Renewable Energy, Community, and Culture: Tanana, Alaska

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Amanda Byrd
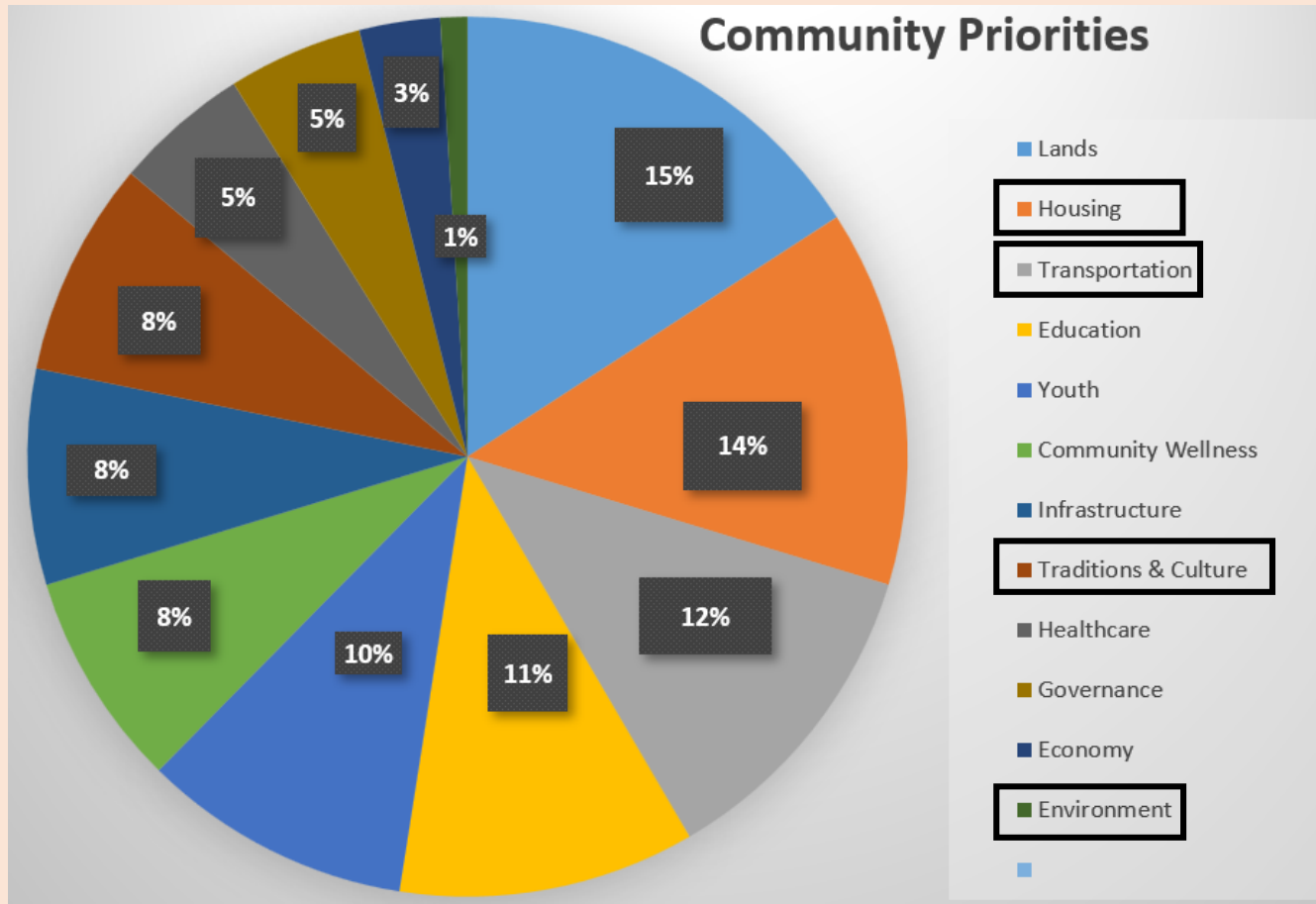
Alana Vilagi

Baxter Bond

Jennifer Curl

Goals of the interviews

- Look at energy and wood use in Tanana

- Examine how is the biomass program affecting Tanana

- Explore wood harvest in Tanana and how this interacts with subsistence
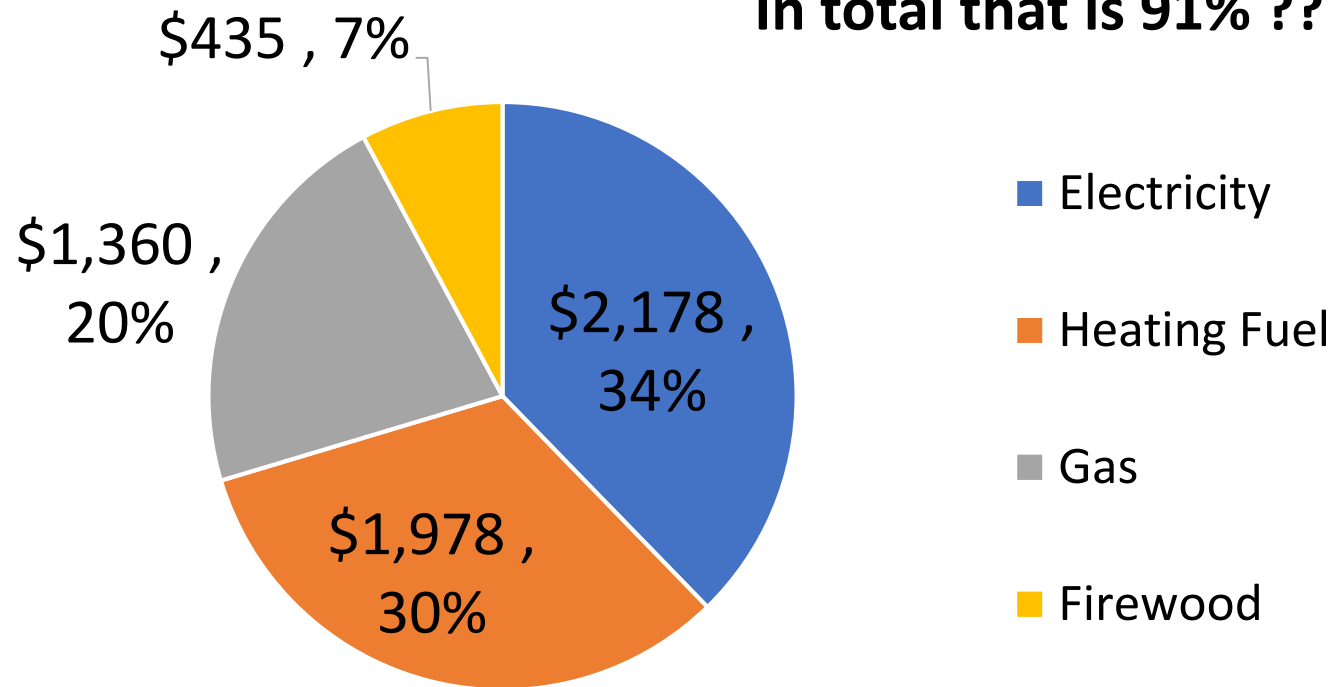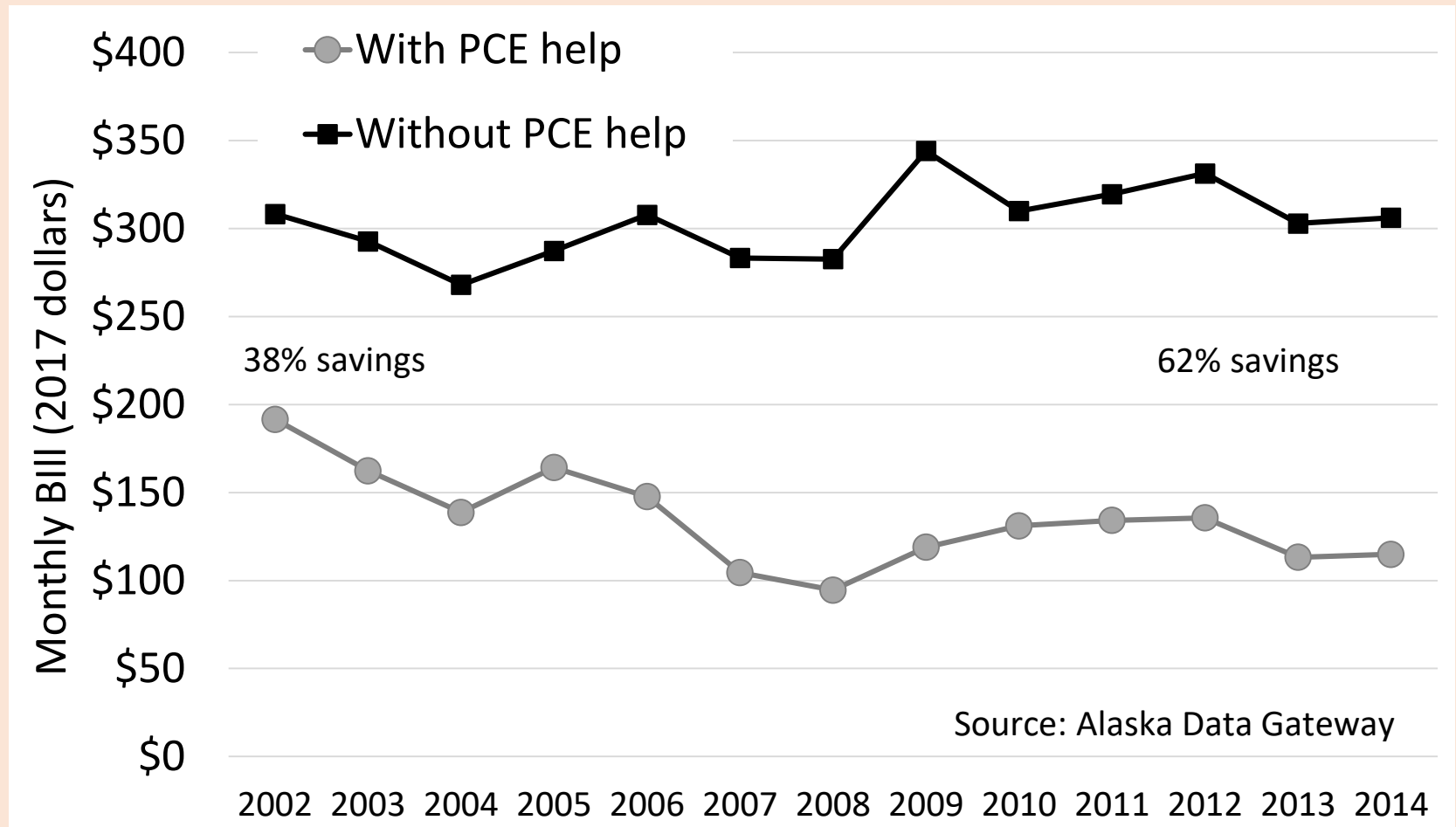
Community Priorities 2016

How much of your income goes towards energy costs?

In total that is 91% ???

$435 , 7%

$1,360 , 20%

$2,178 , 34%

$1,978 , 30%

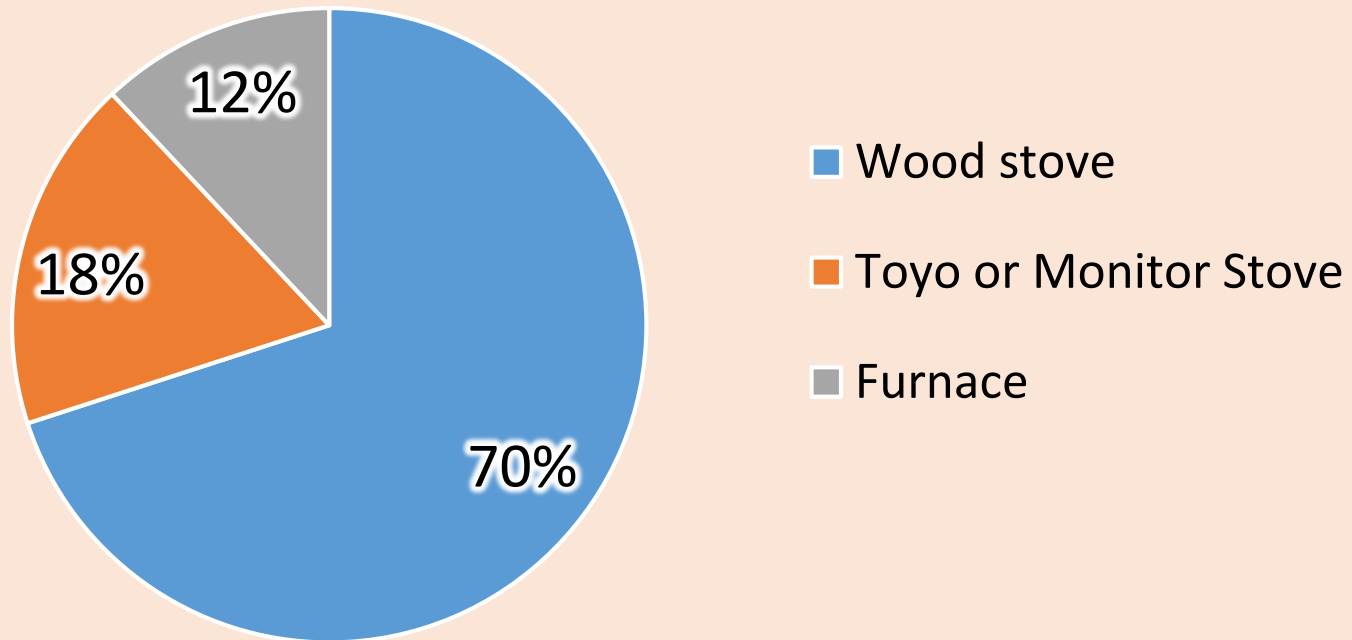- Electricity
- Heating Fuel
- Gas
- Firewood

According to the data how much do Tanana residents spend for 412 kWh of electricity

How do people in Tanana heat their homes?

People estimated they save $1,611 annually by using wood!

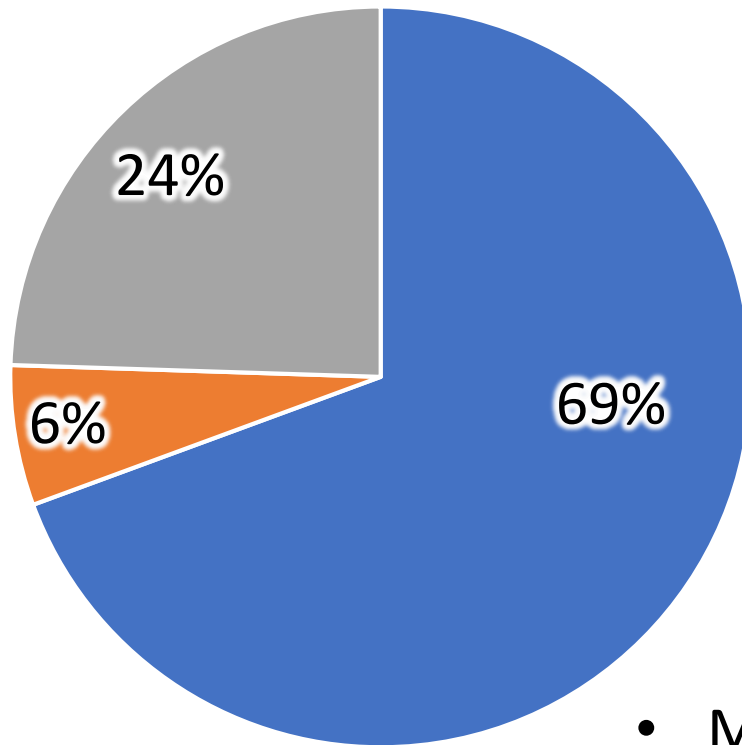|	
🟦	Wood stove
🟧	Toyo or Monitor Stove
⬜	Furnace

70%

18%

12%

34% of households have used less wood because of weatherization actions

How much do people harvest?

Total in a year: 690 cords

Cords per person interviewed

14
12
10
8
6
4
2
0

Total   Firewood   Driftwood

Are Tanana Residents Satisfied with the Biomass Harvesting Program?

- Satisfied
- Not satisfied
- Neutral

69%

24%

6%

- Most people know about the program (82%)
- 29% participated

What does heat look like in Tanana?

Making Heat

Using Heat

Wood Depot

Photo courtesy of Chas Jones

OIL

School

Public water

Washeteria

Public worker buildings: Firehouse, VPSO, Triplex, Teacher housing

Greenhouse

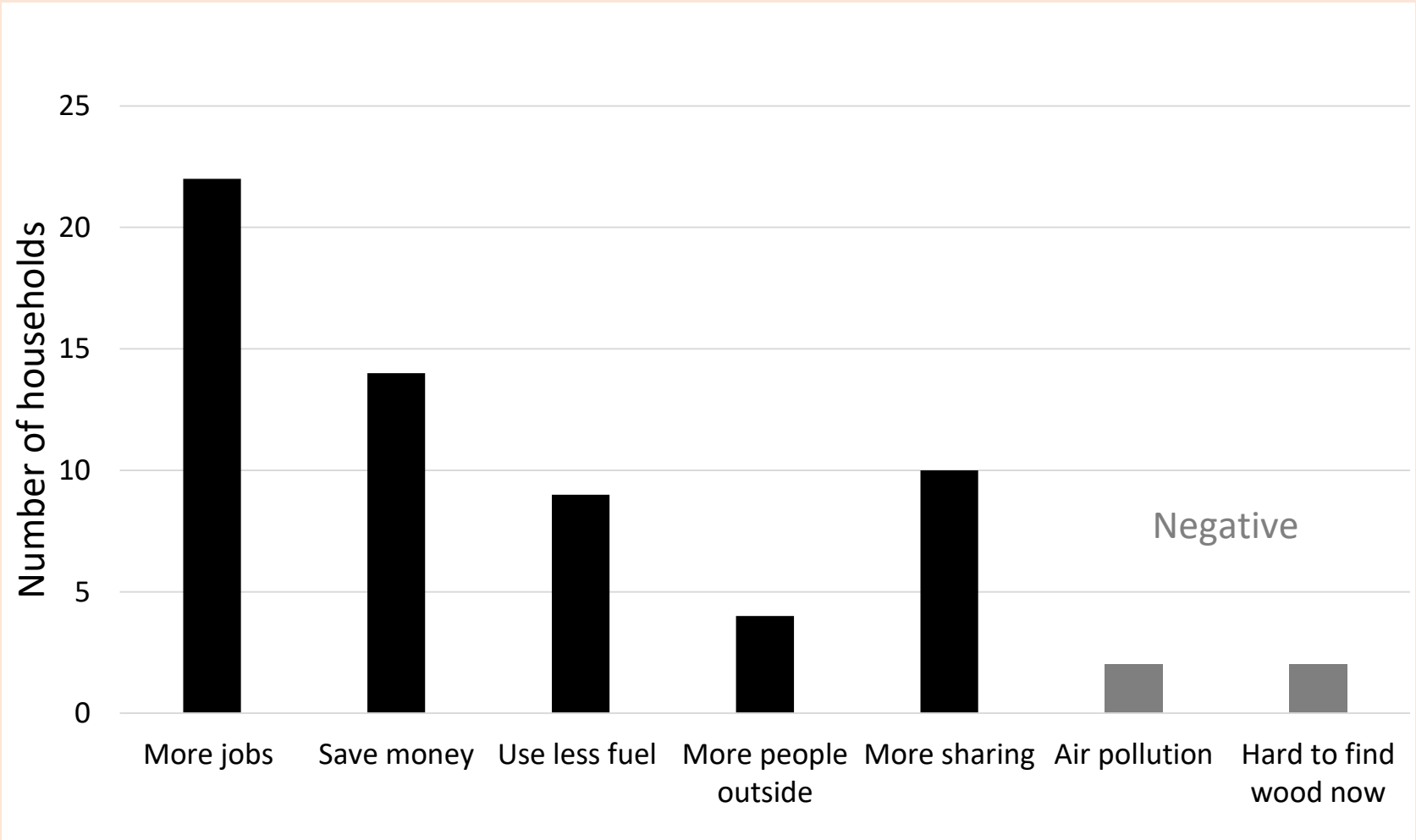Residential houses, City & Tribal offices

Wood harvest: participation, jobs, and income

- 29% have participated in the biomass harvest program

- 18% of people we interviewed made money harvesting wood.   11 people of 61

- On average each person made $2,568.

Why are people satisfied or dissatisfied?

How could the biomass harvest program be improved?

- Avoid conflicts with local wood harvesters
  - Some people feel the price of a cord of wood has been driven up
  - For now wood harvest for the biomass program does compete with local harvest (i.e. plenty of wood available)
- Expand use of the boilers to benefit a larger portion of the community
  - Expand to more buildings used by the community
  - Use it for public services like heating water
  - Convert to electricity, if possible

What other benefits do people get from harvesting wood?

Reduce energy costs 89%

Fuel costs matter less 74%

Fire is a nice heat source 87%

Exercise 72%

"Lost weight, easier to move around"

Who does the wood harvesting?

- People who are also out doing subsistence
- Households with slightly more income
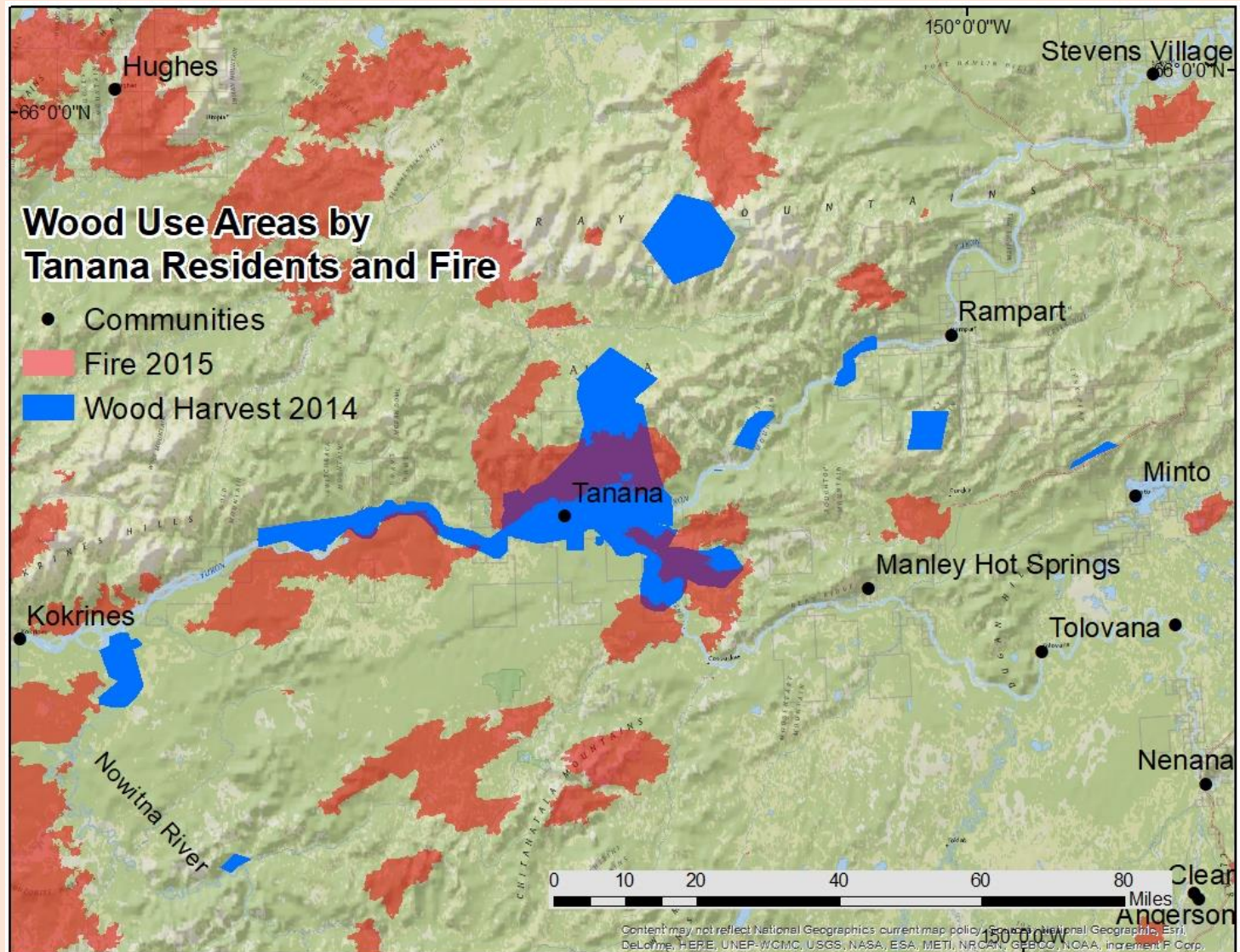
Subsistence and Wood harvest

Berries

Half of people believe that the amount of wood harvested have not changed in the last 10 years (47%)
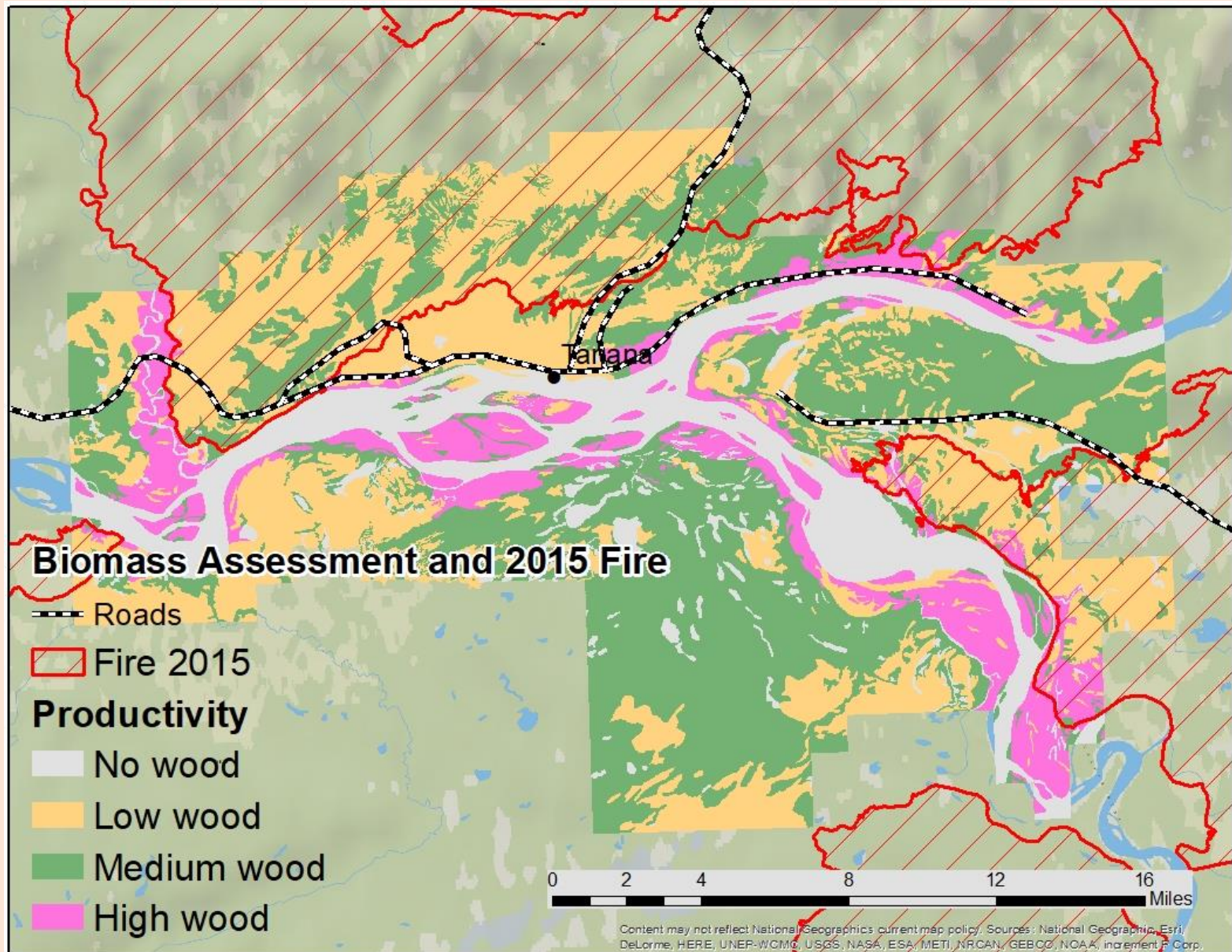
75% of people say wood harvesting does not affect subsistence harvest

What has had the biggest influence on wood harvest?

Fire and Forest Productivity

Biomass Assessment and 2015 Fire

- Roads
- Fire 2015

Productivity

- No wood
- Low wood
- Medium wood
- High wood

Tanana

0 2 4 8 12 16 Miles

Content may not reflect National Geographics current map policy. Sources : National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Biomass harvest assessment Phase 2: Will Putman TCC

Who does subsistence?

- Wood harvesters
- Wood vendors
- Households with higher income
- Households with more people
- Those employed fulltime, followed by part-time, seasonal, etc.

Wood harvest overlaps nicely with subsistence

Come back empty from hunting or fishing ….. Grab wood!

Hunting 28%

Berries 18%

Fishing 31%

Flexible schedule

20% of people barter with their wood harvest
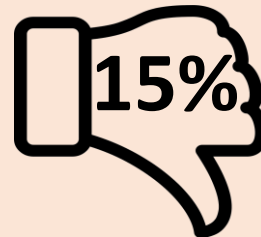
THERE IS ALWAYS ROOM

FOR ONE MORE NATIVE! & WOOD!

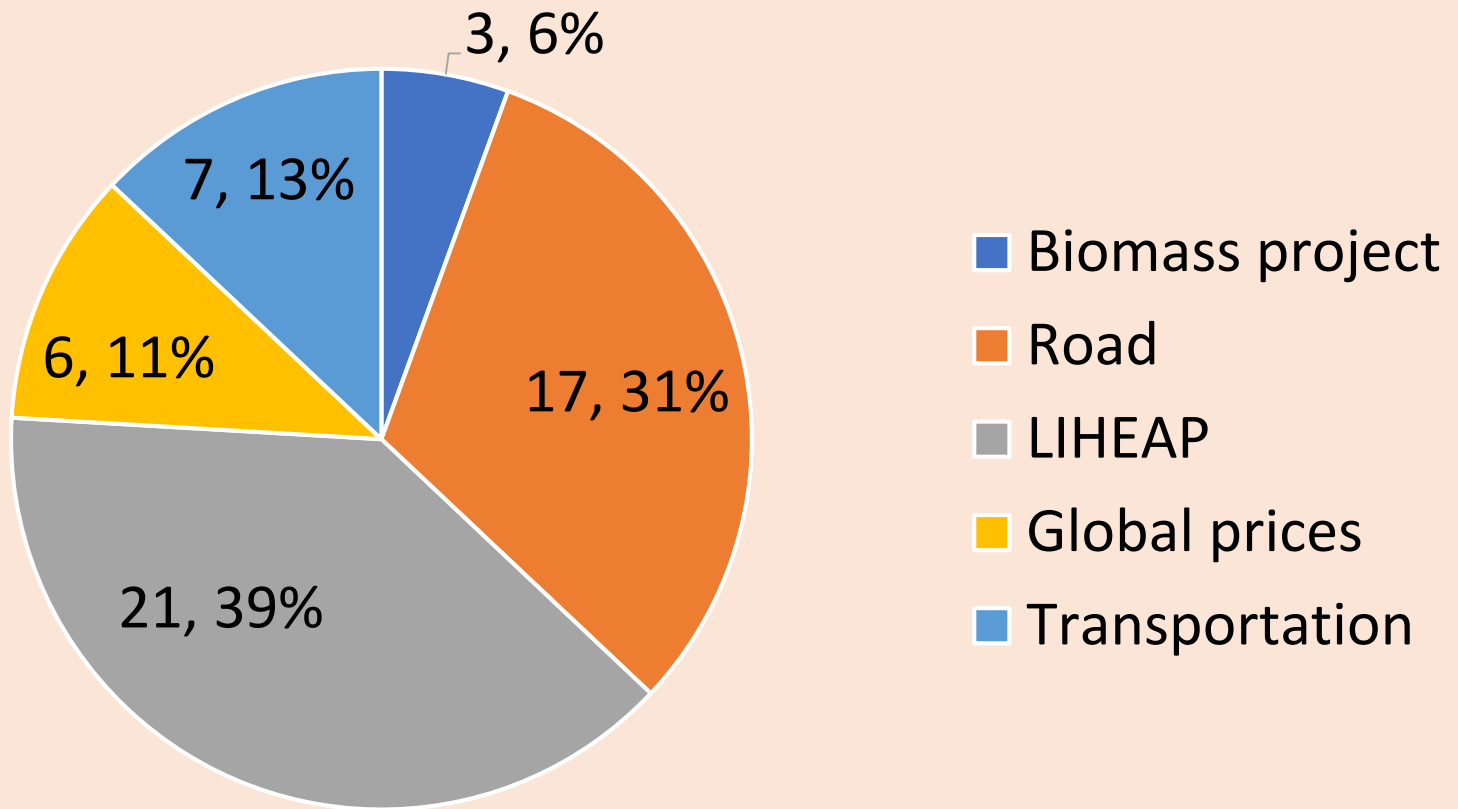# Has the road been a positive or negative influence on Tanana?

85%

Families can visit

15%

Accidents

Outside hunters

What influences fuel prices in Tanana, October 2017

- 3, 6% Biomass project
- 17, 31% Road
- 21, 39% LIHEAP
- 6, 11% Global prices
- 7, 13% Transportation

Conclusions

- Wood harvest is very important to Tanana and without access or use of wood energy costs would be overwhelming
- Wood harvest, biomass, and subsistence go together nicely
  - Wood harvest is often done as its own activity, but it is sometimes coupled with getting subsistence foods
  - People who do subsistence typically have the equipment needed to harvest wood
- For now, wood harvest for the biomass program does compete with local harvest (i.e. plenty of wood available)
- The road has had the biggest impact on the community

How can this research help support community decisions?

- Continue to hire local residents for wood harvesting because it works well with the time and equipment needed for subsistence

- Keep prices paid for cords of wood with the biomass program in line with prices residents pay for a cord of wood

- It is clear wildfires are important for wood harvests so figuring out how to manage wildfires and wood needs is important

- Residents are satisfied with the biomass harvest program, but want it expanded to help more residents

- Wood harvest estimates can be used to help with land use plans

- Data for obtaining future funding!

Thank you to the residents of Tanana