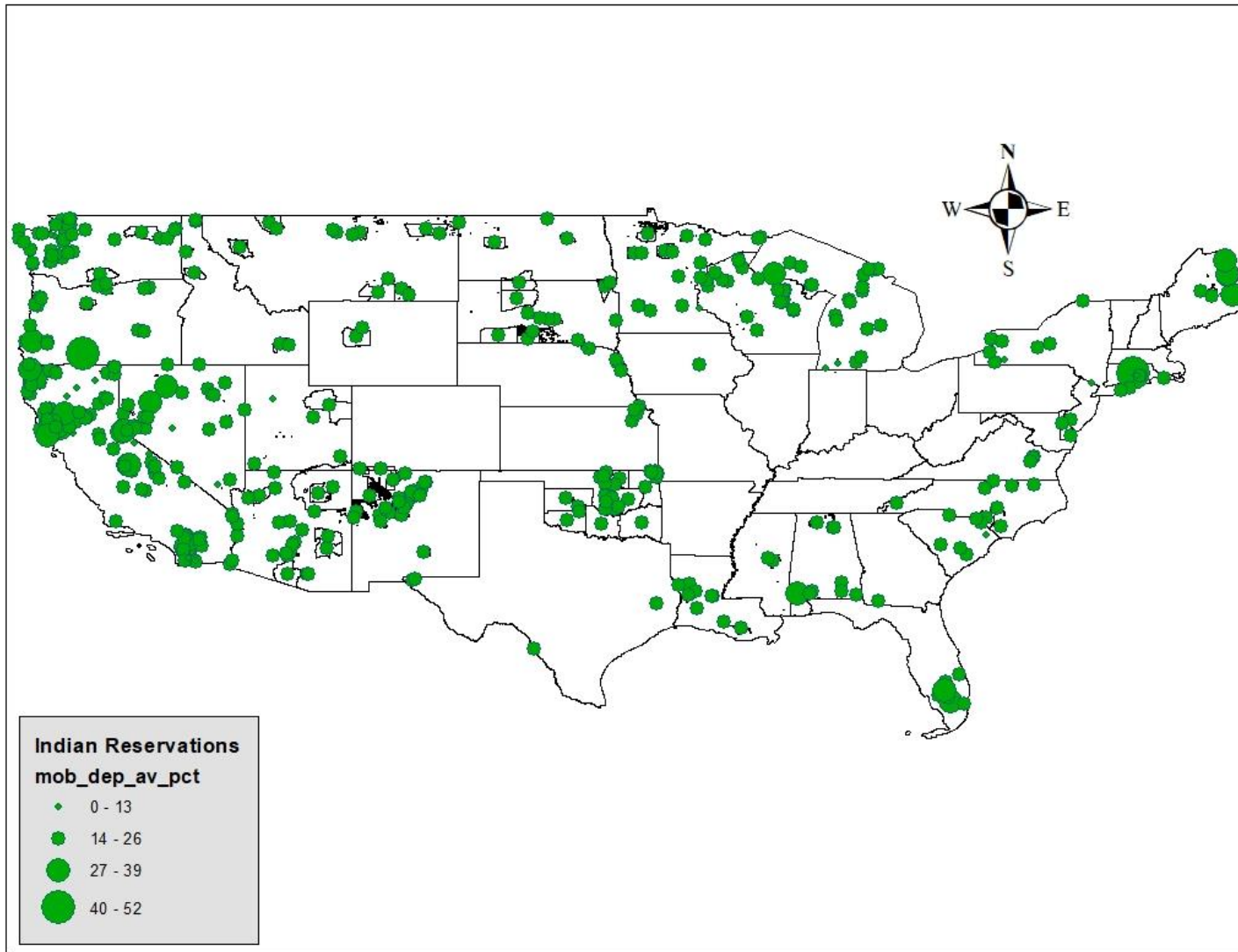
Indian Reservation School Aged Youth (5 to 19 yrs.)



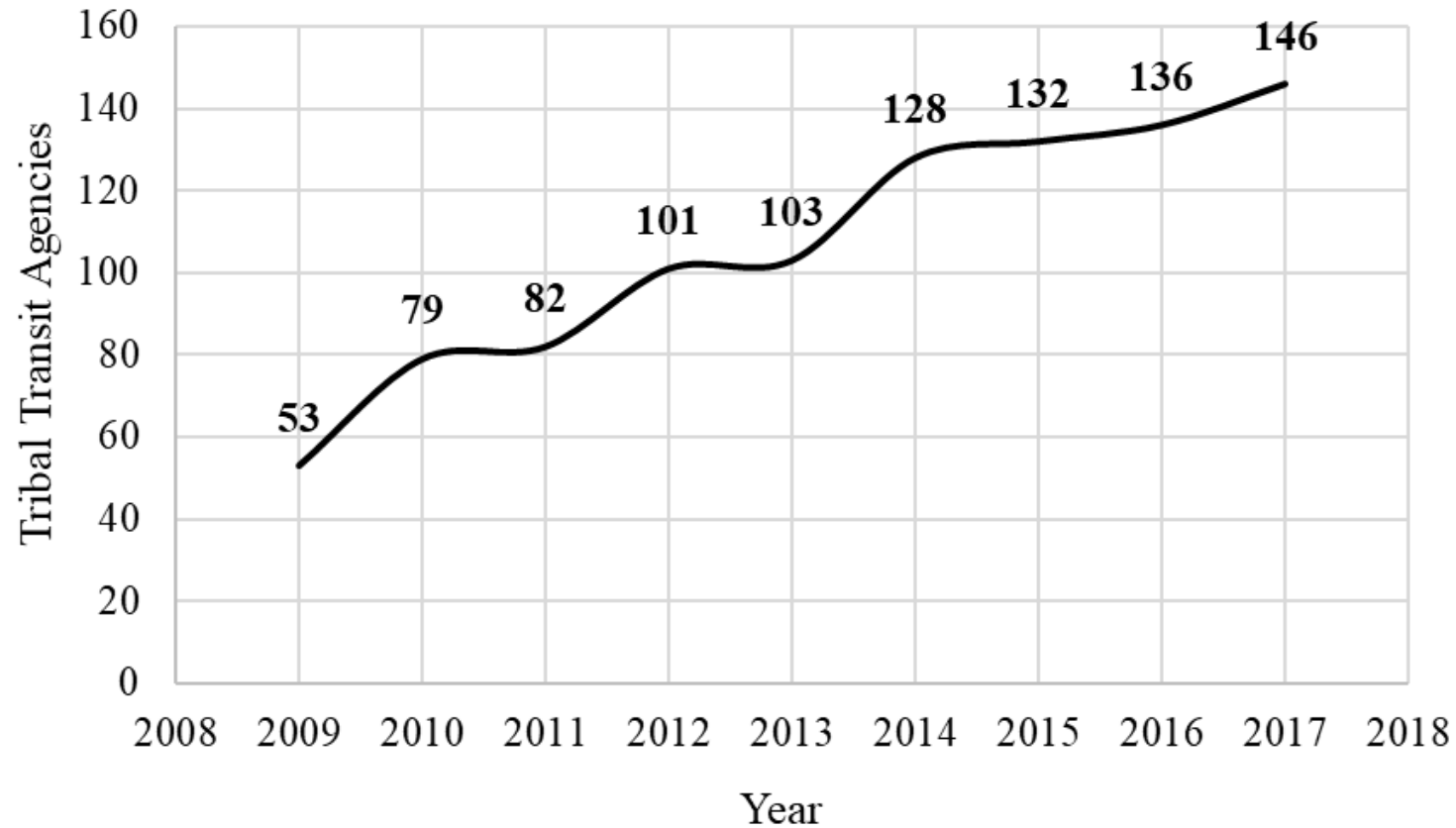
Indian Reservation No Vehicle Households



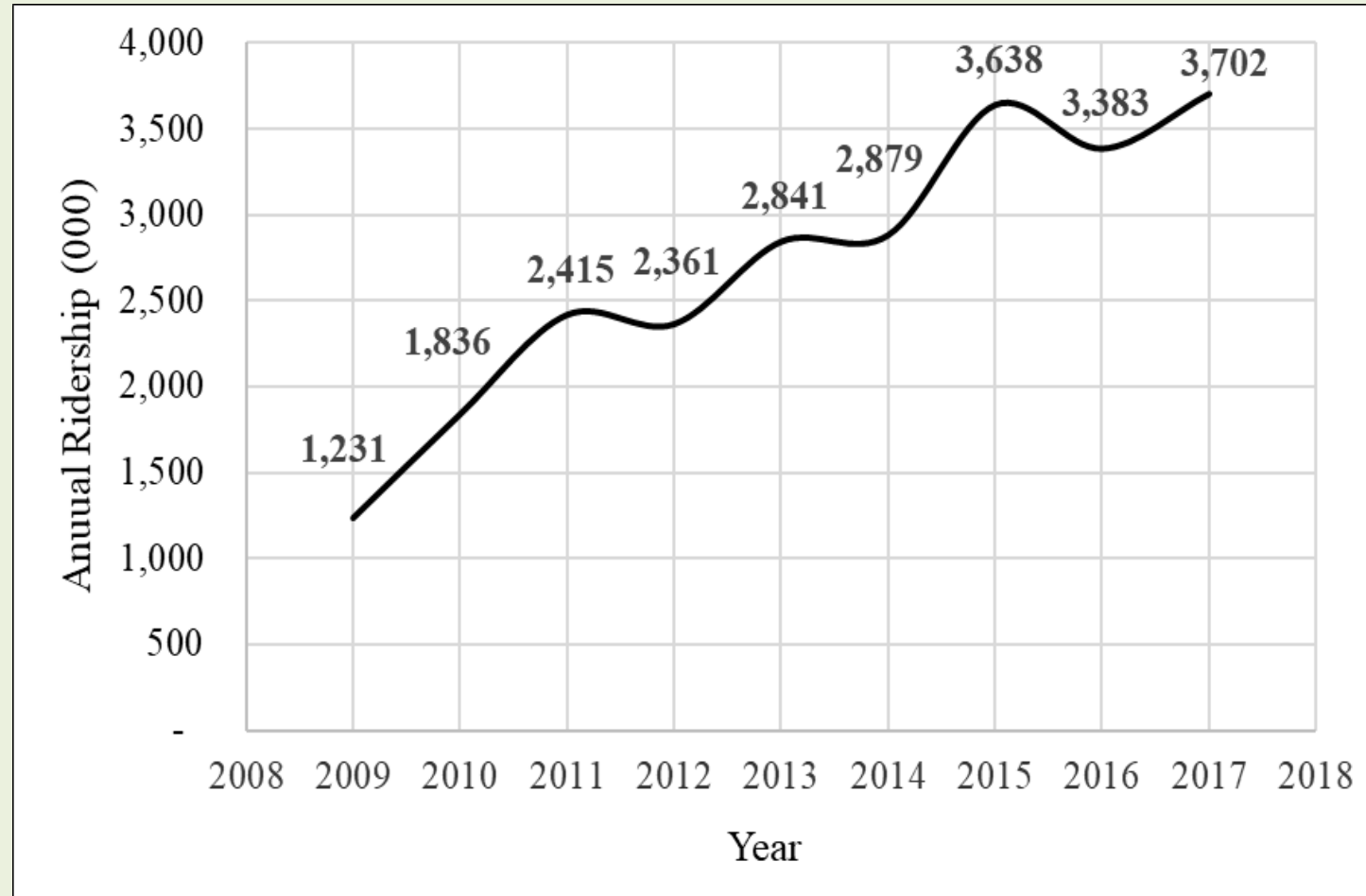
Indian Reservation Average Mobility Dependence



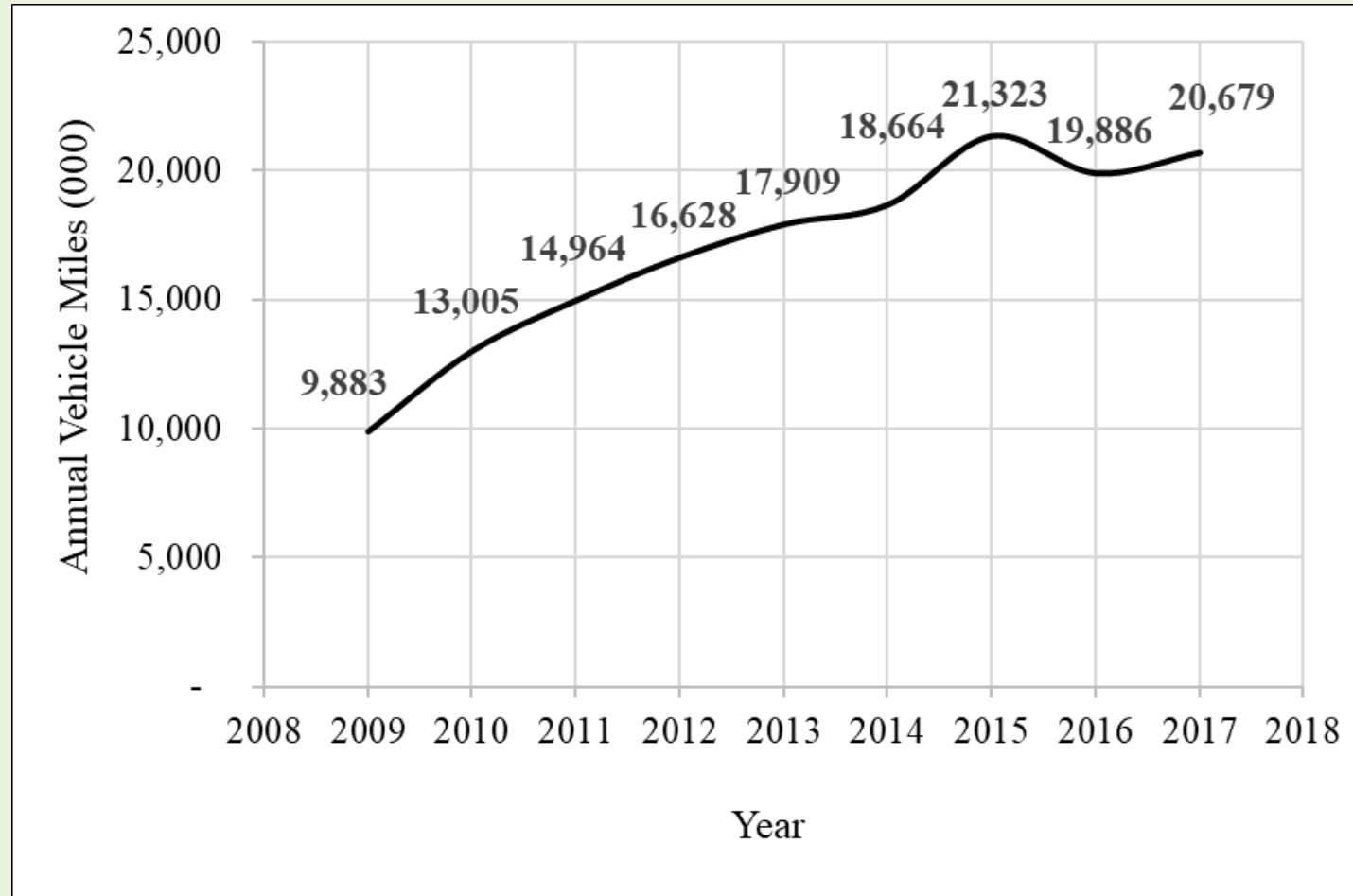
Growth Tribal Transit Agencies



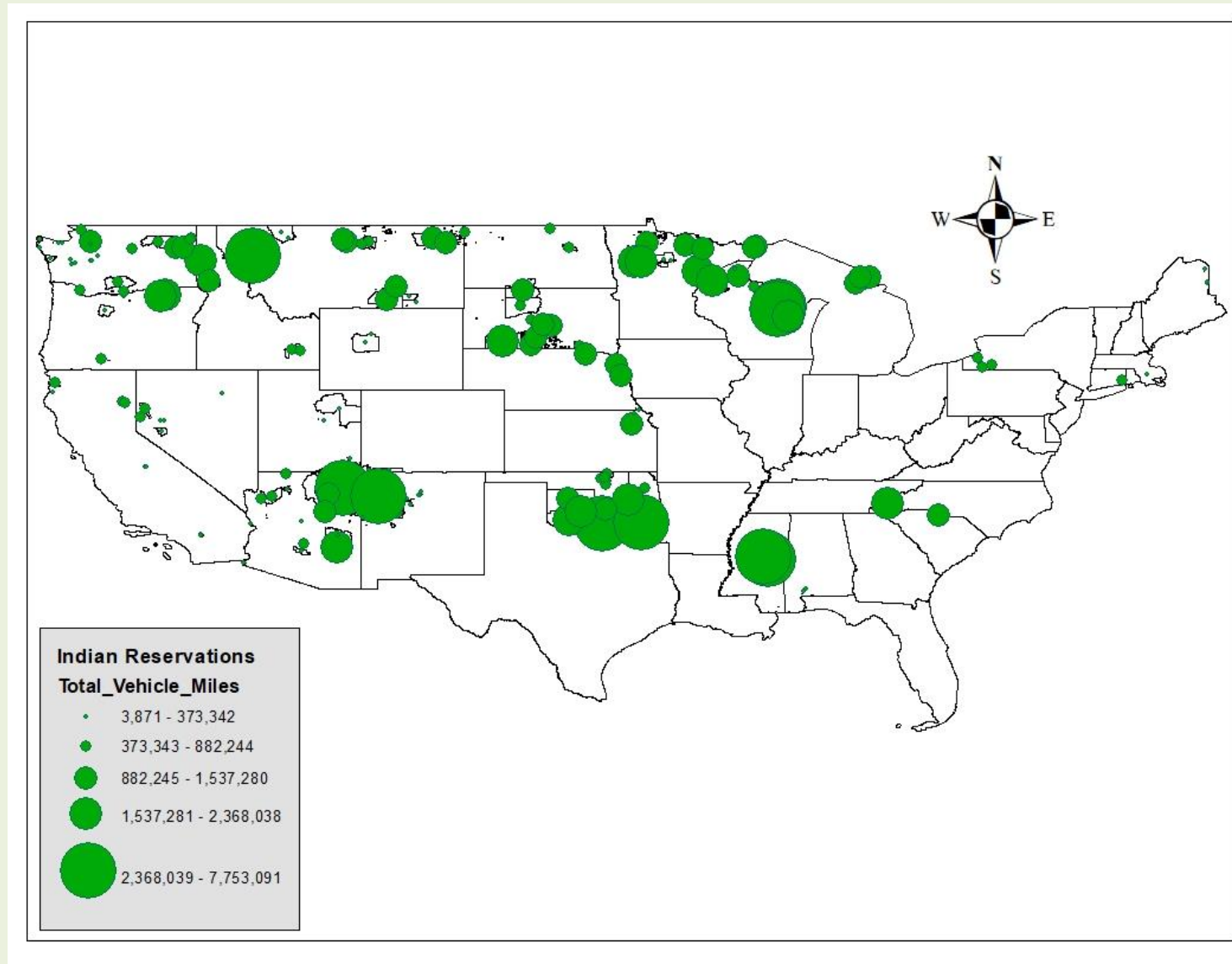
Tribal Transit Ridership (trips)



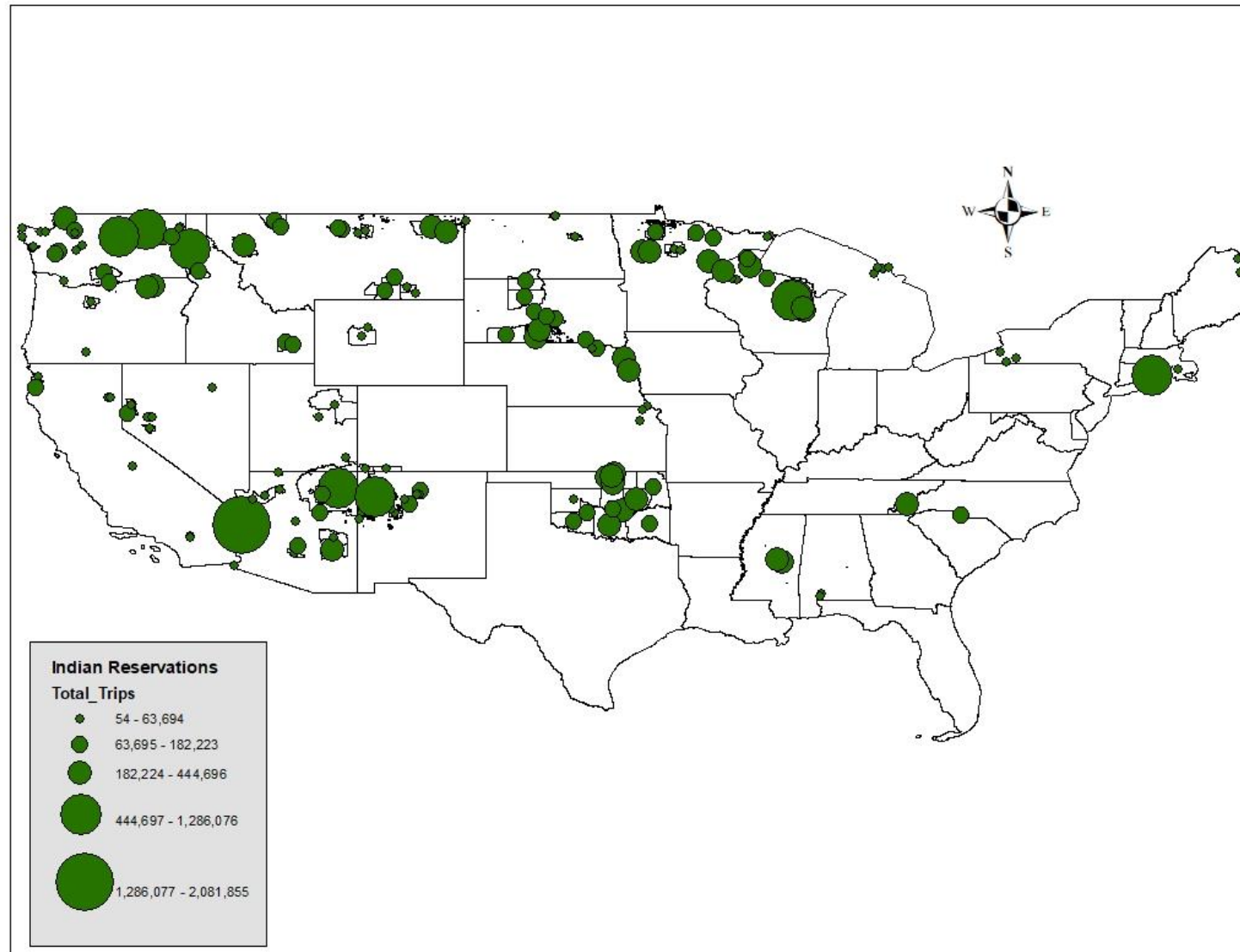
Tribal Transit Vehicle Miles



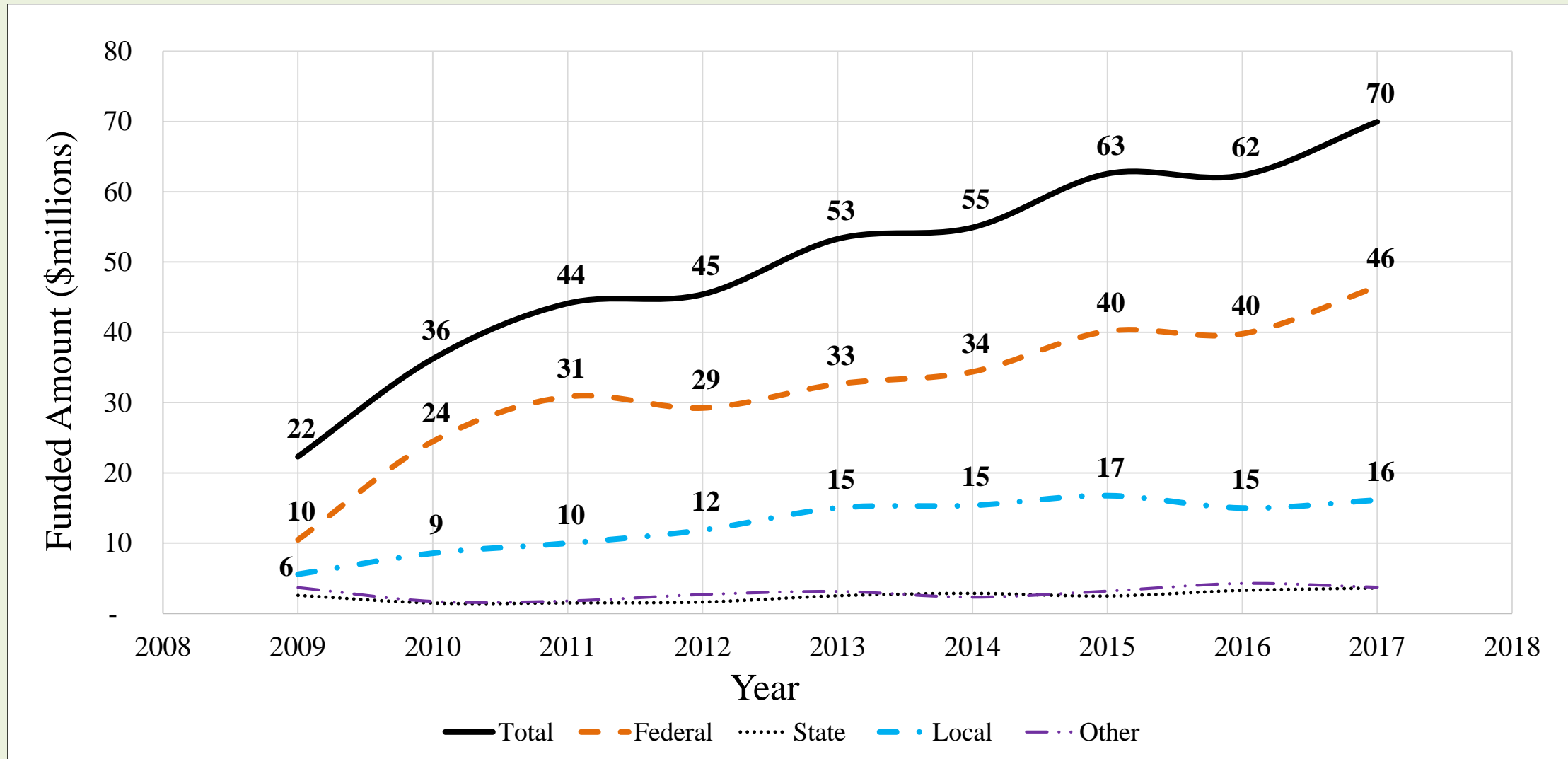
Tribal Transit Vehicle Miles Distribution (2013-2017)



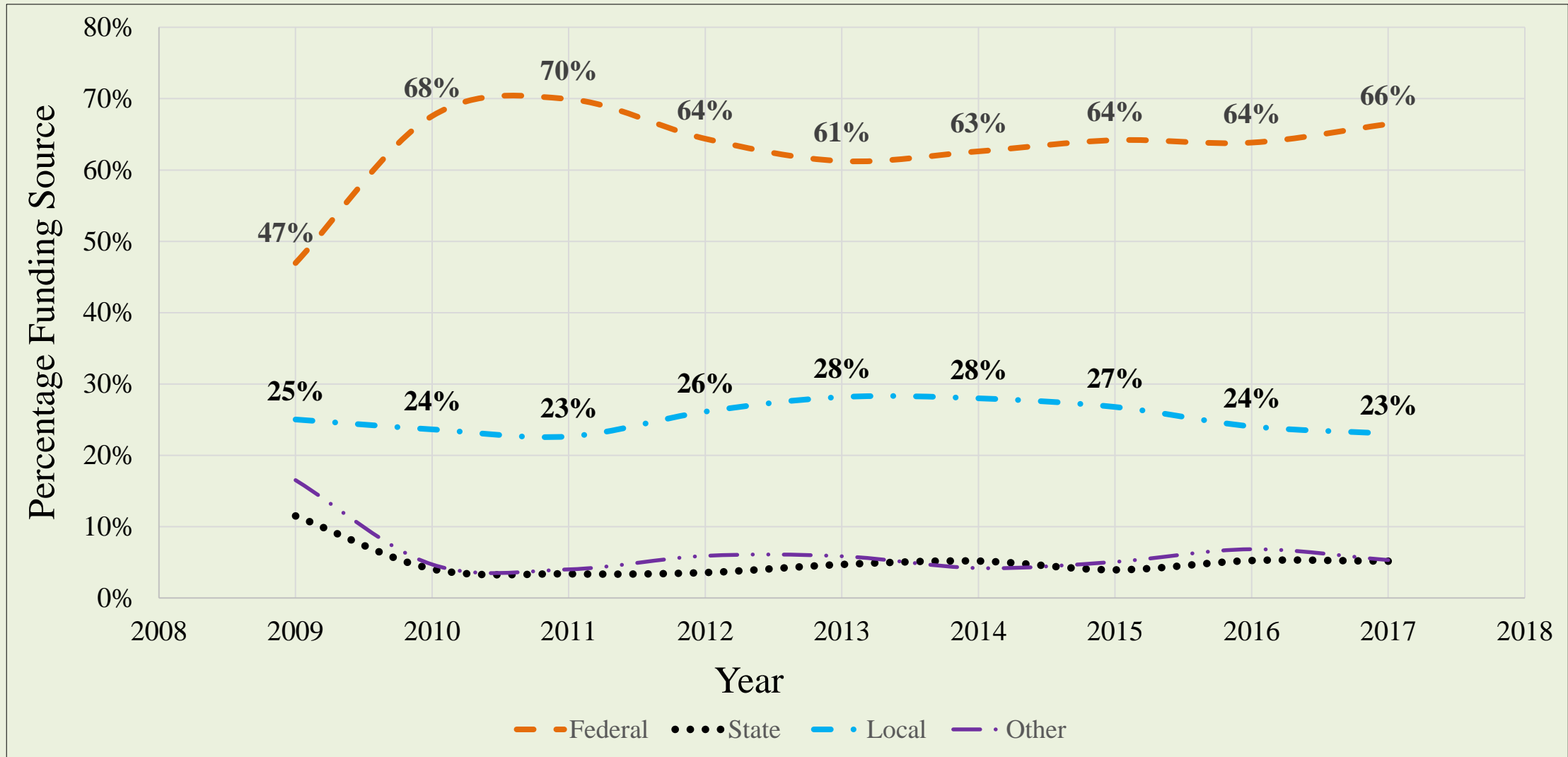
Distribution Tribal Transit Trips (2013-2017)



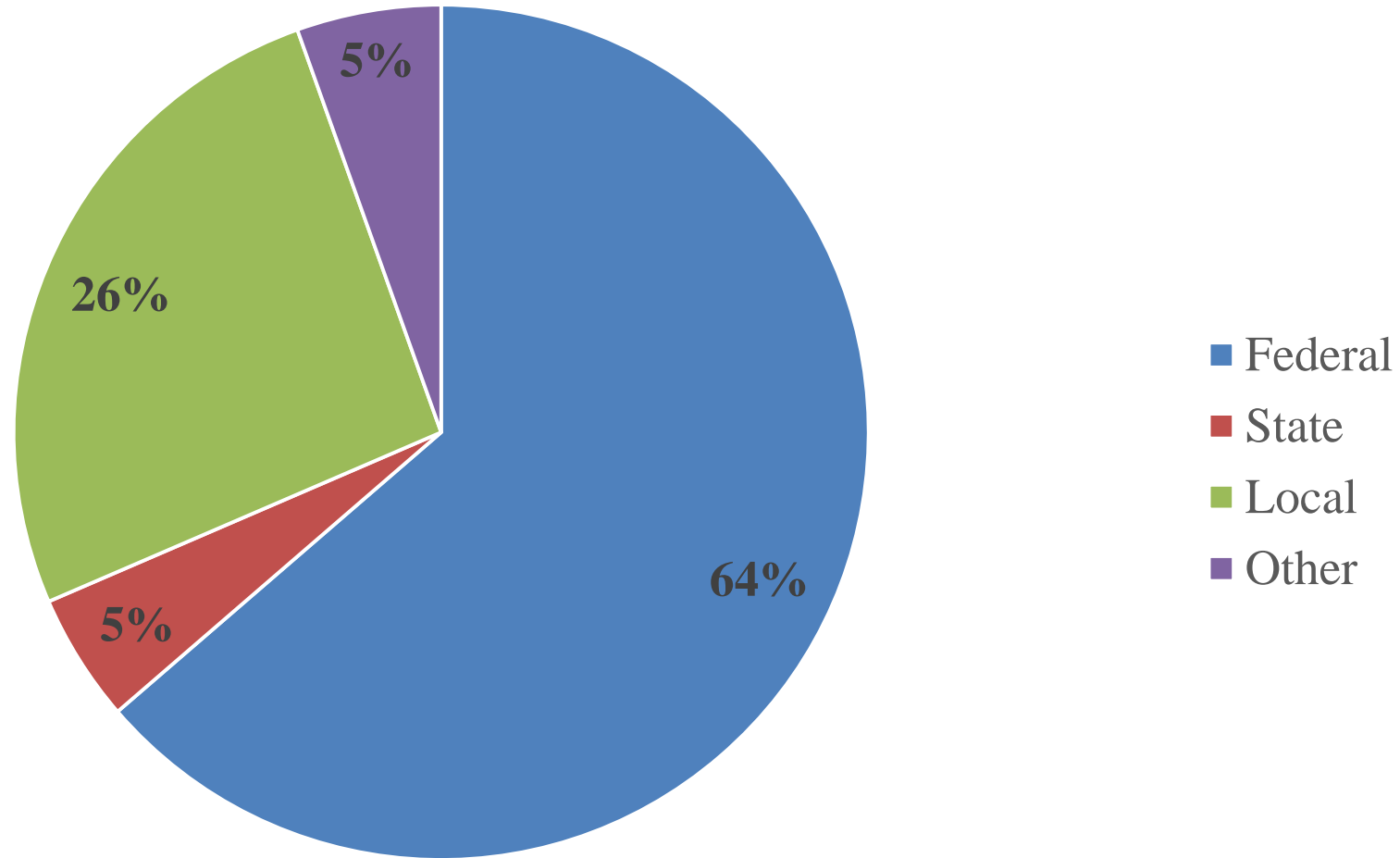
Tribal Transit Operation and Capital Funding (\$millions)



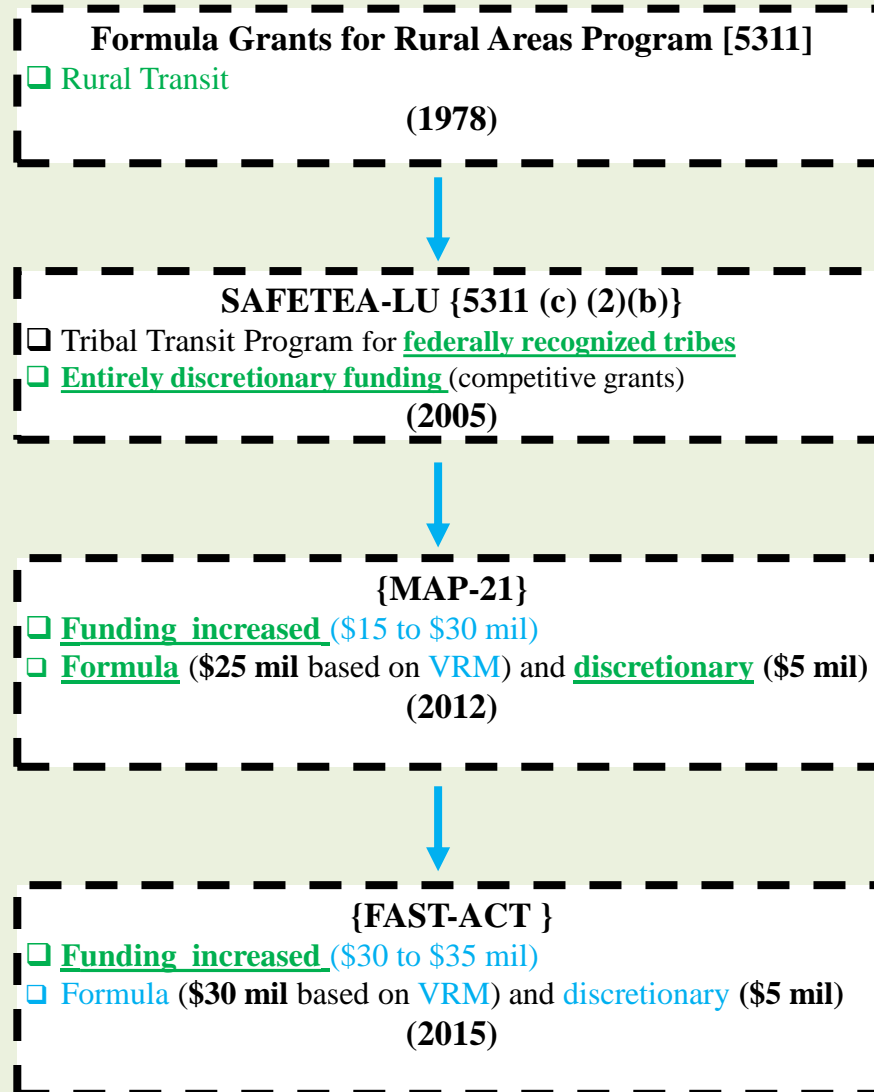
Tribal Transit Operation and Capital Funding Sources (% total)



Tribal Transit Operation and Capital Funding Sources (2013-2017)

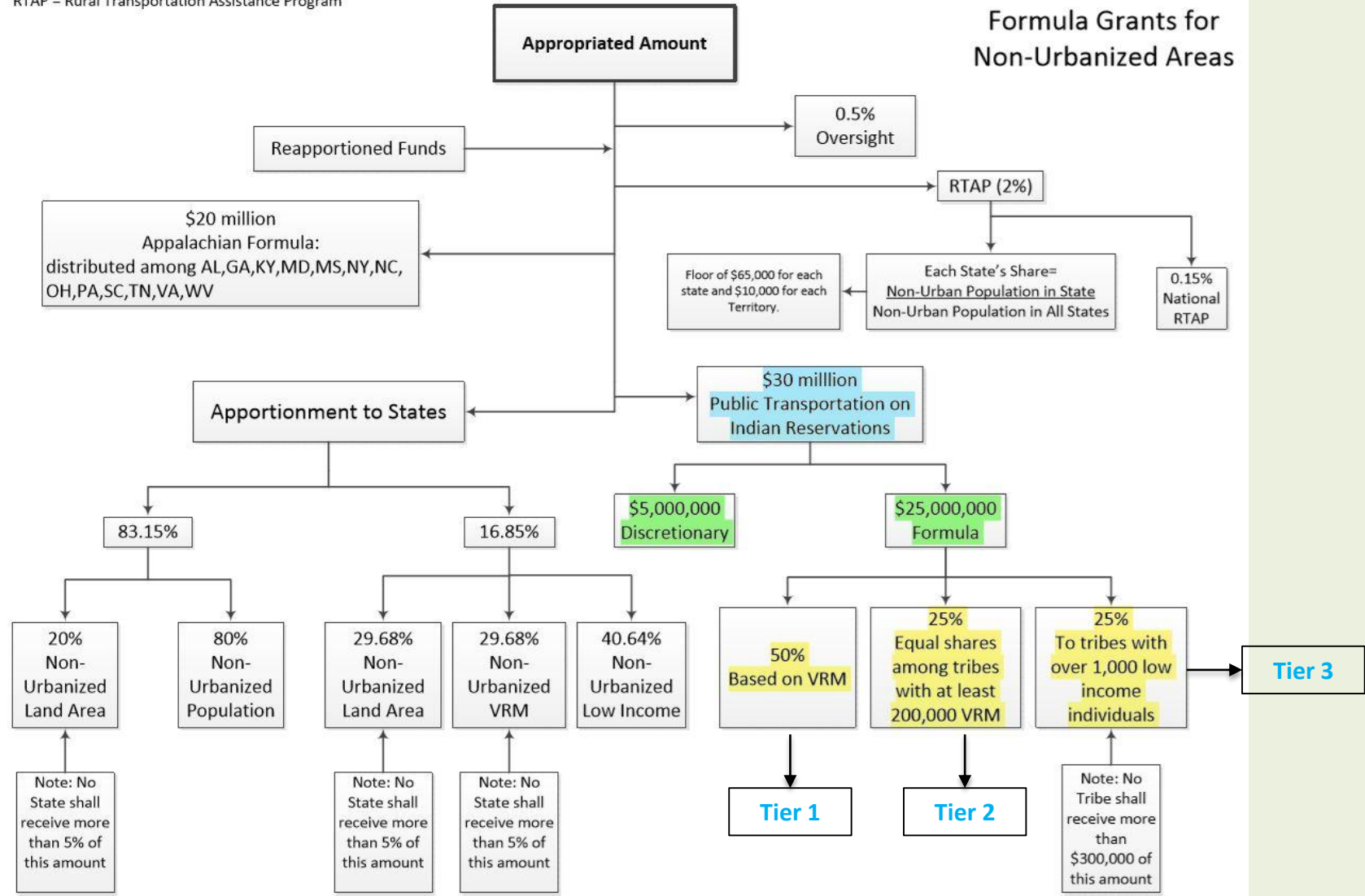


Federal Funding (5311)



VRM = Vehicle Revenue Miles
RTAP = Rural Transportation Assistance Program

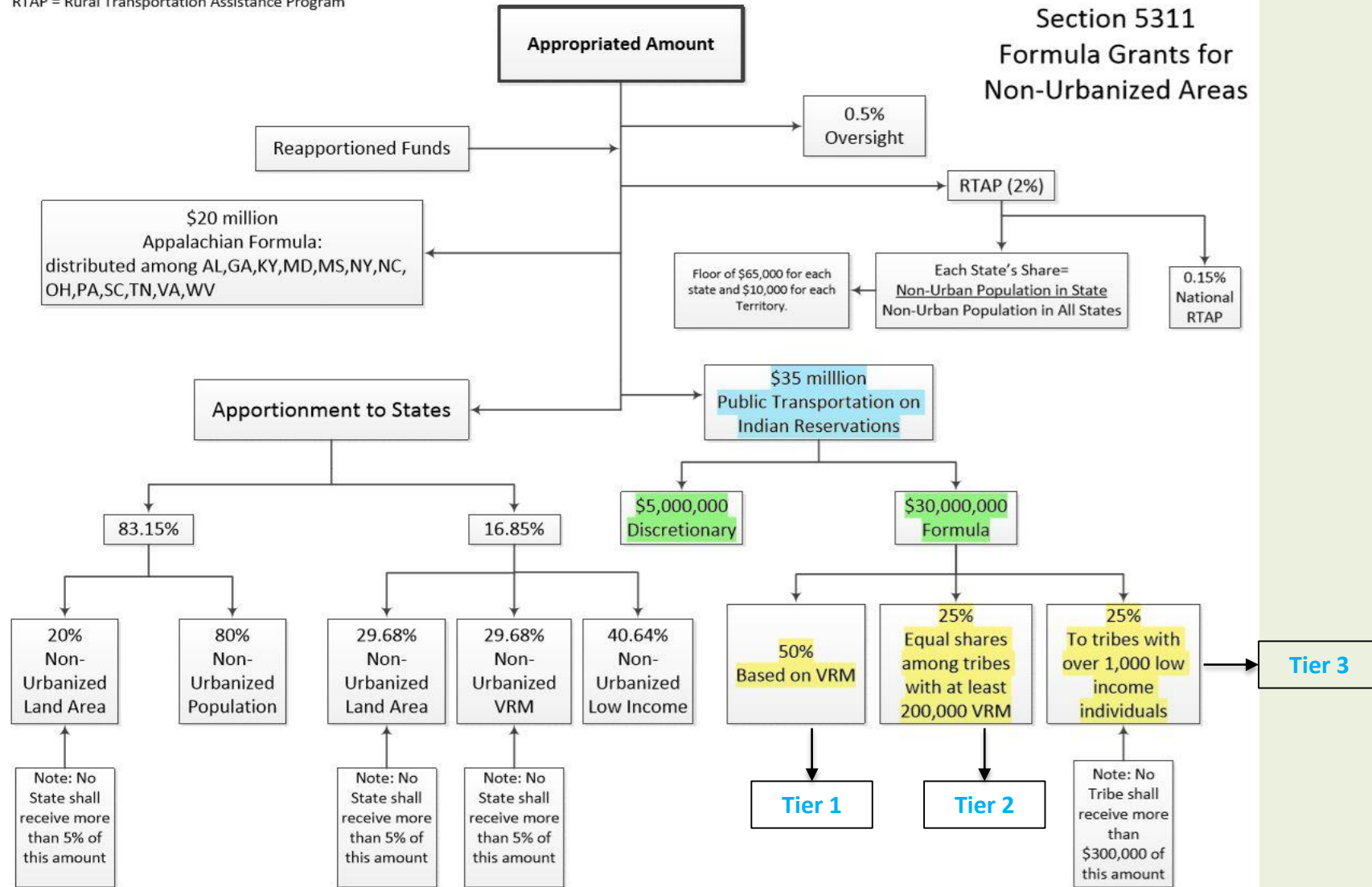
Section 5311
Formula Grants for
Non-Urbanized Areas



Source: FTA

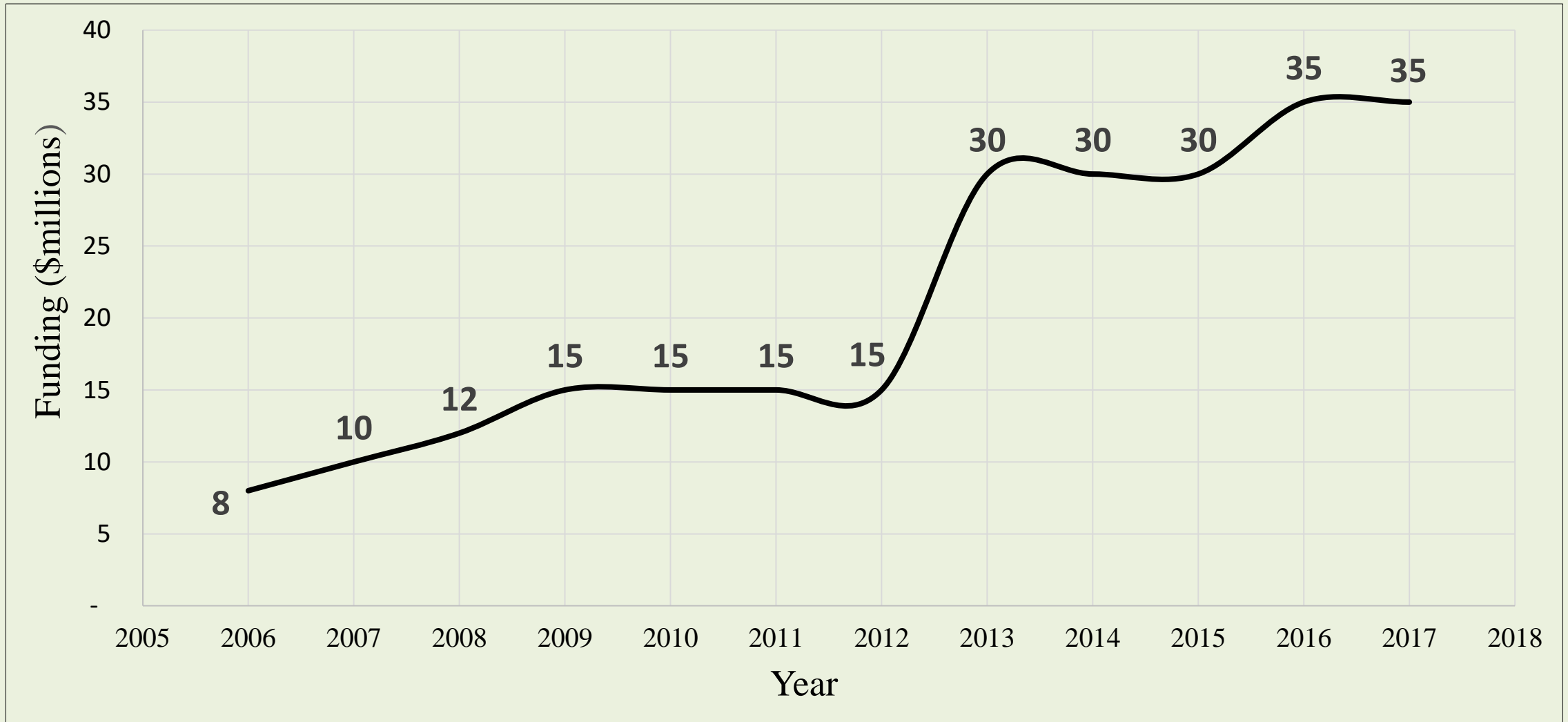
VRM = Vehicle Revenue Miles
RTAP = Rural Transportation Assistance Program

FAST Section 5311 Formula Grants for Non-Urbanized Areas

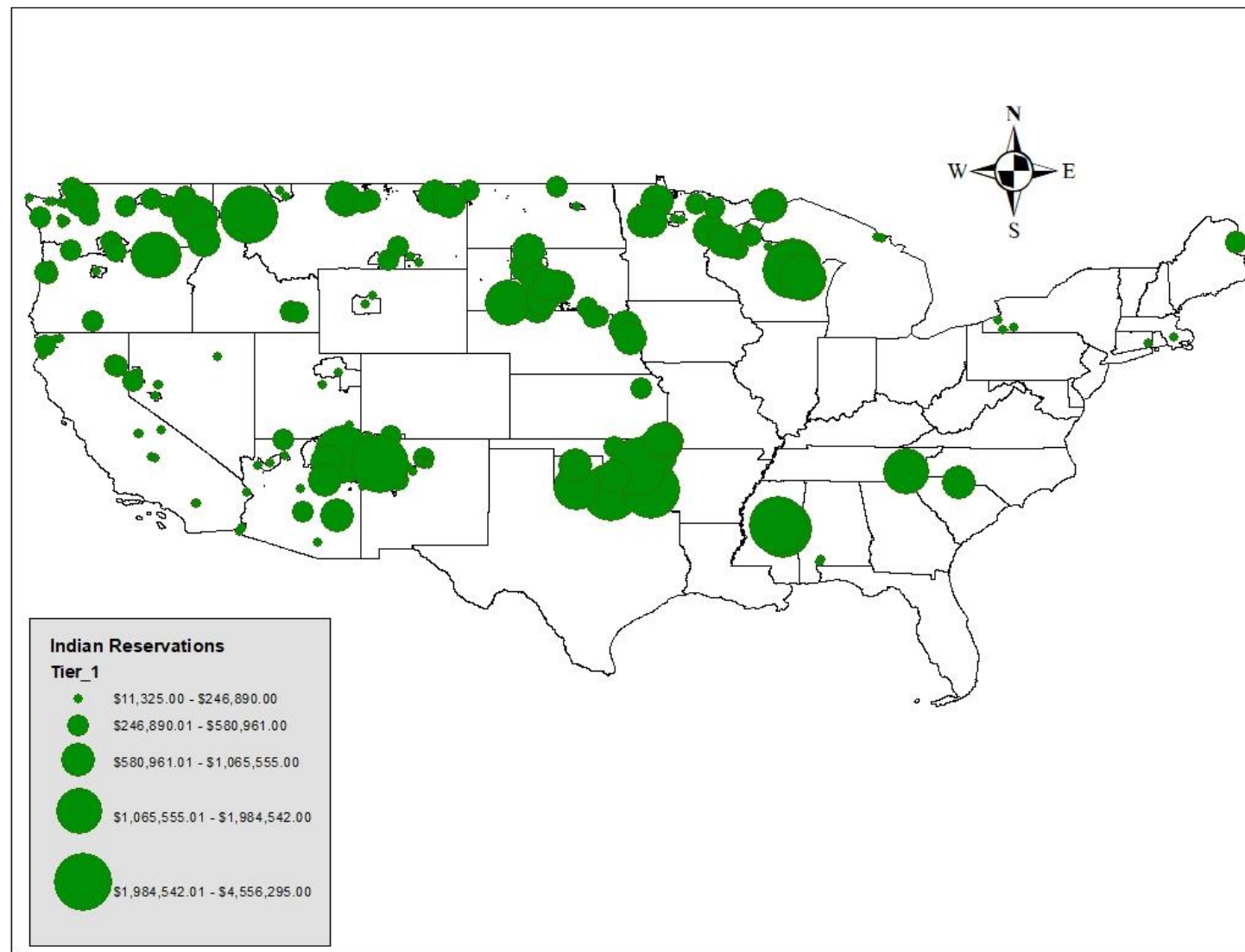


Source: FTA

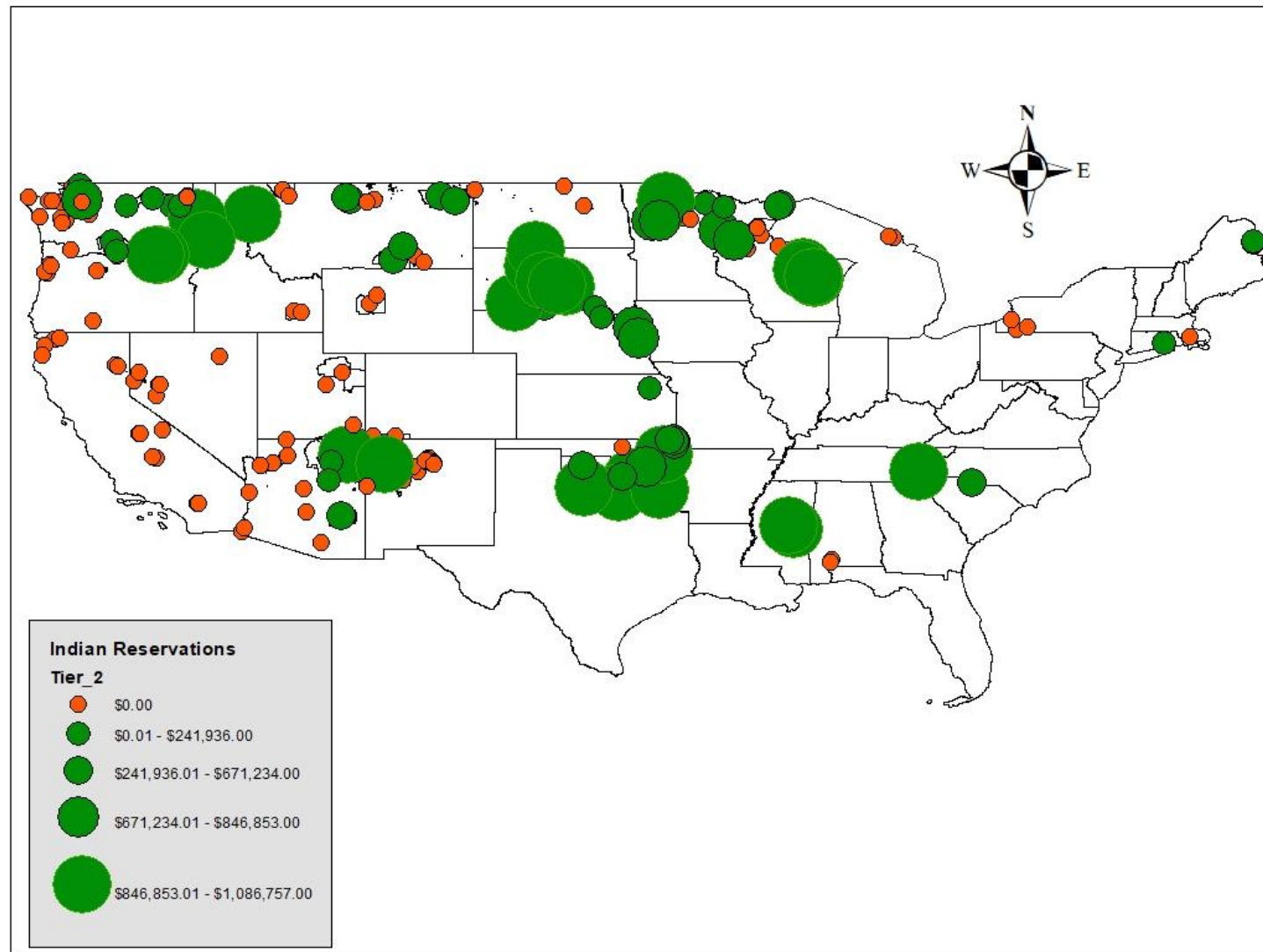
5311(c) Funding



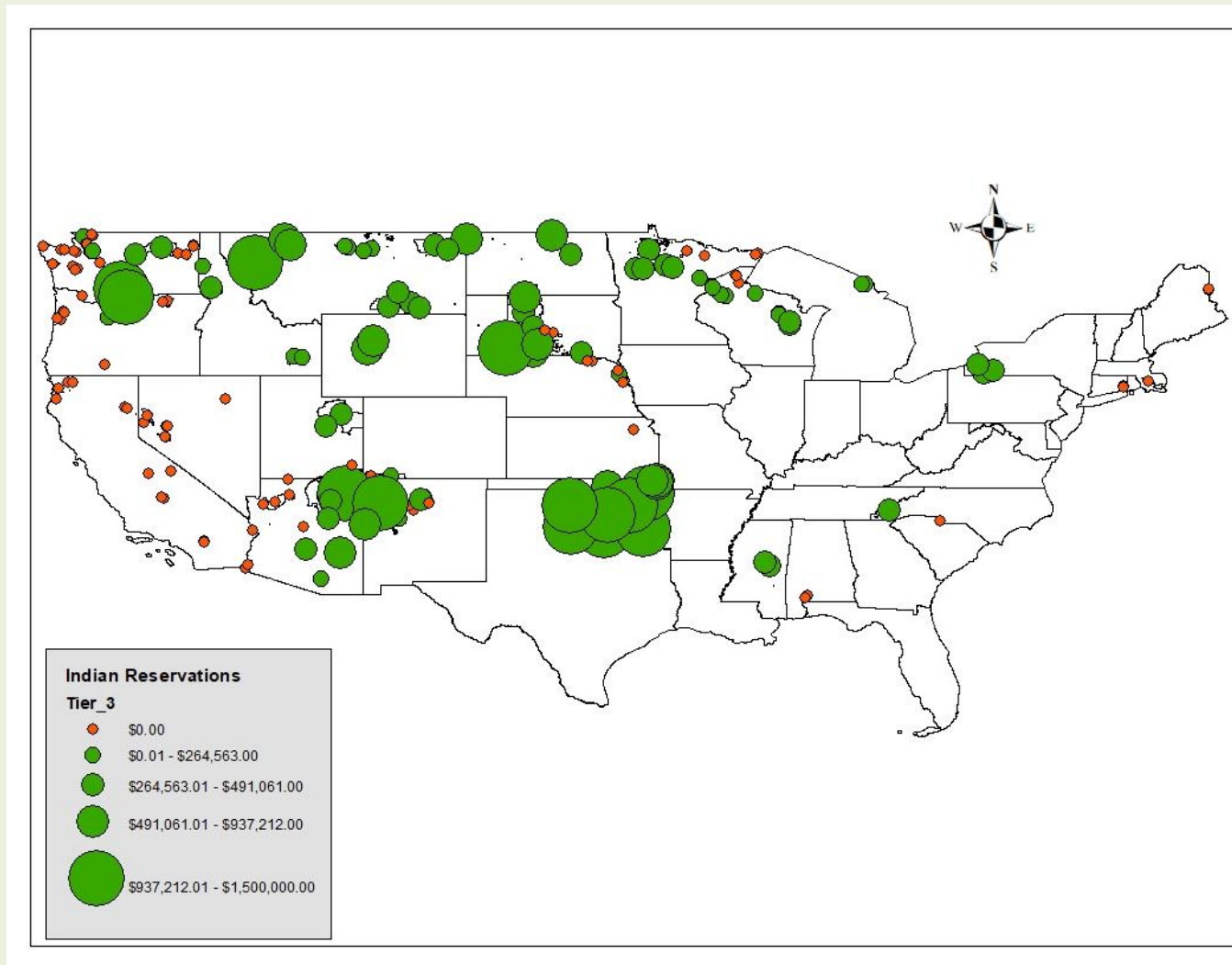
Total 5311(c) Formula Funding (Tier 1: 2013-2017)



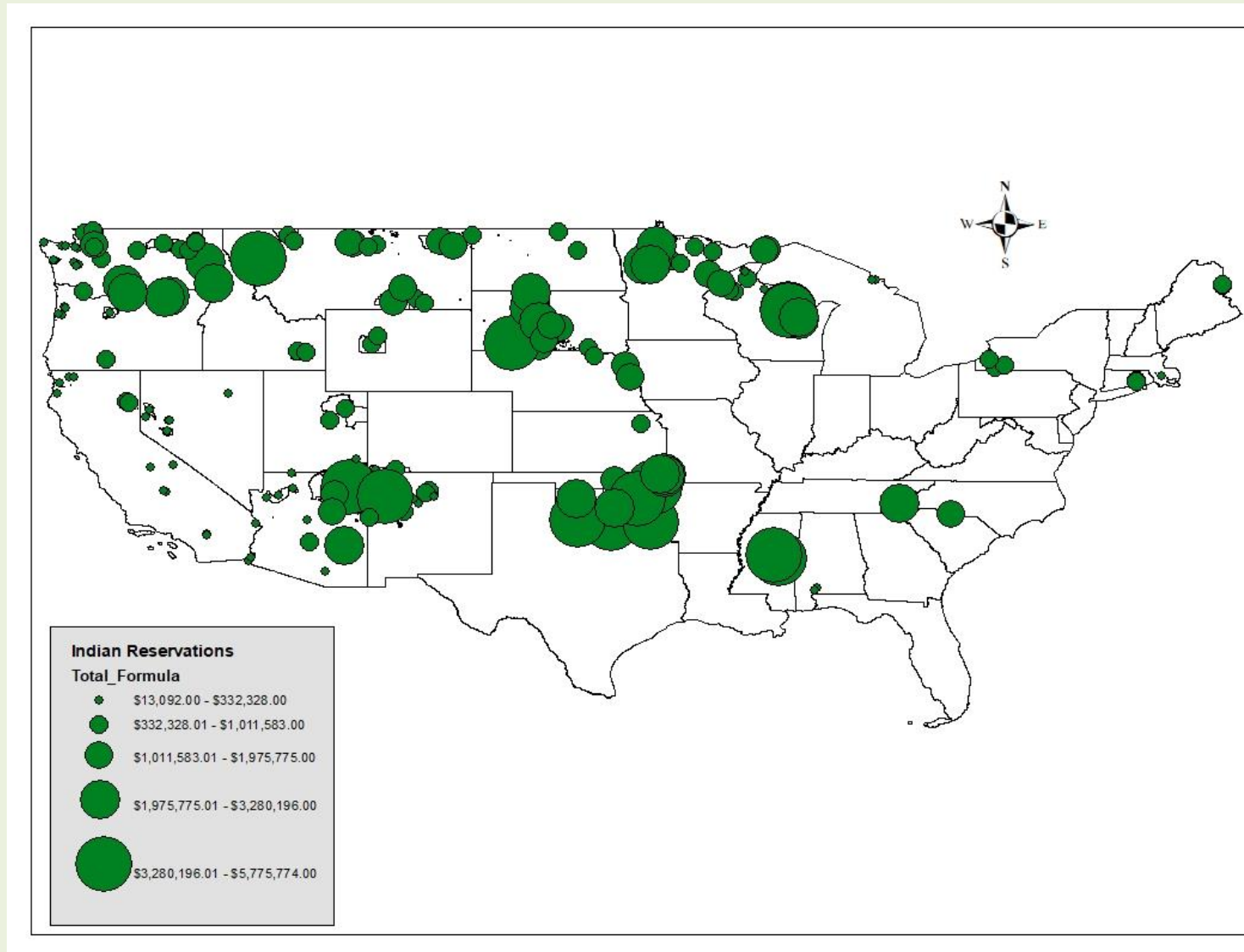
Total 5311(c) Formula Funding (Tier 2: 2013-2017)



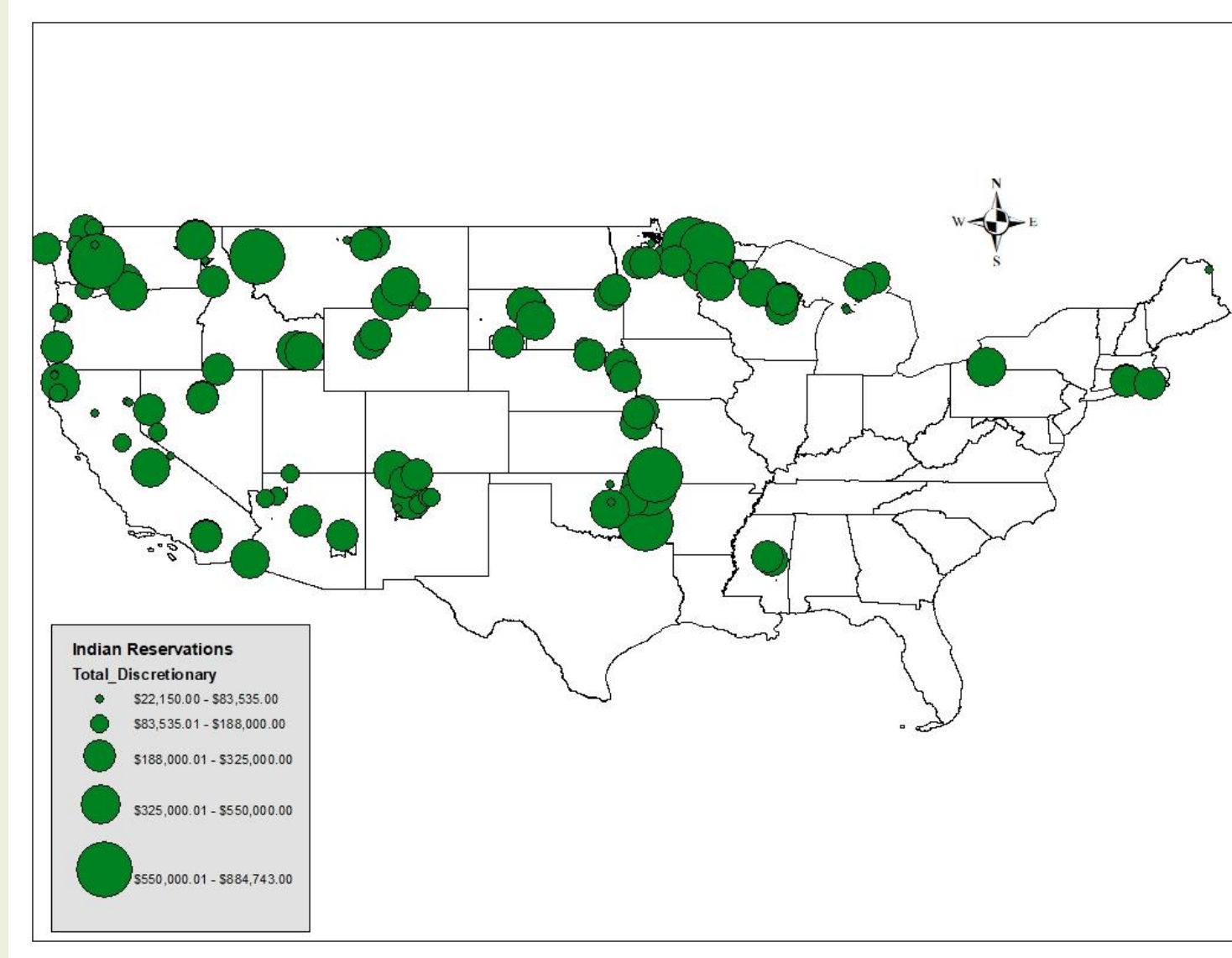
Total 5311(c) Formula Funding (Tier 3: 2013-2017)



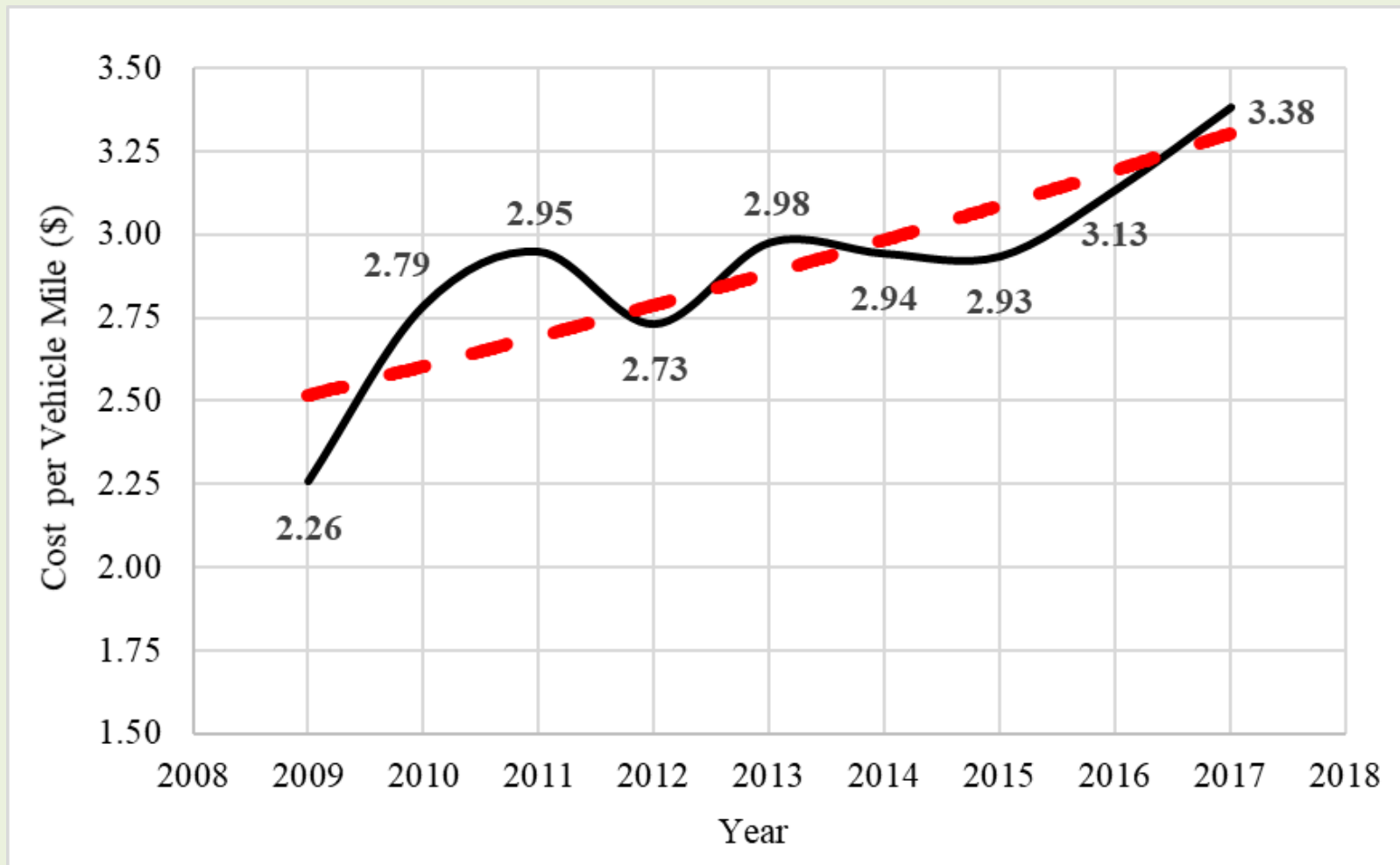
Total 5311(c) Formula Funding (Tier 1-Tier 3: 2013-2017)



Total 5311(c) Discretionary Funding (2013-2017)



Funding Need Indicator



Next Steps

- ❑ Ongoing literature review and expanded data analysis
- ❑ Case Studies
 - ❖ Three Indian reservations
- ❑ Trips per capita
 - ❖ Indian reservation vs rural areas
- ❑ Population density and trips per capita
- ❑ Operation variables and funding sources
 - ❖ Funding level needed to reflect changes in operation (cost per trip, cost per vehicle miles)



Tribal Community Case Studies

Tribal Community Case Studies

- Three tribal communities will be chosen as case study communities to capture the characteristics of various tribal communities.
- Framework from rural livability case studies will be incorporated.
- Some indicators that will be analyzed from case study: livability factors, quality of life, transportation and transit's contribution towards community livability.
- Compare tribal case study results with national results.

Short listed communities for conducting case studies

– Three communities will be selected.

- Standing Rock Reservation, North Dakota
- Choctaw Nation, Oklahoma
- Chickasaw Nation, Oklahoma
- Muscogee Nation, Oklahoma
- Cherokee Nation, Oklahoma
- Confederated Tribes of the Umatilla Indian Reservation, Oregon

Components of Case Study

- Resident surveys
- Transit riders surveys
- Stakeholder interviews

Stakeholder Interview Questions

Please think about your reservation, and answer the following questions.

1. What types of public transportation services are available on your reservation, if any?
2. From your reservation's perspective, what are the core components of community livability?
3. What could change to make your tribal community more livable?
4. How does public transit contribute to your community's livability?

Stakeholder Interview Questions – Cont.

5. How could/should public transit adapt to improve tribal community livability?
6. Are there circumstances in your community that make having transit especially important? Explain how:
7. What fare should riders pay for transit?
8. How does public transportation affect your tribal work environment?
9. What are options to fund the provision of transit in your community?