

Livability and Transportation Safety on Indian Reservations

Wisconsin Tribal Transportation Conference

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Overview

- Objective
- Background
- Tribal Challenges
- Tribal Opportunities
- WRIR Roadway Safety Program and Livability Program
- Conclusions



Objectives

- Explore the concept of livability in the context of Tribal Lands
- Identify livability needs of Tribal communities
- Introduce a methodology for Tribes to develop their own livability programs that fits their specific needs
- Present Wind River Safety Program and Livability Program



Background

- Livability is a fairly new concept
- No exact definition
- Key Elements
 - Transportation
 - Community (Culture)
 - Quality of life
- The priorities of the community define the livability of that community



(Source: Young & Hermanson, *Livability Literature Review: A Synthesis of Current Practice*, NARC, 2012)



Livability

- U.S. DOT Secretary Ray LaHood defined livability as:

"Livability means being able to take your kids to school, go to work, see a doctor, drop by the grocery or post office, go out to dinner and a movie, and play with your kids at the park-all without having to get in your car."



Sustainability

A livable community is expected to survive at its defined quality of life through self-supporting strategies that will sustain for future generations



Interagency Partnership for Sustained Communities

- Formed in 2009
- To improve access to affordable housing
- Increase transportation options
- Lower transportation costs
- Protect the environment



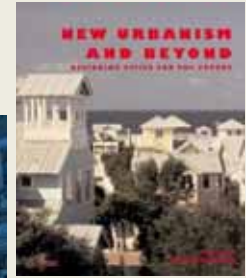
Livability Principles

- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate and leverage Federal policies and investment
- Value communities and neighborhoods



Urban Livability Programs

- Smart Growth
- Complete Streets
- Lifelong Communities
- Safe Routes to School
- Context Sensitive Solutions & Design
- New Urbanism
- Transit-Oriented Development



Complete Streets are Safe Streets



Rural Livability

- Low density
- Varying needs
- Protection of natural resources, environment & scenic resources
- Geographical challenges
- Lack of transportation choices
- Lack of resources



Tribal Challenges

- Similar challenges as rural
- Sovereignty & Jurisdiction
- Traffic Safety
- Geographical challenges
- Transportation Needs



Livability on Indian Reservations

- Cross jurisdictional issues
- Lack of adequate, safe pedestrian and bicycle facilities
- Protection of natural resources, environment & scenic resources
- Preservation of culture



Tribal Opportunities

- Existing Initiatives
 - Regional planning
 - Rural Transit
 - Pedestrian Safety
 - Roadway Safety



Pine Ridge Indian Reservation Regional Plan for Sustainable Development

- Focus: Community building & preservation, economic development
- No planning office & limited resources
- Collaboration with several agencies
- Grants from HUD
- Incorporate youth involvement
- Now nationally known model for other Tribes



Menominee Regional Public Transit

- Partnerships:
 - College of Menominee Nation
 - Local schools
 - Veteran's services
 - Menominee County Human Services
- Help residents meet transportation need
- Preserve natural resources



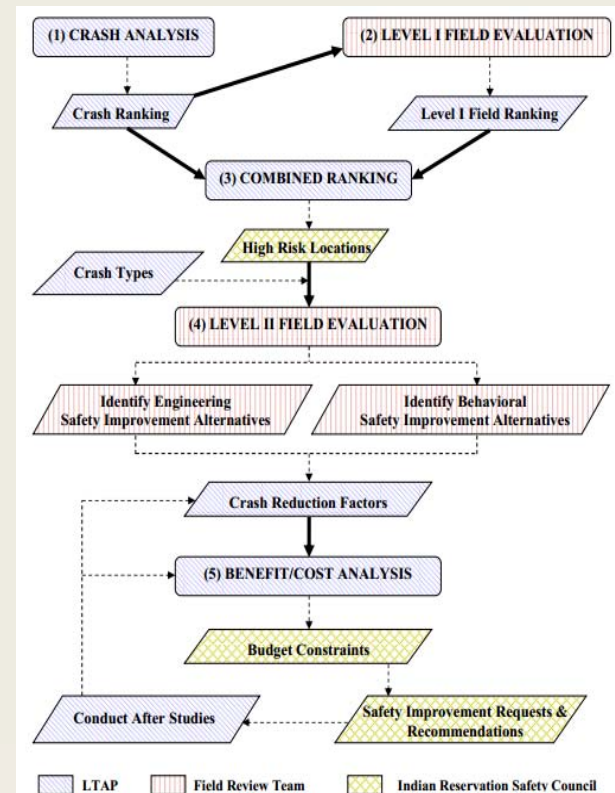
WRIR Pedestrian & Walkway Long Range Transportation Plan

- No pedestrian facilities connecting schools, residents, and services
- Rural highways used by pedestrian
- Identifies most hazardous locations
- Identifies specific solutions & proposed pathway expansions & improvements

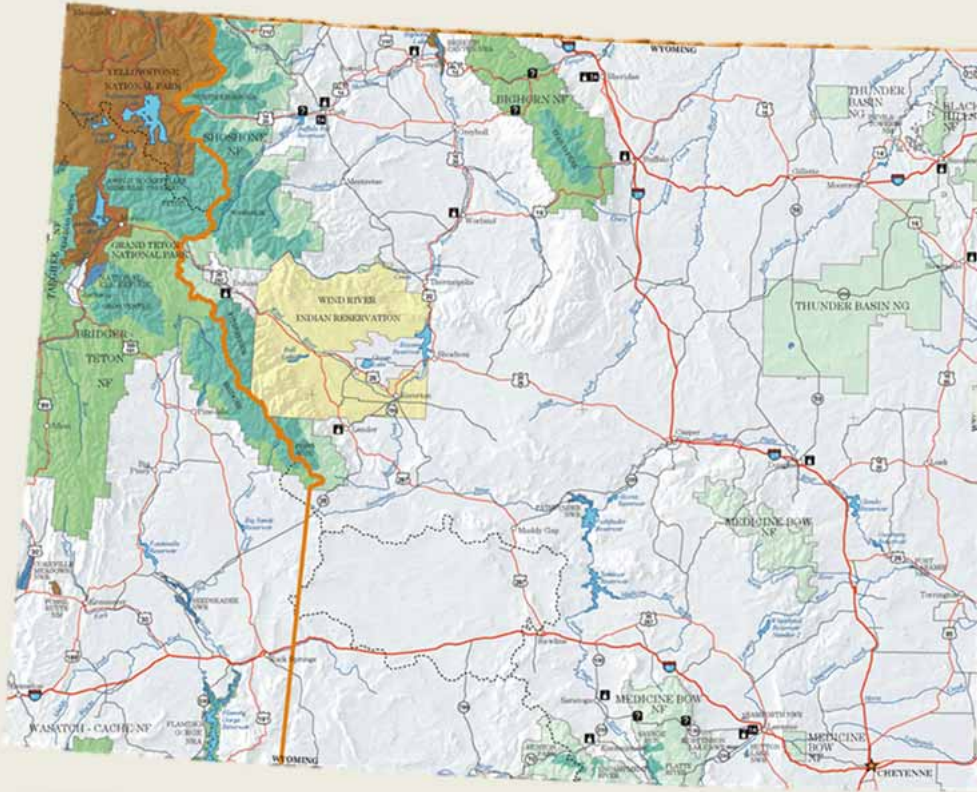


WRIR Roadway Safety Improvement Program (IRRSP)

- 5-step methodology to identify high risk crash locations
- WYDOT funded 3 low-cost safety improvement projects
- Developed strategic highway safety plan
- Methodology implemented in Northern Plains region



Wind River Indian Reservation



- 2.2 Million Acres
- 36,000 Community
 - Northern Arapaho
 - Eastern Shoshone
- 1,228 miles IRR
 - 175 miles paved
- 432 miles County
- 235 miles State



WRIR IRRSP

Background

- Fatal crashes leading cause of death among Native Americans
- Need for improved Tribal traffic safety
- Rural nature of roadways



WRIR IRRSP

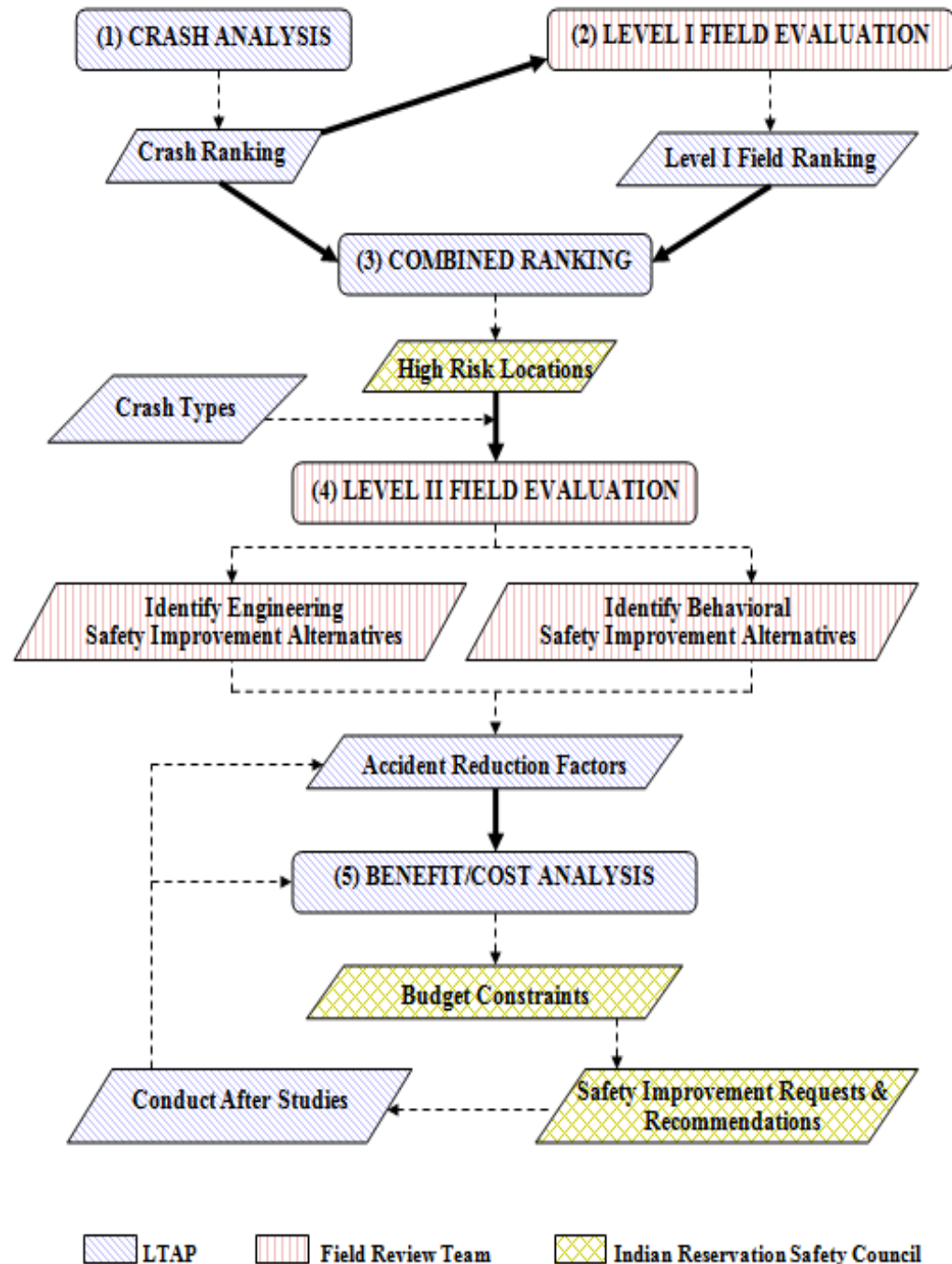
Challenges

- Lack of and Incomplete Crash Data
- Limited Resources and Expertise
- Collaboration and Coordination

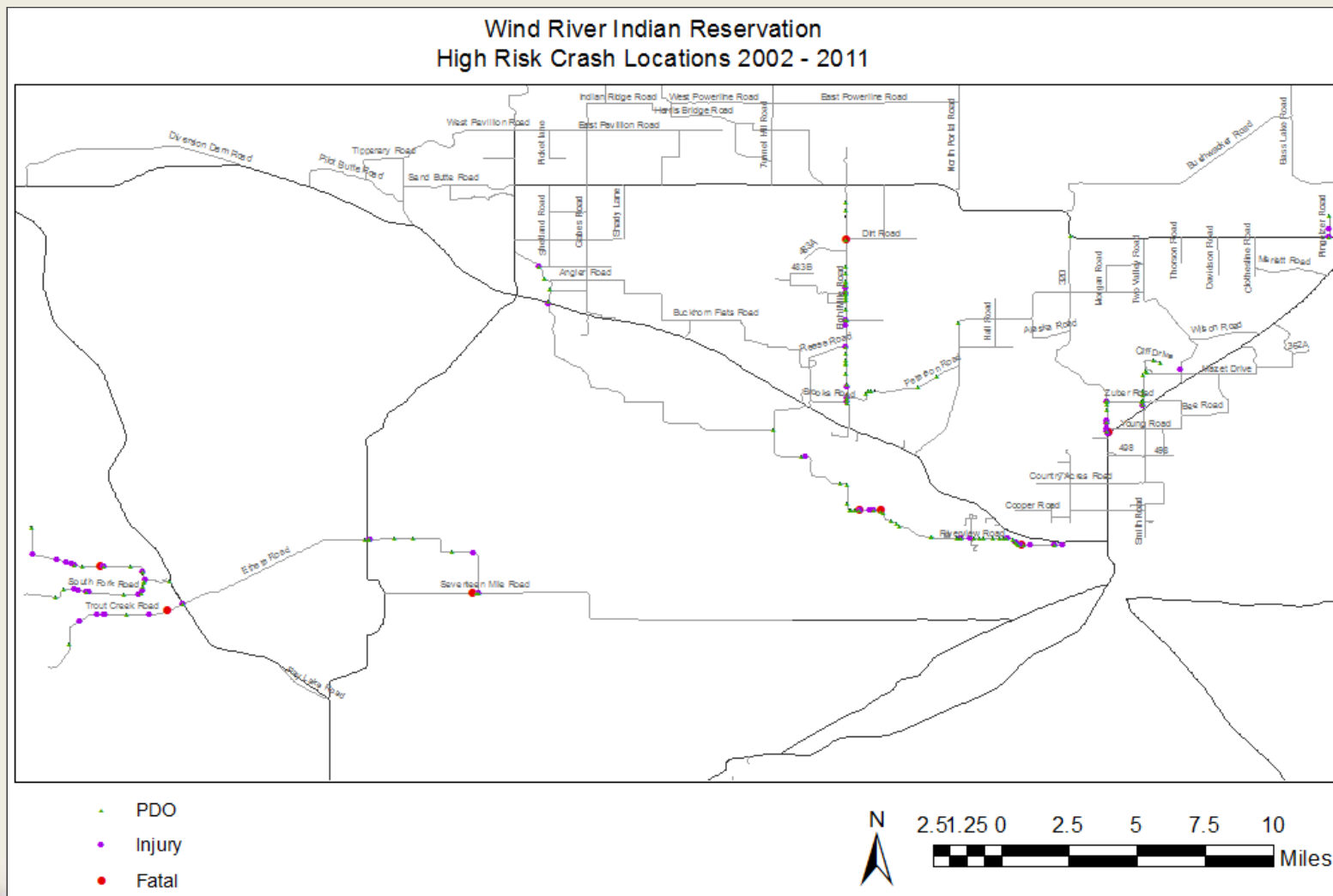


5 Step Process

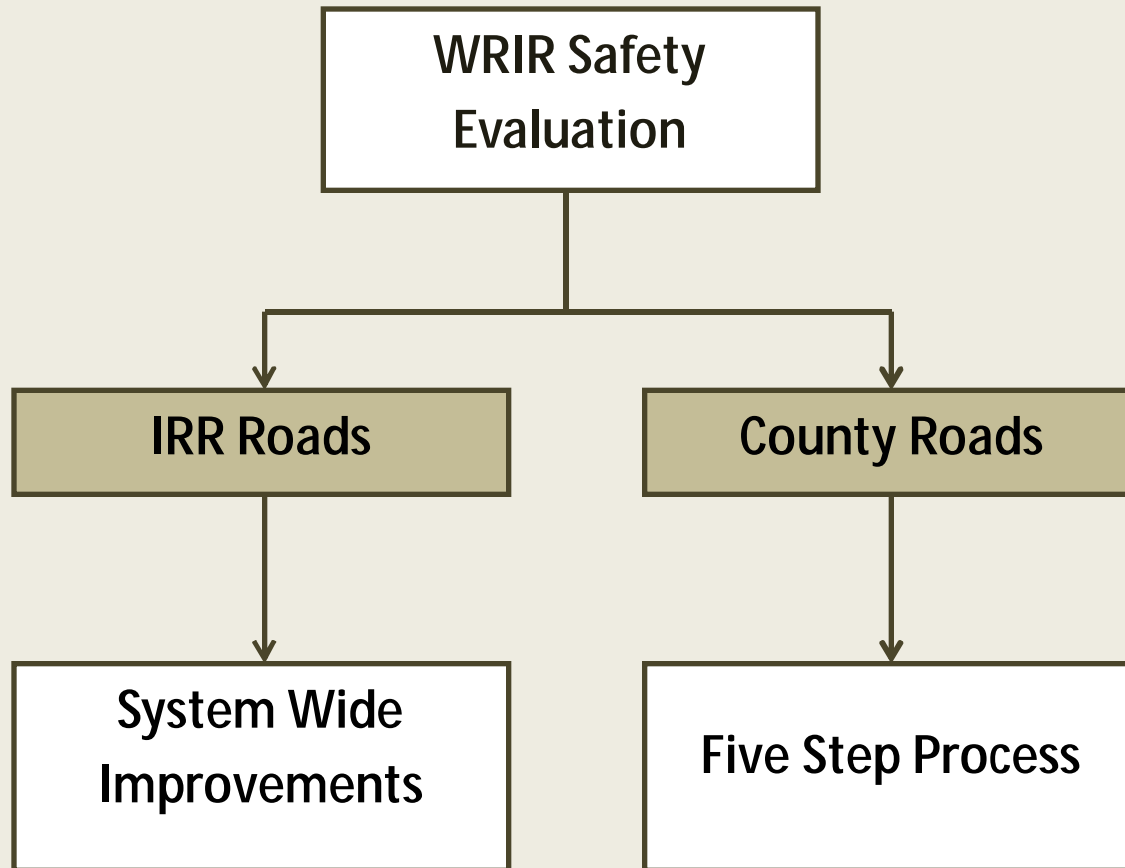
1. Crash Data Analysis
2. Level I Field Evaluation
3. Combined Ranking
4. Level II Field Evaluation
5. Benefit Cost Analysis



WRIR Crashes on Local Roads



WRIR Applied Methodology



County Roads

Road	Benefit	Cost	B/C Ratio
Eight Mile Road	\$2,962,691	\$7,417	399.5
Riverview Road	\$7,155,772	\$44,360	161.3
Ethete Road	\$2,657,358	\$27,017	98.4
North Fork Road	\$3,585,894	\$36,863	97.3
Trout Creek Road	\$2,421,742	\$30,900	78.4
Burma Road	\$1,262,850	\$16,640	75.9
South Fork Road	\$1,117,816	\$31,600	35.4
Pingetzer Road	\$145,392	\$7,750	18.8
Hutchinson Road	\$57,600	\$3,400	16.9
Kinnear Spur Road	\$130,447	\$8,100	16.1
Cliff Road	\$14,281	\$5,600	2.6
Peterson Road	\$29,137	\$14,600	2.0



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IRR Roads

- No crash locations
- Crash trends evaluated
 - Fixed objects highest first harmful event
 - Most crashes run-off-the-road
- 16 IRR roads underwent similar Level I & II evaluation
- Identified System-Wide Improvements



IRR Roads

Projects Funded by WYDOT

System-Wide Improvements	
Project	Cost
Signs	\$140,114
Pavement Marking	\$125,539
Guard Rail	\$14,815
Total	\$280,468



WRIR

- Adjustments made based on WRIR feedback
- System-wide projects funded by WYDOT for IRR roads
- Fremont County funding county road improvements



WRIR

- WRIR consultant developing GIS inventory of IRR roads
- WYDOT and Tribal law enforcement improving crash reporting
- WRIR developed strategic plan
- WRIR received TTP Safety Funds for education, EMS, and engineering



WRIR

WYDOT Report FHWA-WY-13/07F

[www.dot.state.wy.us/files/live/sites/wydot/files/shared/Planning/Research/RS09211%201307F%20WRIR%20WYDOT%20Report%20\(Final\).pdf](http://www.dot.state.wy.us/files/live/sites/wydot/files/shared/Planning/Research/RS09211%201307F%20WRIR%20WYDOT%20Report%20(Final).pdf)



State of Wyoming
Department of Transportation



U.S. Department of Transportation
Federal Highway Administration

FINAL REPORT

FHWA-WY-13/07F



INDIAN RESERVATION SAFETY IMPROVEMENT PROGRAM: A METHODOLOGY AND CASE STUDY

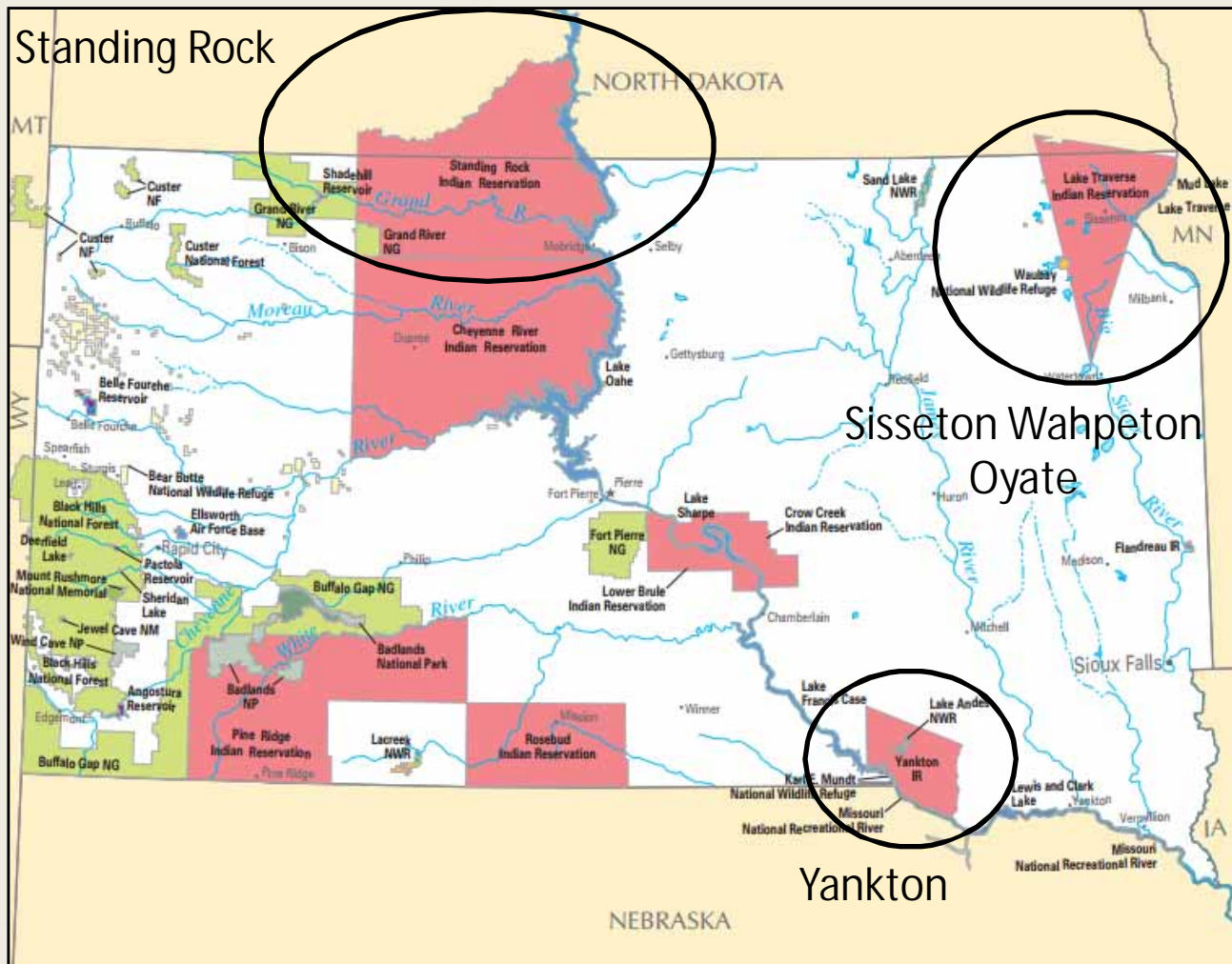
By:

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October 2013



Regional Implementation



WRIR Livability Program

- 3-Step methodology
- Identify the specific needs & concerns of the Tribes
- Encourages community involvement
- Livability defined by the Tribes
- Incorporates existing plans and programs
- Can be implemented nationwide

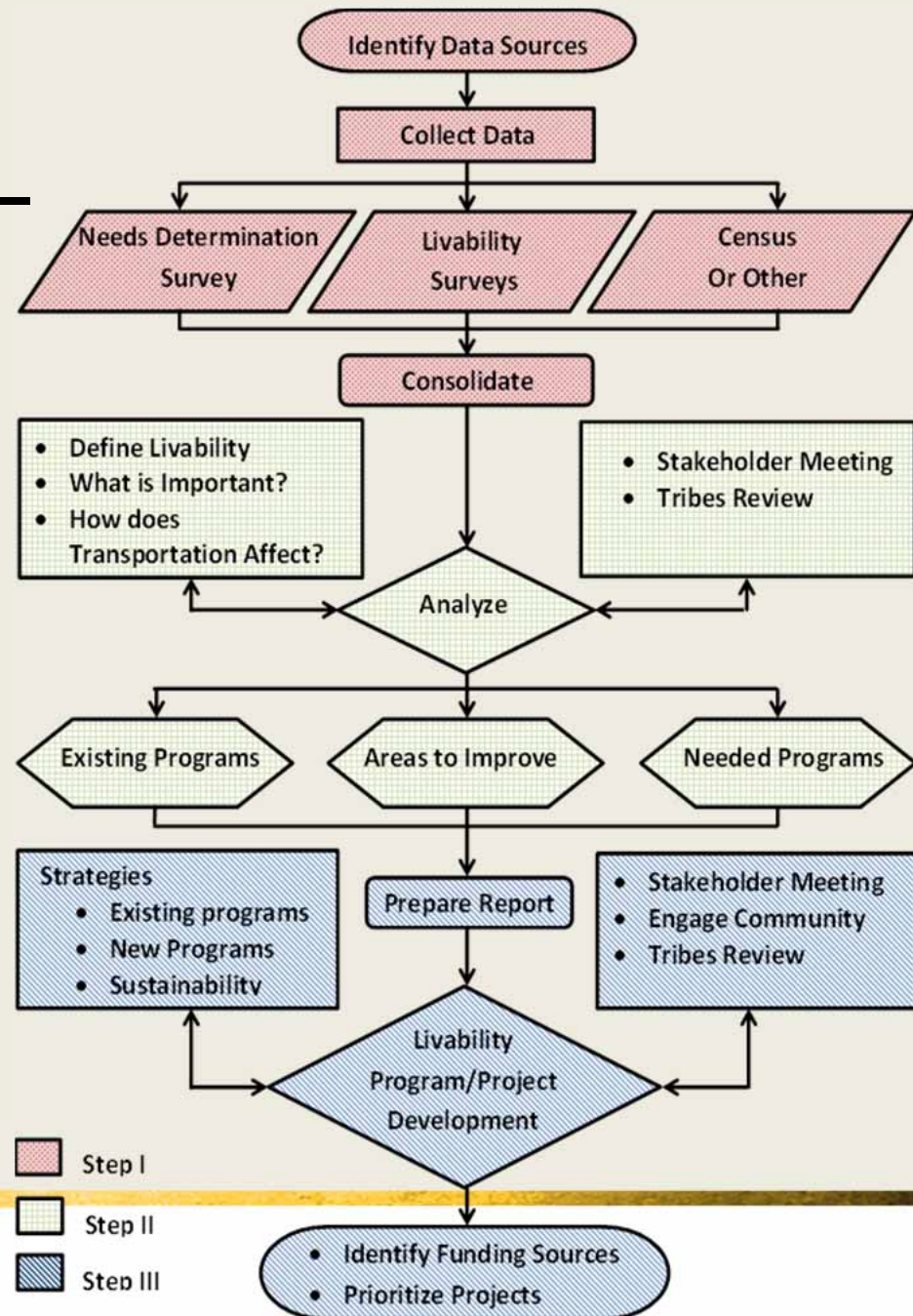


Methodology

1. Data Collection

2. Analysis

3. Develop Program



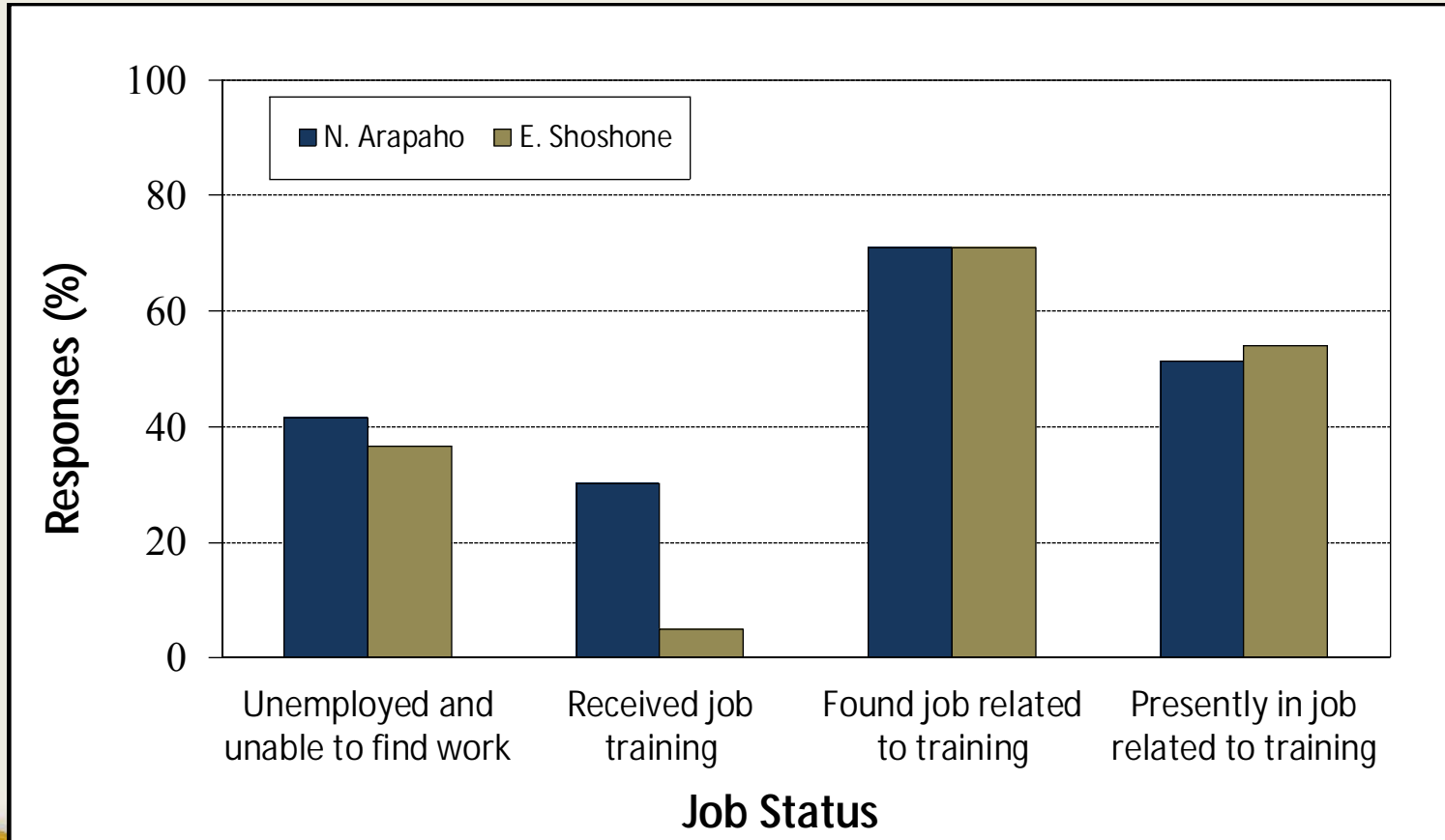
Data Collection

- WINDS III Survey – Census Data
- Livability Surveys
 - Stakeholder
 - Residents



WINDS III Survey

Employment



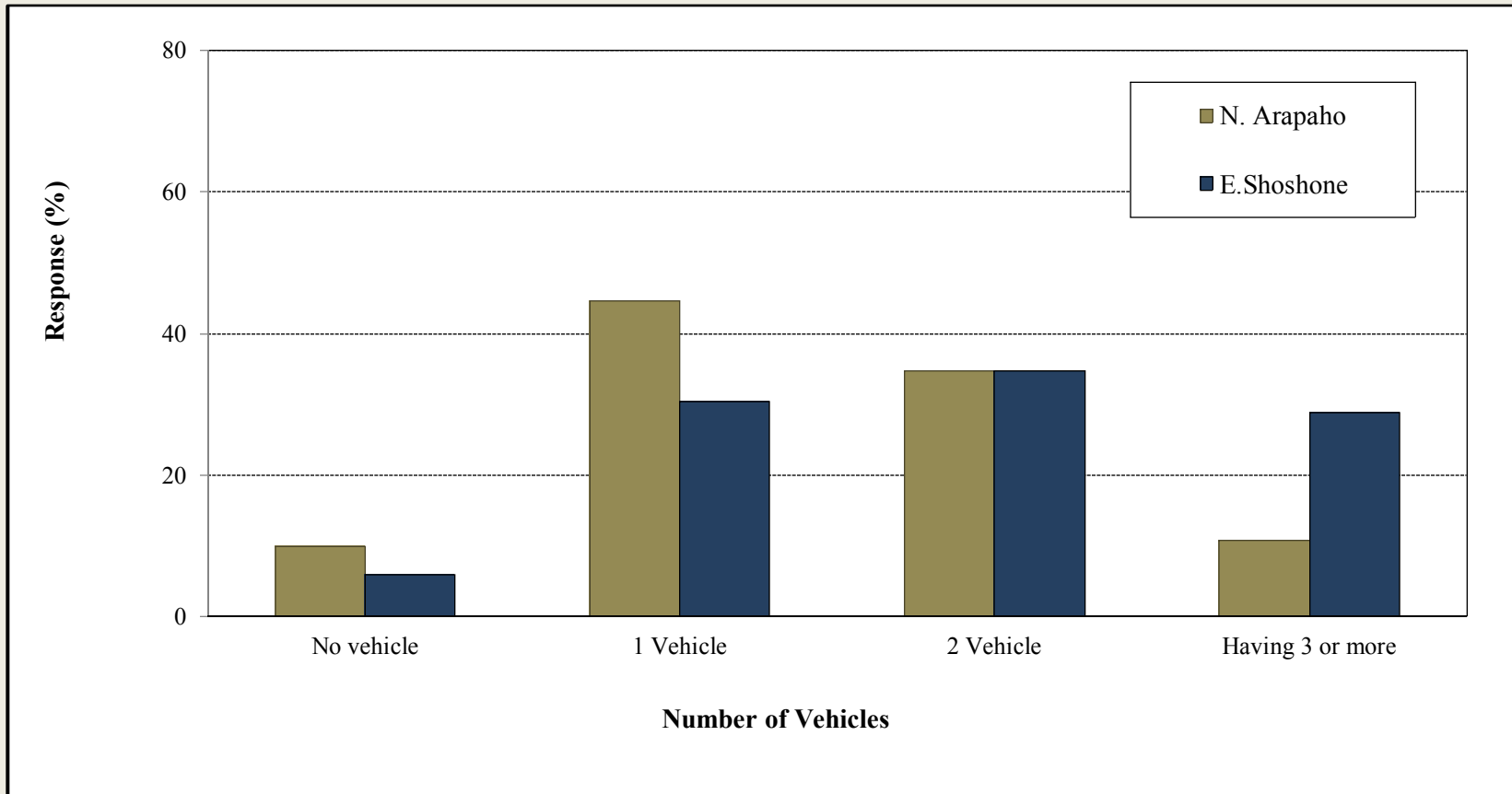
WINDS III Survey

Transportation

Transportation Issues	N. Arapaho (%)	E. Shoshone (%)
Transportation: Reason for not involving after school activities	5.5	8.8
Access: Problem getting medical care	23.1	21.3
Transportation: Facility to find a job	77	55.6
Access: To get off reservation job	18	11.8



WINDS III Survey



Dependable Vehicles



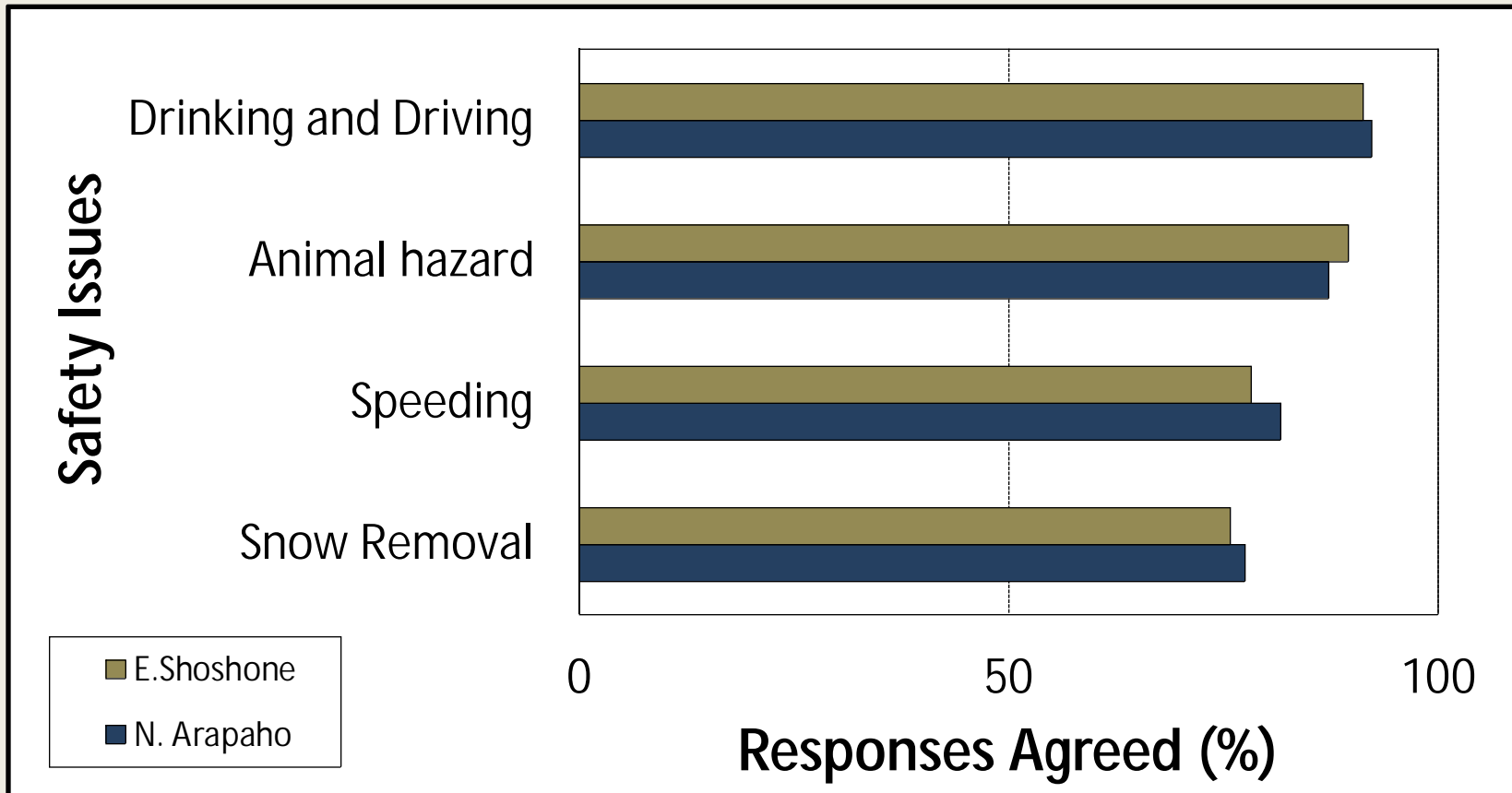
WINDS III Survey

Transportation

Purpose for Using Shuttle Bus	N. Arapaho (%)	E. Shoshone (%)
Shopping	11.4	14.3
Pre-school or head start	8.6	21.4
Medical service	28.6	14.3
Getting to and from work	45.7	14.3
Seeing friends and family	5.7	21.4
Getting to senior center	5.7	14.3



WINDS III Survey



Roadway Safety



Stakeholder Survey

- WYT²/LTAP Conducted meeting on WRIR
- SADOt organized meeting
- Stakeholders provided feedback and suggestions on what they think about livability on the WRIR



Stakeholders

- Shoshone Arapaho Department of Transportation (SADOT)
- SADOT Engineering Consultant
- Northern Arapaho Tribe/Tribal Liaison
- Northern Arapaho Tribal Health Program
- Community Health Center of Central Wyoming
- WYDOT System Planning and Rail Roads
- WYDOT Public Relation
- WYT²/LTAP



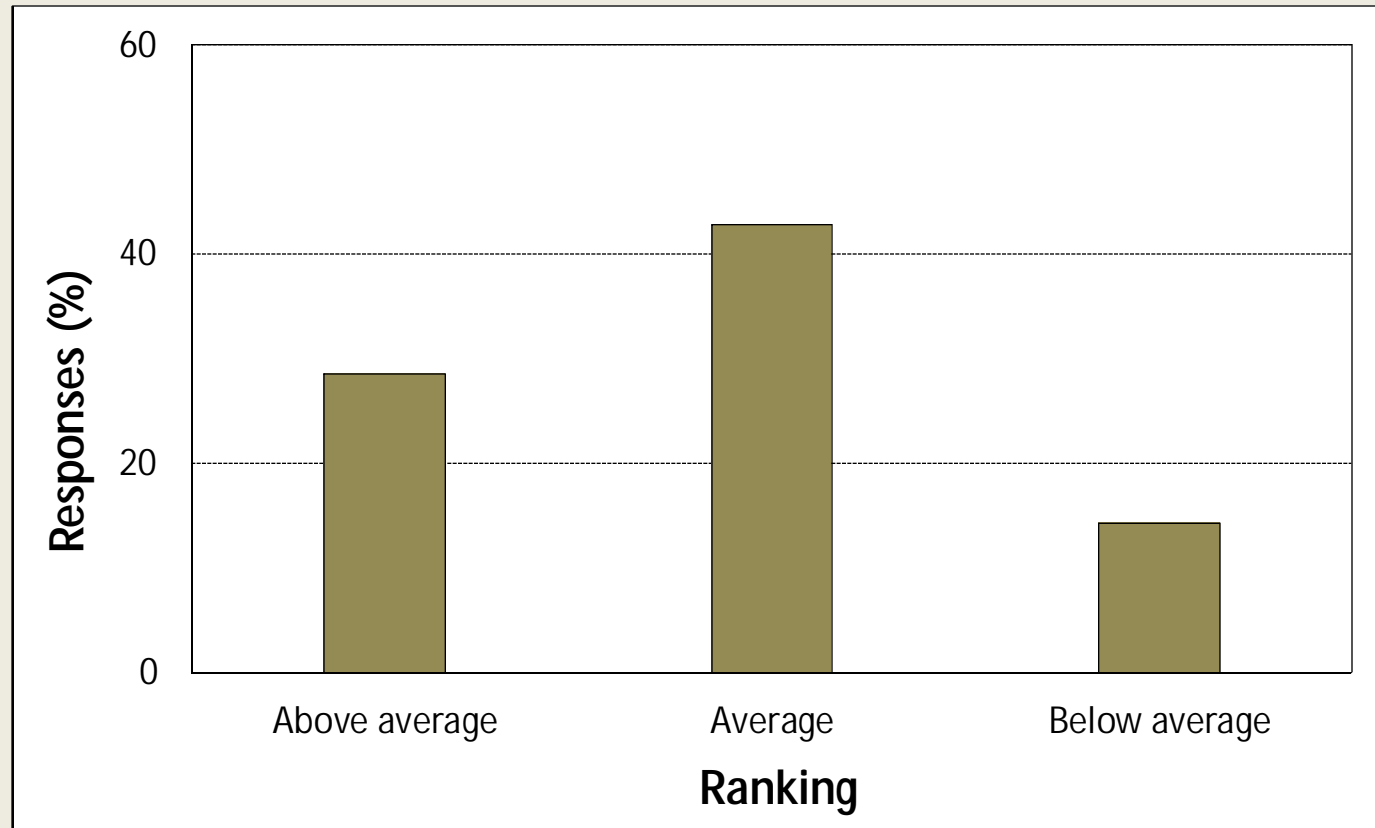
Stakeholder Survey

Six Categories included 33 questions

- Community
- Transportation
- Roadway and safety
- Social and economic
- Environment
- Stakeholder feedback



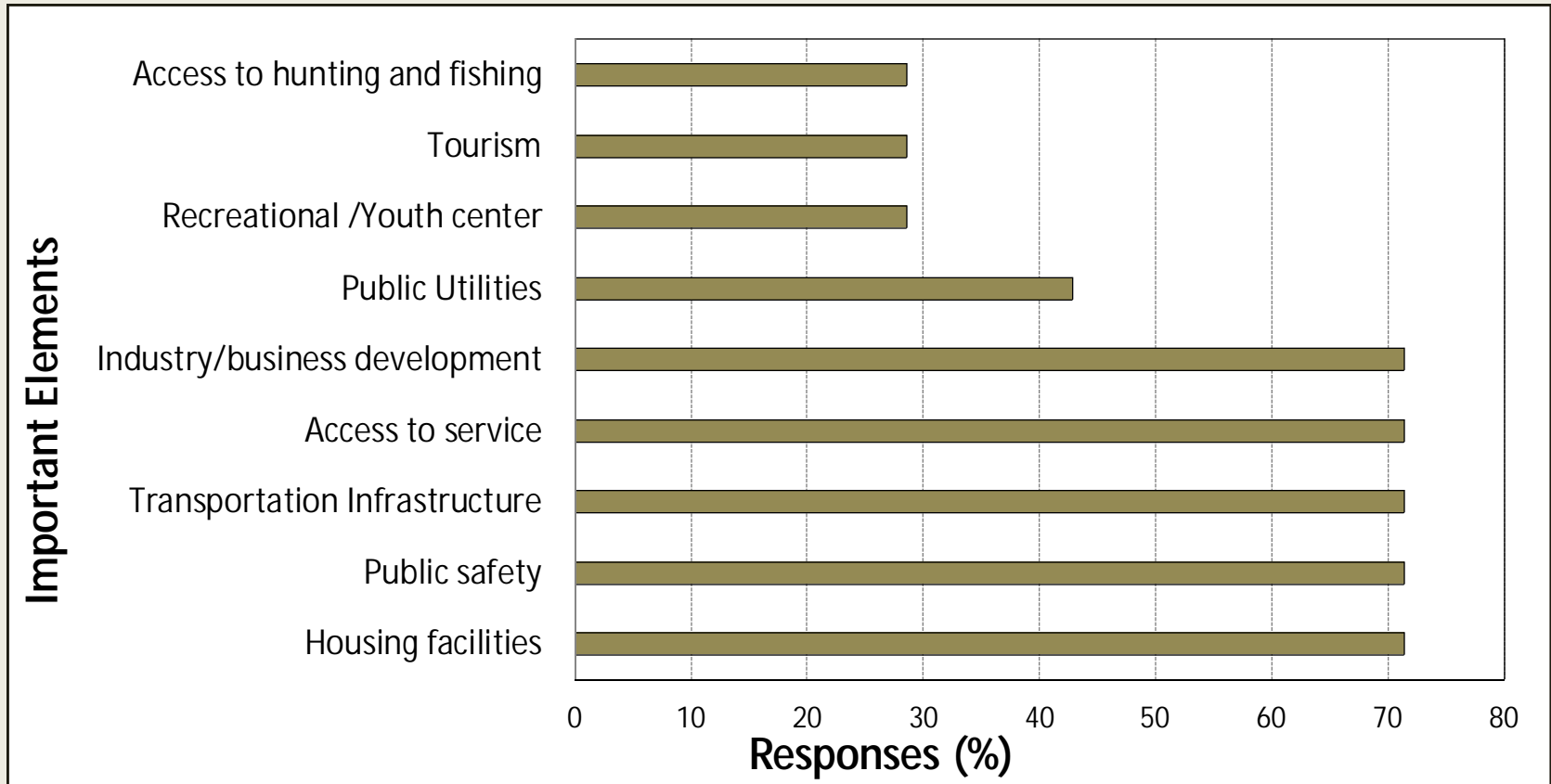
Stakeholder Survey



How do you rank your community as a good place to live?



Stakeholder Survey



Which elements do you consider important to make your community a good place to live?



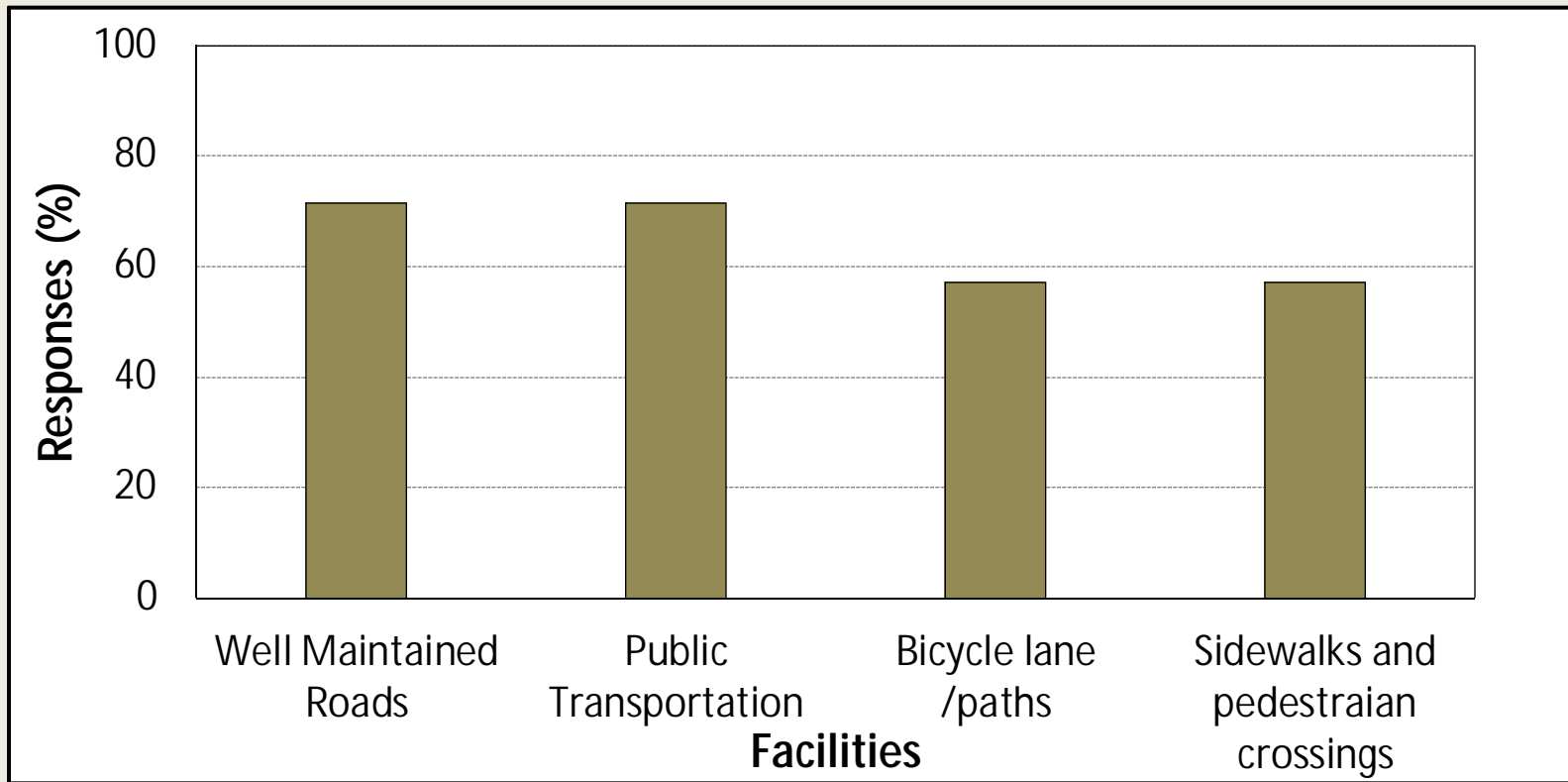
Stakeholder Survey

Challenges on WRIR	Responses (%)
Lack of job opportunities	71.4
Effective management of Federal and other Funding	57.1
Lack of Emergency service	42.9
Lack of proper planning	42.9
Lack of law enforcement	14.3
Lack of transportation options	14.3

What might be the challenges on the Wind River Indian Reservation to making it a better place to live?



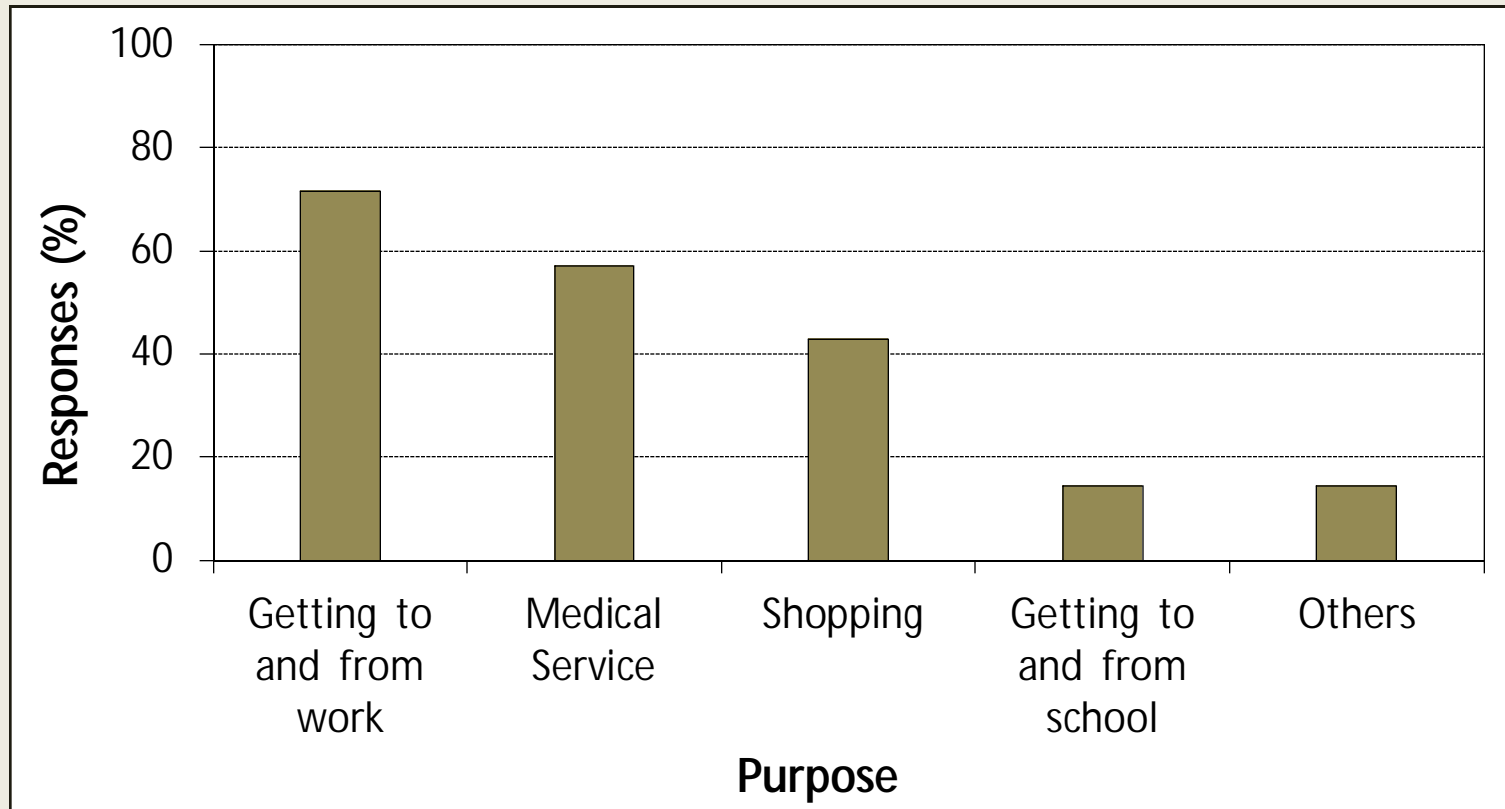
Stakeholder Survey



What type of facilities would you like to be added in order to improve transportation options in your community?



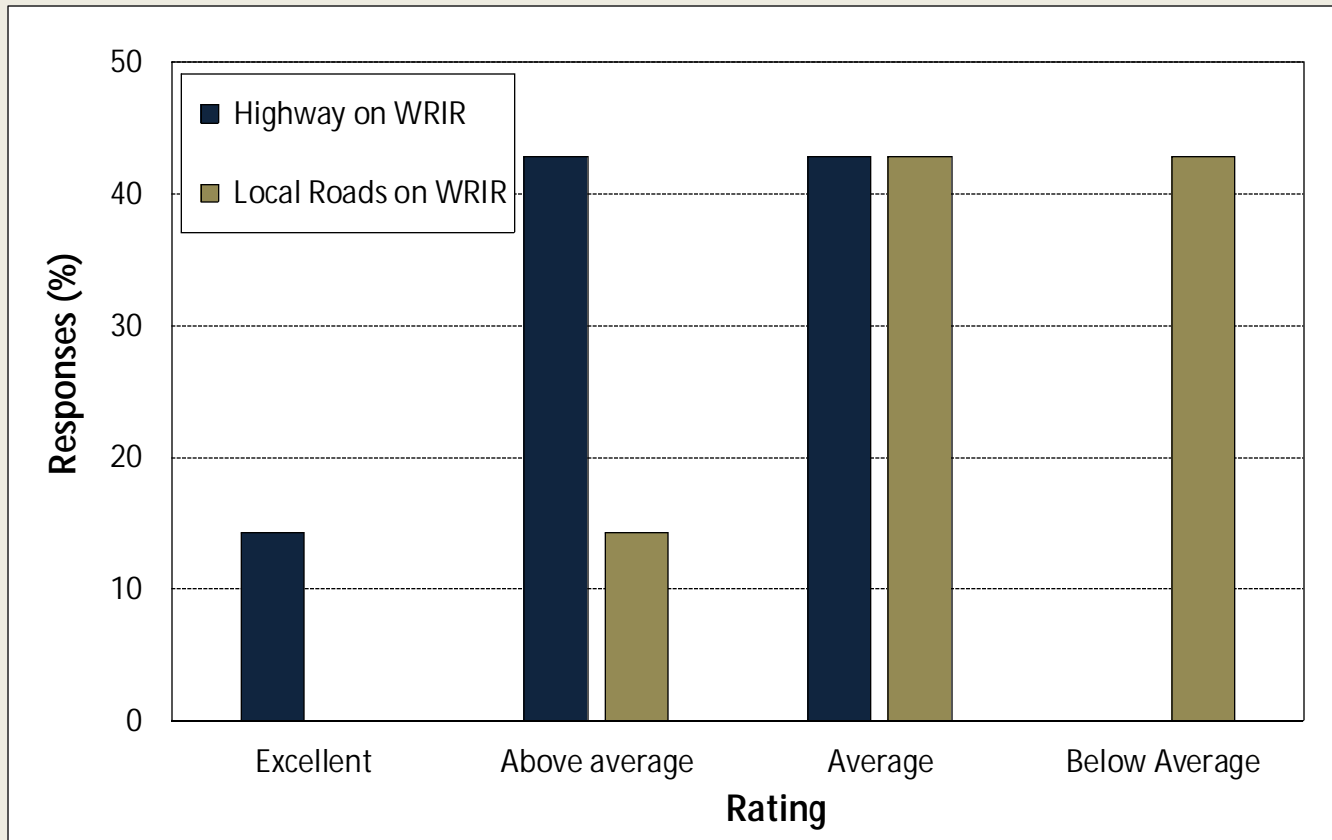
Stakeholder Survey



For what purpose do you use public transportation?



Stakeholder Survey



How do you rate the condition of the highways and local roads on the Wind River Indian Reservation?



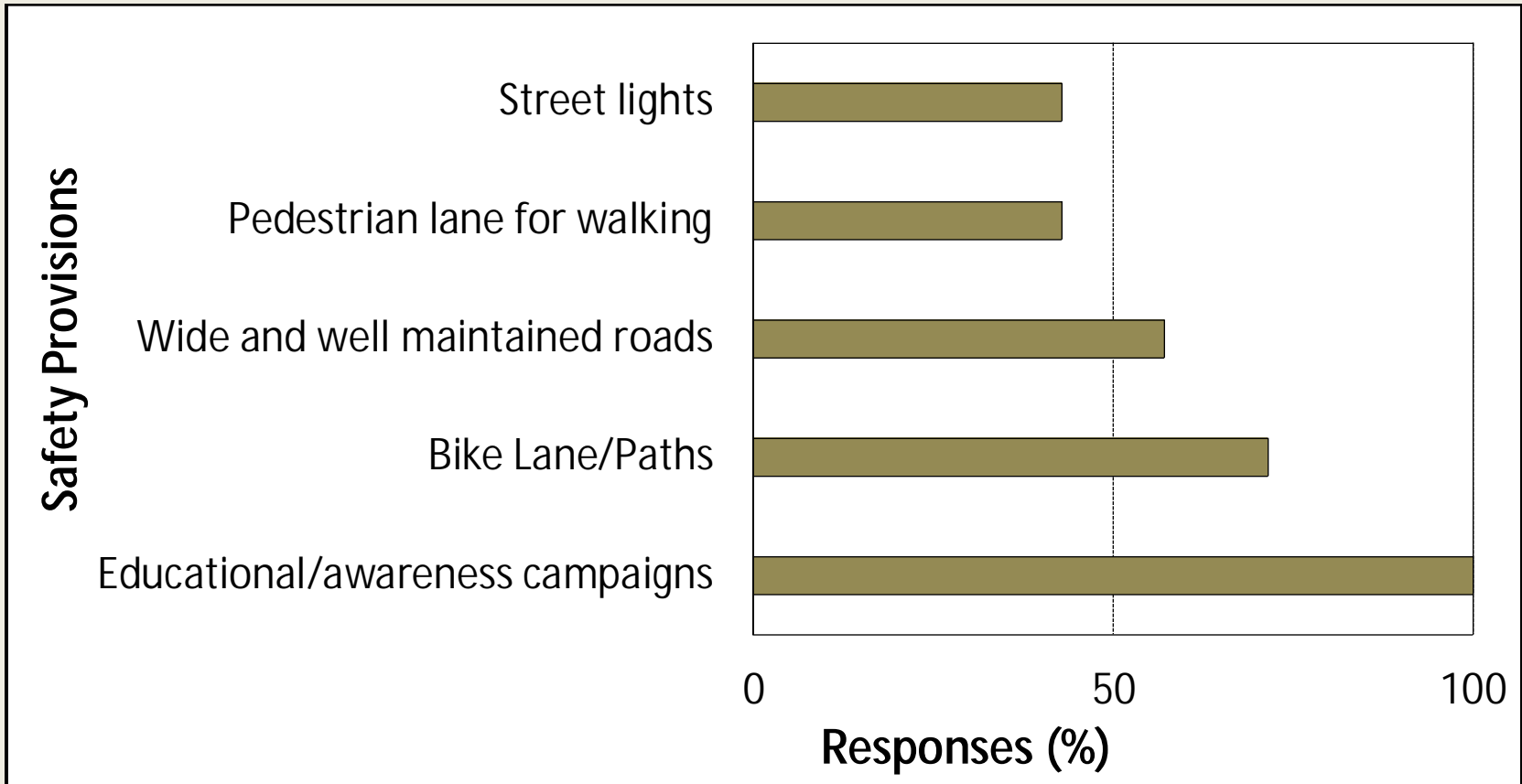
Stakeholder Survey



In your opinion which of the following factor most affects the safety of these roads?



Stakeholder Survey



What type of safety provisions would help to make the roads in your community safer?



Stakeholder Feedback

- Important elements discussed
 - Health care and facilities for access
 - Education and awareness programs
 - Animal control
 - Poor road condition
 - Access to fishing and hunting
 - Job training

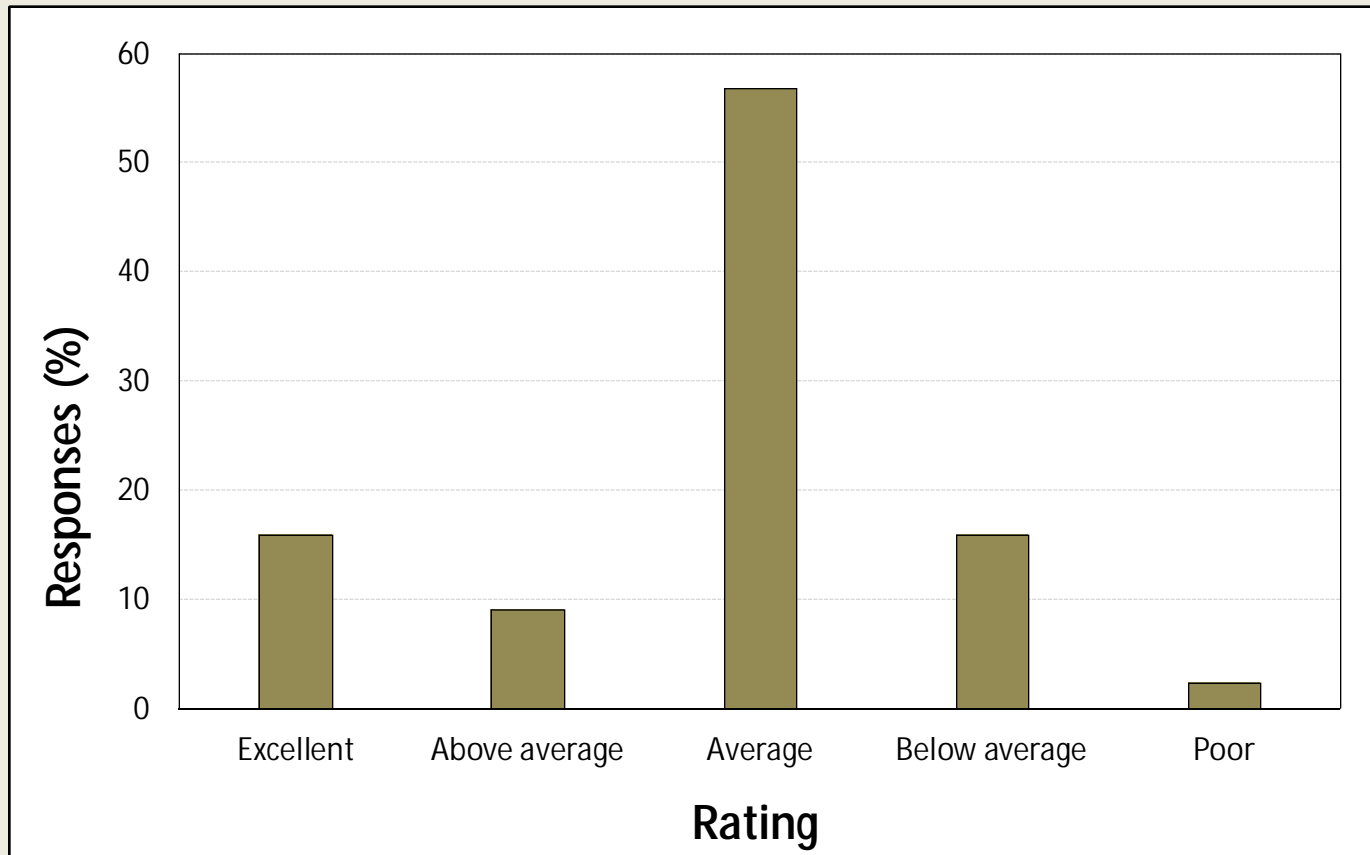


Residents Survey

- Survey contained 14 questions
- Questions related to society, roadway conditions, transportation, and safety issues
- Distributed at the Wind River Summer Safety Fair organized by TRiP
- 44 responses collected



Residents Survey



How do you rate your community as a good place to live?



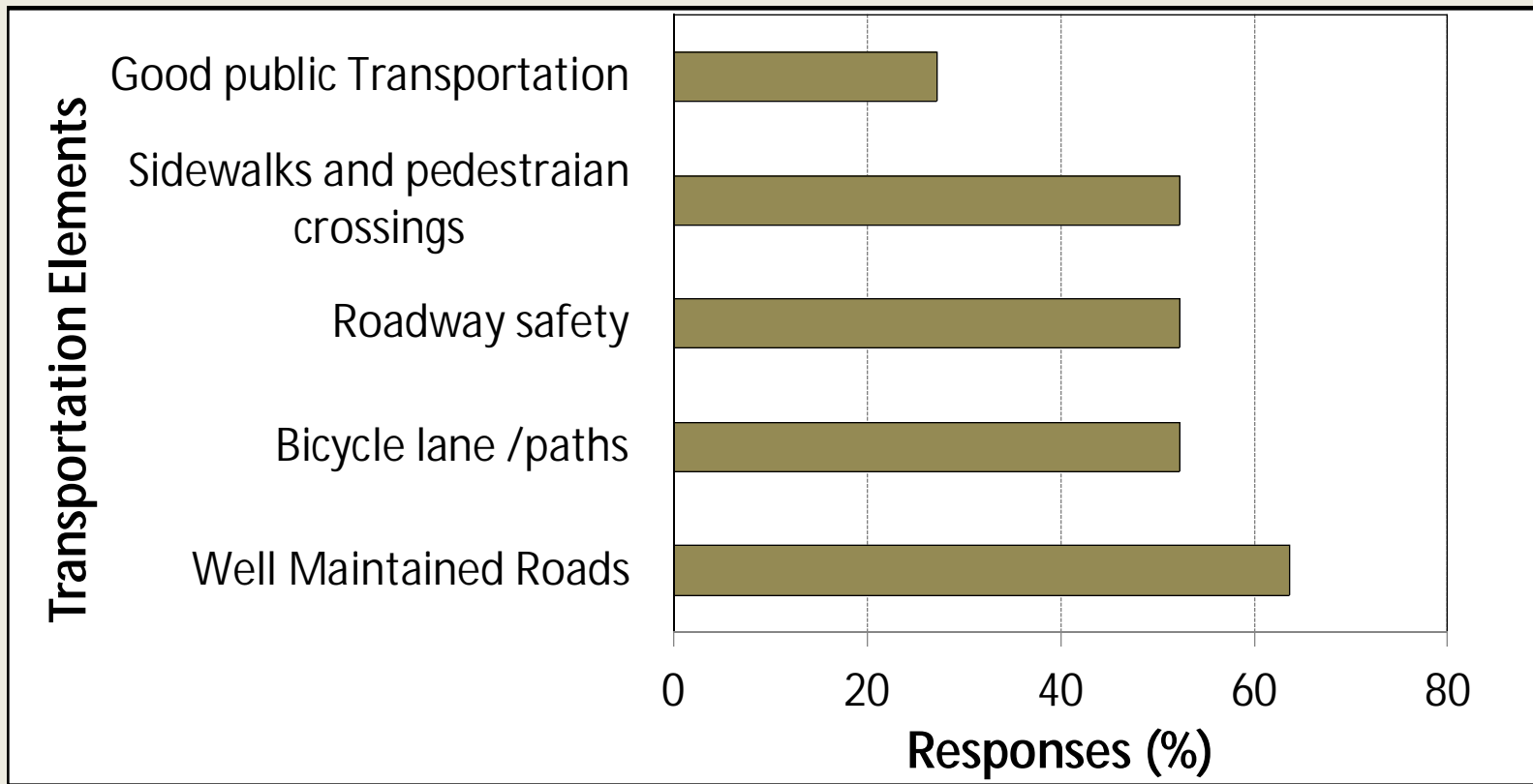
Residents Survey

Important Elements	Number of responses	Percent (%)
Recreational /Youth center	26	59.1
Public safety	23	52.3
Well planned Community	18	40.9
Job Trainings	17	38.6
Access to hunting and fishing	13	29.6
Public Utilities	11	25.0
Tourism	11	25.0
Industry/business development	9	20.5
Transportation Infrastructure	7	15.9
More local restaurants and shopping	4	9.1

Important that make your community a good place to live



Residents Survey



Which elements do you consider important to make your community a good place to live from a transportation perspective?



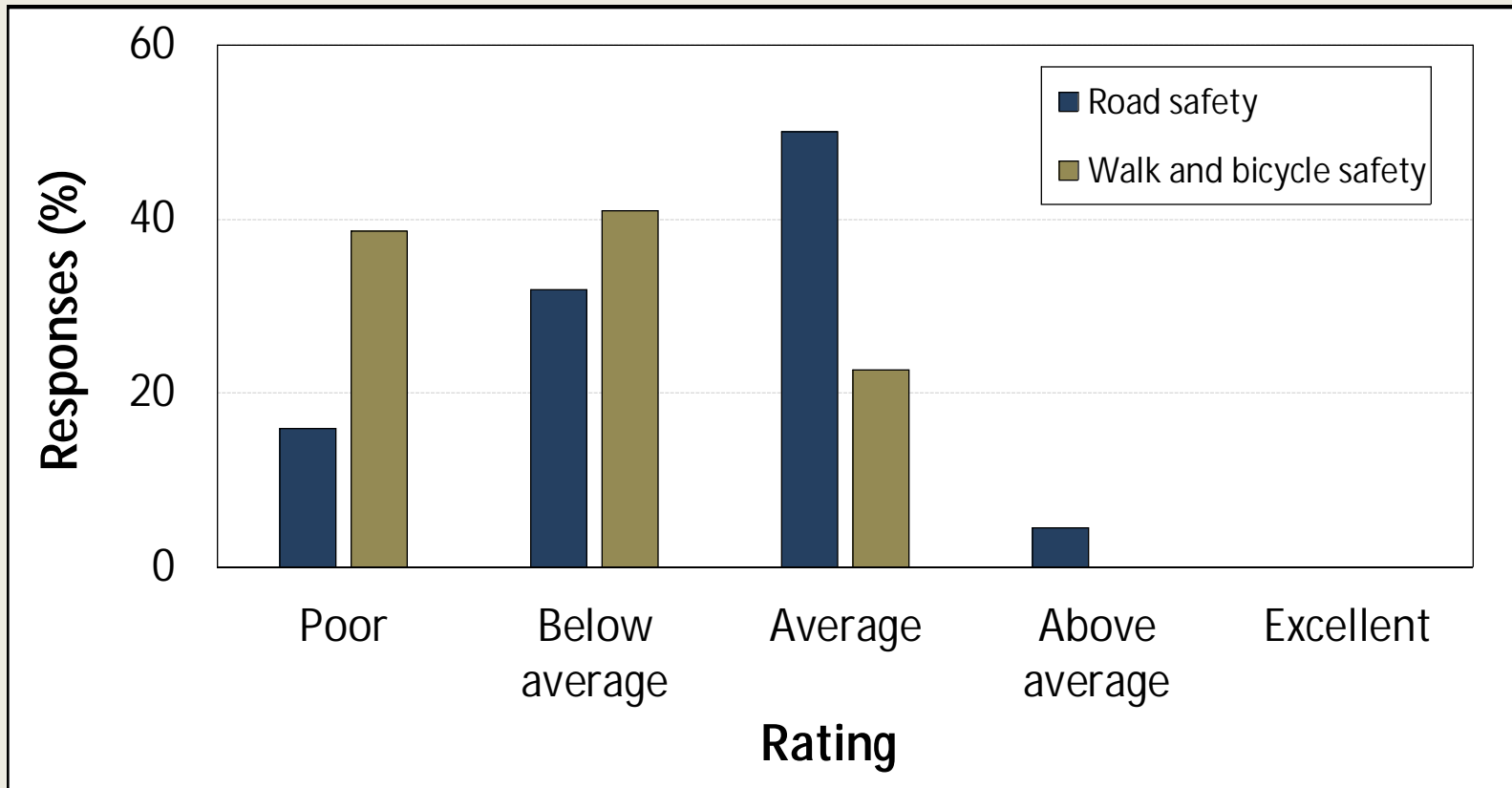
Residents Survey

Purpose of Using Public Transportation	Number of Response	Percent (%)
Getting to and from work	18	40.9
Medical Service	15	34.1
Shopping	9	20.5
Getting to and from school	7	15.9
Others: Hunting, fishing, camping	6	13.6

For what purpose do you use the public transportation?



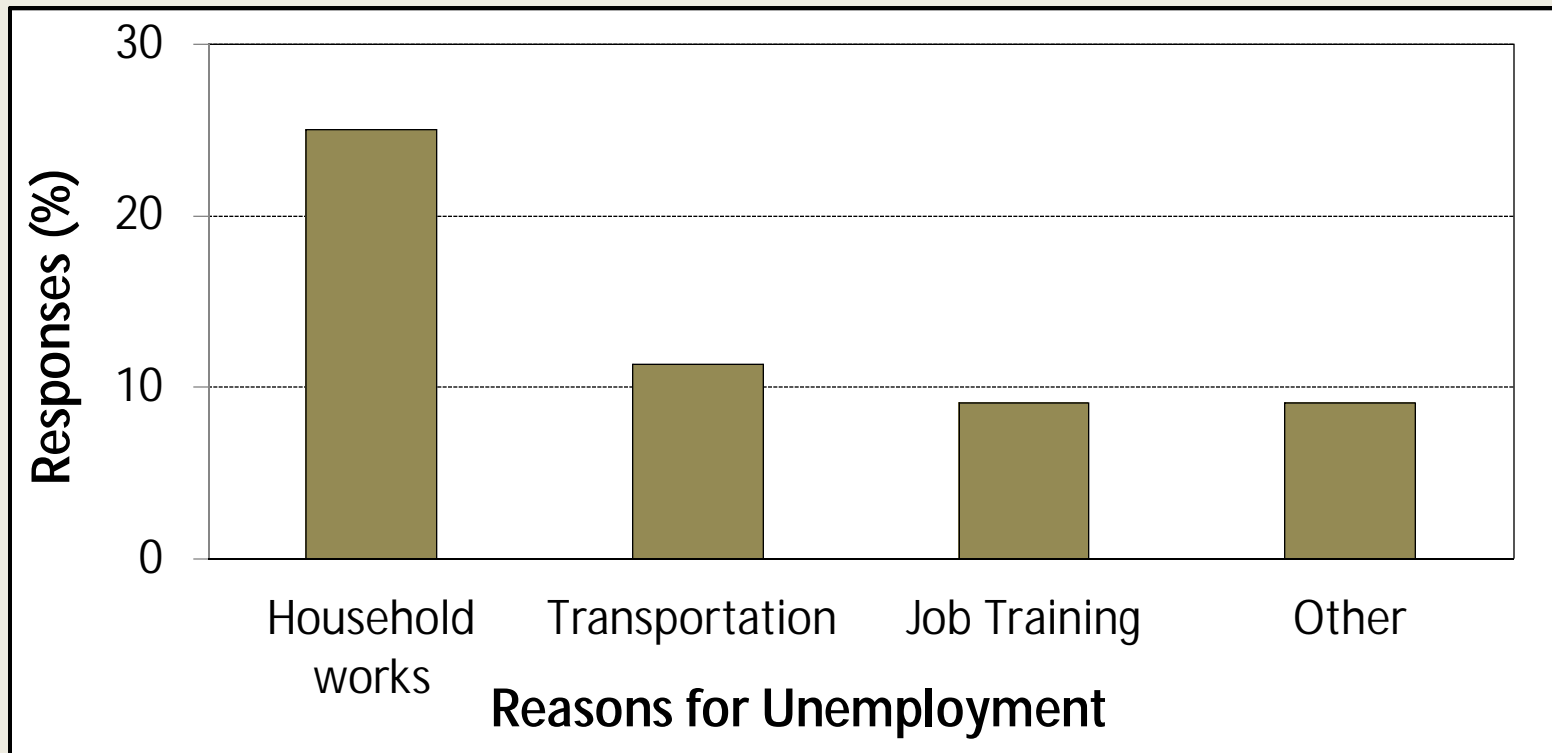
Residents Survey



How do you rate the safety of the roads on the reservation?



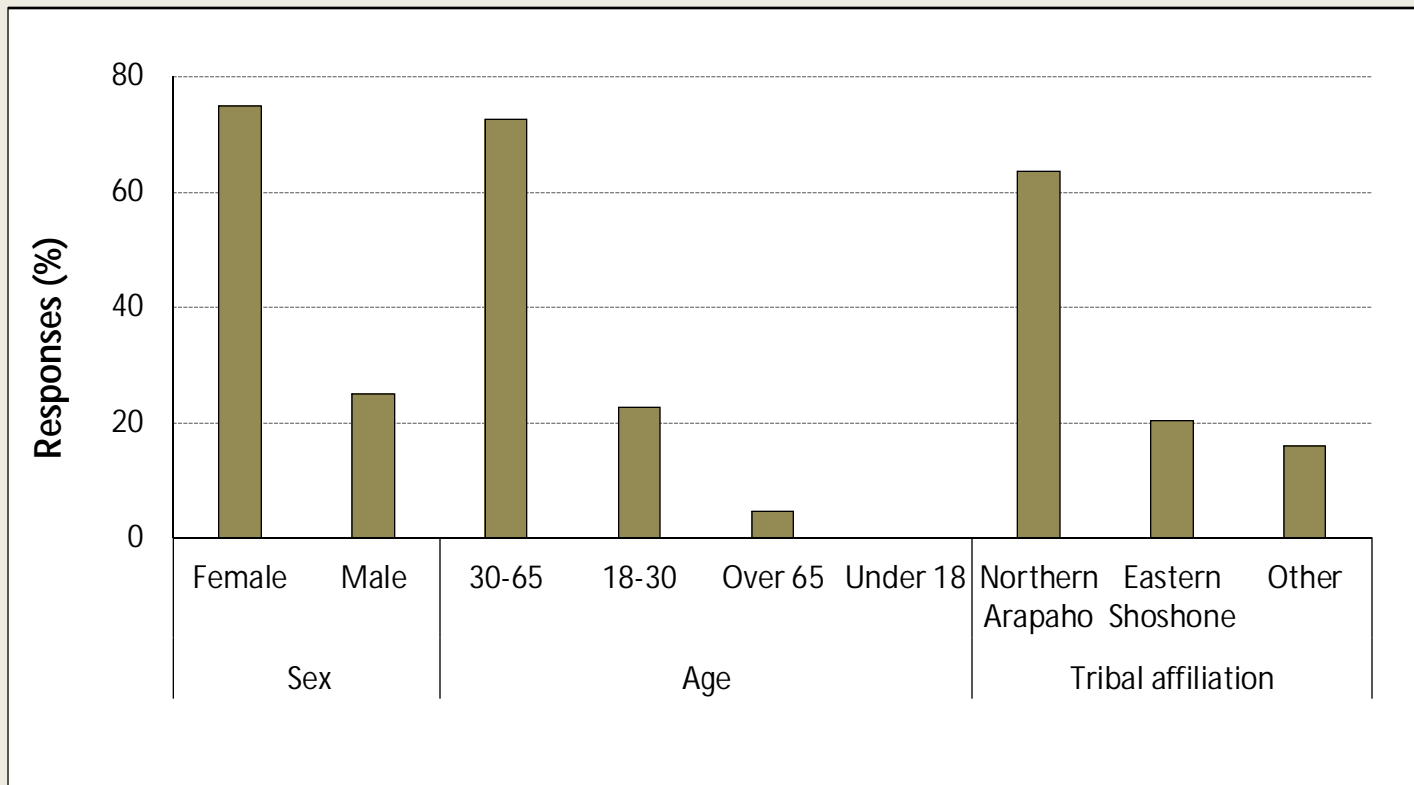
Residents Survey



What is the reason for unemployment?



Residents Survey

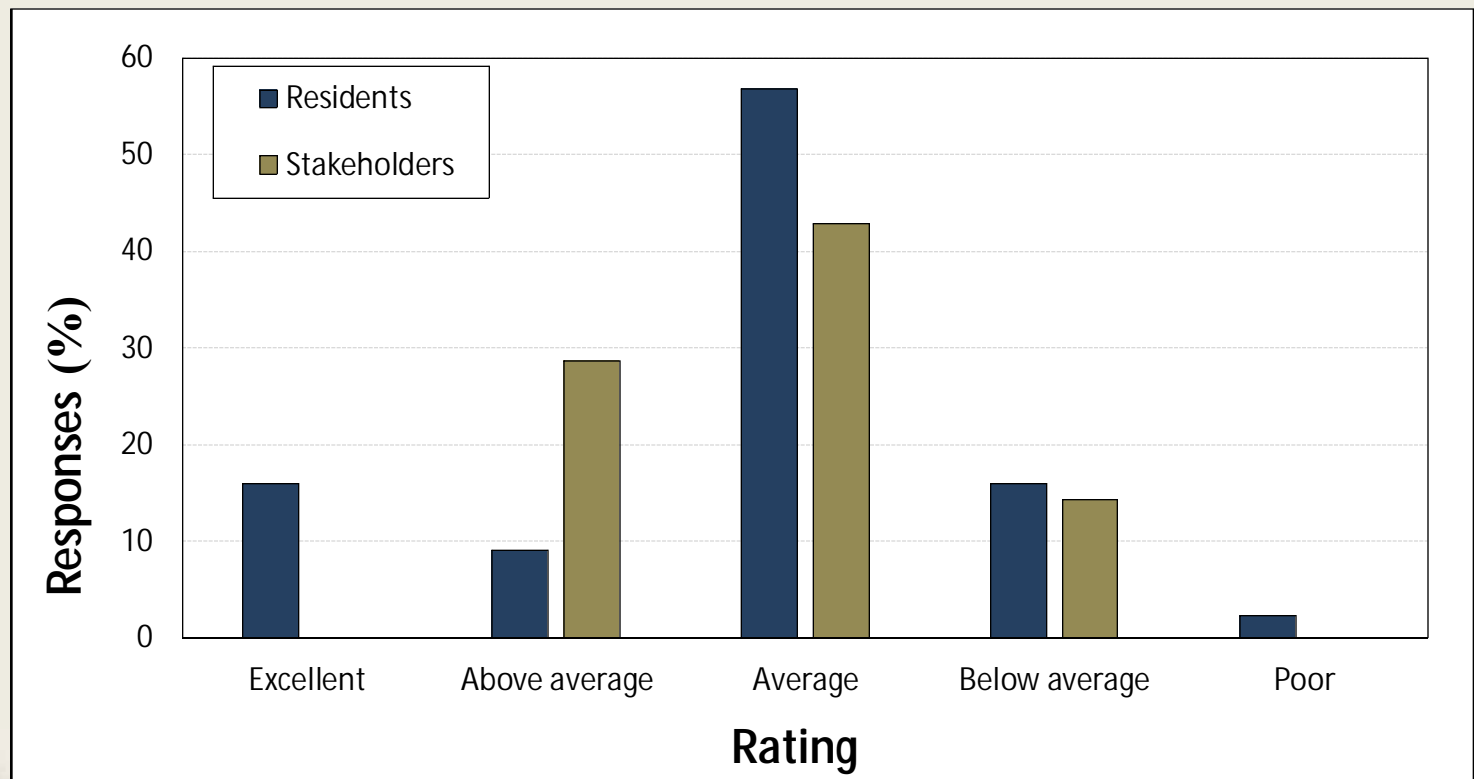


Demographics for Residents Survey



Analysis

Stakeholders and Residents Rank Community as Good Place to Live



Analysis

Livability Themes from WINDS III Survey

Livability Elements	Issues
Employment	<ul style="list-style-type: none">• Unemployment is a problem• Very few know about Wind River job corps center
Transportation Issues	<ul style="list-style-type: none">• Access to facilities and services• More than 90% households have at least one vehicle• Very few people depend on shuttle bus• Need of public transportation
Road Condition and safety	<ul style="list-style-type: none">• Condition of road is generally good• Snow removal, speeding, drinking and driving, animal control are safety related issues• Aware about seatbelt use



Analysis

Summary of Findings on Surveys

Concept of Livability	Residents	Stakeholder
Rank Community	Average	Average
Elements important to make community a good place to live	Recreational /Youth center	Housing facilities
Elements important from transportation perspective	Well Maintained Roads	Well Maintained Roads
Purpose of using public transportation	Getting to and from work	Getting to and from work
Safety of Roads	Average	Average
Safety for walk and bicycle to school	Below average	Below average



Defining Livability

- Key Issues
 - Transportation (Well maintained roads)
 - Health care facilities
 - Youth/Recreational activities
 - Public safety



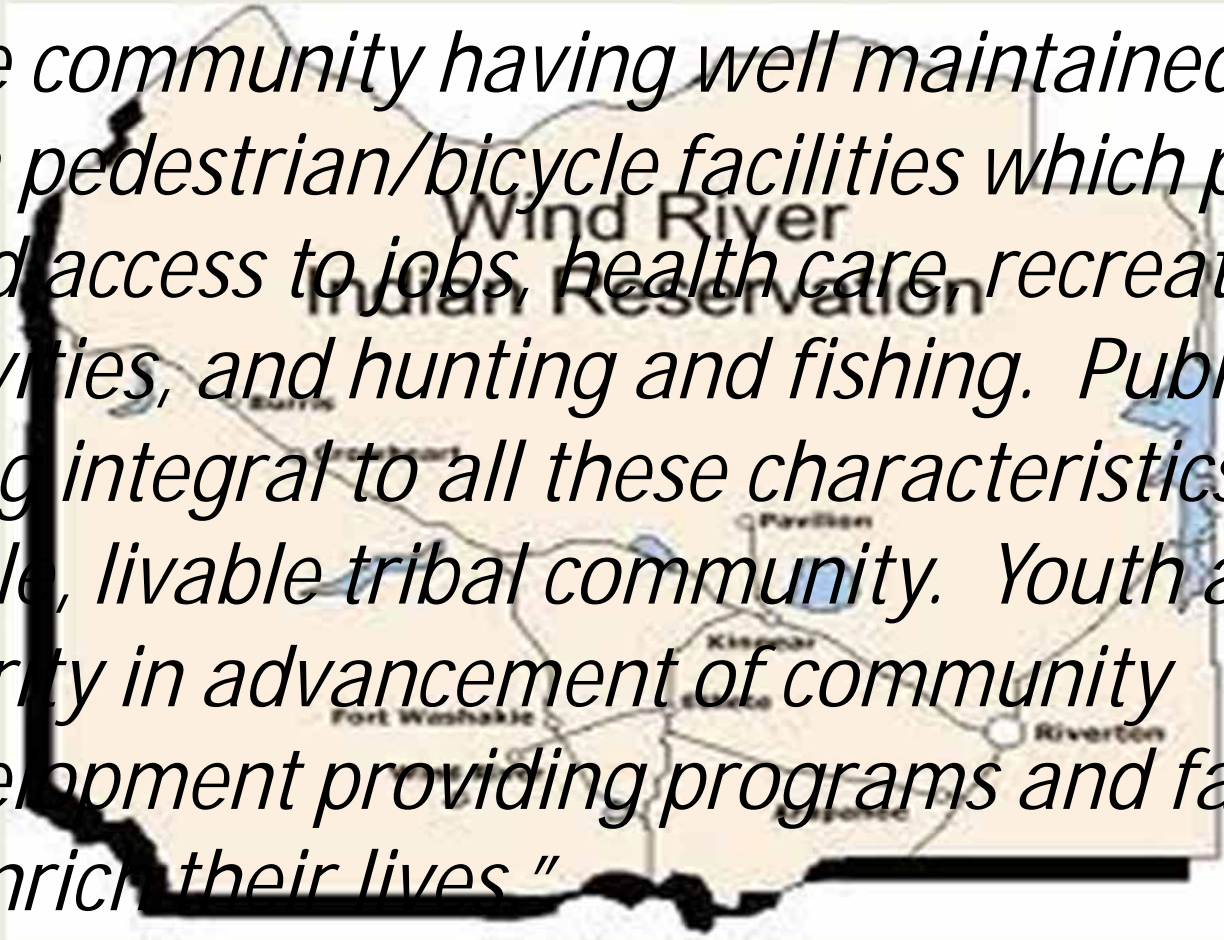
Defining Livability

- Other Issues
 - Job availability
 - Job training
 - Public transportation
 - Road safety improvements
 - Pedestrian safety facilities



Definition for WRIR

“The community having well maintained roads with pedestrian/bicycle facilities which provide good access to jobs, health care recreational activities, and hunting and fishing. Public safety being integral to all these characteristics of a viable, livable tribal community. Youth are a priority in advancement of community development providing programs and facilities to enrich their lives.”



Existing Programs & Plans

- Strategic Highway Safety Plan
- Roadway Safety Improvement Program
- Pedestrian and Walkway Long Range Transportation Plan
- Job Training Program
- Regional Transit



Livability Program Benefits

- Program provided Wind River with comprehensive documentation for TIGER Grant for major roadway safety improvement with pedestrian facilities
- WRIR was successful in obtaining grant for expansion of transit system



Conclusions

- Common themes for all communities include quality of life, transportation & environmental protection
- Tribal communities have unique challenges
- Methodology developed to assist Tribes develop their own program
- Engaging community and coordination necessary for successful program



Acknowledgements

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WYT²/LTAP

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Transportation

Northern Plains TTAP



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