



# PUBLIC PERCEPTION OF TRANSPORTATION FEES IN NORTH CAROLINA



**ITRE**

Institute for Transportation  
Research and Education

Daniel Findley, PhD, PE

Michael Cobb, PhD

Eleni Bardaka, PhD

Larry Goode, PhD, PE

Weston Head, MS

Nick Norboge, PhD

Ravi Chittilla

Paul Broussard

# Study Overview

- Challenges to the long-term sustainability of revenue streams
- Public perceptions of transportation taxes and fees vary by demographics
- Many states are exploring alternative funding mechanisms
- Survey was designed to better understand how the public perceives transportation taxes and fees
- Support exists for increasing road funding, preference exists for the gas tax, but support exists to diversify funding sources

# Findings from Similar Studies Across the Country

|                      | Dependent Variable   | Support for Tolls      | Support for Increased Fuel Tax | Support for Increased Fuel Tax  | Support for Variable VMT (By Vehicle Type) | Support for VMT         | Willingness to pay for road improvements        | Willingness to pay Toll to be free of delays | Support for Increased Fuel Tax     |
|----------------------|--|------------------------|--------------------------------|---------------------------------|--|-------------------------|---|--|------------------------------------|
| Independent Variable | Age (Older)  | (-)                    | (+)                            | *                               | (-)  | *                       | *   | *  | (+)                                |
|                      | Education (Higher Levels of Education = 1)   | (+)                    | (+)                            | (+)                             | *  | *                       | (+)   |  | (+)                                |
|                      | Employment (Employed = 1)  | *                      | *                              |                                 |  | *                       |   | *  |                                    |
|                      | Gender (Male = 1)  | *                      | *                              | (+)                             | (-)  | *                       | *   | *  | (+)                                |
|                      | Income (Higher Income)   |                        |                                | (+)                             | *  |                         | (+)   | (+)  | (+)                                |
|                      | Miles Driven (More miles driven)   |                        |                                | *                               | *  | *                       | *   |  | (+)                                |
|                      | Opinion of Government Investment in Transportation Funding (Favorable Opinion = 1) |                        | *                              | (+)                             | (+)  |                         |   |  | (+)                                |
|                      | Party Affiliation (Democrat = 1)   | (-)                    | (+)                            | (+)                             | (+)  | (+)                     | (+)   |  | (+)                                |
|                      | General Level of Support   | 28%                    | 29%                            | 36%                             | 19%  | 21%                     | 38%   | 24%  | 40%                                |
|                      | Location of Study (Author, Year)   | Virginia (Yusuf, 2018) |                                | National (Nixon/ Agrawal, 2018) |  | National (Duncan, 2017) | California and Michigan (Fisher/ Wassmer, 2016) | Virginia (Yusuf, 2014)                       | California (Weinstein/ Dill, 2007) |

\* Indicates the variable was included in the model but was found to be insignificant

(+) Indicates the variable was **positively** correlated with the dependent variable

(-) Indicates the variable was **negatively** correlated with the dependent variable

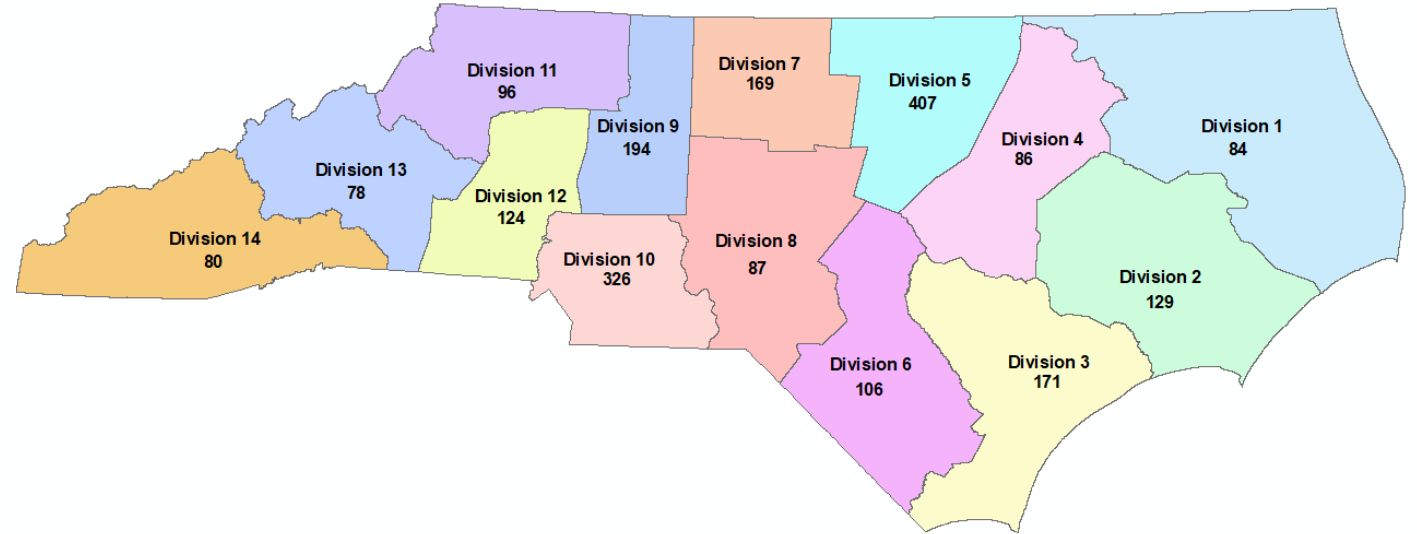
# 2019 Public Perception Survey

Sample Size = 2,245

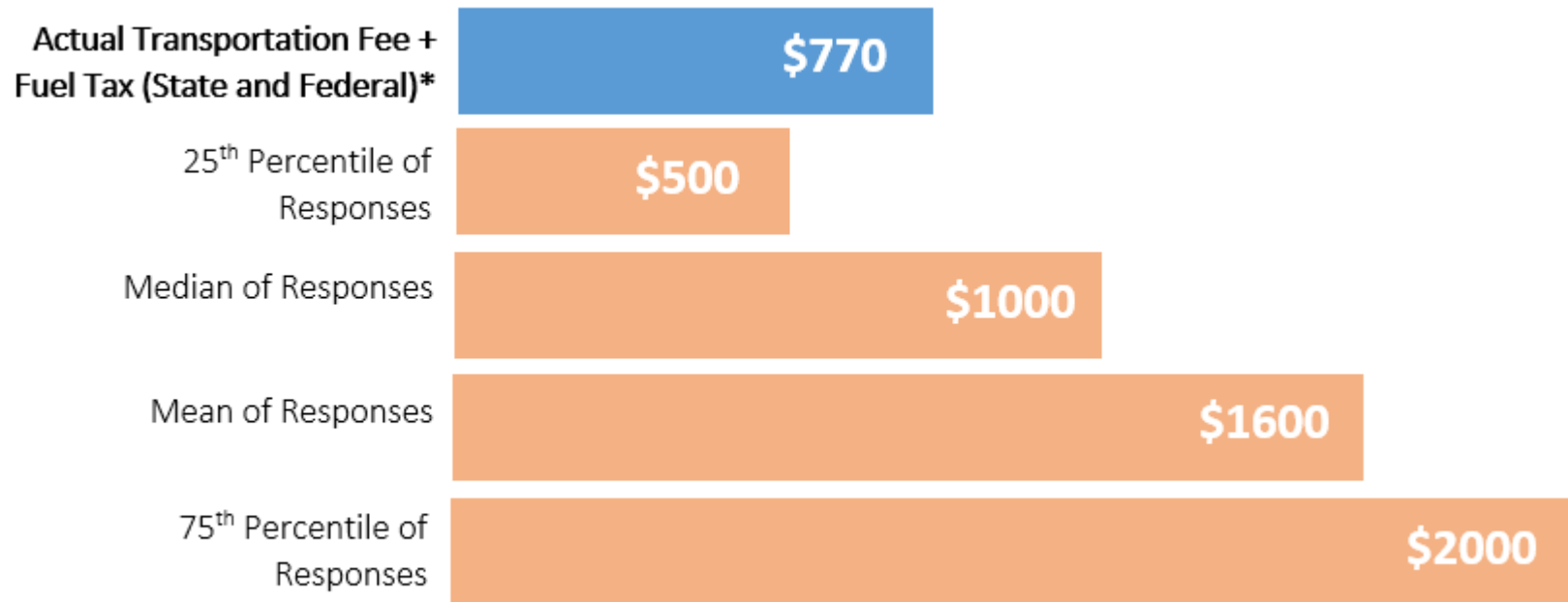
Response rate = 6.4%

Mode = Mail & Web using address based sampling & demographic targets

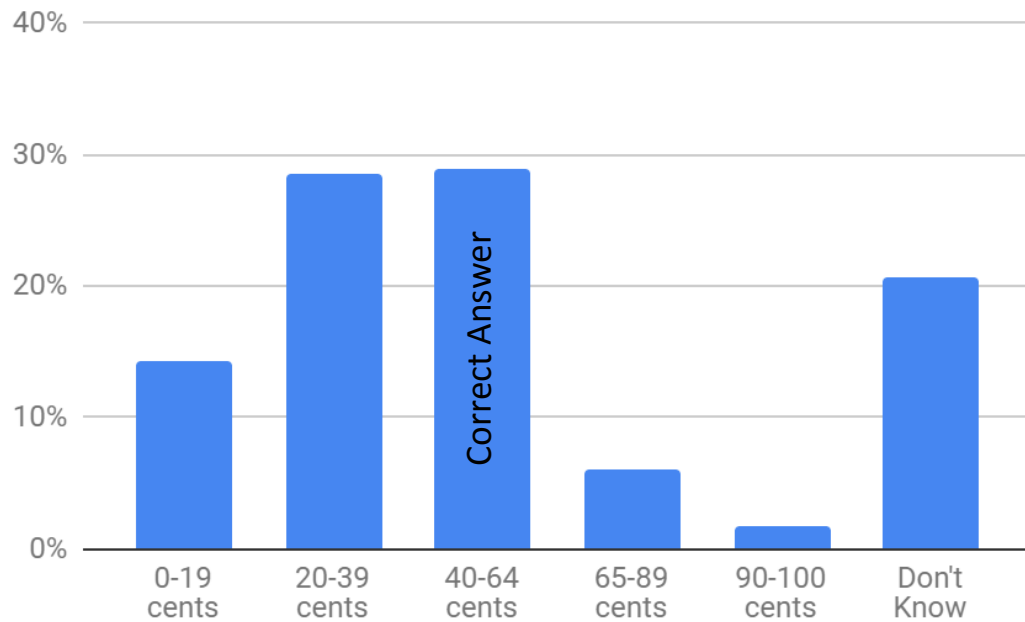
Weights were applied to collected data to ensure sample demographics accurately represent adult NC population (Census)



According to the 2018 statewide customer survey, close to 75% of North Carolinians believed they are currently spending more than they actually do in transportation fees/taxes

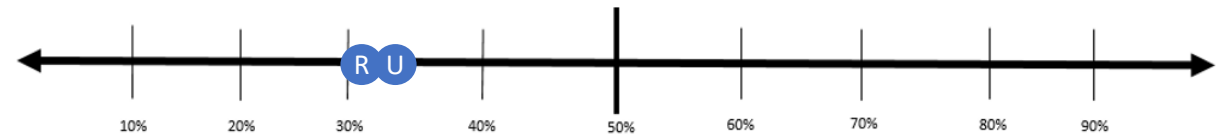


# Estimates of the Current State + Federal Gas Tax Rate per Gallon of Gas

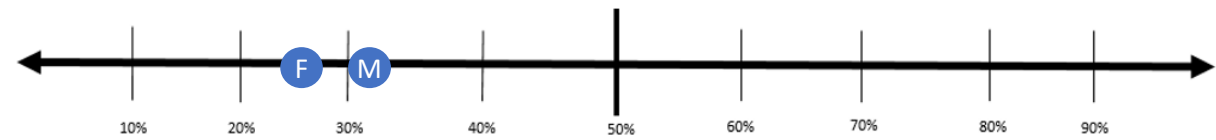


# Percentage of Group Who Responded Accurately

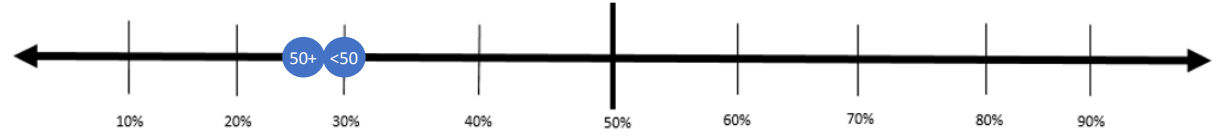
Urban vs Rural:



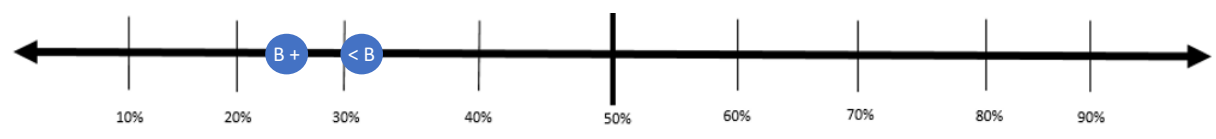
Females vs Males



< 50 yrs. Old vs 50 yrs. Old+



< Bachelor's vs Bachelor's Degree or Higher



Democrats vs Republicans



Less than 30 miles Driven Daily vs More than 30 miles Driven Daily

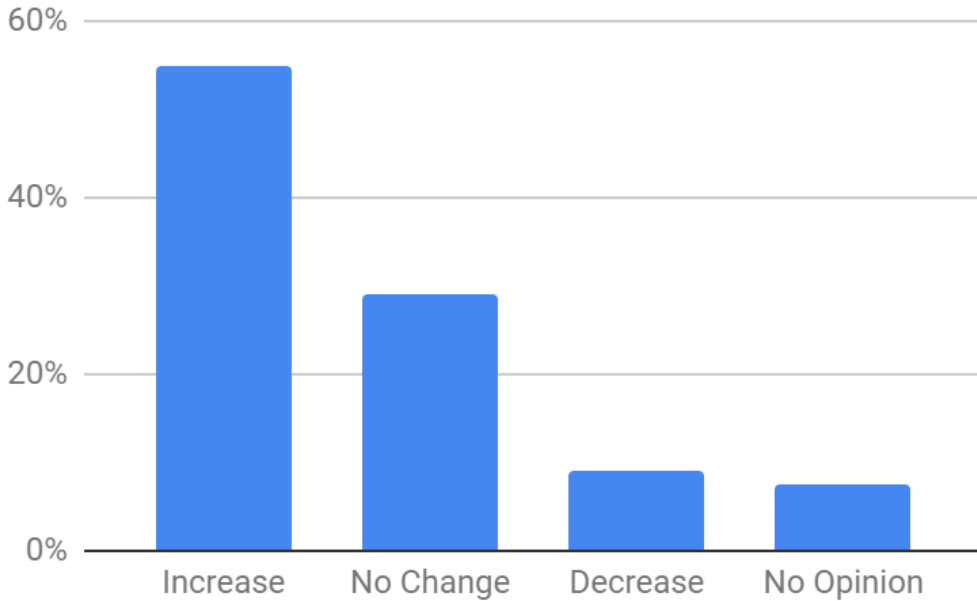


One or Less Vehicles in Household vs More than One Vehicle in Household

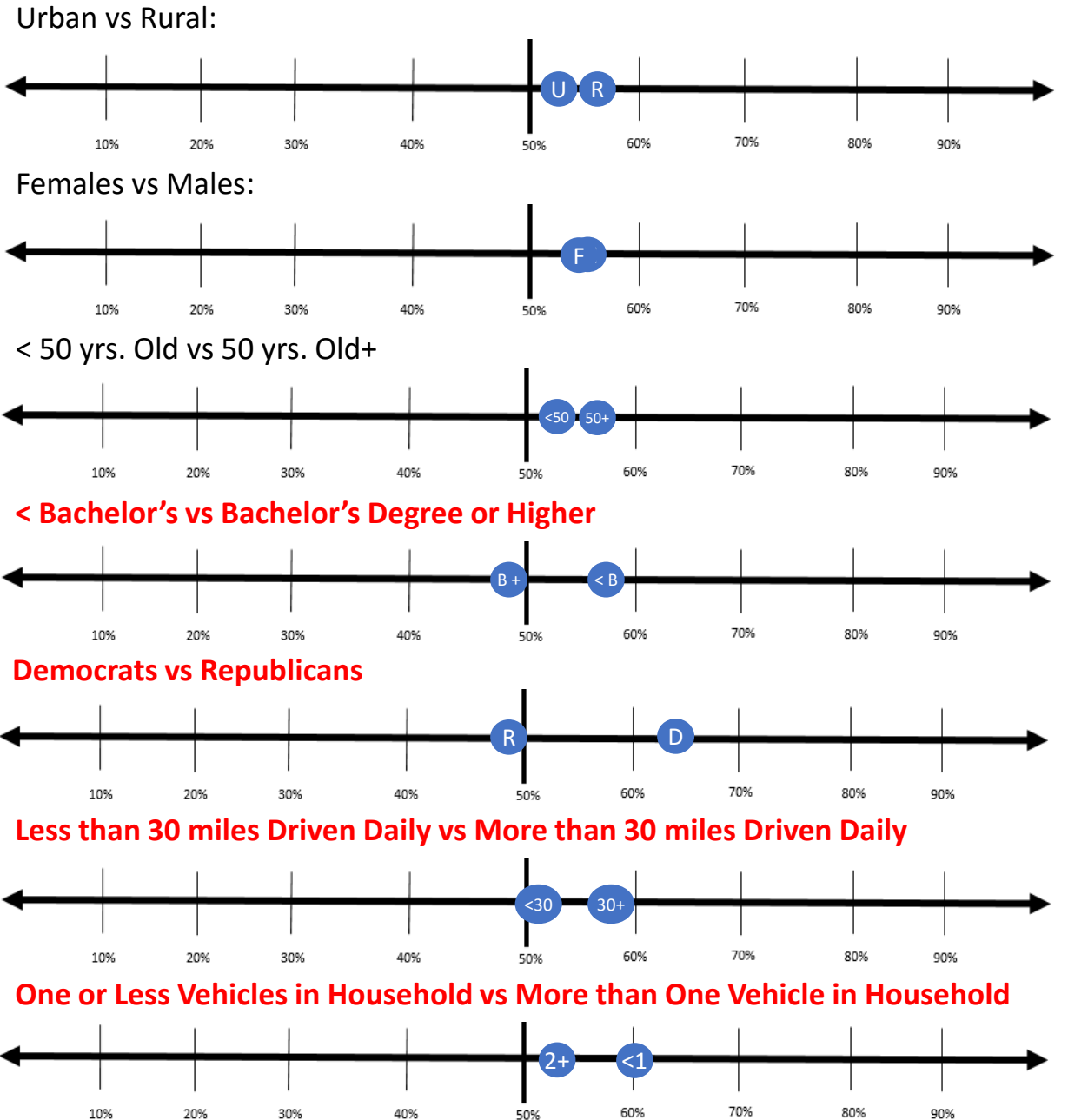


Indicates Statistically Significant Difference (p-value < .05)

# Majority Supports Increasing Transportation Spending

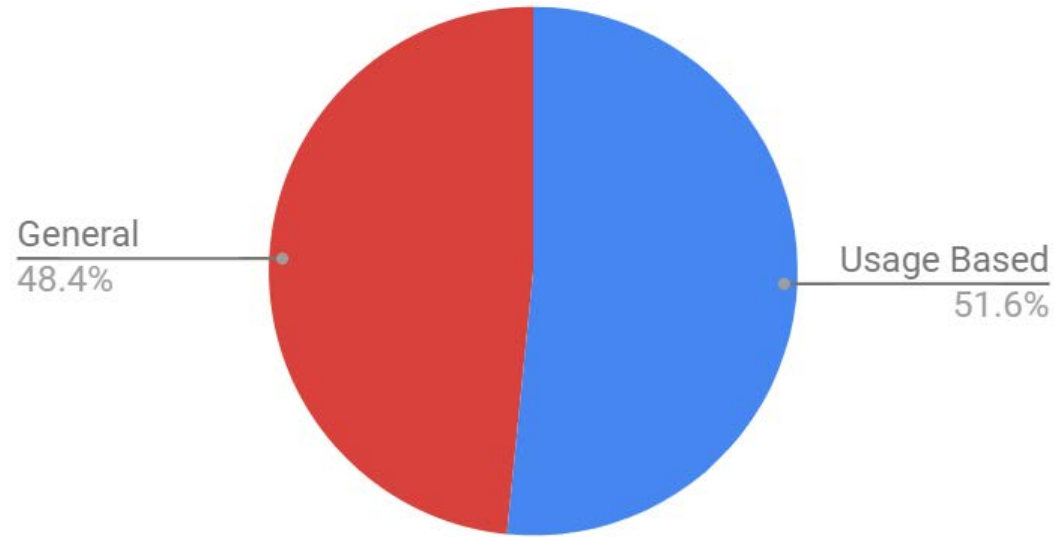


## Support Funding Increase, Difference by Group



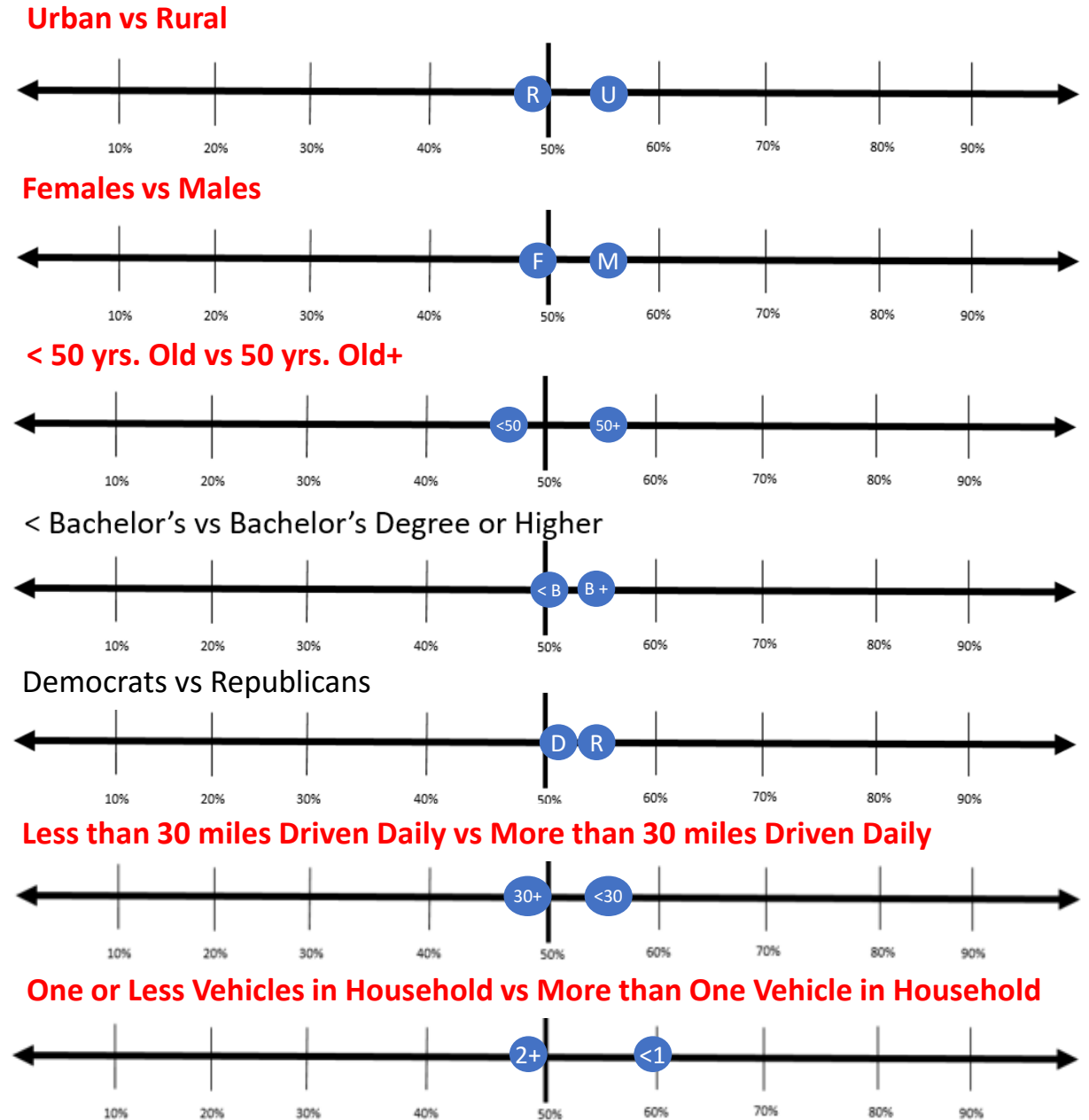
Indicates Statistically Significant Difference (p-value < .05)

# Where Should Road Funding Come From?



**General Taxes:** General sales tax, property tax, vehicle property tax  
**Usage Based Fees:** Fees from gasoline, tolls, or miles driven

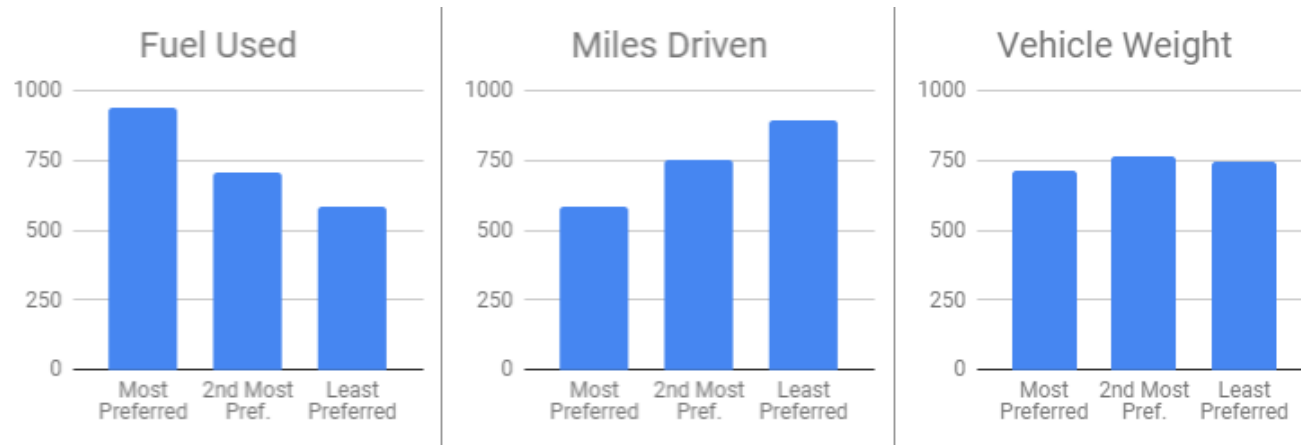
## Preferred Usage-Based, Difference by Group



Indicates Statistically Significant Difference (p-value < .05)

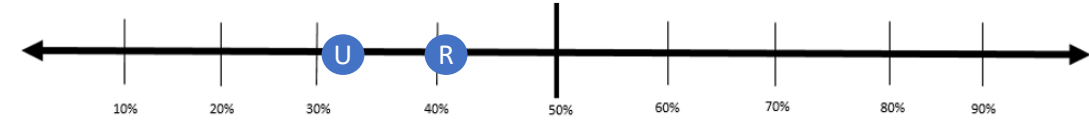


# Preference Ranking for How Transportation Should be Funded: By Amount of Fuel Used, Miles Driven or Vehicle Weight

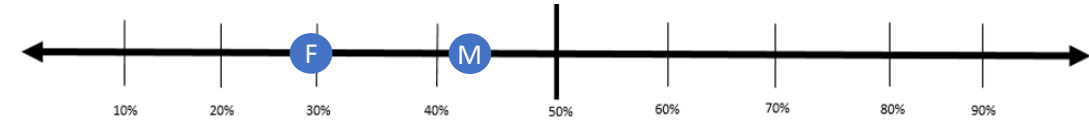


## Selected Most for Fuel Used, Difference by Group

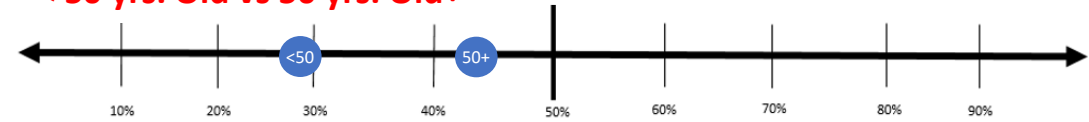
### Urban vs Rural



### Females vs Males



### < 50 yrs. Old vs 50 yrs. Old+



### < Bachelor's vs Bachelor's Degree or Higher



### Democrats vs Republicans



### Less than 30 miles Driven Daily vs More than 30 miles Driven Daily

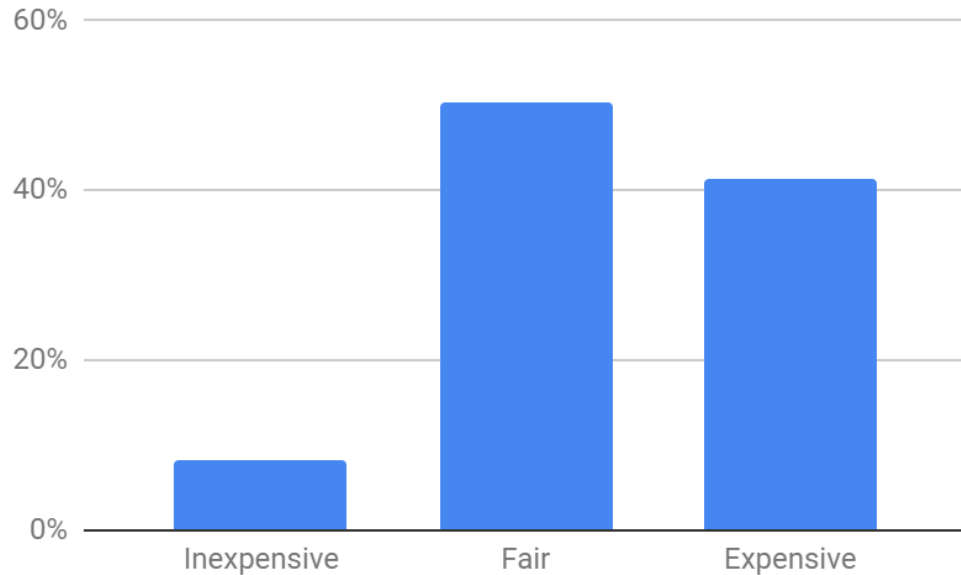


### One or Less Vehicles in Household vs More than One Vehicle in Household



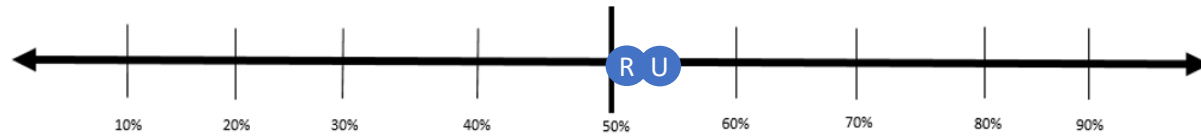
Indicates Statistically Significant Difference (p-value < .05)

# Perceived fairness of paying \$400 in gas tax annually to drive 15,000 miles

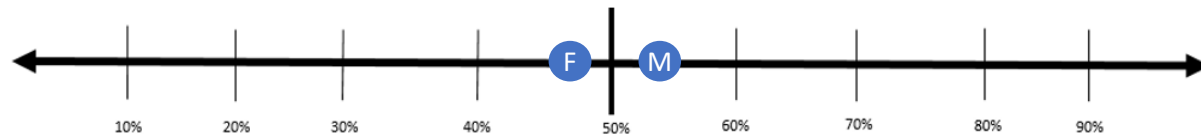


## Considered Fair, Difference by Group

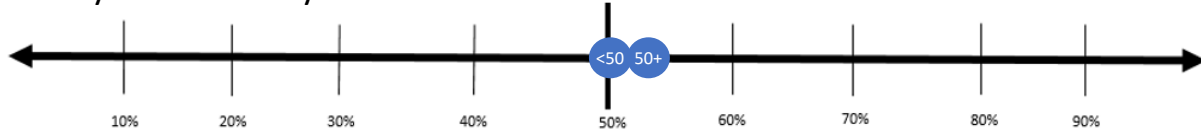
Urban vs Rural:



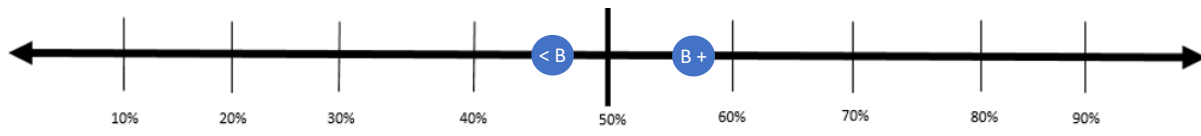
**Females vs Males**



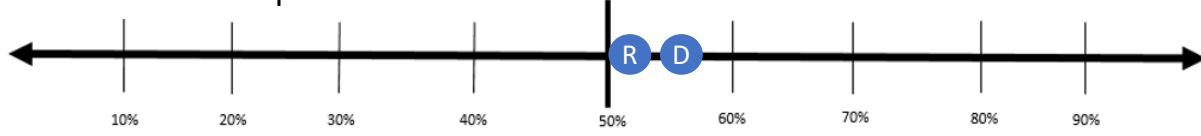
< 50 yrs. Old vs 50 yrs. Old+



**< Bachelor's vs Bachelor's Degree or Higher**



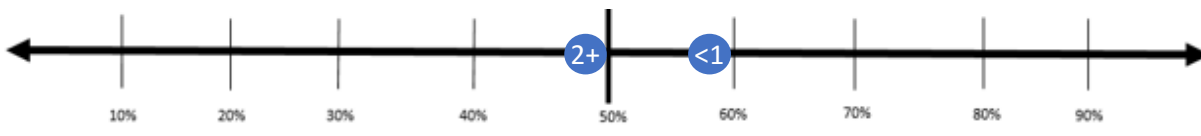
Democrats vs Republicans



Less than 30 miles Driven Daily vs More than 30 miles Driven Daily

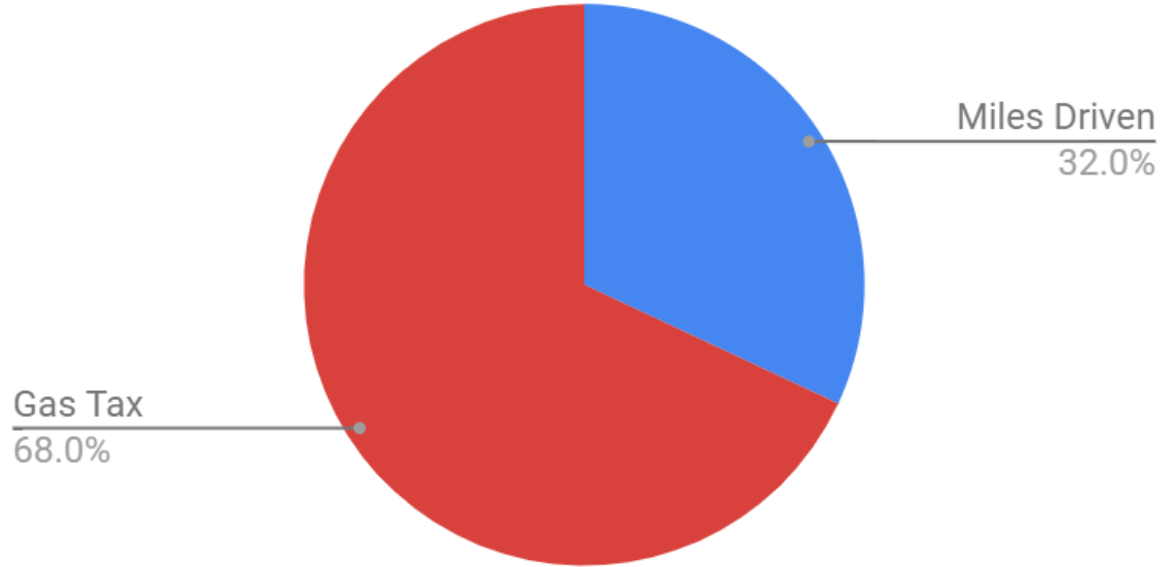


**One or Less Vehicles in Household vs More than One Vehicle in Household**



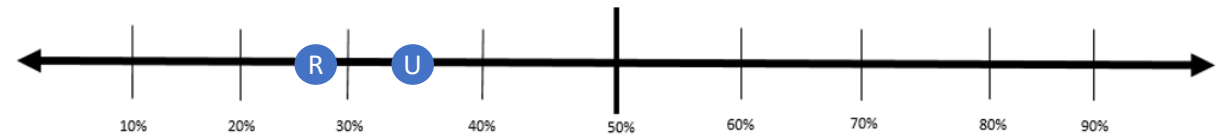
Indicates Statistically Significant Difference (p-value < .05)

# Preference for Transportation Funding: Gas Tax Versus Vehicle Miles Driven

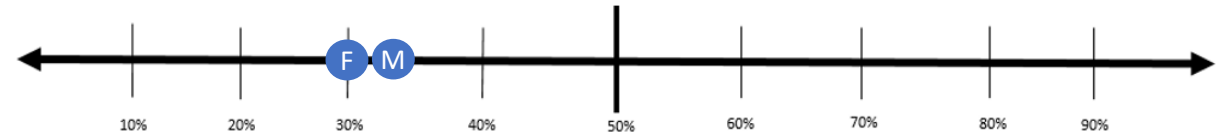


## Preferred Miles Driven, Difference by Group

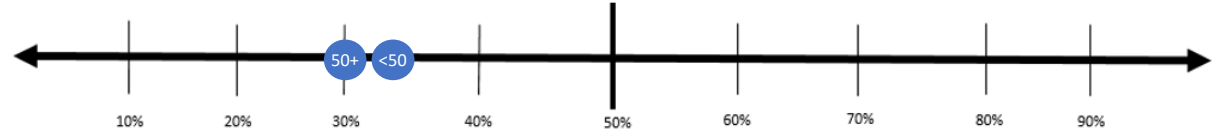
### Urban vs Rural



### Females vs Males:



### < 50 yrs. Old vs 50 yrs. Old+



### < Bachelor's vs Bachelor's Degree or Higher



### Democrats vs Republicans



### Less than 30 miles Driven Daily vs More than 30 miles Driven Daily



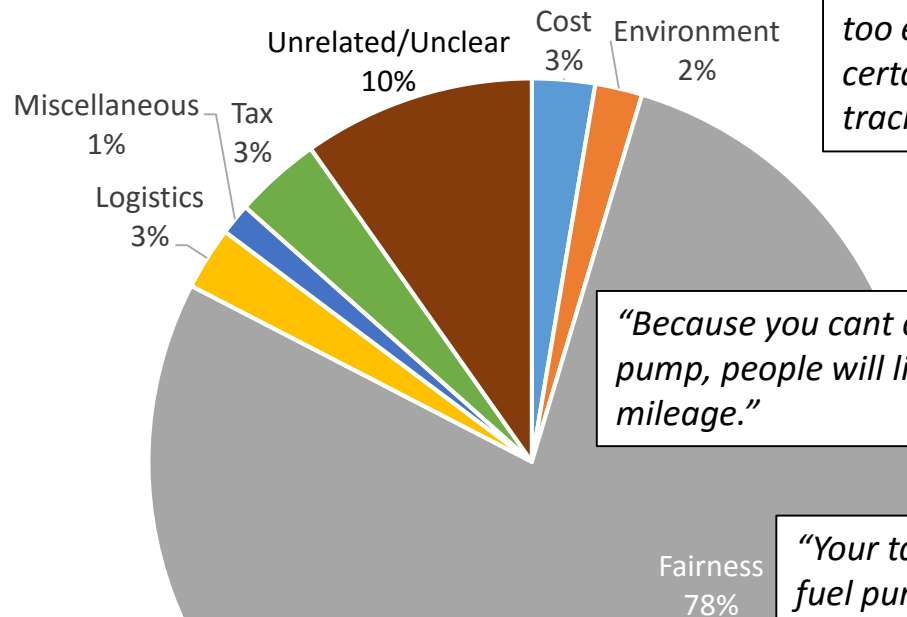
### One or Less Vehicles in Household vs More than One Vehicle in Household



Indicates Statistically Significant Difference (p-value < .05)

# Reasons for Selecting Gas Tax or Miles Driven Fee

## Reasons for Selecting Miles Driven Fee



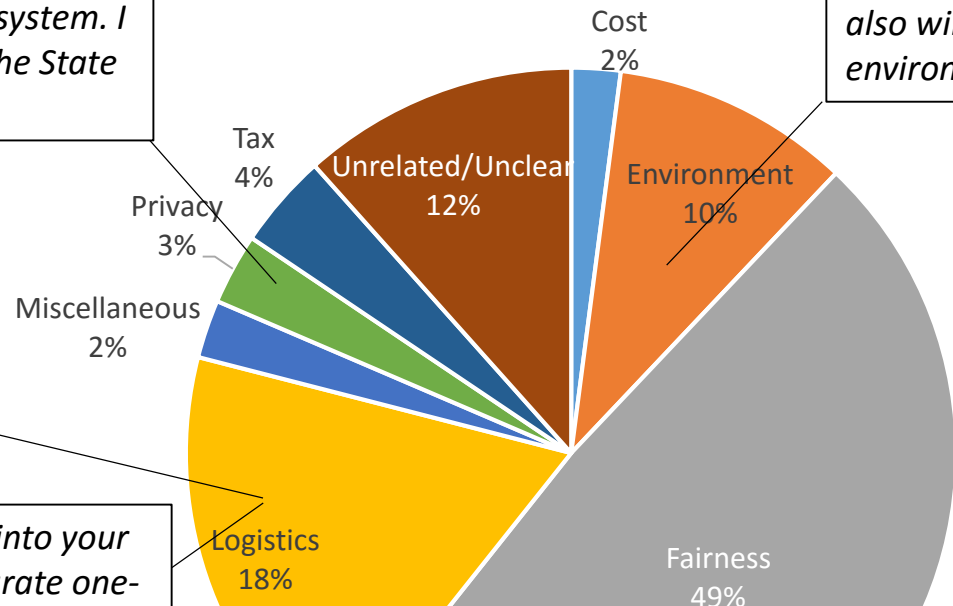
*"A tax on miles driven is too invasive on privacy. If you don't GPS track, it would be too easy to cheat the system. I certainly don't want the State tracking me.."*

*"Because you cant cheat the gas pump, people will lie about their mileage."*

*"Your tax would be built into your fuel purchase, not a separate one-time bill you pay."*

*"That way everyone would contribute, even the electric car drivers."*

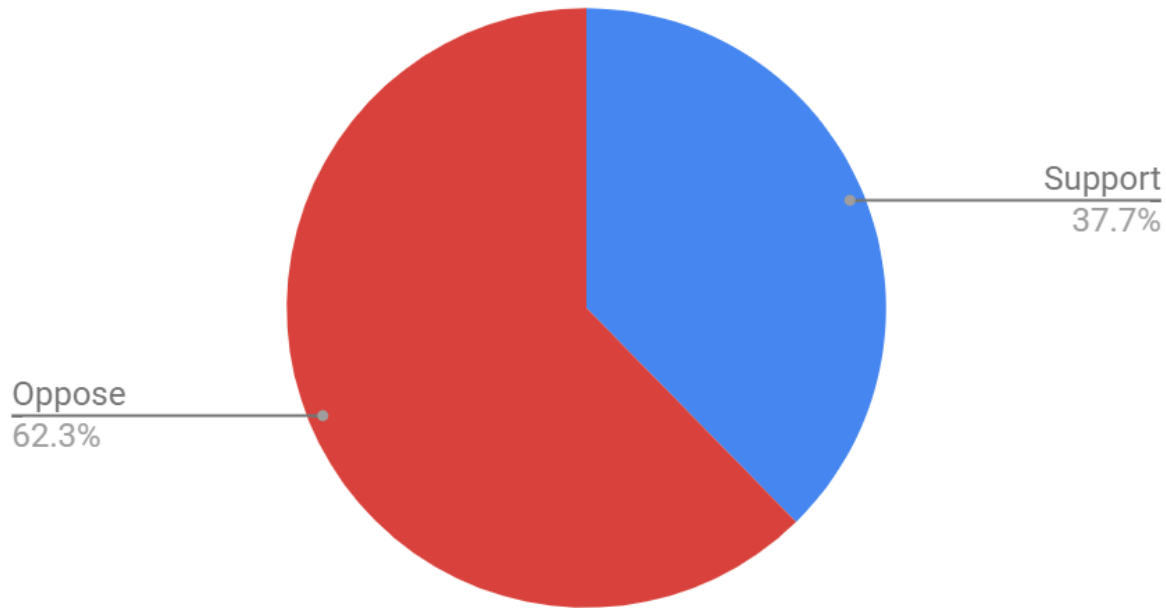
## Reasons for Selecting Gas Tax



*"Taxing fuel usage should encourage fuel conservation which also will reduce environmental impact."*

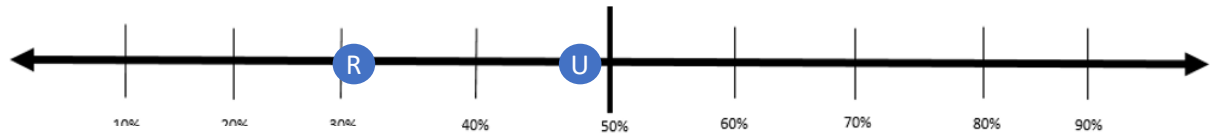
*"Gasoline purchase is the result of size and efficiency of car, and amount miles driven by that car."*

# Do you Support Hybrid Vehicle Drivers Paying Less in Tax Due to Higher Fuel Efficiency?

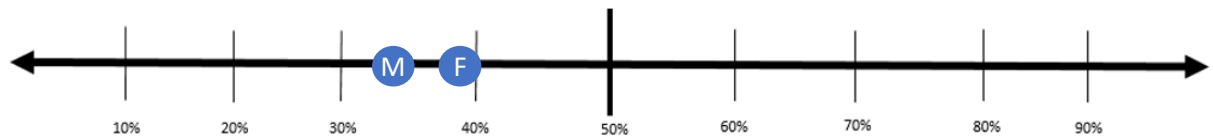


## Supported Statement, Difference by Group

### Urban vs Rural



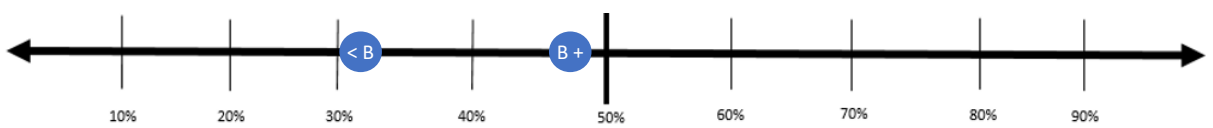
### Females vs Males



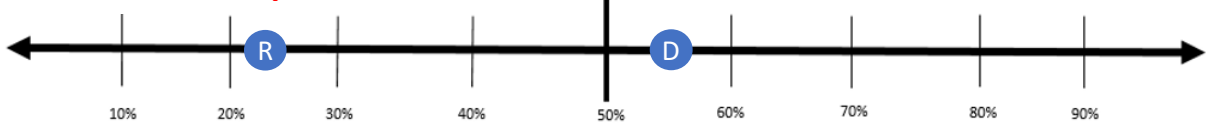
### < 50 yrs. Old vs 50 yrs. Old+



### < Bachelor's vs Bachelor's Degree or Higher



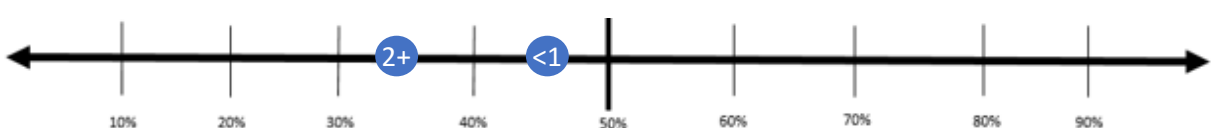
### Democrats vs Republicans



### Less than 30 miles Driven Daily vs More than 30 miles Driven Daily

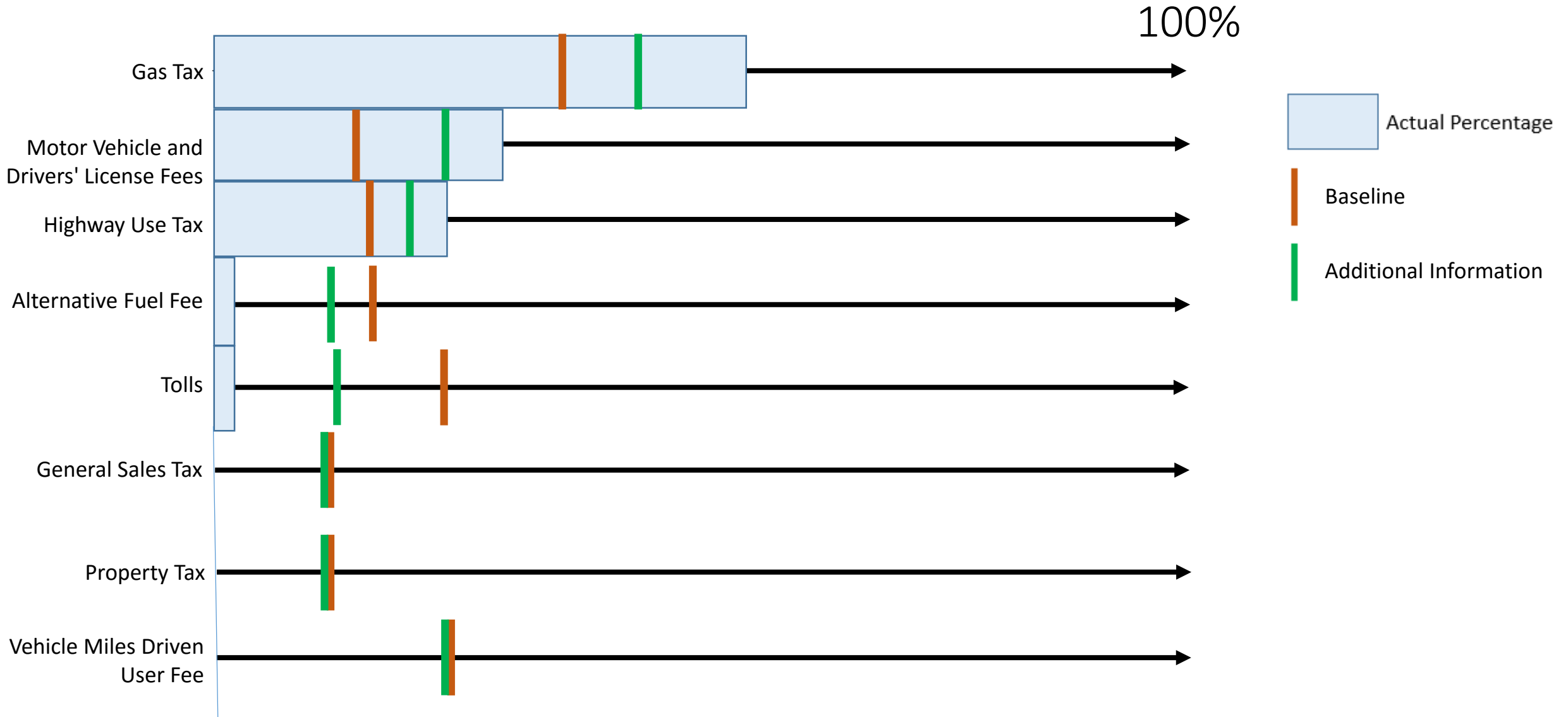


### One or Less Vehicles in Household vs More than One Vehicle in Household



Indicates Statistically Significant Difference (p-value < .05)

# How much should each of these potential revenue sources contribute to NC roads?



# Summary

## **North Carolinians, in general (Majority):**

- Support increasing transportation funding
- Have a preference for the gas tax, but support diversity of funding sources
- Do not know the current gas tax rate or believe that it is lower than it actually is
- Are split as to whether road funding should come from general taxes or usage based fees
- Believe that \$400 a year in gas tax is a fair amount of money to travel 15,000 miles
- Hold similar beliefs on these opinions despite being from urban or rural counties