

## INTRODUCTION

- Emerging transportation technologies, and emerging mobility services such as ride-hailing and vehicle sharing, are bringing about transformative changes in the transportation landscape.
- It is critical that transportation forecasting models be enhanced to account for behavioral dynamics that will result from the increasing penetration of disruptive forces in the transportation marketplace.
- People's attitudes towards and perceptions of emerging technologies and services need to be measured and understood to enhance transportation forecasting models.
- Need to specify and develop behavioral models that account for attitudes and perceptions, adoption cycles, and adaptation patterns to new transportation services and technology.
- It is envisioned that such models will help decision-makers better plan transportation infrastructure systems and design marketing and policy strategies that maximize the benefits of these disruptive technologies.

## OBJECTIVE

Collect a rich set of data across multiple jurisdictions that includes information about people's travel behavior, socioeconomics, and attitudes towards and perceptions of **advanced transportation technologies and mobility options** such as AVs, Lyft, Lyft Line, Uber, and Uber Pool.

## DATA COLLECTION

### Pilot (Fall 2018) – Results depicted in this presentation

- Collected data from a sample of 262 residents in the Phoenix metro area (in Fall 2018). Invitations were sent to a random address based sample.
- In this phase of the study, respondents were invited either by mail or e-mail to complete the survey. Those invited by mail could choose between answering the survey online or on the paper booklet provided.

### Full Deployment (Summer 2019) – Upcoming

- This pilot study is part of a larger research project which aims to understand factors shaping the future of transportation. The study involves collecting survey data in four major cities including Phoenix, Atlanta, Austin, and Tampa (Figure 1). Goal sample size is 1,000 responses in each metropolitan area.
- Data collection began in June 2019 and is currently in progress. To this date, more than 800 responses have been collected.



Figure 1: Geographical distribution of full-deployment survey

## PILOT SURVEY RESULTS

### Phoenix Metropolitan Area – Fall 2018

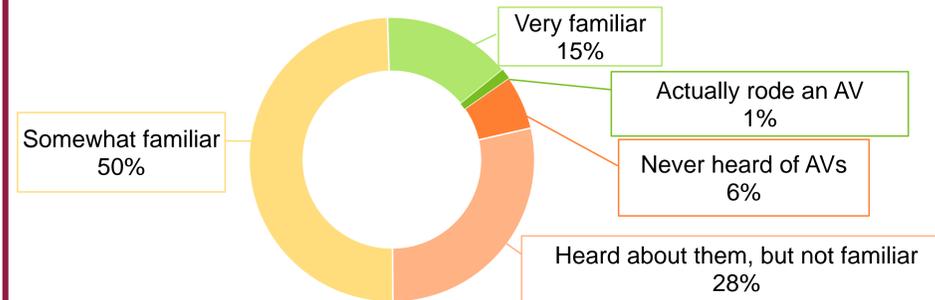


Figure 2: Familiarity with Autonomous Vehicles (N=260)

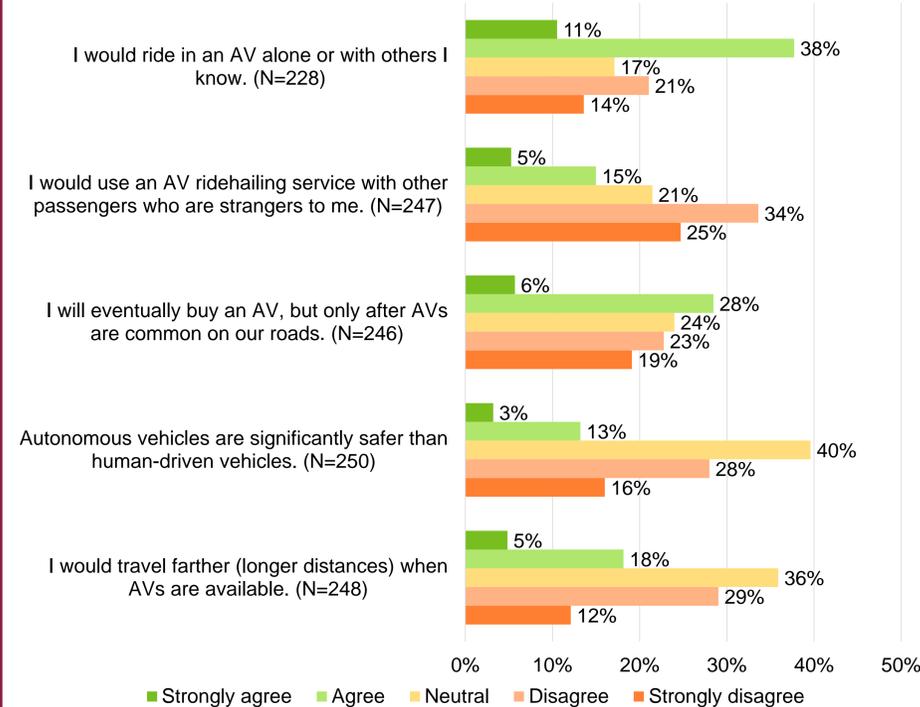


Figure 3: User perceptions and potential adoption of Autonomous Vehicles

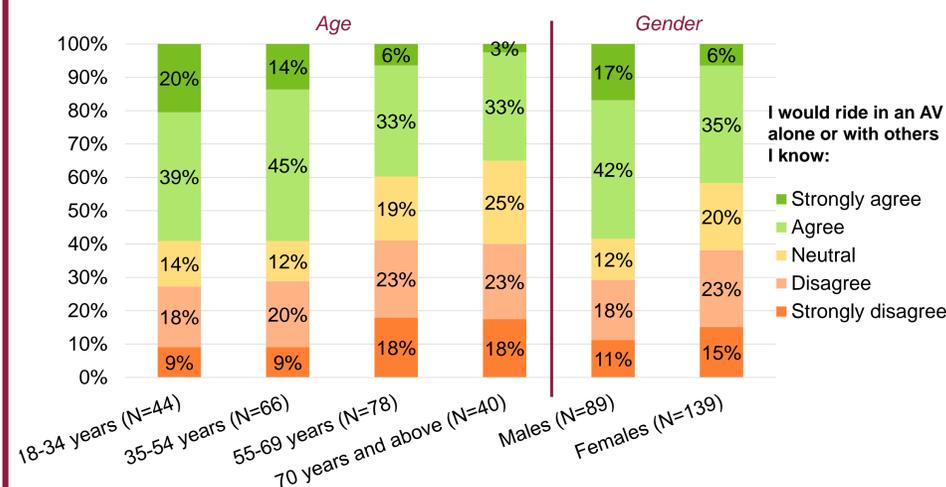


Figure 4: Willingness to adopt AVs, by age and gender

## AV ADOPTION BY ATTITUDES

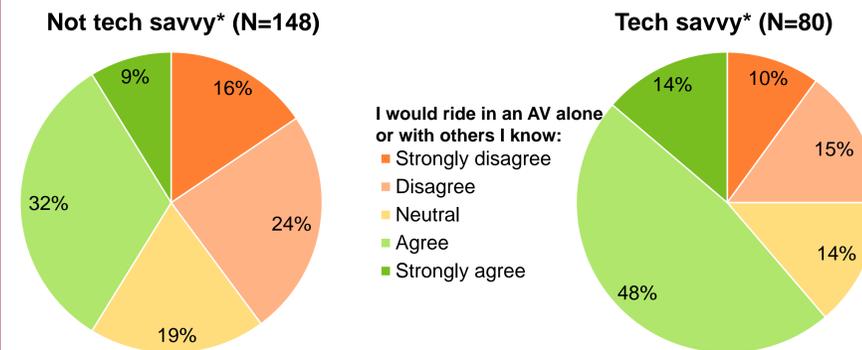


Figure 4: Technology savviness influence on willingness to adopt Autonomous Vehicles

\*Tech savvy = Agree or Strongly Agree with "I like to be among the first people to have the latest technology."

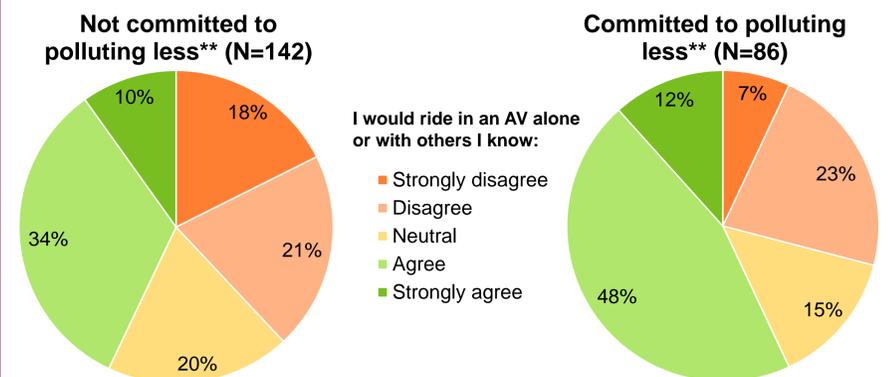


Figure 5: Environment attitude influence on willingness to adopt Autonomous Vehicles

\*\*Committed to the polluting less = Agree or Strongly Agree with "I am committed to using a less polluting means of transportation (e.g. walking, biking, and public transit) as much as possible."

## CONCLUSIONS

- There is a need to understand relationships between attitudes and AV adoption, as well as to recognize attitudes – demographics correlation (e.g., young folks are more tech savvy).
- Attitudes and lifestyle traits/preferences should be incorporated in travel models.
- There is a lot to be understood regarding attitudes and travel behavior. Further research will keep on investigating how that relationship affects perceptions and adoption of new mobility services and technology.

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