



## **Will Privacy & Security Concerns Stall the Adoption of Autonomous Automobiles?**

---

Dr. Larry Ponemon

November 27, 2017

## Purpose of the study

**We want to learn what adult-aged consumers think about the autonomous automobile. Specifically . . .**

- Do consumers have concerns about their security and privacy?
- Do consumers feel enough trust to buy an autonomous vehicle?
- Do consumers feel enough trust to ride in an autonomous vehicle?
- Do consumers believe that OEMs will take appropriate steps to secure the autonomous vehicle?
- Do consumers recognize the safety and convenience implications?
- Are consumers worried about hackers seizing control of the autonomous automobile?
- Do consumers think autonomous automobiles will make their life better or worse?

**Adult-aged consumers located in the United States were surveyed in November 2017.**

Consumer survey response	Freq	Pct%
Total sampling frame	28,700	100.0%
Total returns	1,081	3.8%
Rejected surveys	68	0.2%
Final sample	1,013	3.5%

# Privacy persona and the autonomous automobile

---

## Three Personas\*

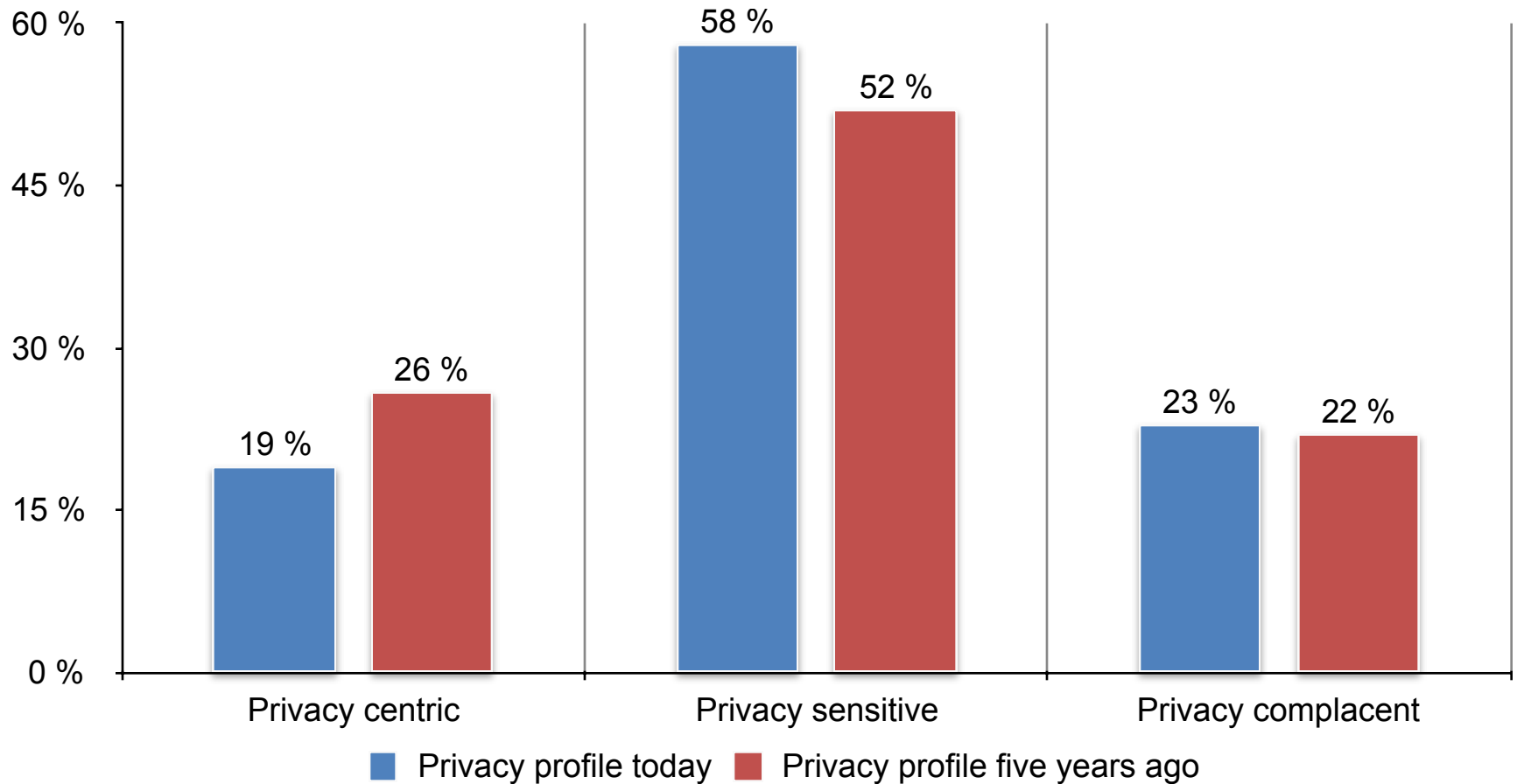
**Privacy centric** - Events that minimize your sense of privacy or diminish the safety of your sensitive personal information will have a significant impact on your behavior.

**Privacy sensitive** - While you say that privacy is important to you, it does not affect your behaviors or information sharing practices.

**Privacy complacent** - You really don't care very much about the sharing or selling of your sensitive personal information.

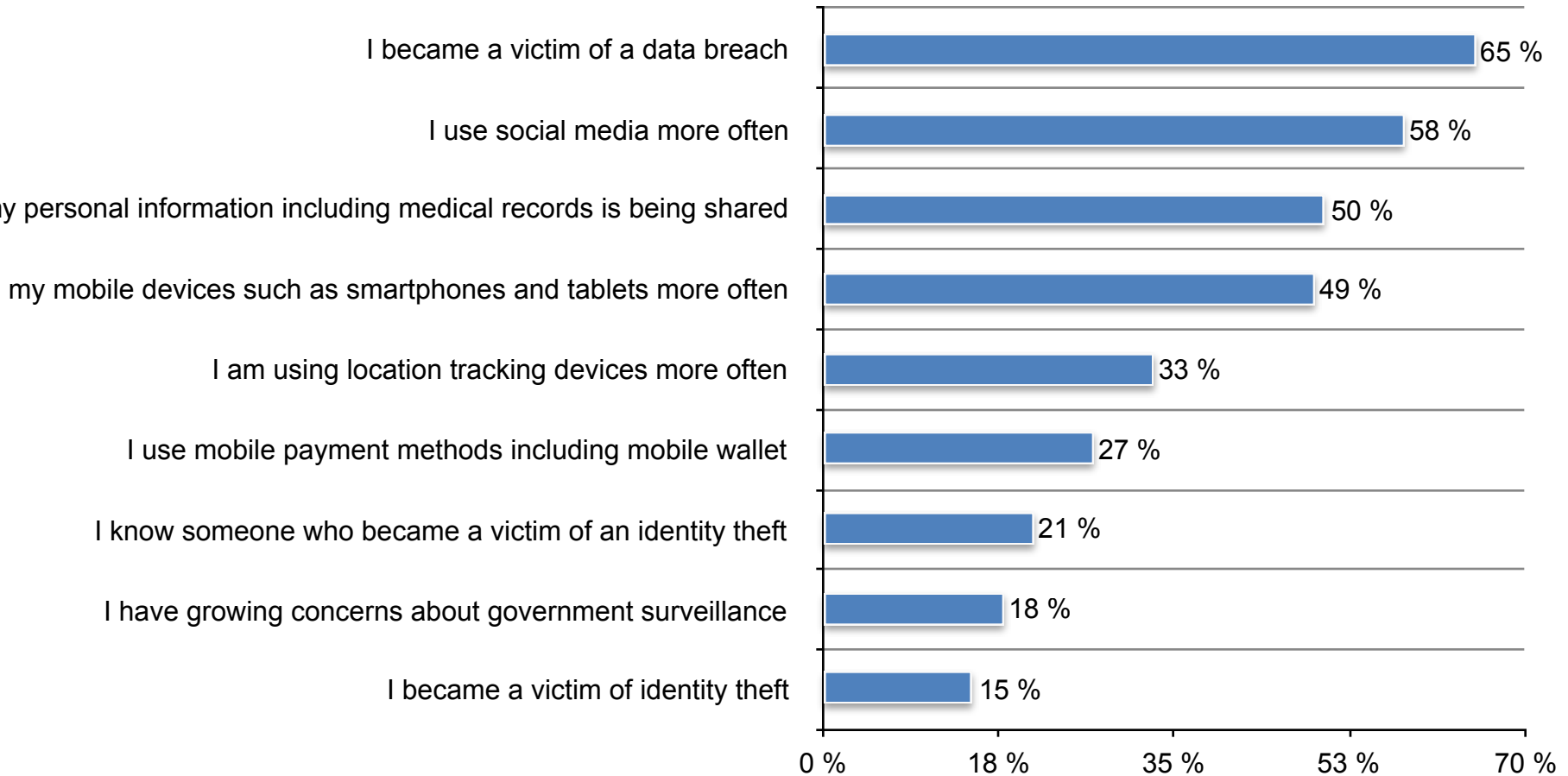
\*These personas or privacy profiles were developed by Ponemon Institute more than a decade ago based on privacy trust research.

# Privacy profile today and five years ago



# If you became more concerned about the privacy and security of your personal data over the past five years, why?

More than one response allowed



# The survey addressed three areas of possible concern among consumers



## **Privacy in an autonomous automobile**

For instance, the ability to prevent the car manufacturer, government or other companies from listening in or recording your private conversations while riding in the car.

## **Security in an autonomous automobile**

For instance, the ability to prevent hackers from remotely seizing control of your car.

## **Safety in an autonomous automobile**

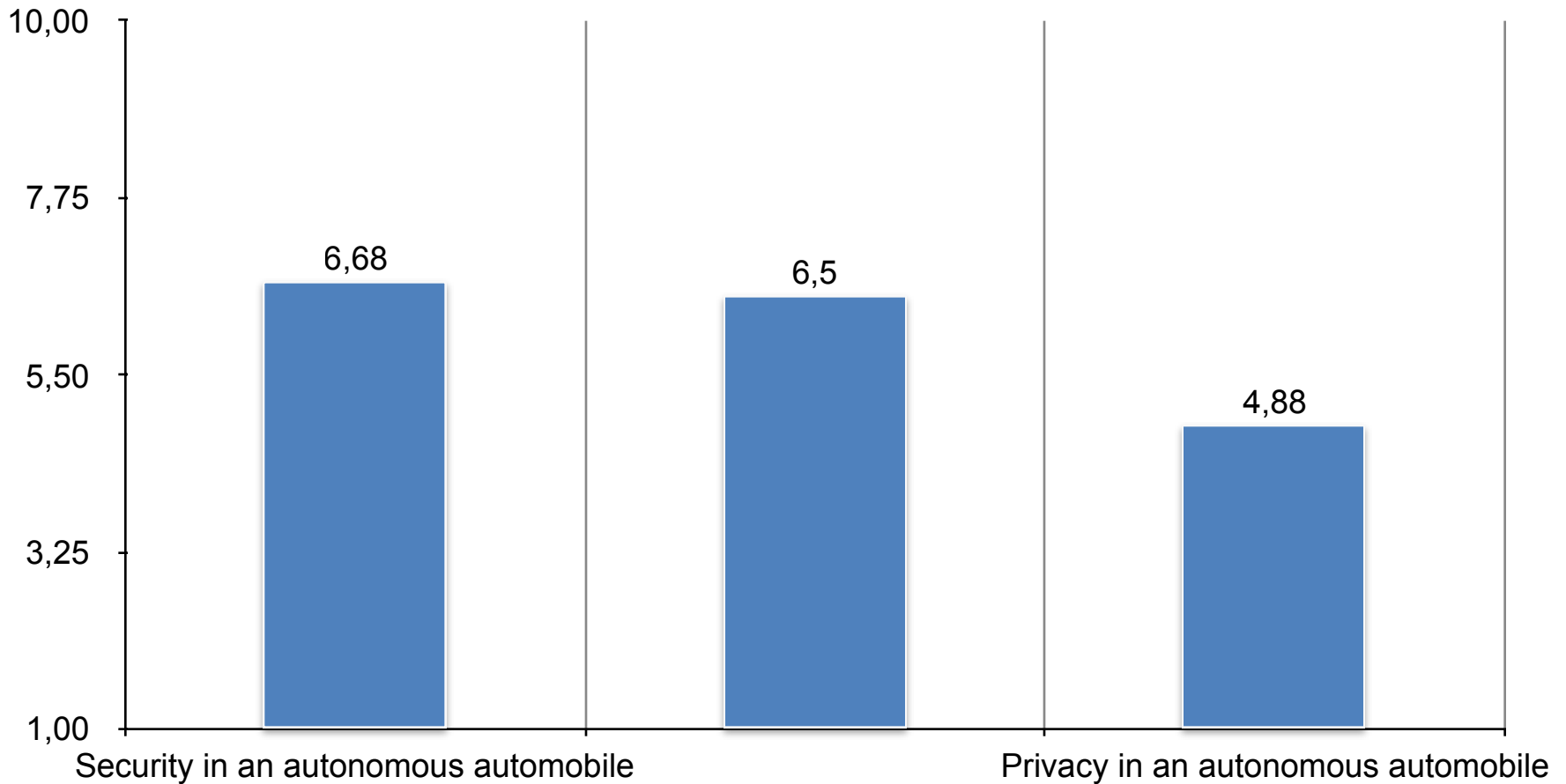
For instance, the ability to brake before a crash.



# Concern about security, safety and privacy in an autonomous automobile

1 = not concerned to 10 = very concerned

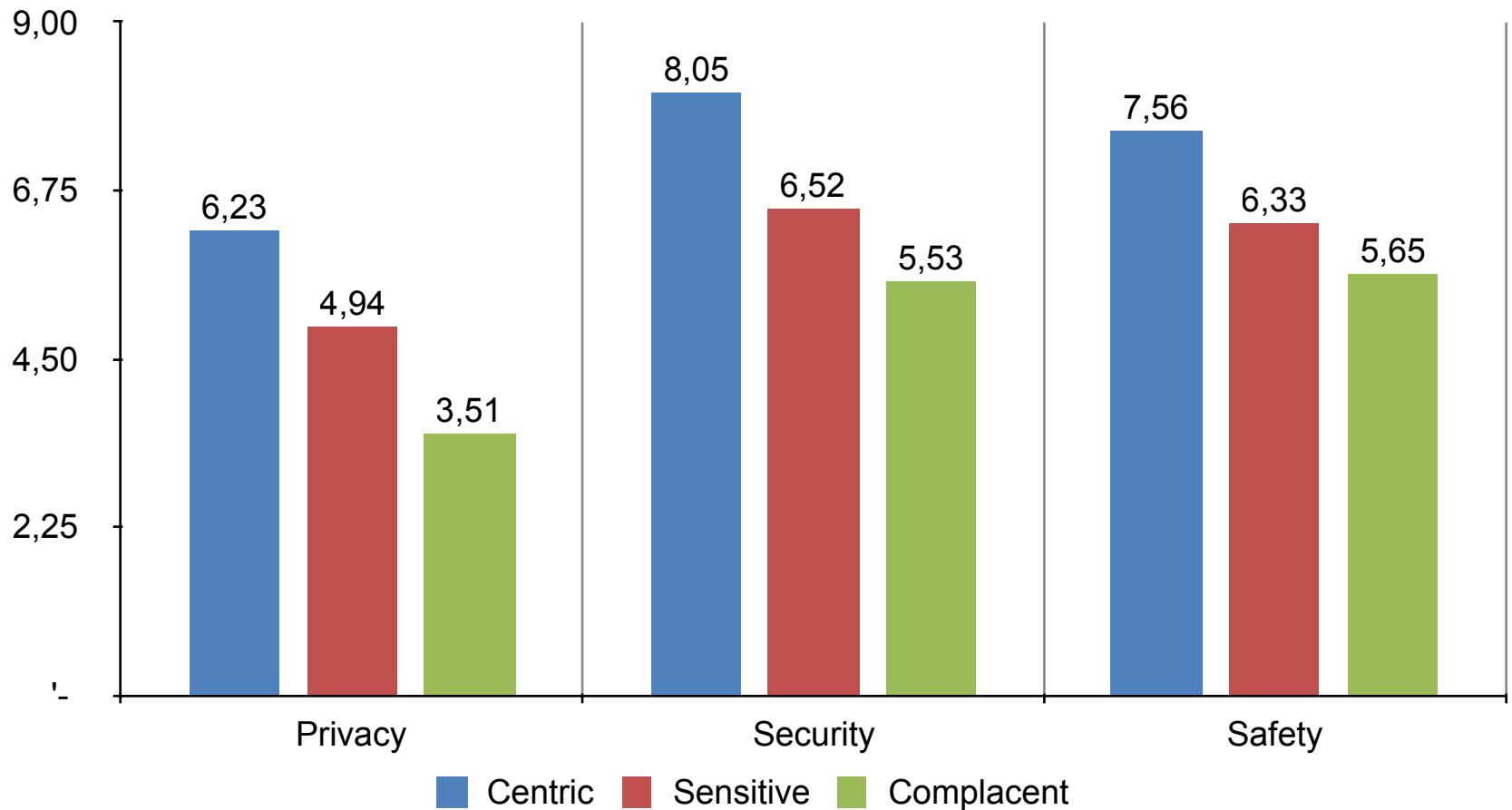
Extrapolated average values reported



# Concern about security, safety and privacy by persona

1 = not concerned to 10 = very concerned

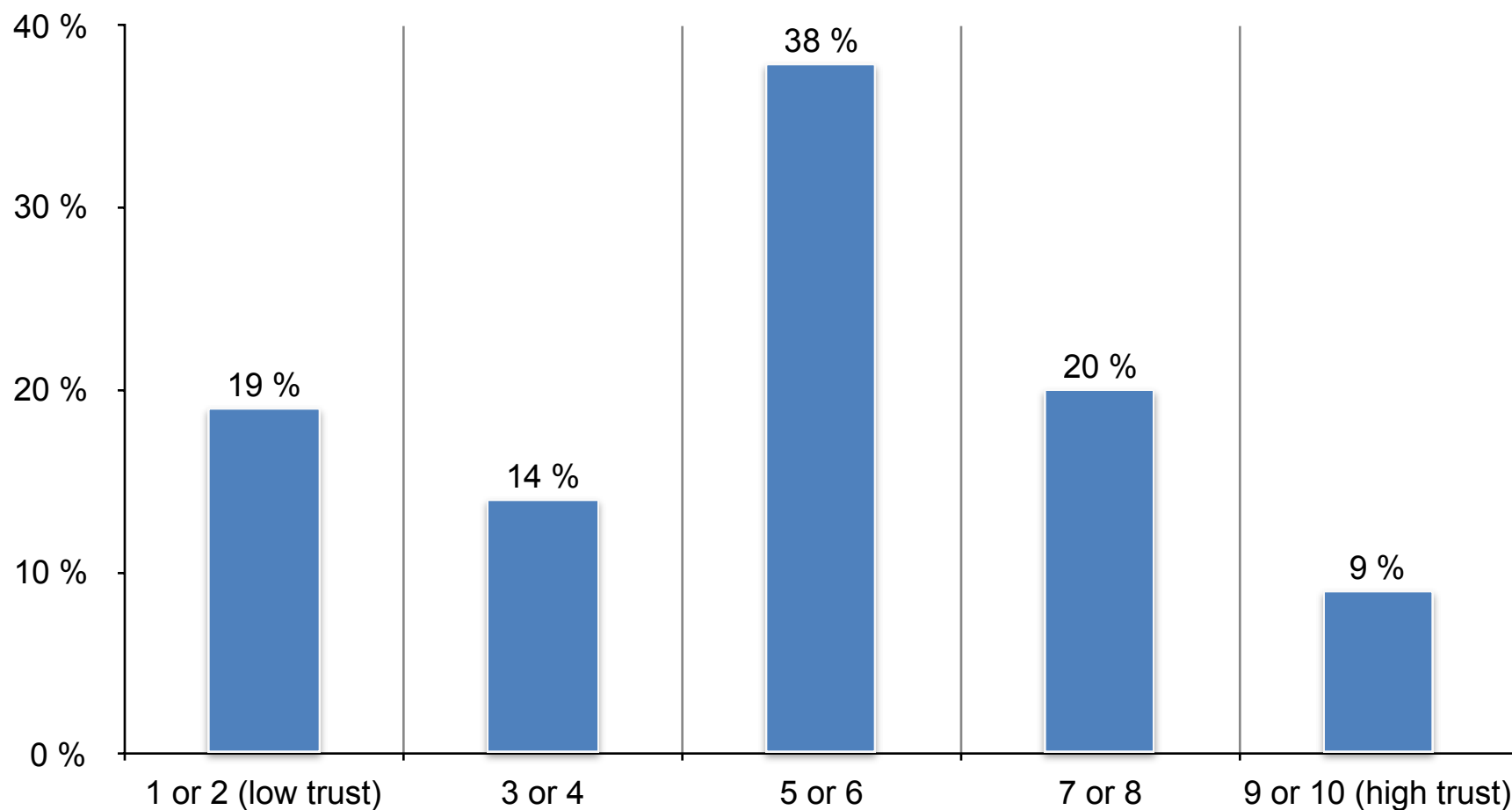
Extrapolated values reported



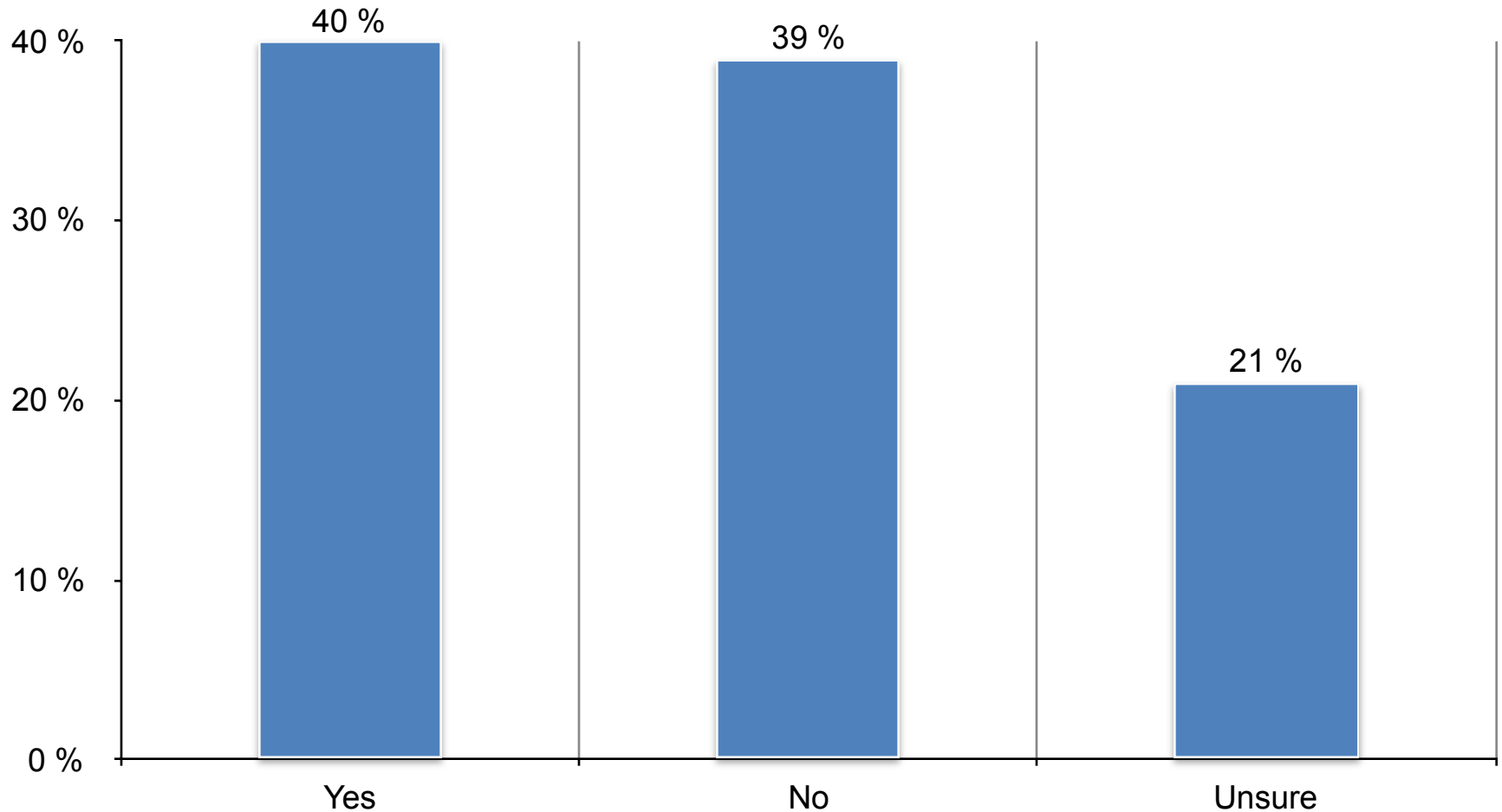
# Level of trust in the idea of turning control of driving to an autonomous automobile

1 = low trust to 10 = high trust

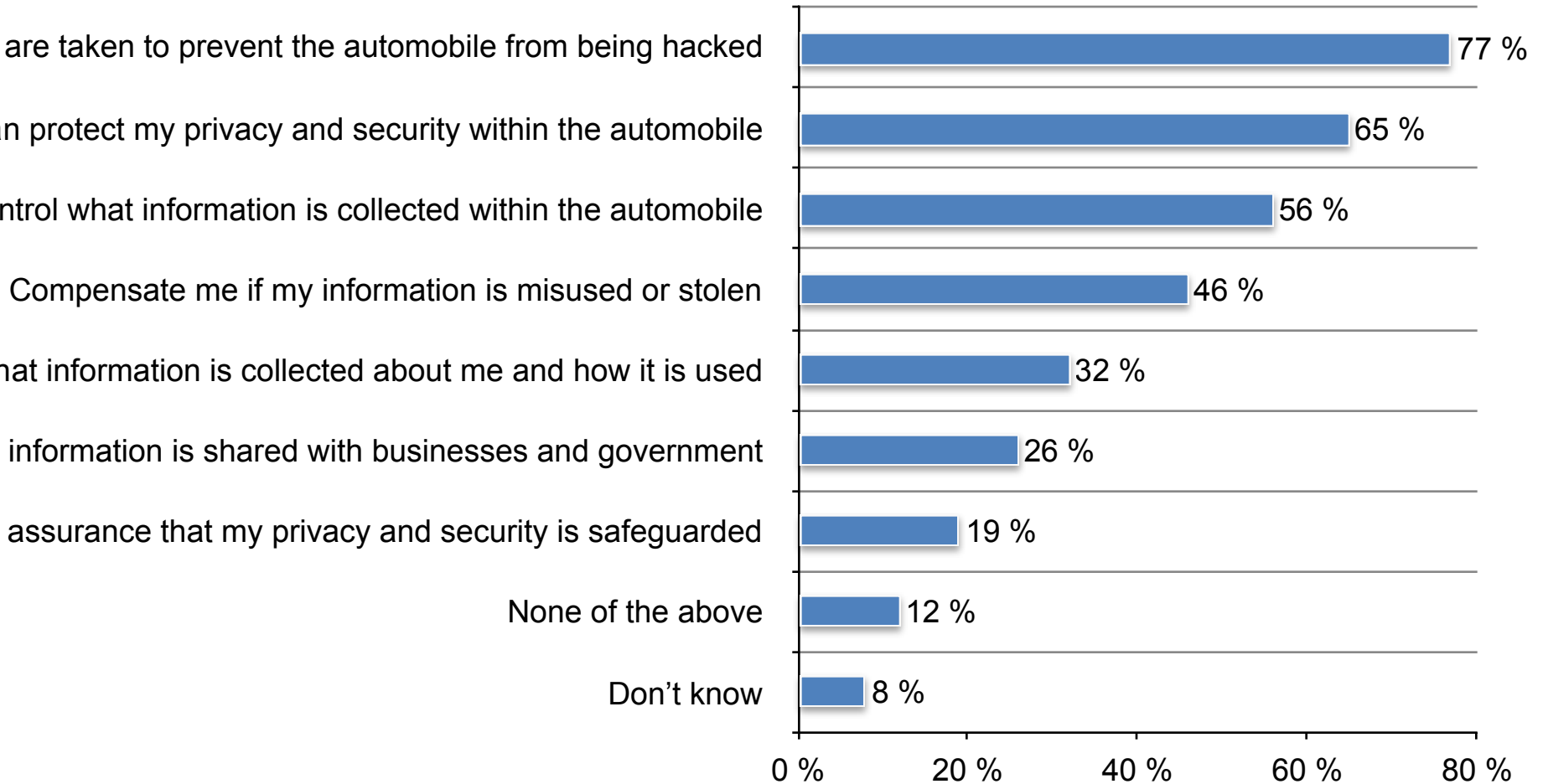
Extrapolated average value = 5.22



# Do you believe the benefits of an autonomous automobile will outweigh your concerns about privacy or security?



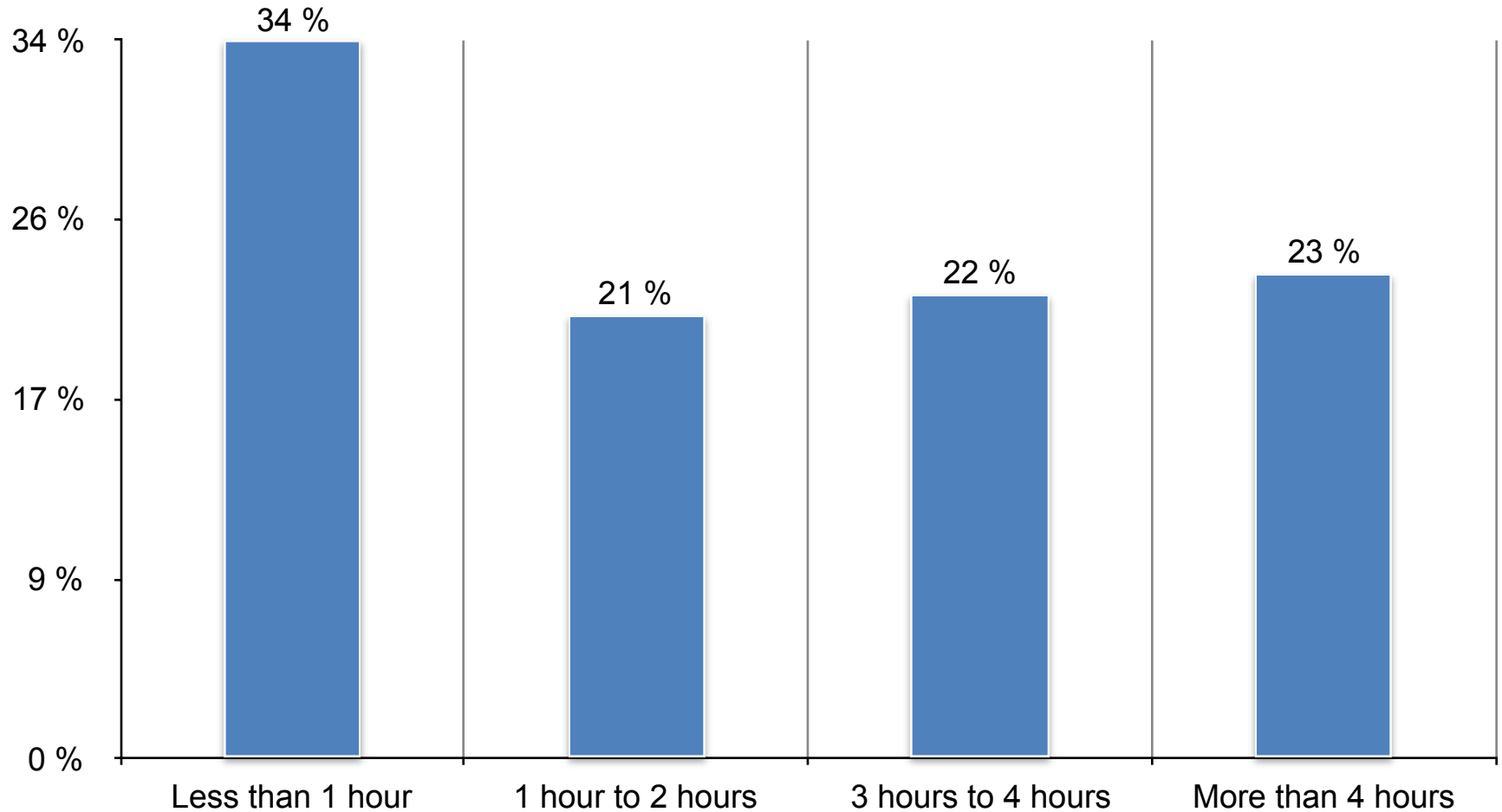
# I believe manufacturers of autonomous automobiles should provide the following:



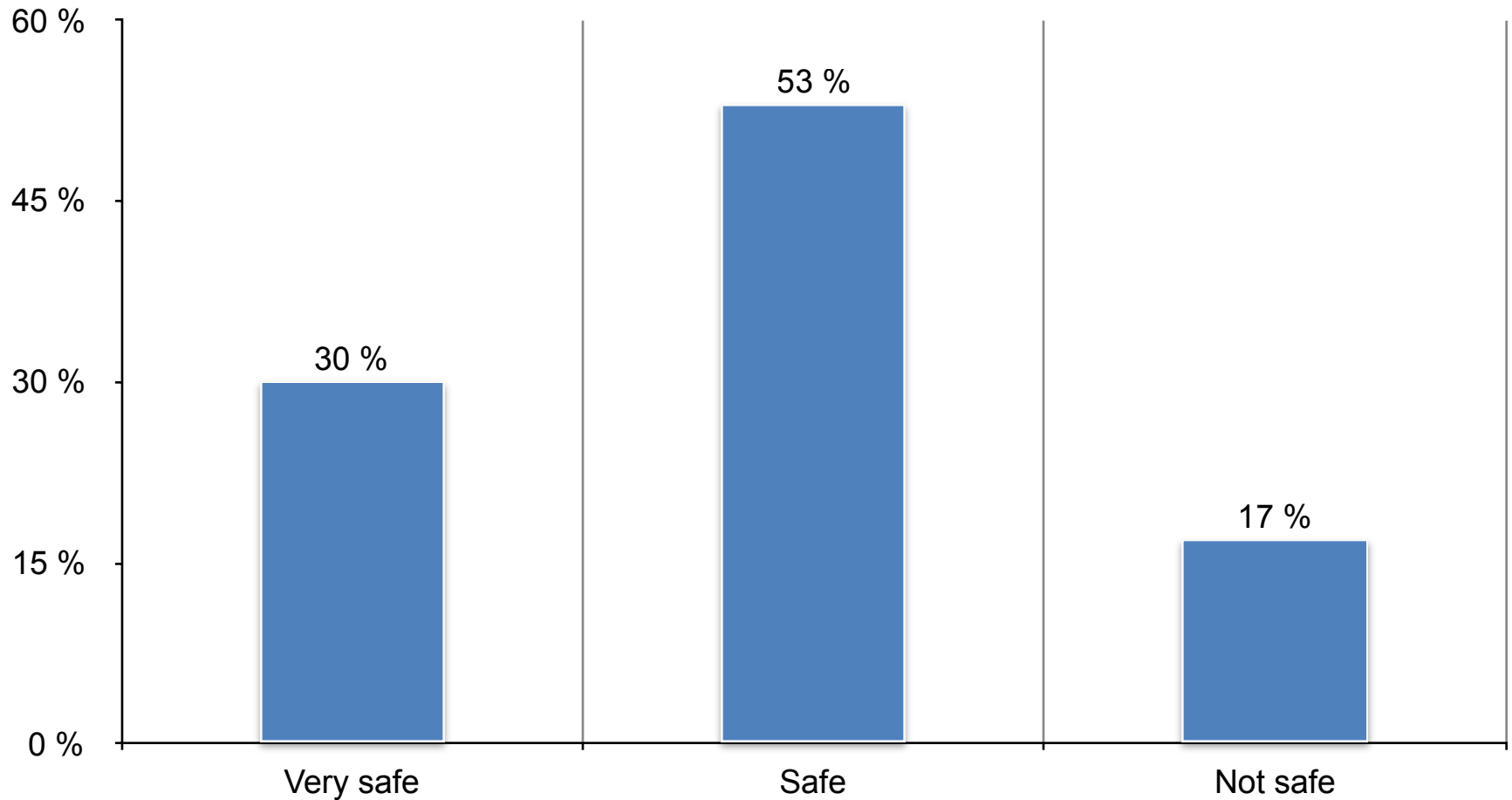
# Safety & security in today's cars

---

# How much time do you spend driving each day?

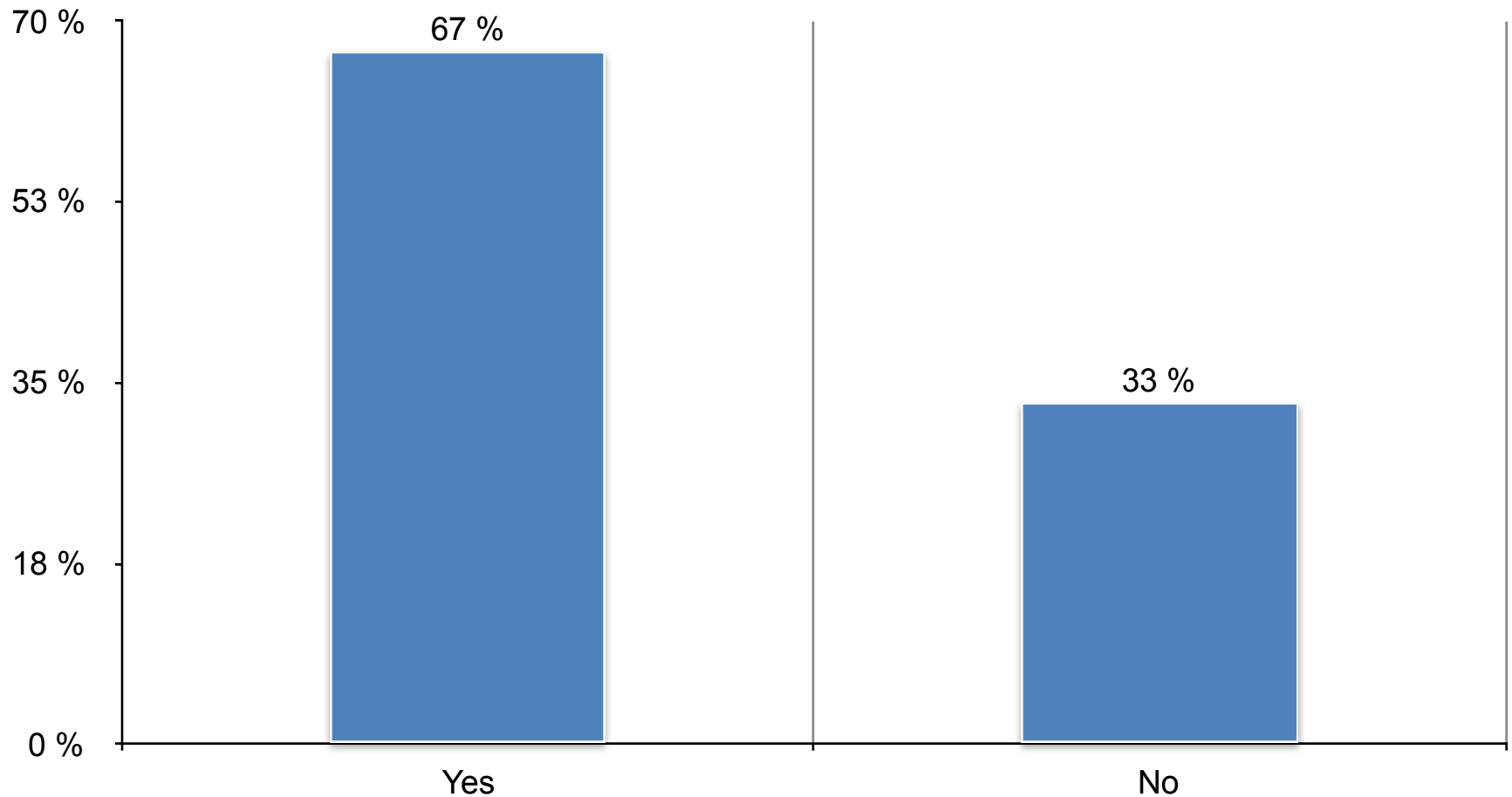


# How safe do you feel when you are driving in your car?

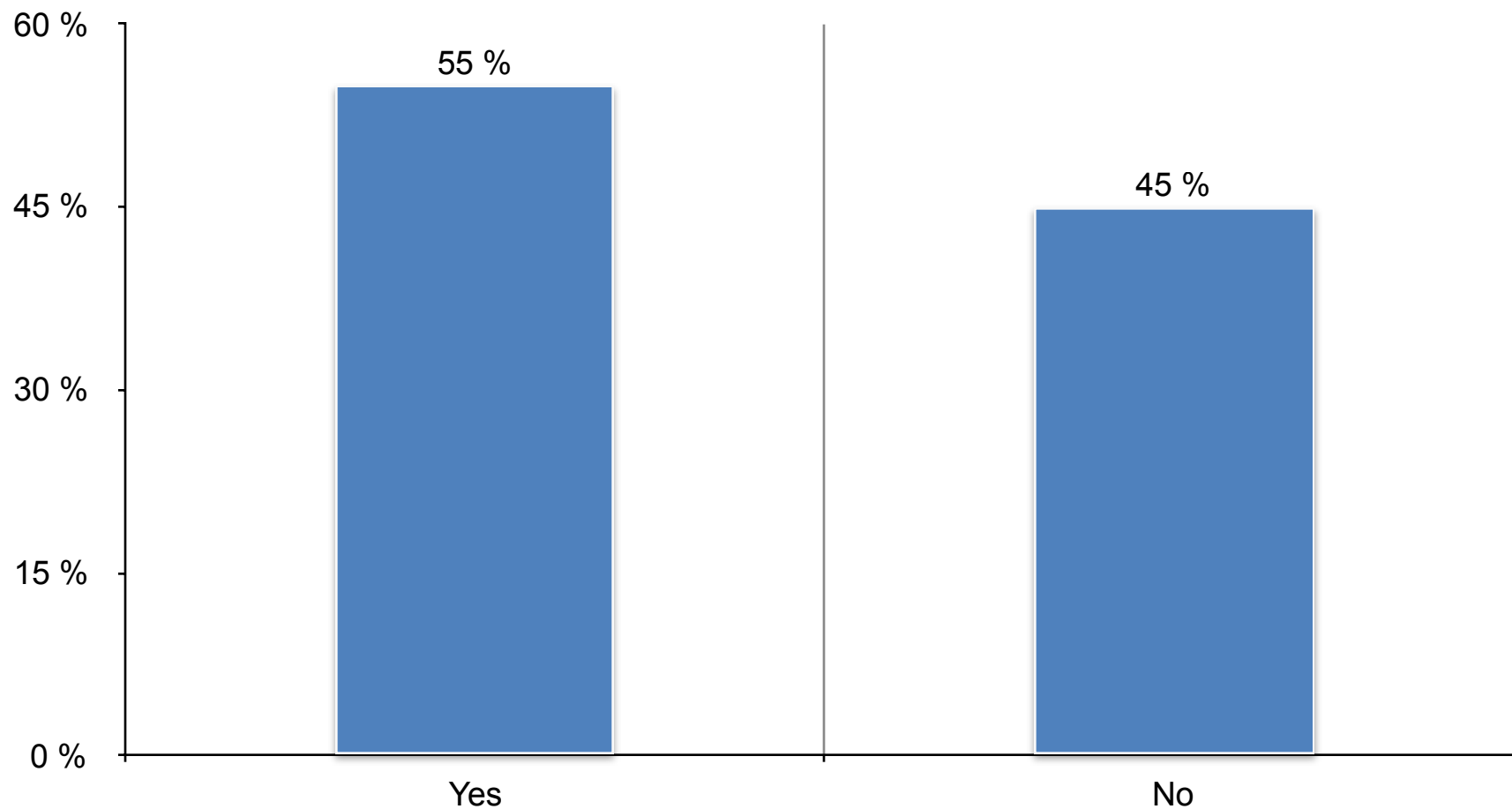




# Have innovations in safety features, such as air bags, roll cages and rear cameras, made you feel safer in your car?

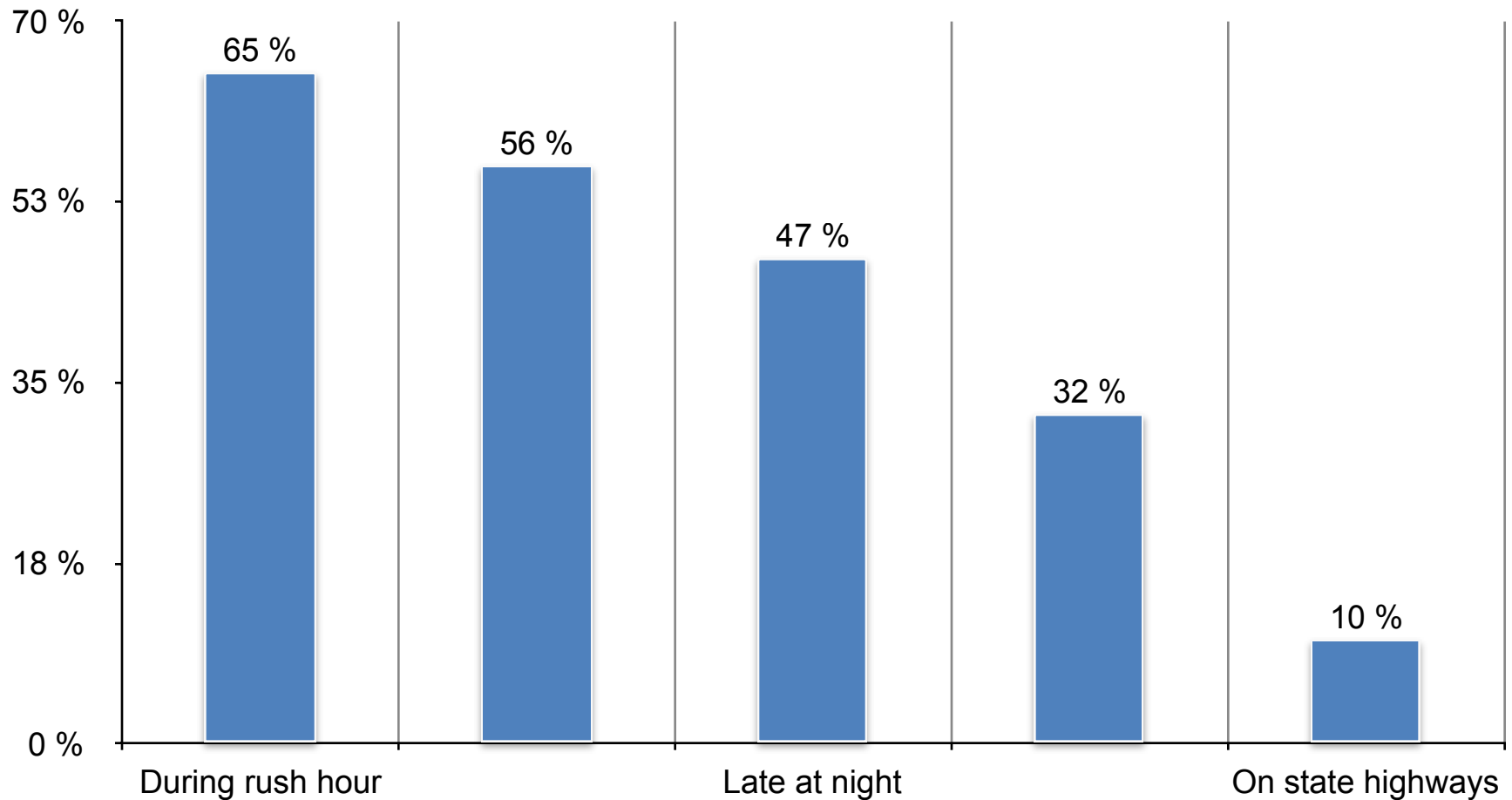


# Do you feel less safe in your car when driving in certain locations and times?

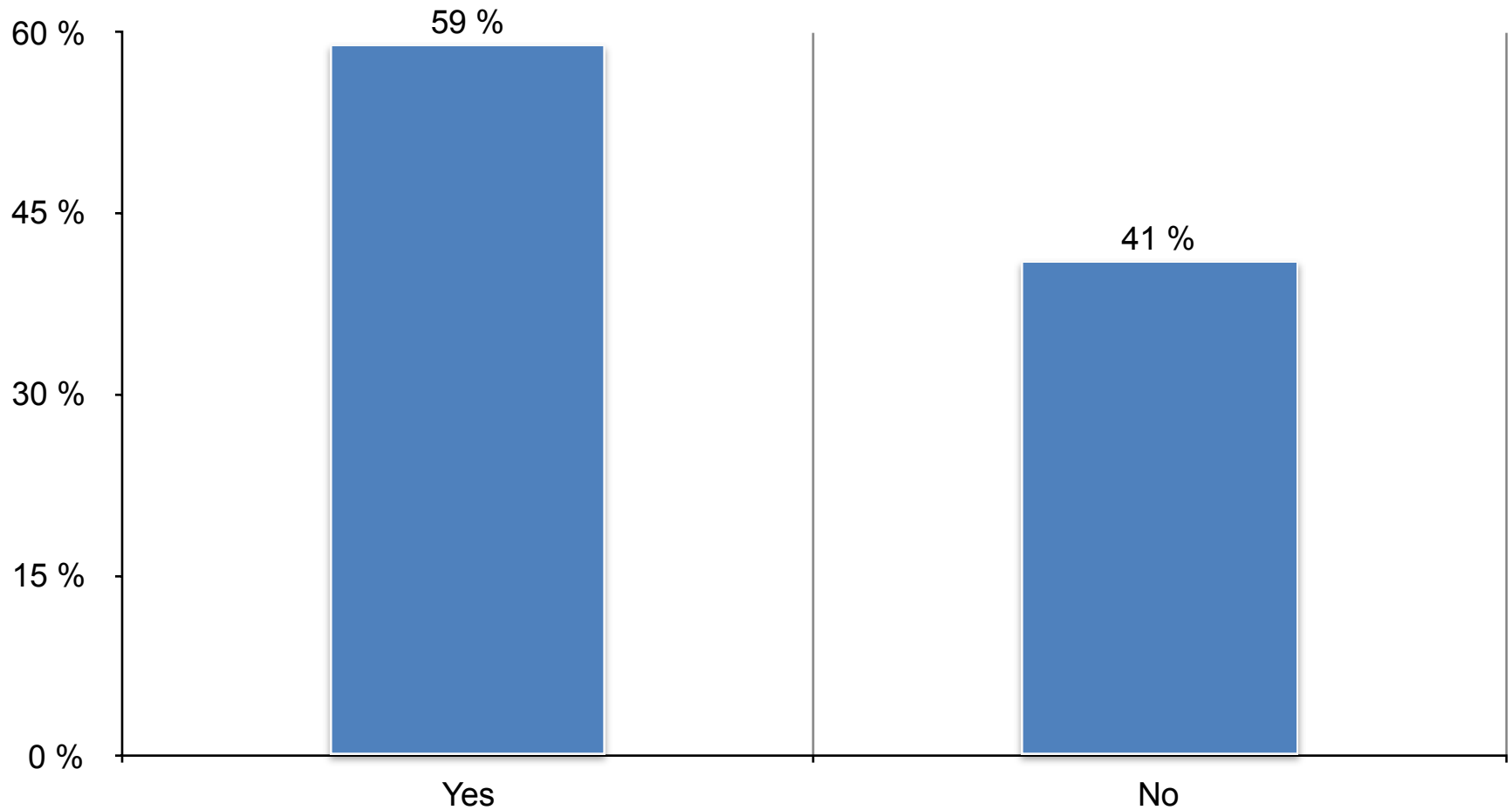


# If yes, where and when do you feel less safe?

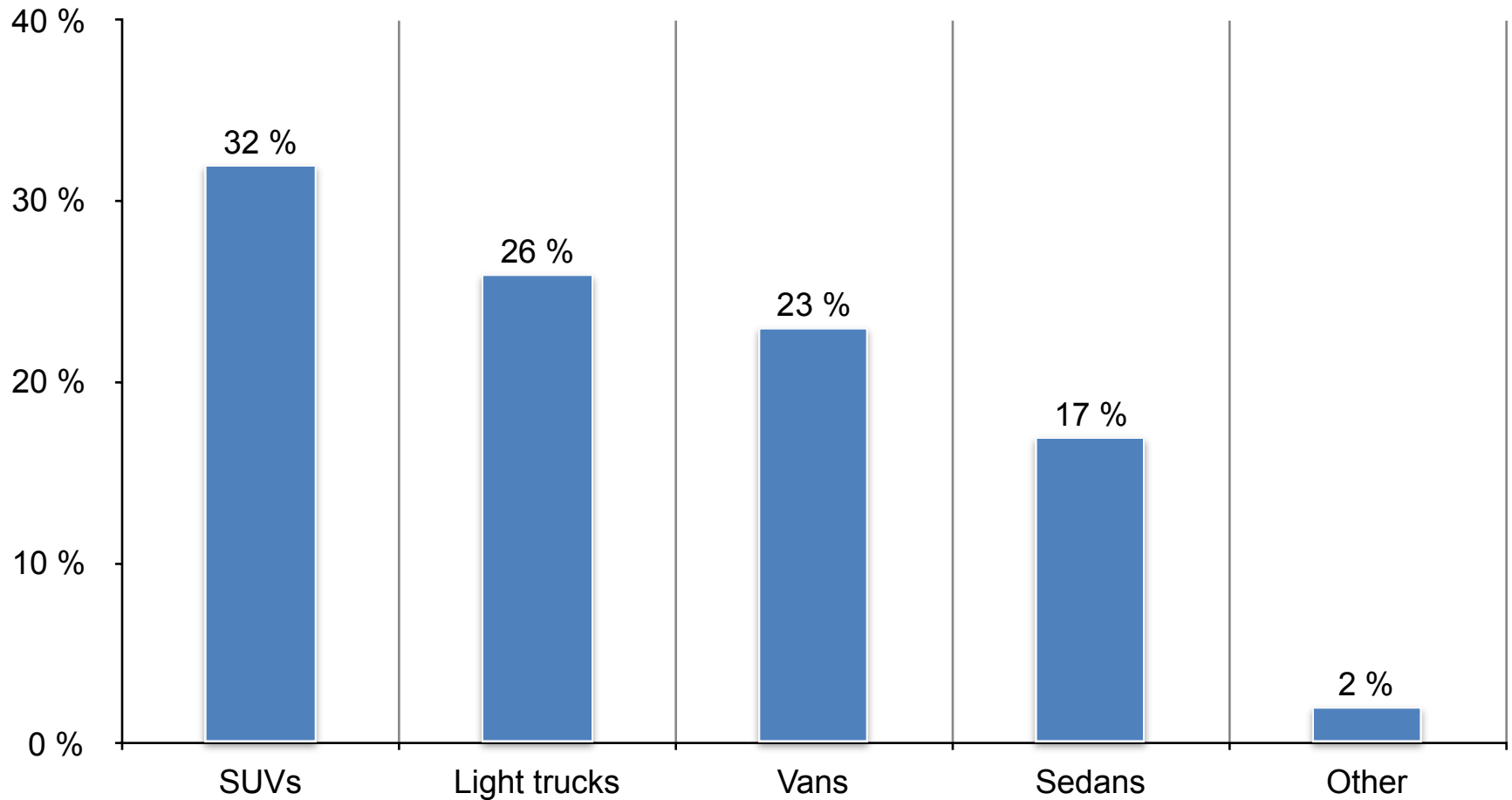
More than one response allowed



# Does the type of vehicle you drive make you feel safer on the road?



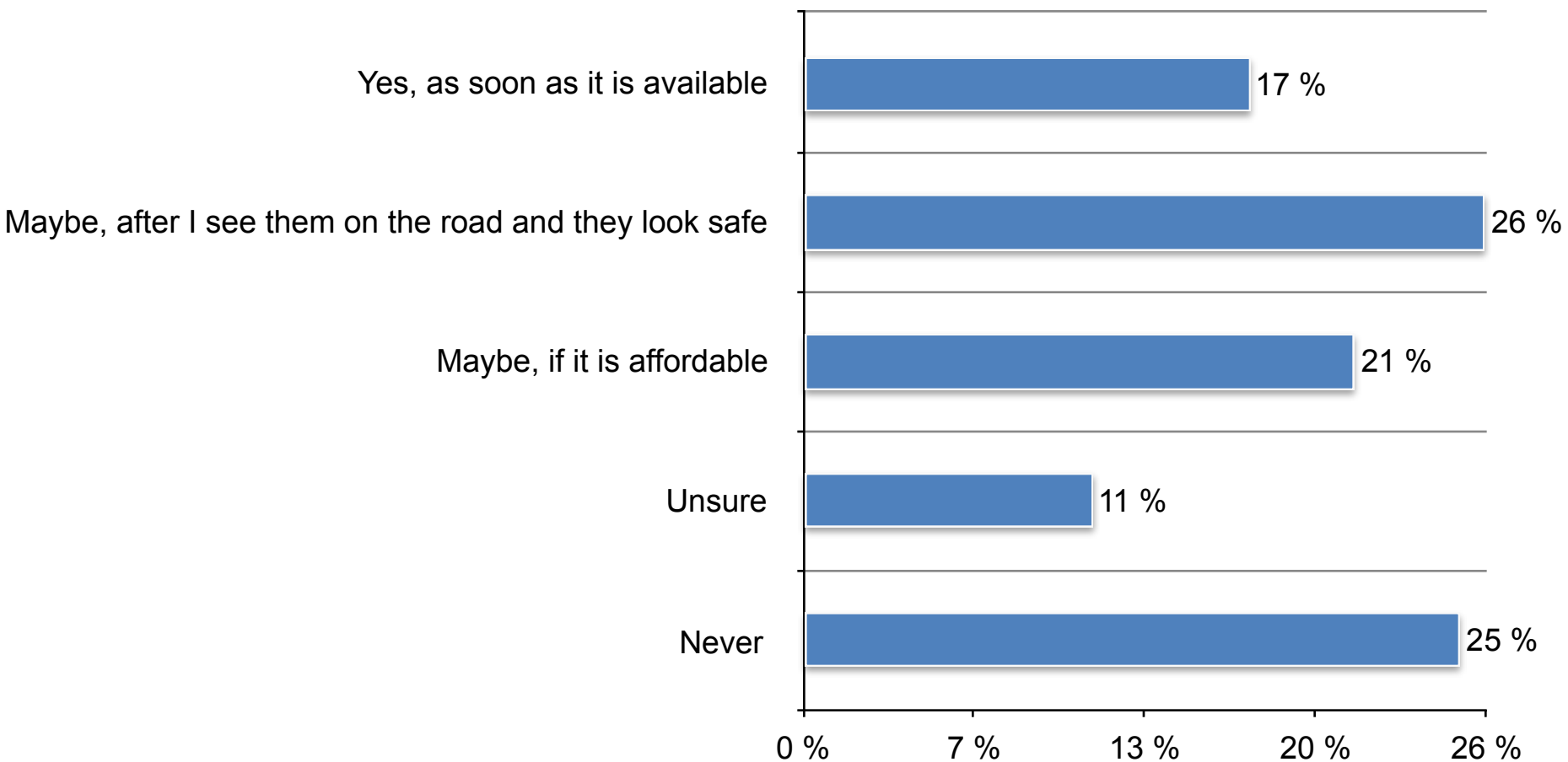
# If yes, in which vehicles do you feel safest?



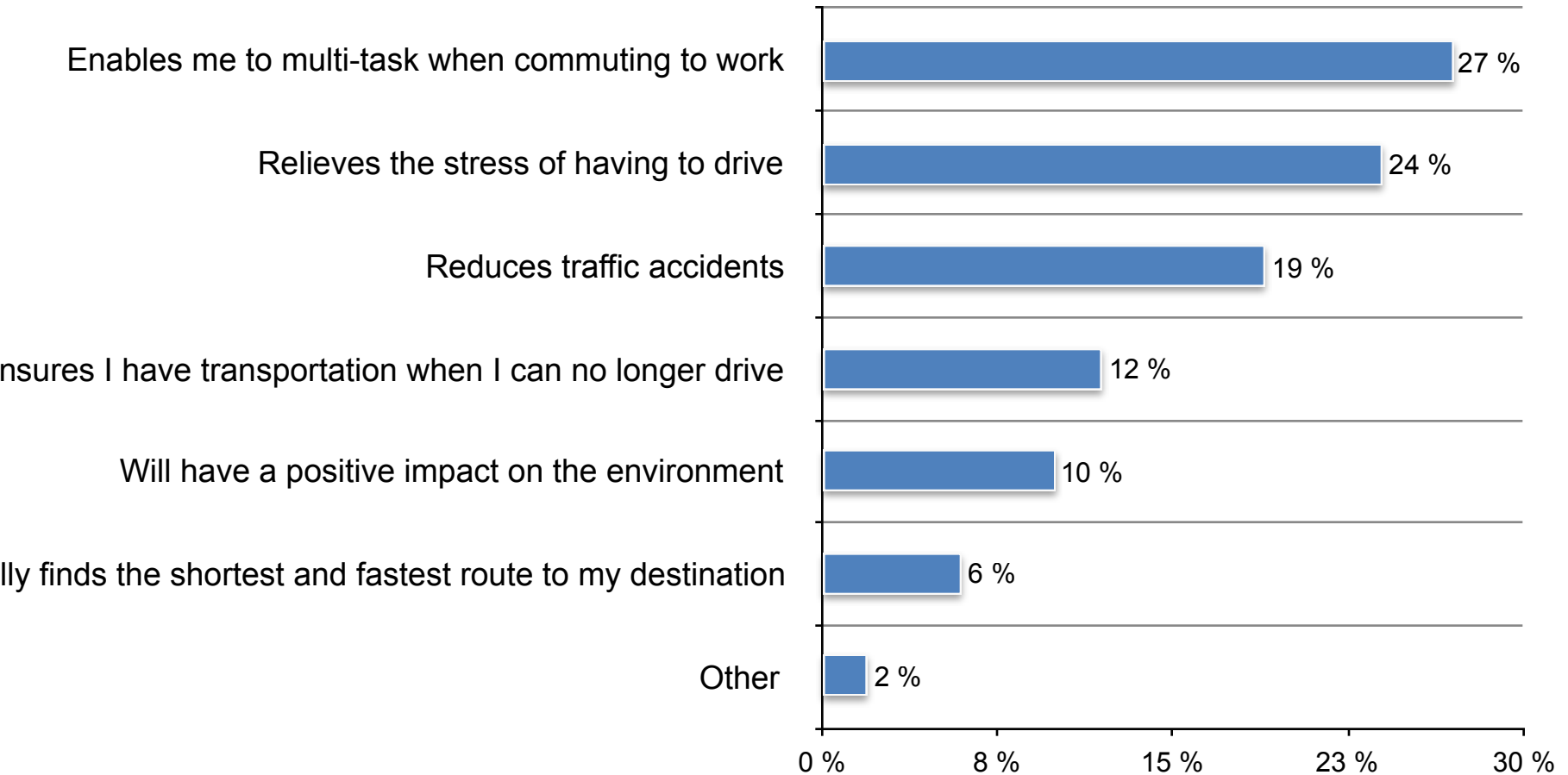
# Perceptions about the autonomous automobile

---

# Do you plan to purchase an autonomous automobile?

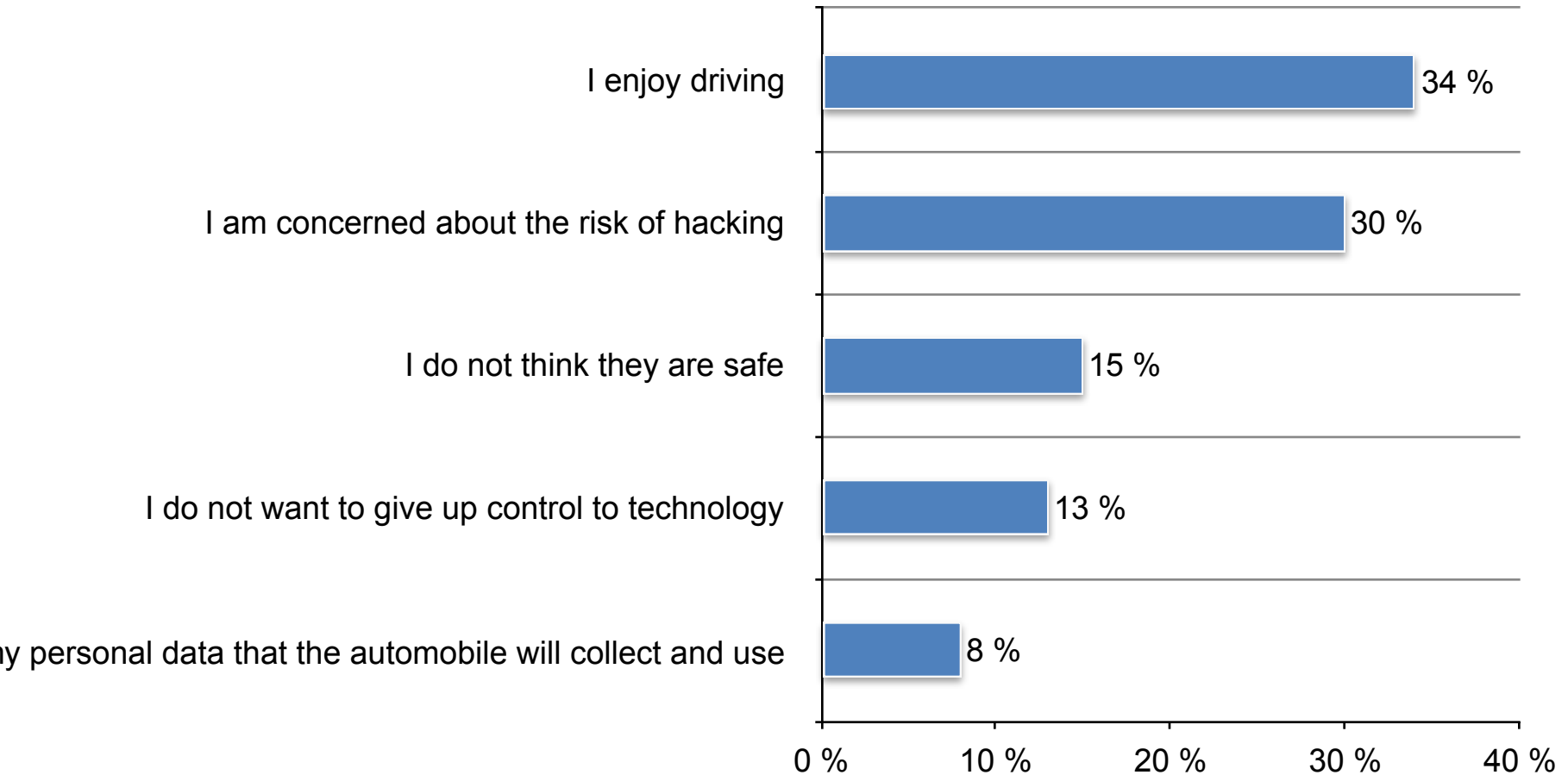


# If yes or maybe, what is the most important reason for purchasing an autonomous automobile?

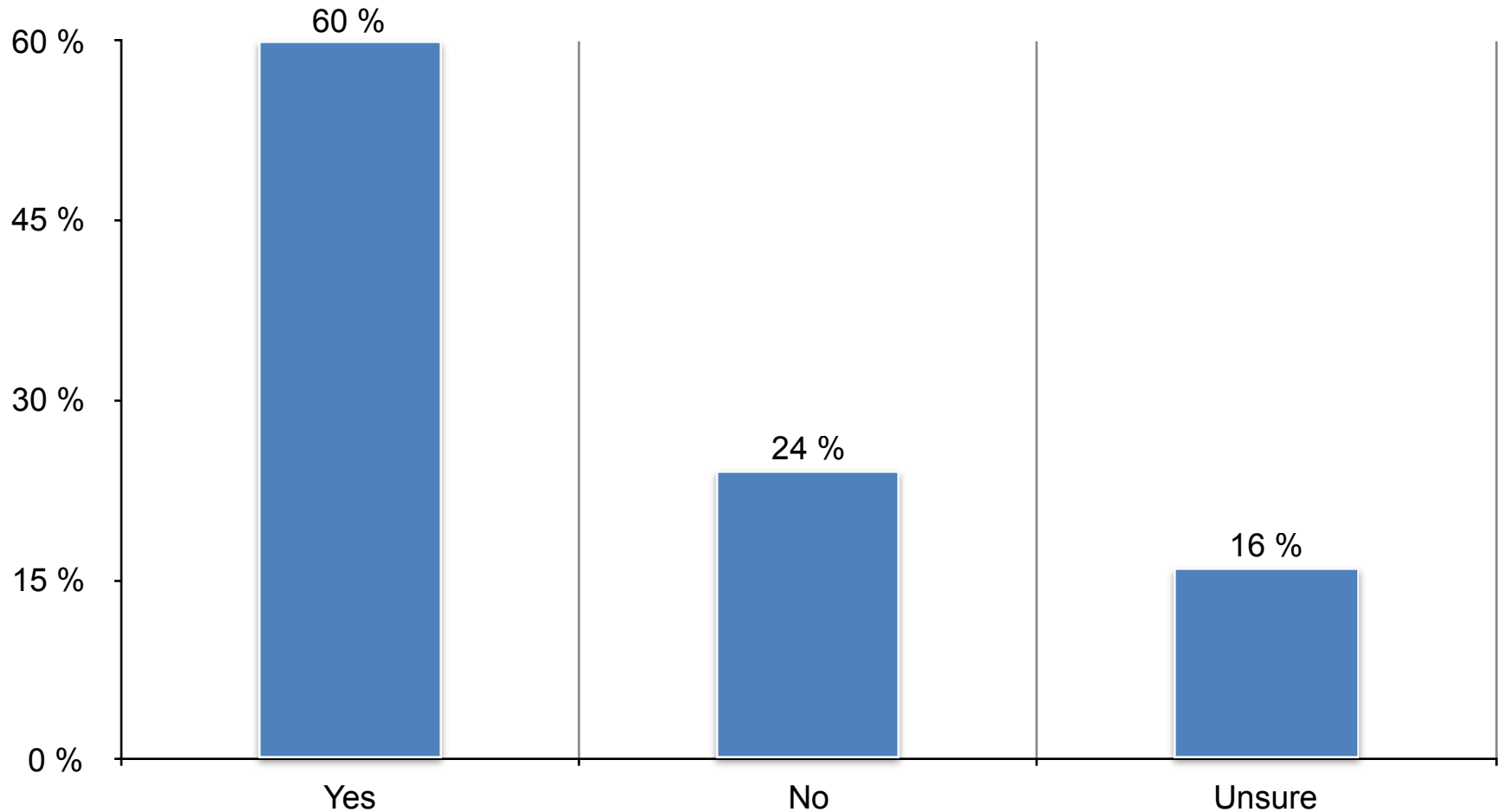




# If never, what is the most important reason for not purchasing an autonomous automobile?

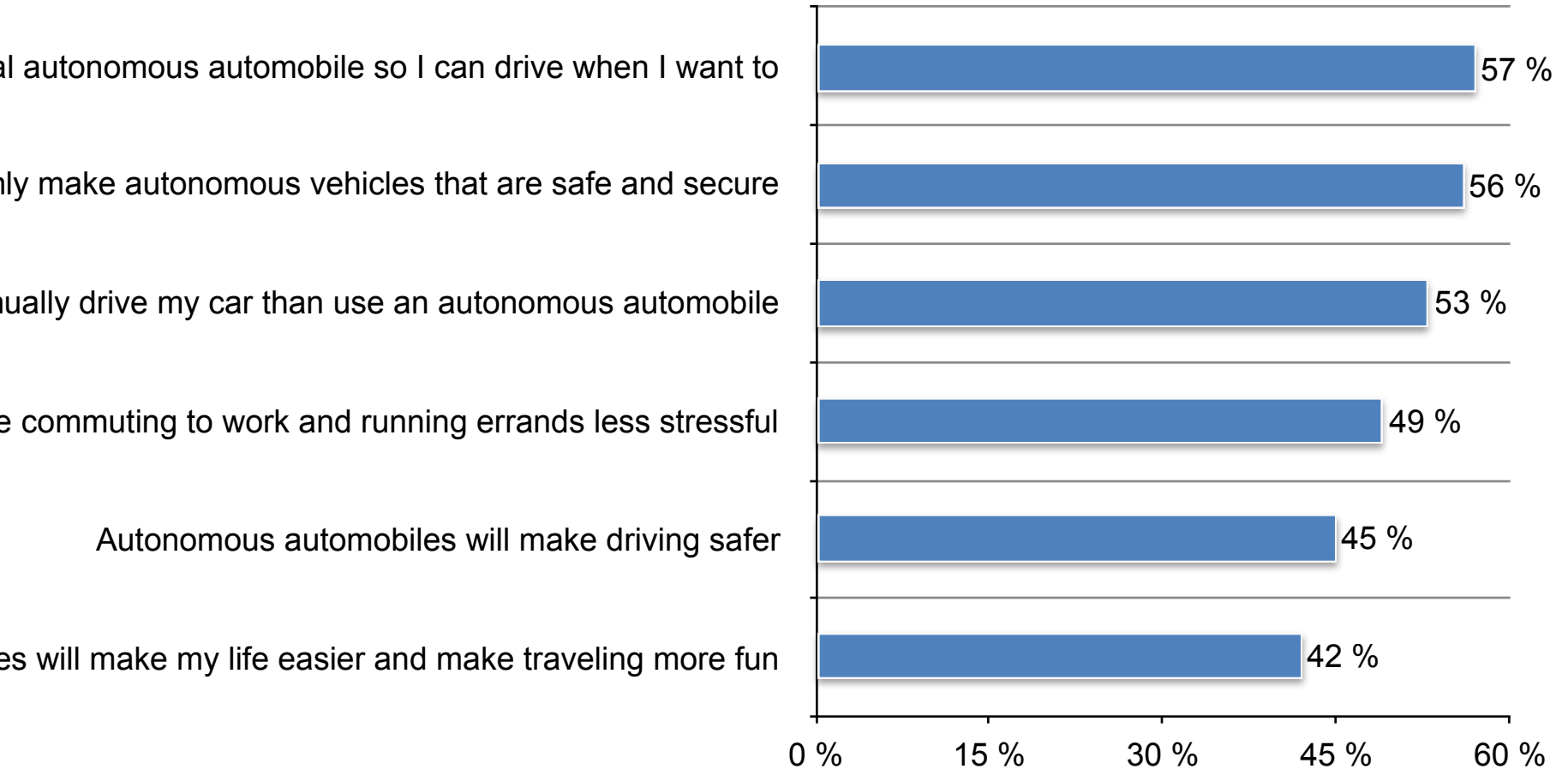


# If you do not want to purchase an autonomous automobile, would you ride in one?

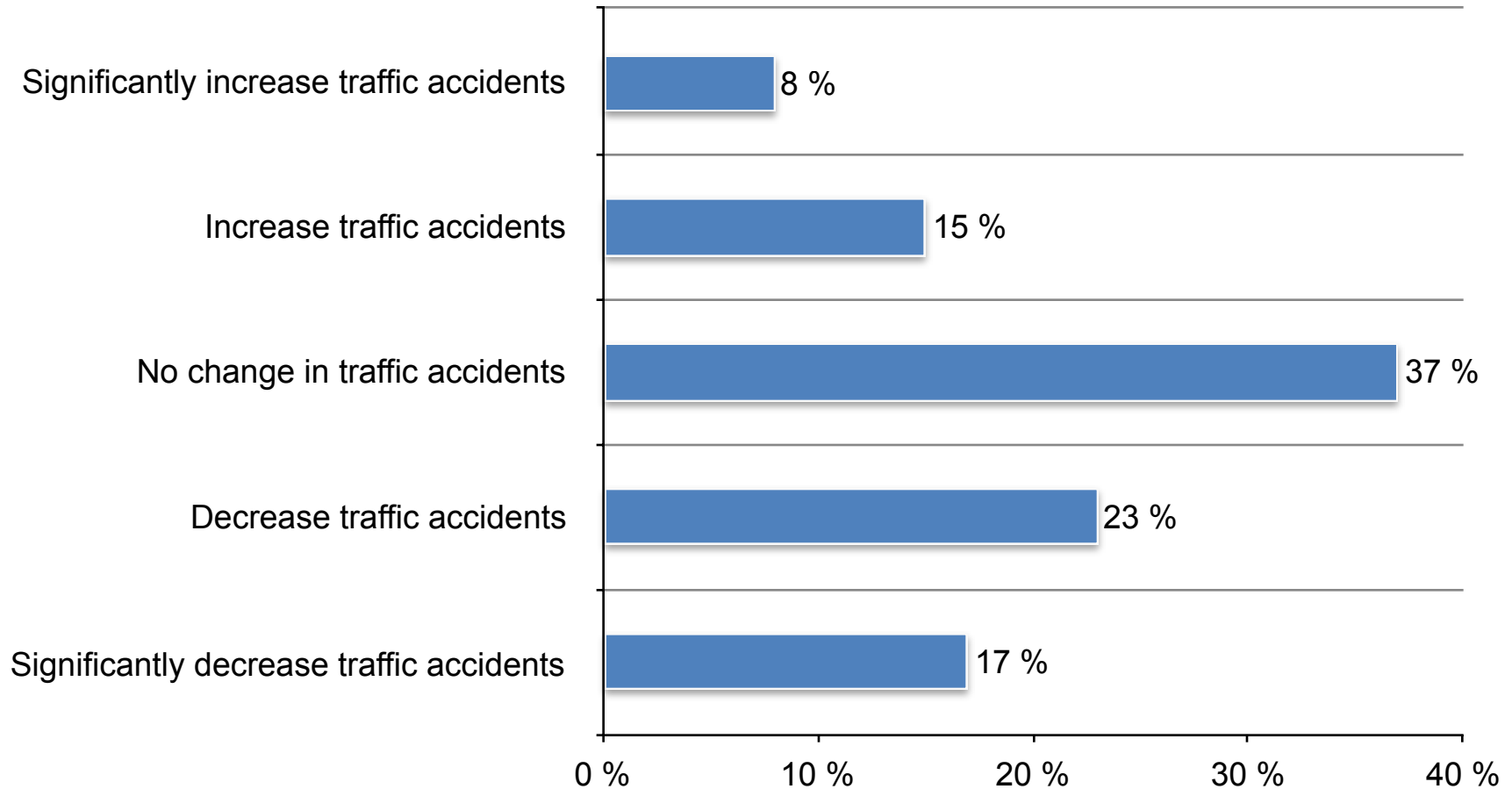


# Perceptions about autonomous automobiles

Strongly agree and Agree responses combined

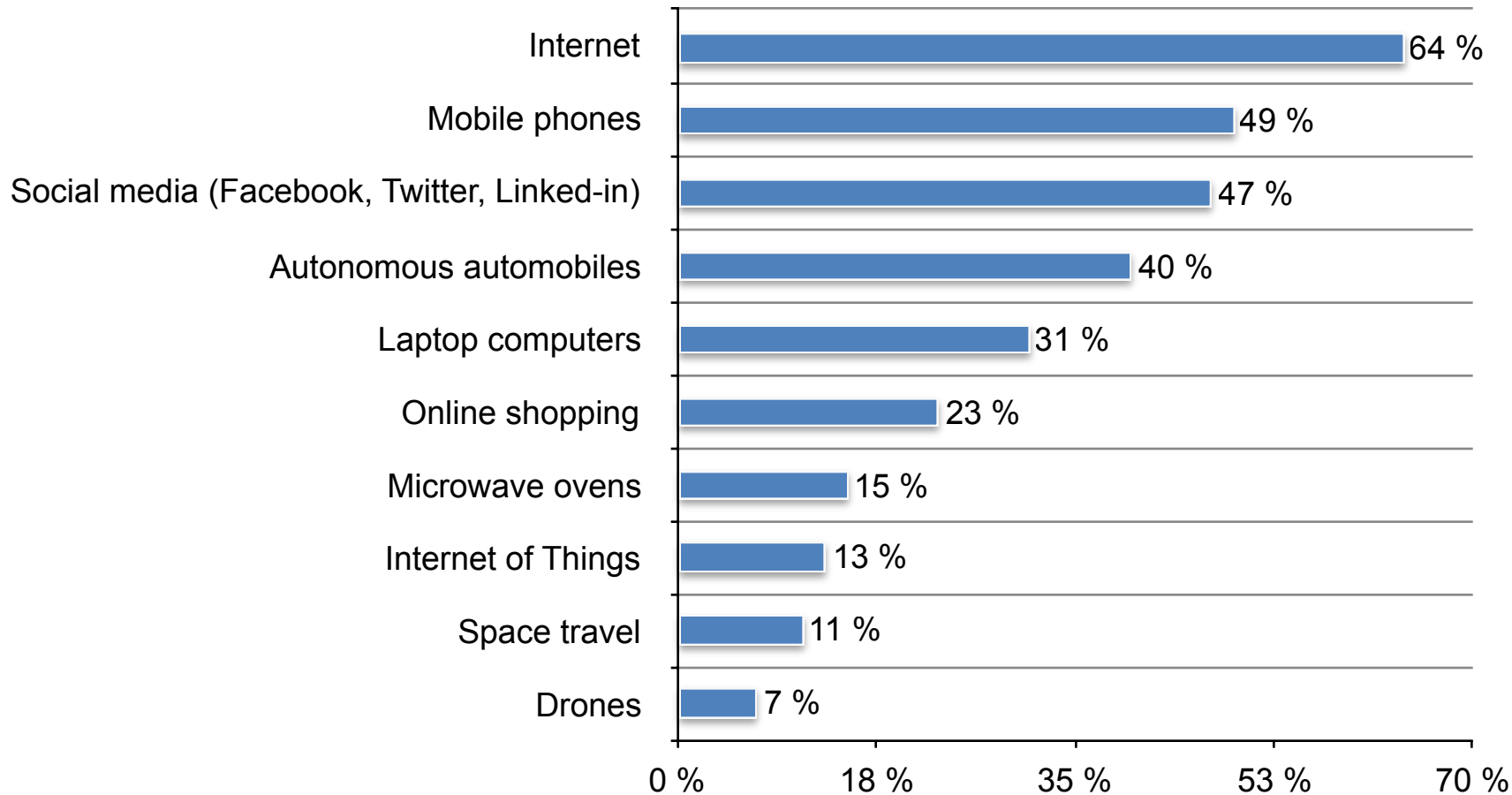


# What impact will autonomous automobiles have on traffic accidents?

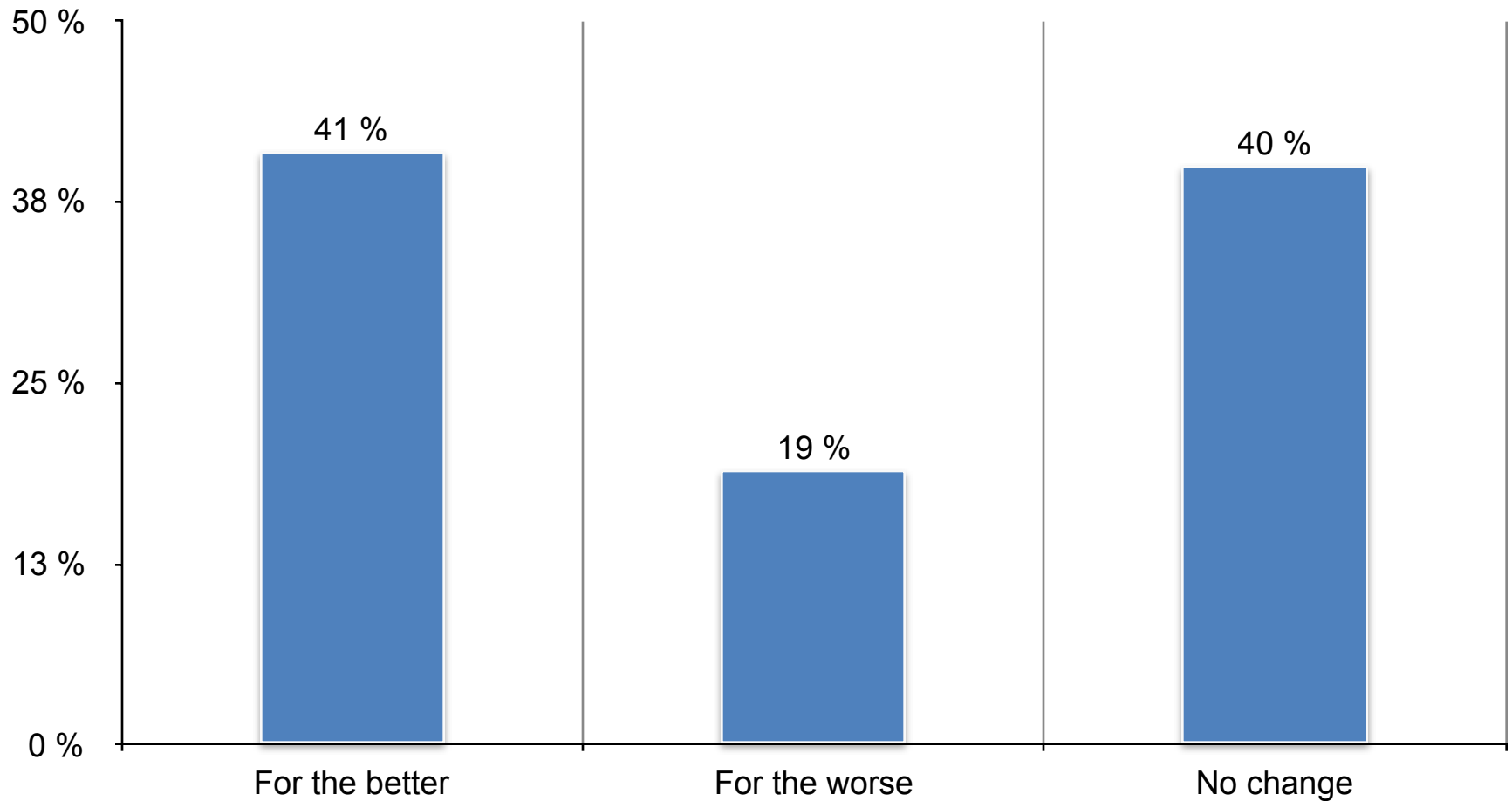


# In your lifetime, which of the following advances in technologies have changed or will change your life the most?

Three responses allowed



# How will autonomous automobiles change your life?

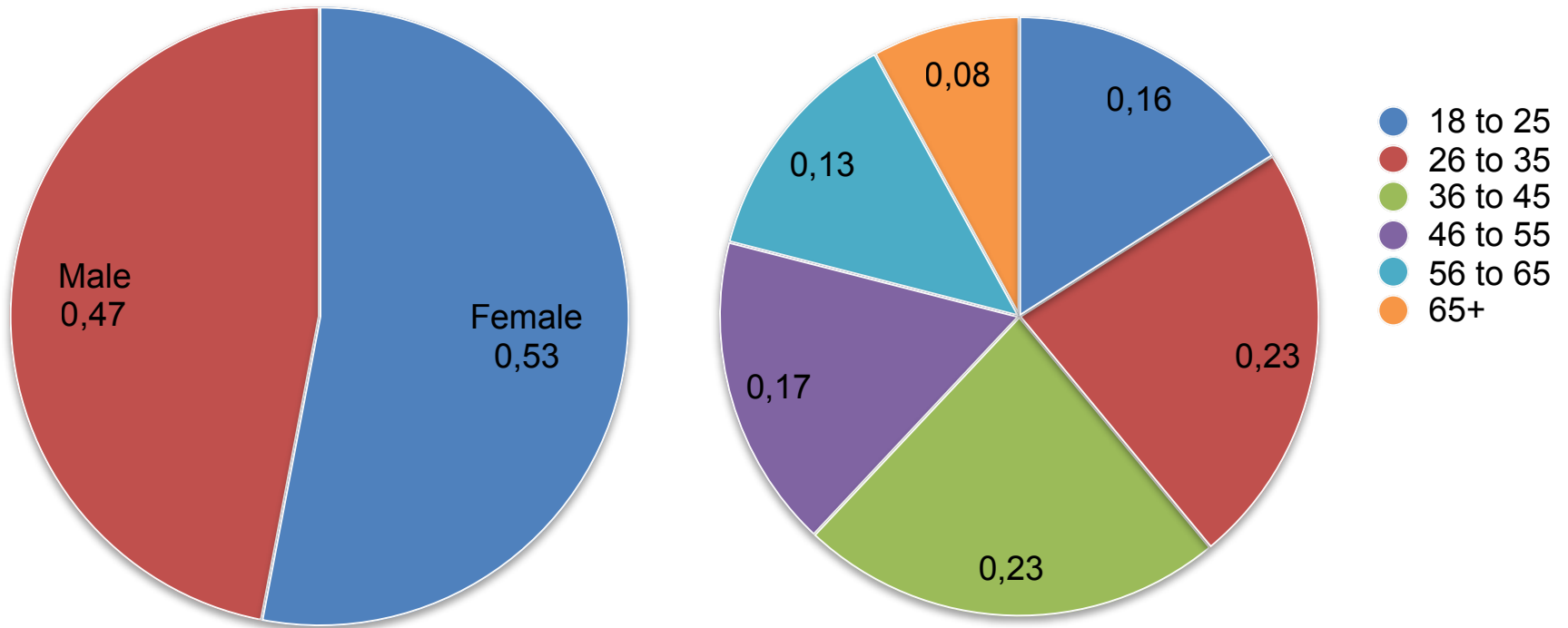


# Demographics

---

## Gender and Age Range

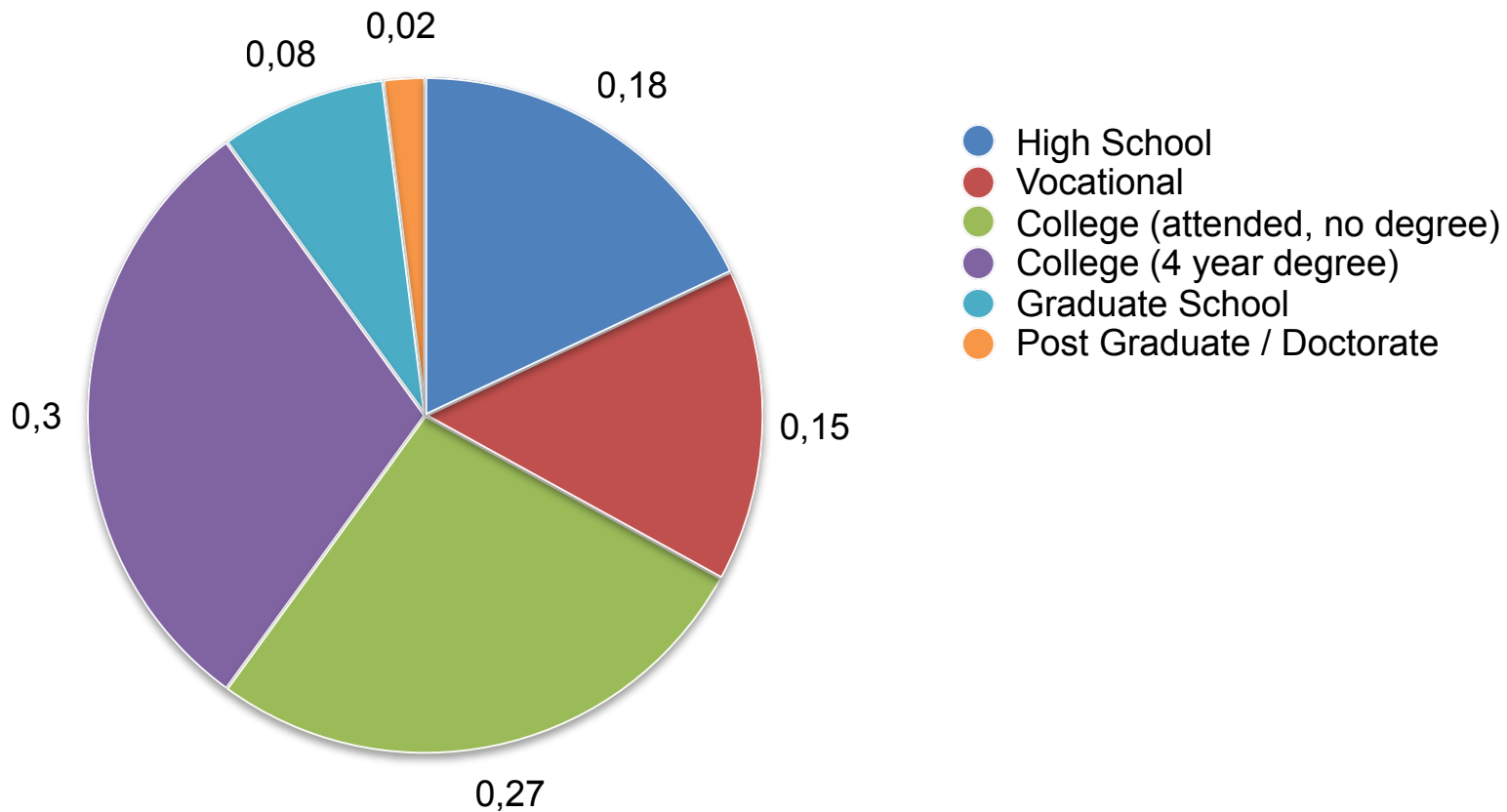
Adult-aged consumers located in the United States were surveyed in November 2017.





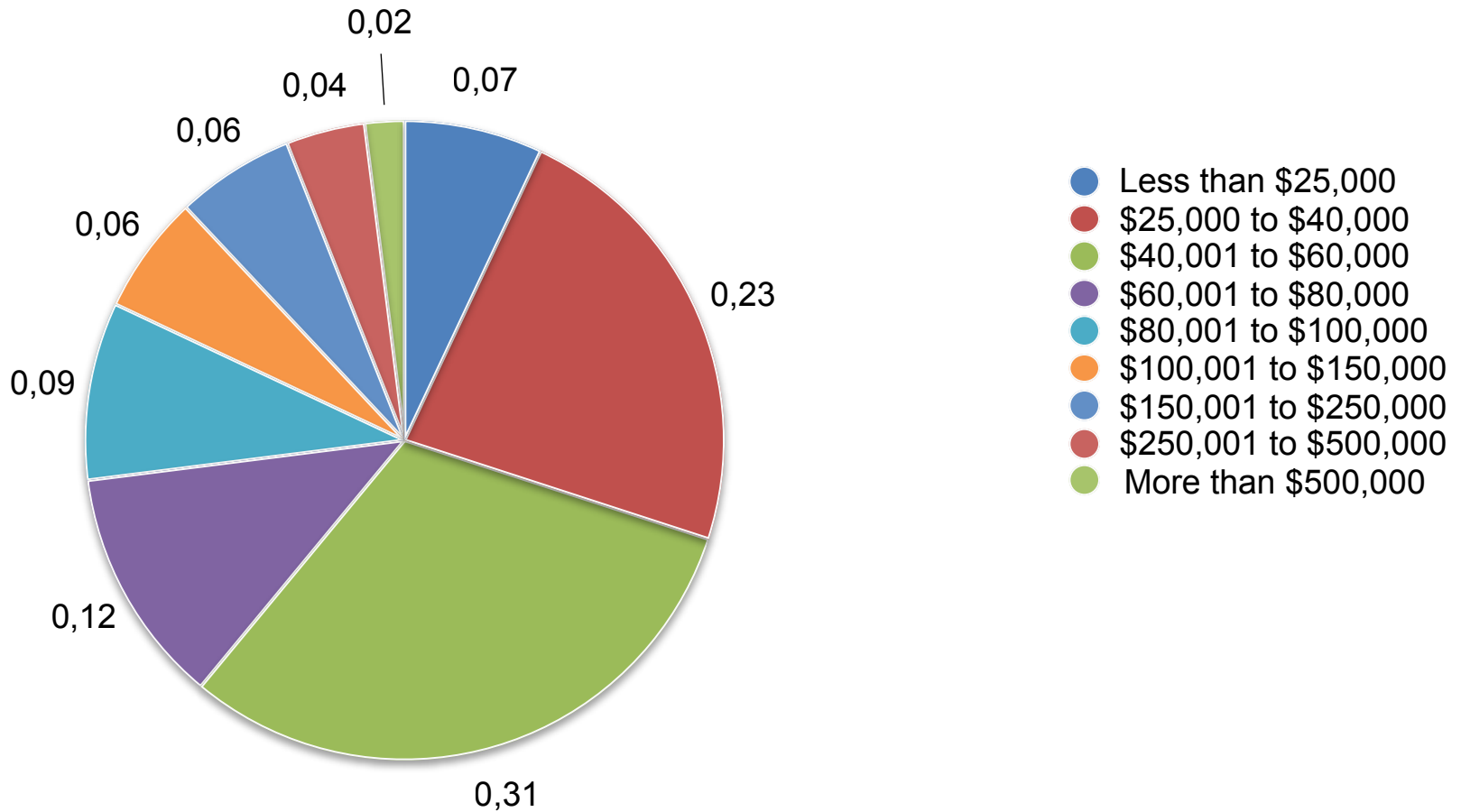
## Highest Level of Education

Adult-aged consumers located in the United States were surveyed in November 2017.



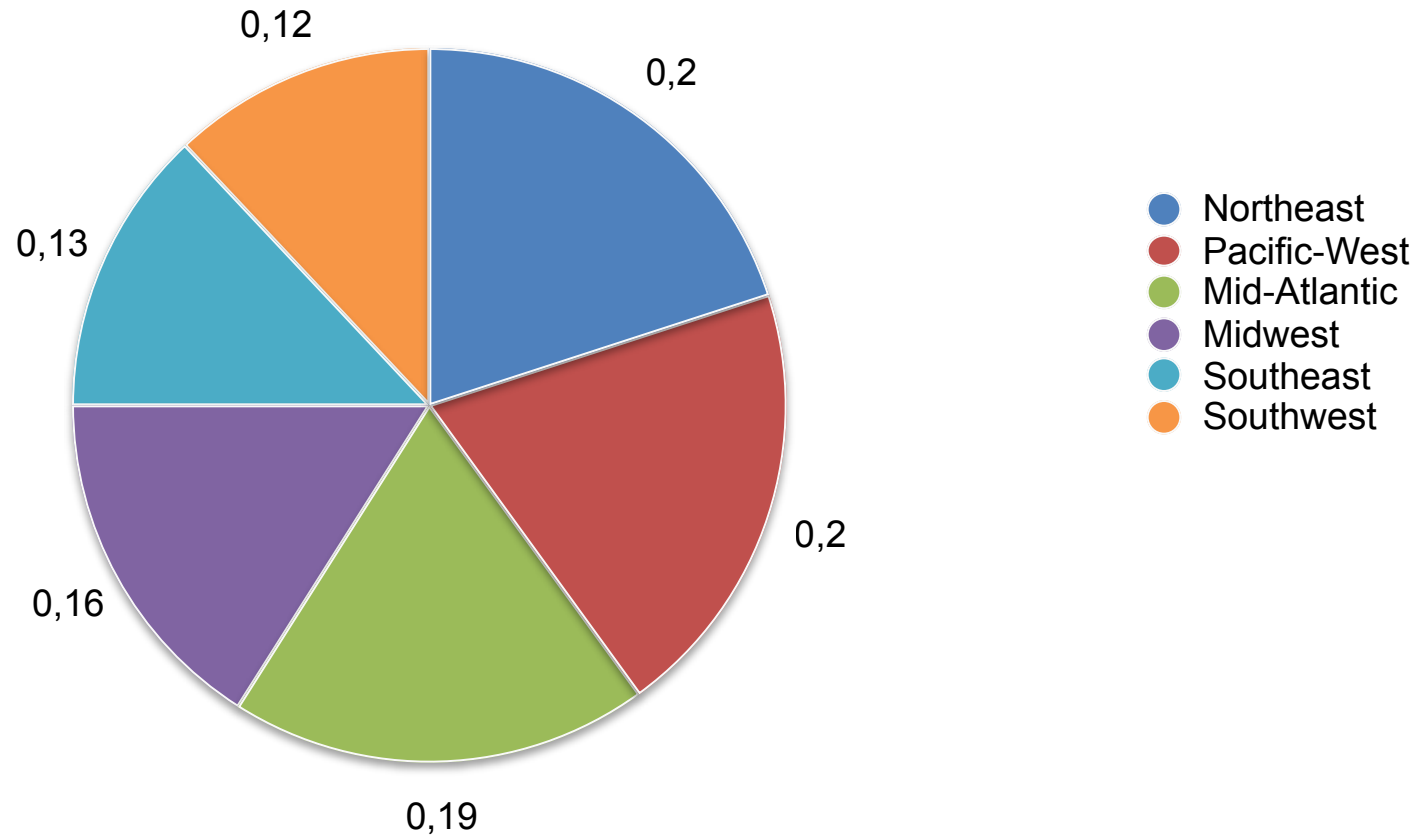
# Household income

Adult-aged consumers located in the United States were surveyed in November 2017.



## United States regional location

Adult-aged consumers located in the United States were surveyed in November 2017.



# Caveats

There are inherent limitations to survey research that need to be carefully considered before drawing inferences from findings. The following items are specific limitations that are germane to most web-based surveys.

- Non-response bias: The current findings are based on a sample of survey returns. We sent surveys to a representative sample of individuals, resulting in a large number of usable returned responses. Despite non-response tests, it is always possible that individuals who did not participate are substantially different in terms of underlying beliefs from those who completed the instrument.
- Sampling-frame bias: The accuracy is based on contact information and the degree to which the list is representative of adult-aged individuals who drive automobiles. We also acknowledge that the results may be biased by external events such as media coverage. Finally, because we used a Web-based collection method, it is possible that non-web responses by mailed survey or telephone call would result in a different pattern of findings.
- Self-reported results: The quality of survey research is based on the integrity of confidential responses received from subjects. While certain checks and balances can be incorporated into the survey process, there is always the possibility that a subject did not provide a truthful response.

# Questions?

---

**Ponemon Institute**  
Toll Free: 800.887.3118  
Michigan HQ: 2308 US 31 N.  
Traverse City, MI 49686 USA  
[research@ponemon.org](mailto:research@ponemon.org)