Tribal Transit: Demographic Indicators, Funding Needs, and Livability

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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

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- **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
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Social</th>
<th>Physical/Climate</th>
<th>Functional</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livability indicator</td>
<td>Sense of community</td>
<td>Parks and recreation facilities</td>
<td>Ease of travel</td>
<td>Crime</td>
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<tr>
<td></td>
<td>Clean environment</td>
<td>Available jobs</td>
<td></td>
<td></td>
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<td></td>
<td>Street characteristics</td>
<td>Quality healthcare</td>
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<td></td>
<td>Walkability</td>
<td>Quality public schools</td>
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<td>Weather</td>
<td>Cultural institutions</td>
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<td>Affordable housing</td>
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<td>Overall cost of living</td>
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<td>Shopping and entertainment options</td>
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Previous Research

**EXPLORING TRANSIT’S CONTRIBUTION TO LIVABILITY IN RURAL COMMUNITIES**

- **Phase 1**
  - Literature Review
  - Pilot Case Study
    - Identify urban/rural
    - Transit markets

- **Phase 2**
  - Community
    - Case Studies
      - In-depth, rural snapshot
      - Smell-check community typologies

- **Phase 3**
  - National Survey
    - Random HH survey
    - Refined transit markets

**SPONSORS**
- USDOT, University Transportation Centers Program
- National Center for Transit Research, University of South Florida
- Texas A&M University System
- North Dakota State University
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

<table>
<thead>
<tr>
<th>Factor</th>
<th>Local Livability</th>
<th>General Livability</th>
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<tbody>
<tr>
<td>Low crime</td>
<td></td>
<td></td>
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<tr>
<td>Affordable housing</td>
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<td></td>
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<tr>
<td>Overall cost of living</td>
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<tr>
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<td></td>
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<tr>
<td>Quality public schools</td>
<td></td>
<td></td>
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<tr>
<td>Available jobs</td>
<td></td>
<td></td>
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<tr>
<td>Public parks, amenities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily commute</td>
<td></td>
<td></td>
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<tr>
<td>Walkability</td>
<td></td>
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<tr>
<td>Public transit</td>
<td></td>
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<tr>
<td>Cultural institutions</td>
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<tr>
<td>Climate</td>
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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

- Available jobs
- Affordable housing
- Quality healthcare
- Affordable transportation
- Overall cost of living
- Quality public schools
- Shopping and entertainment
- Low crime
- Clean environment
- Cultural institutions
- Sense of community
- Traffic Safety
- Parks and recreation
- Weather

Importance to Livability vs. Quality in Community
Gaps for Transportation Factors, Non-Metro Areas

- Roads in good condition
- Public transit services
- Low traffic congestion
- Walkability / accessibility
- Bikeability

1. Importance to Livability
2. Quality in Community
Ease of Travel

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

<table>
<thead>
<tr>
<th>Response</th>
<th>Metro Residents</th>
<th>Non-Metro Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
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</tbody>
</table>
How satisfied are you with the quality of life in your community?

- **Very satisfied**
  - Non-Metro Residents
  - Metro Residents
- **Satisfied**
- **Neutral**
- **Dissatisfied**
- **Very dissatisfied**
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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>National</th>
<th>Reservation and Off-Reservation Trust Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Total Population</td>
<td>321,004,407</td>
<td>2,632,102 (0.82%)</td>
</tr>
<tr>
<td>Area</td>
<td>Land Area Sq. Miles</td>
<td>3,535,493</td>
<td>187,441 (5.3%)</td>
</tr>
<tr>
<td>Population Density</td>
<td>People/Sq. Miles</td>
<td>85</td>
<td>14</td>
</tr>
</tbody>
</table>
Indian Reservation Populations
Indian Reservation Population Density (people/Sq. Miles)
## Comparative Mobility Dependence

<table>
<thead>
<tr>
<th>Demographic Need Indicator</th>
<th>Description of Demographic Need</th>
<th>National Average</th>
<th>Reservation and Off-Reservation Trust Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td>% population under the poverty line</td>
<td>14.6%</td>
<td>293 of 399 reservations above 14.6%</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td>% population aged 60 years and older</td>
<td>20.8%</td>
<td>133 of 399 reservations above 20.8%</td>
</tr>
<tr>
<td><strong>Youth</strong></td>
<td>% Youth aged 5 to 19 years old</td>
<td>19.5%</td>
<td>256 of 399 reservations above 19.5%</td>
</tr>
<tr>
<td><strong>Vehicle</strong></td>
<td>% No vehicle household</td>
<td>8.8%</td>
<td>150 of 399 reservations above 8.8%</td>
</tr>
<tr>
<td><strong>Disability</strong></td>
<td>% Population with a disability</td>
<td>12.6%</td>
<td>262 of 399 reservations above 12.6%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>Overall mobility dependent average</td>
<td>15.3%</td>
<td>19.0%</td>
</tr>
</tbody>
</table>
Indian Reservation Low Income Population
Indian Reservation Senior Population (60+ yrs.)
Indian Reservation School Aged Youth (5 to 19 yrs.)
Indian Reservation No Vehicle Households
Indian Reservation Average Mobility Dependence
Growth Tribal Transit Agencies

![Graph showing growth in Tribal Transit Agencies from 2008 to 2018. The number of agencies increases from 53 in 2008 to 146 in 2018.]
Tribal Transit Operation and Capital Funding ($millions)

Year


Funded Amount ($millions)

Total

Federal

State

Local

Other

2008 22 36 44 45 53 55 63 62 70

2009 10 24 31 29 33 34 40 40 46

2010 9 10 12 15 15 17 15 16

2011 6 20 30 40 50 60 70


Federal

State

Local

Other

2008 22 36 44 45 53 55 63 62 70

2009 10 24 31 29 33 34 40 40 46

2010 9 10 12 15 15 17 15 16

2011 6 20 30 40 50 60 70
Tribal Transit Operation and Capital Funding Sources (2013-2017)

- Federal: 64%
- State: 5%
- Local: 26%
- Other: 5%

Legend:
- Federal
- State
- Local
- Other
Federal Funding (5311)

- **Formula Grants for Rural Areas Program [5311]**
  - Rural Transit (1978)
  - **SAFETEA-LU [5311 (c) (2)(b)]**
    - Tribal Transit Program for **federally recognized tribes**
    - **Entirely discretionary funding** (competitive grants) (2005)
    - **{MAP-21}**
      - Funding increased ($15 to $30 mil)
      - Formula ($25 mil based on VRM) and discretionary ($5 mil) (2012)
    - **{FAST-ACT}**
      - Funding increased ($30 to $35 mil)
      - Formula ($30 mil based on VRM) and discretionary ($5 mil) (2015)
MAP-21

VRM = Vehicle Revenue Miles
RTAP = Rural Transportation Assistance Program

Appropriated Amount

Reapportioned Funds

0.5% Oversight

RTAP (2%)

Tier 1

Tier 2

Tier 3

$20 million
Appalachian Formula:
distributed among AL, GA, KY, MD, MS, NY, NC, OH, PA, SC, TN, VA, WV

$30 million
Public Transportation on Indian Reservations

83.15%

16.85%

20% Non-Urbanized Land Area
29.68% Non-Urbanized Population
29.68% Non-Urbanized Land Area
40.64% Non-Urbanized Low Income

50% Equal shares among tribes with at least 200,000 VRM
25% To tribes with over 1,000 low income individuals

Source: FTA
5311(c) Funding

![Graph showing 5311(c) Funding from 2005 to 2018. The x-axis represents the years from 2005 to 2018, and the y-axis represents funding in millions. The graph shows a gradual increase in funding over the years.](image-url)
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

![Graph showing the cost per vehicle mile over years from 2008 to 2018. The cost fluctuates with peaks and troughs, with values ranging from 2.26 to 3.38.](image-url)
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 form 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?