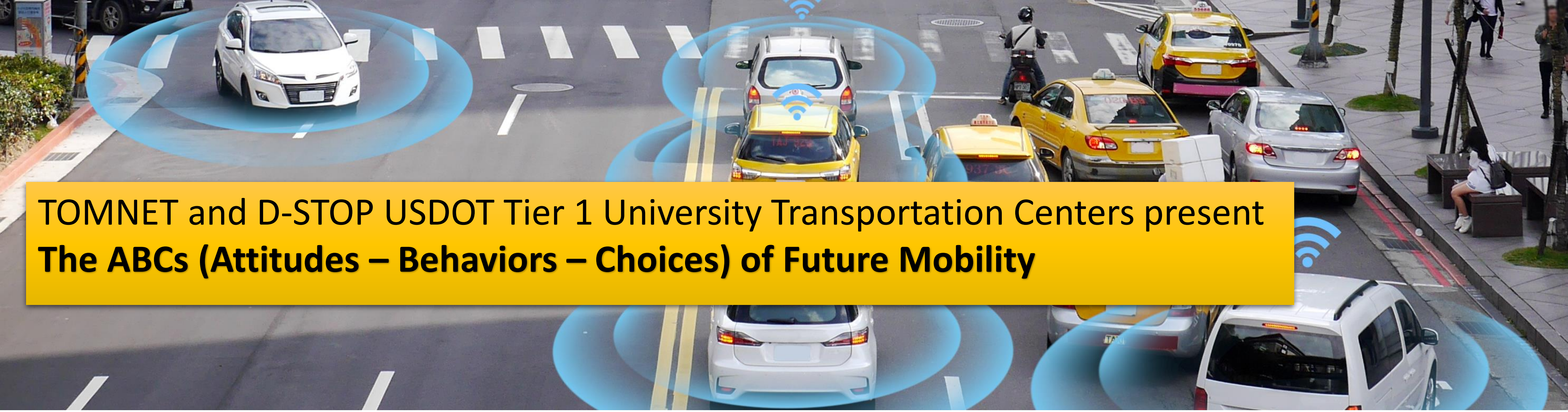

TOMNET and D-STOP USDOT Tier 1 University Transportation Centers present

The ABCs (Attitudes – Behaviors – Choices) of Future Mobility

Autonomous Vehicles: Potential Travel Behavior Implications

Michael Maness, Ph.D.

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June 12, 2020

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D-STOP

Arizona State University

Georgia Tech

The University of Texas at Austin

University of South Florida

University of Washington

Full Citation

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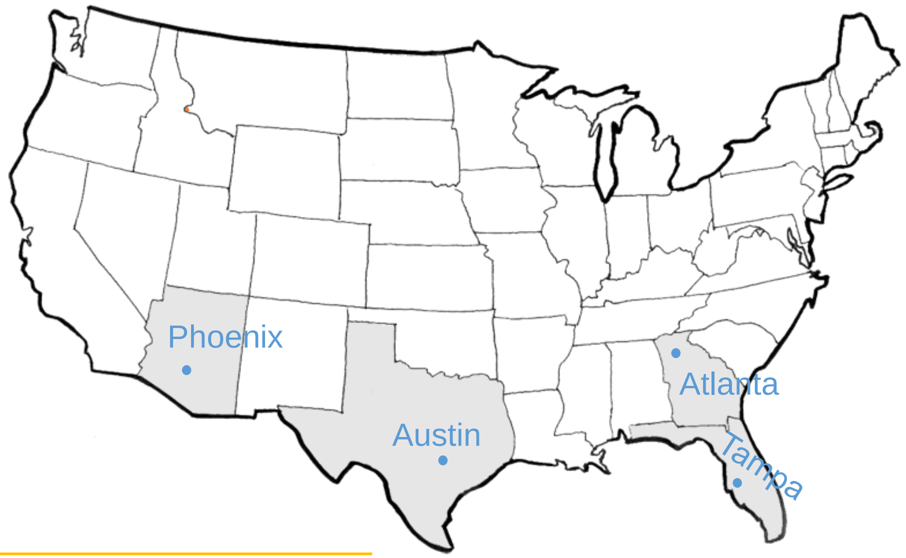
TOMNET D-STOP Transformative Technologies in Transportation Survey (T4 Survey)

- Phoenix, Atlanta, Austin, and Tampa metro areas
- Summer and Fall 2019
- Random address-based sample with online instrument
- Comprehensive attitudinal survey on MaaS and AV
- Weighted to better represent Census distributions



	Phoenix, AZ	Atlanta, GA	Austin, TX	Tampa, Fl	Total
Sample Size	1,027	944	1,127	260	**3,358**
%	30.6%	28.1%	33.6%	7.8%	100%

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Survey Instrument

Attitudes and Preferences

Vehicles You Have and Where You Live

Current Travel Patterns

Mobility on Demand and Shared Mobility Services

Autonomous Vehicles

Background Information

- Likes new trying new and different things
- Makes good use of travel time
- More importance on car’s reliability and quality over its brand

Contemporary Efficient

- Committed to environmentally-friendly lifestyle
- Committed to using less polluting transportation modes
- Believes govt should raise gas tax to reduce negative transport impacts on the environment

Pro-Environment

- Prefers living close to transit even with smaller home and higher population density
- Doesn’t mind non-spacious homes if its closer to transit and places they go
- Likes having mixed land-use neighborhoods

High Density

- Public transit is reliable for daily needs
- Has alternatives to driving most of the time

Pro-Transit

- Learning to use new tech is frustrating
- Not among the first people to have the latest tech
- Concerned about sharing personal info or location via internet-enabled devices

Anti-tech

- Feels uncomfortable around strangers
- Prefer to do one thing at a time
- Too busy to do many things they like

Solo Unitasker

- Not bothered by the level of congestion
- Satisfied in daily travel routine
- Time spent traveling provides a useful transition to activities

Commuter

- Prefers to be a driver than a passenger, when traveling in a vehicle
- Prefers owing a car

Driver

Attitudinal Classes – Cluster Analysis

N=3,339

Description of T4 Survey Respondents	Tech Averse Urbanite (N=743)	Sprawling Techy Multitasker (N=815)	Transit Advocates (N=606)	Tech Friendly Environmentalists (N=332)	Tech Averse Suburbanite (N=843)
Contemporary Efficient (Factor 1)	0.02181	**0.39825**	**0.3305**	**-1.31497**	-0.12395
Pro-Environment (Factor 2)	0.06139	**-0.38697**	0.06976	**0.38323**	0.11892
High Density (Factor 3)	**1.09712**	**-0.69073**	0.28631	0.28074	**-0.61557**
Pro-Transit (Factor 4)	**-0.64715**	-0.16614	**1.32848**	**0.79572**	**-0.53737**
Anti-tech (Factor 5)	-0.10042	**-0.48705**	0.21473	**-0.62793**	**0.65232**
Solo Unitasker (Factor 6)	-0.13579	**-0.65519**	0.38911	-0.02859	**0.48466**
Commuter (Factor 7)	-0.15312	0.25119	-0.0886	0.07504	-0.07375
Driver (Factor 8)	**0.34435**	0.07814	0.29363	**-1.28274**	-0.08494

Outline

TRIPS MAKING

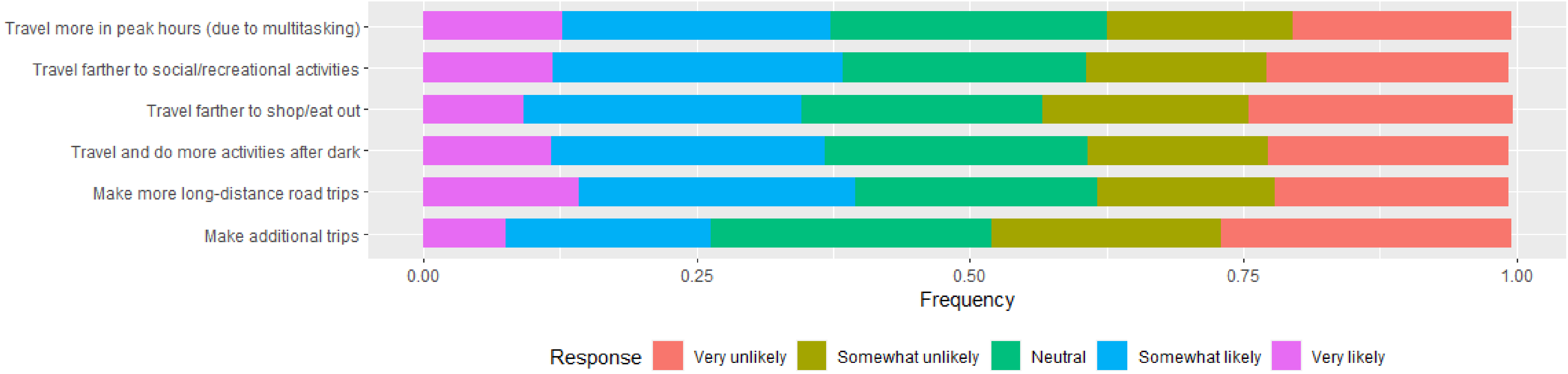
MODAL PREFERENCES

COMMUTE AND RESIDENTIAL CHOICE

AUTOMATED RIDESHARE

Trip Making Changes due to AVs

- Imagine a future when you can access an AV (by owning, leasing, or using automated ridehailing services). How likely would you change in each of the following ways?



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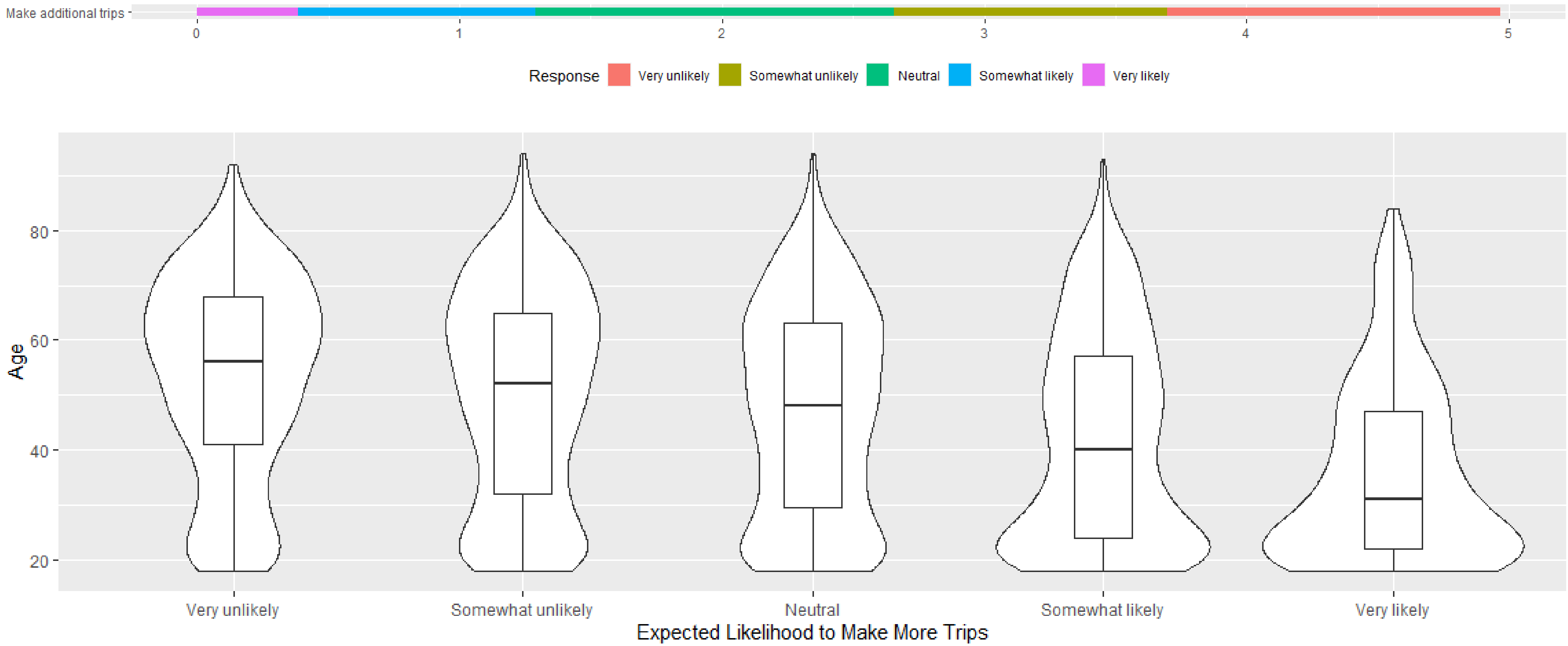
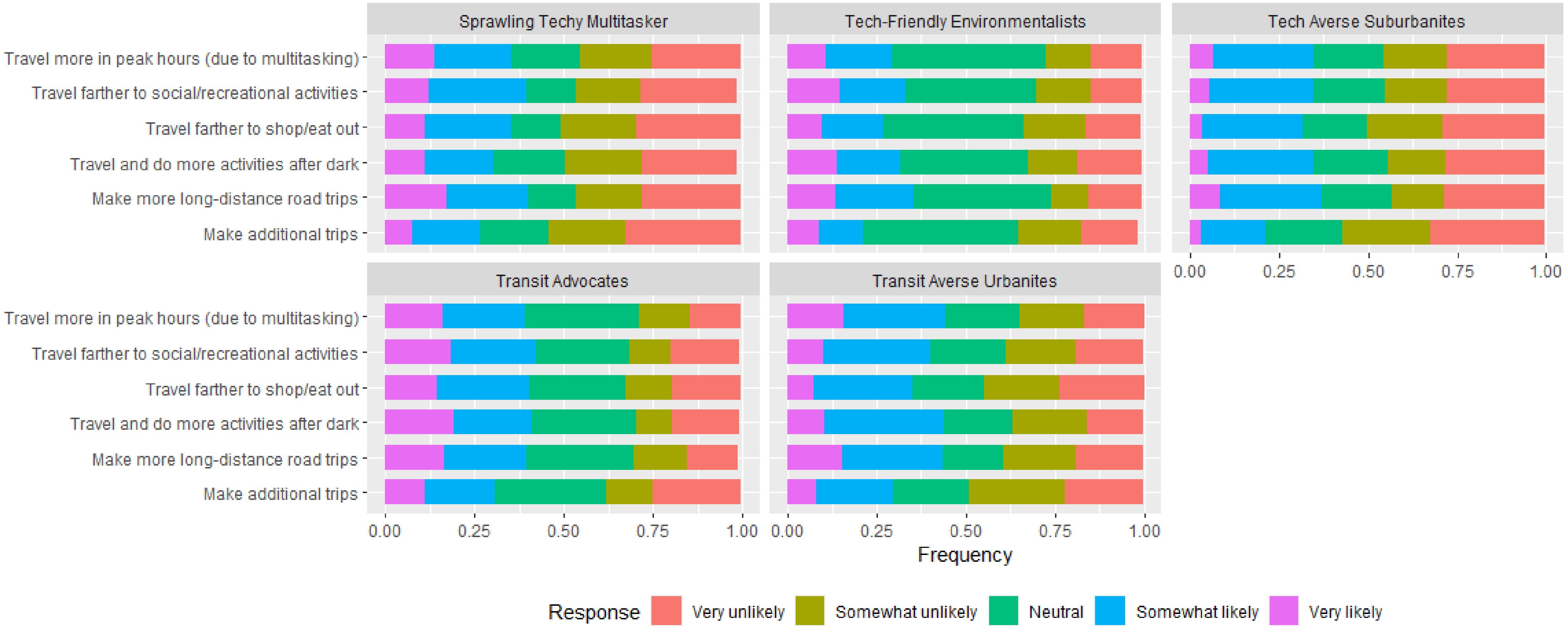
Trip Making Changes due to AVs by Age



Trip Making Changes due to AVs by Attitude



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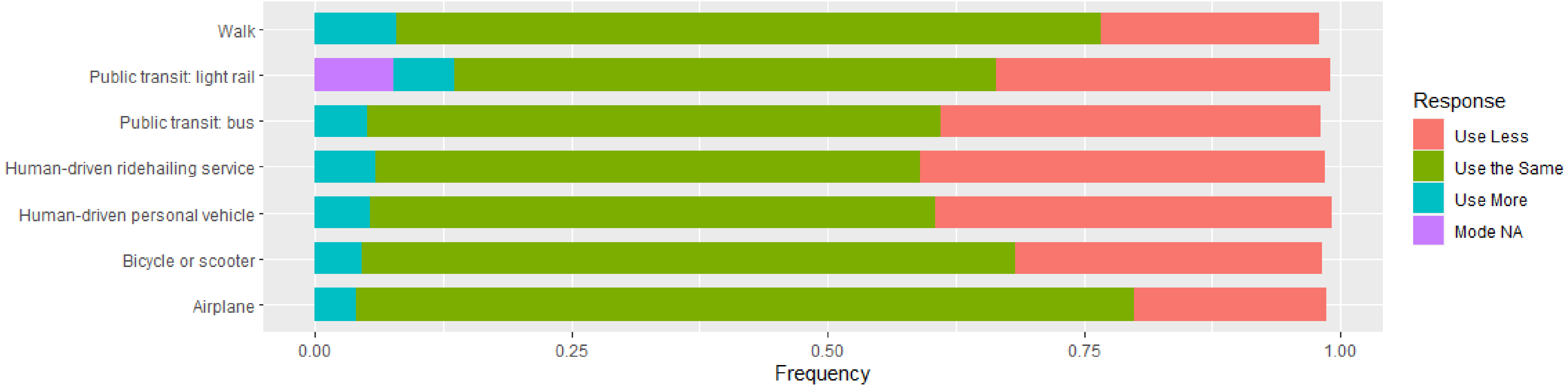
Mode Use Changes

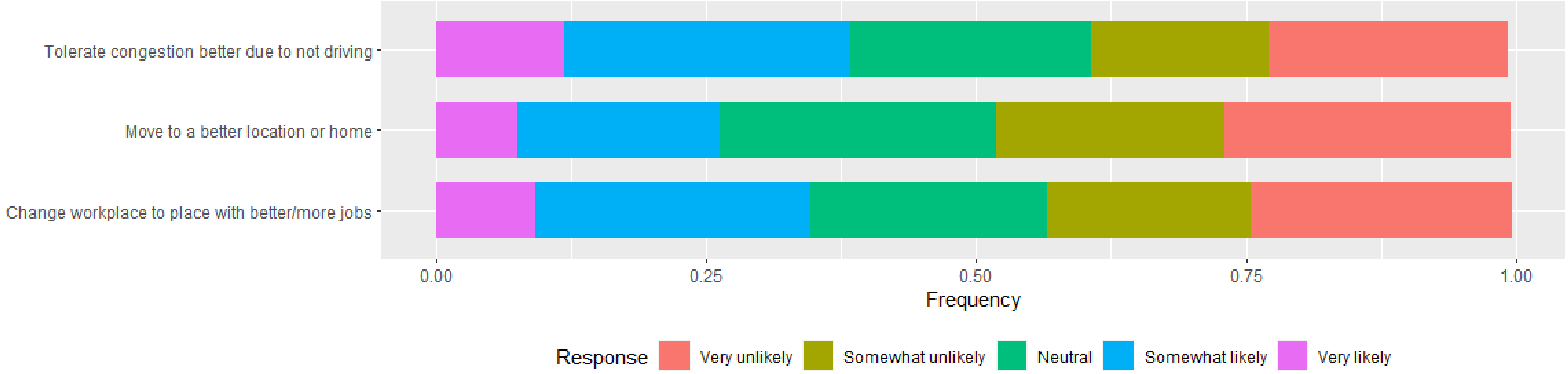
- Suppose you have regular access to an AV (by owning, leasing, or using automated ridehailing services). How would your use of different modes of transportation change in such a future? Please choose one answer in each row.



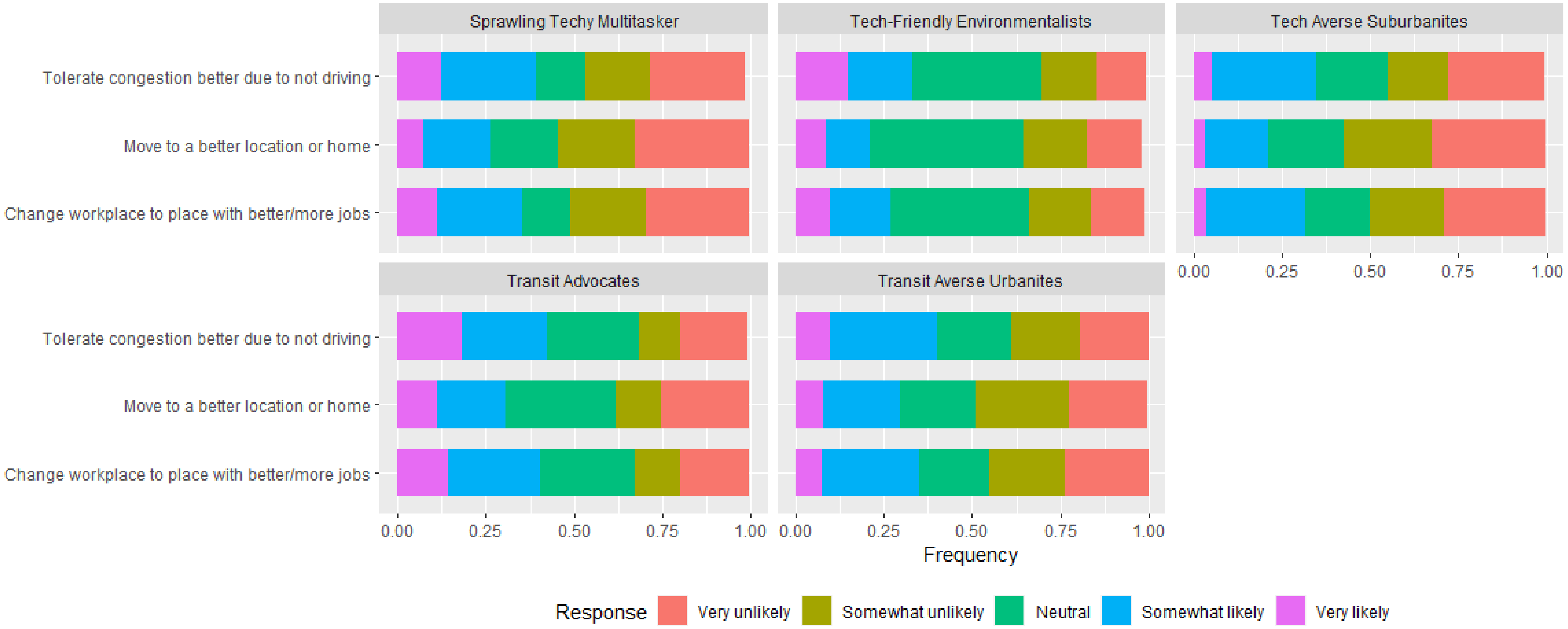
Mode Use Changes by Attitude

AV Commute and Residential Location Changes

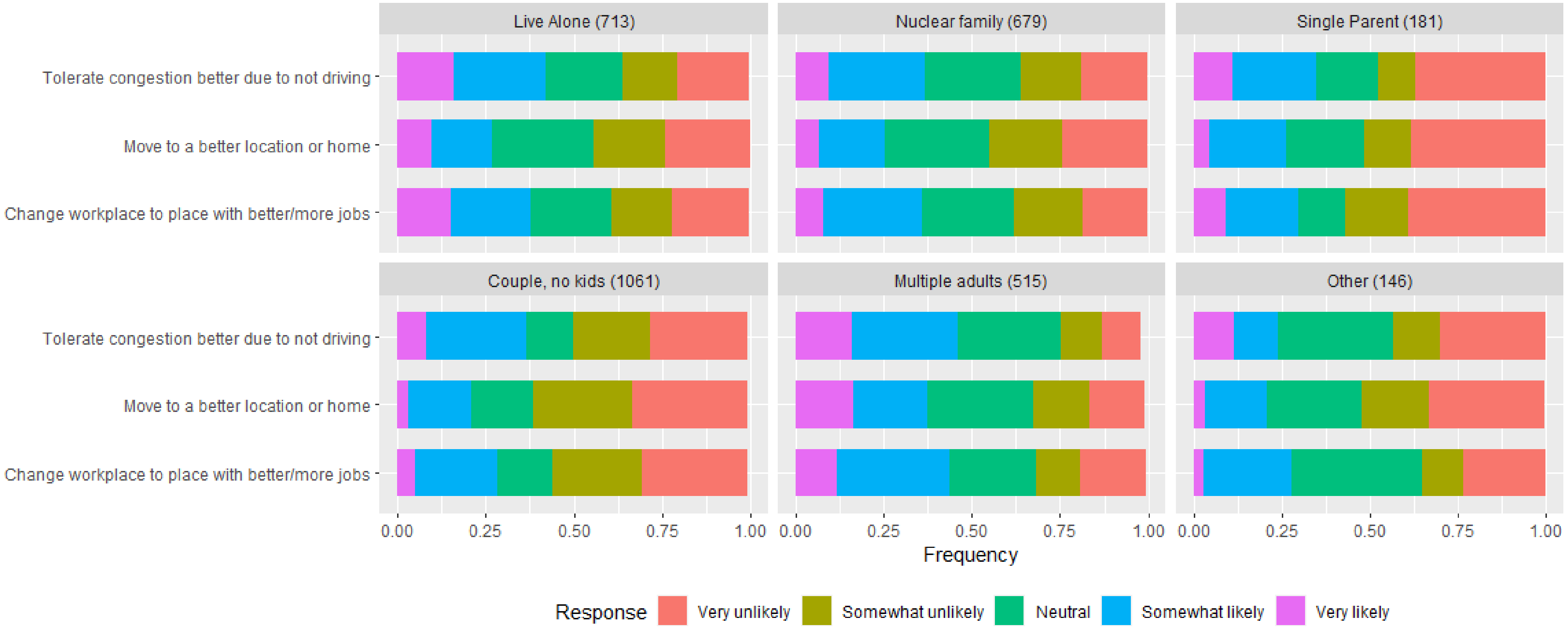
- Imagine a future when you can access an AV (by owning, leasing, or using automated ridehailing services). How likely would you change in each of the following ways?



AV Commute and Residential Location Changes by Attitude



AV Commute and Residential Location Changes by Attitude



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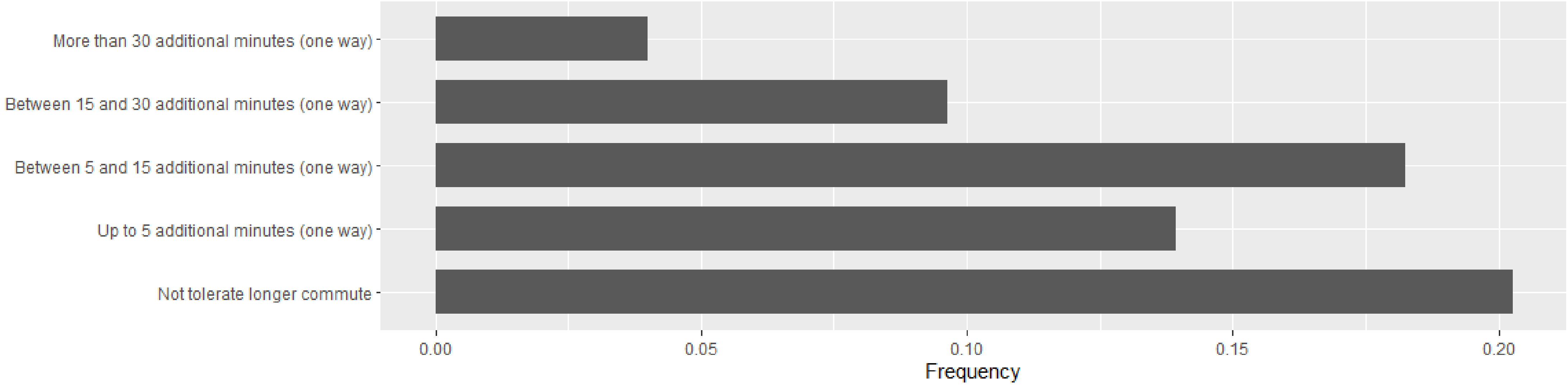
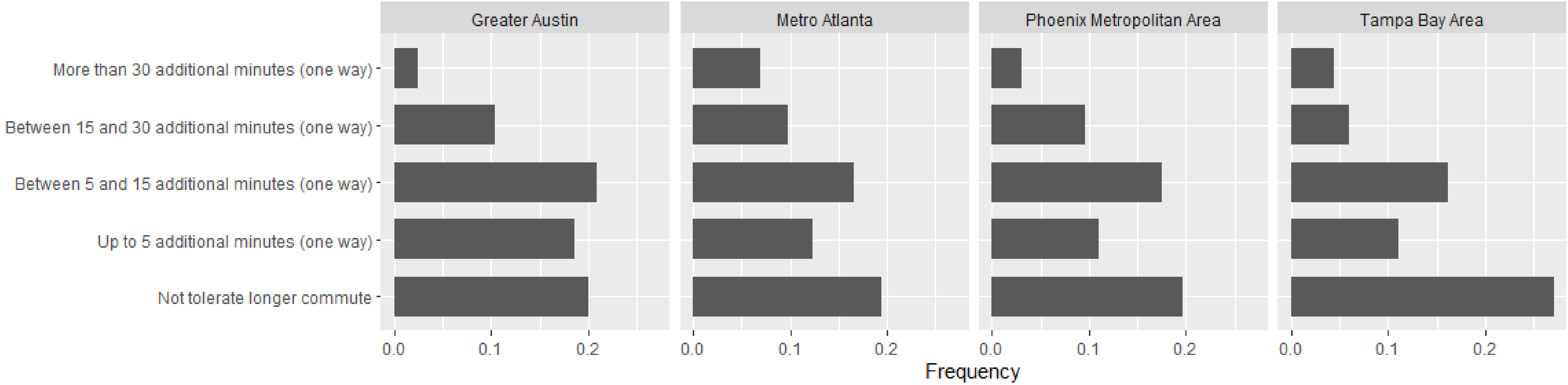
Commute Time Changes with AV

- Imagine a future when you have regular access to an AV (by owning, leasing, or using automated ridehailing services) and you can do other activities while riding in an AV. How much longer would you be willing to commute in an AV (compared to your current commute)?

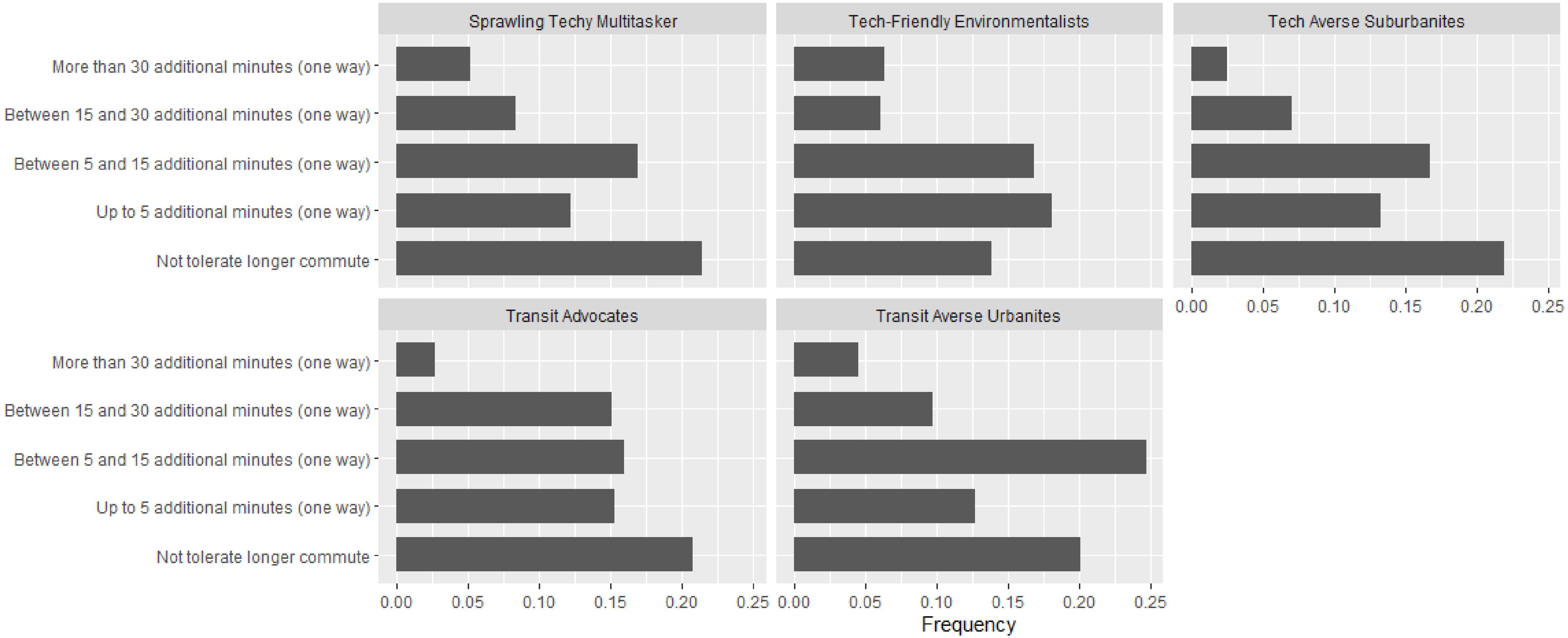


Commute Time Changes with AV by Region

- Imagine a future when you have regular access to an AV (by owning, leasing, or using automated ridehailing services) and you can do other activities while riding in an AV. How much longer would you be willing to commute in an AV (compared to your current commute)?

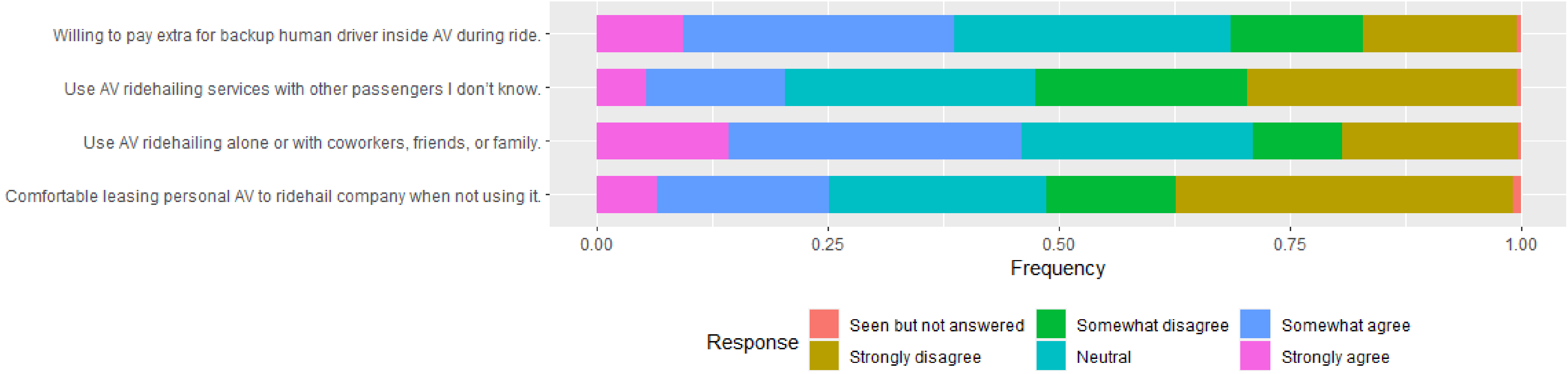


Commute Time Changes by Attitude



Willingness to Use Automated Ridehailing

- Suppose ridehailing companies (*e.g.,* Uber and Lyft) will start using AVs to serve trip requests. Please rate your level of agreement with the following statements.



Willingness to Use Automated Ridehailing by Attitudinal Class

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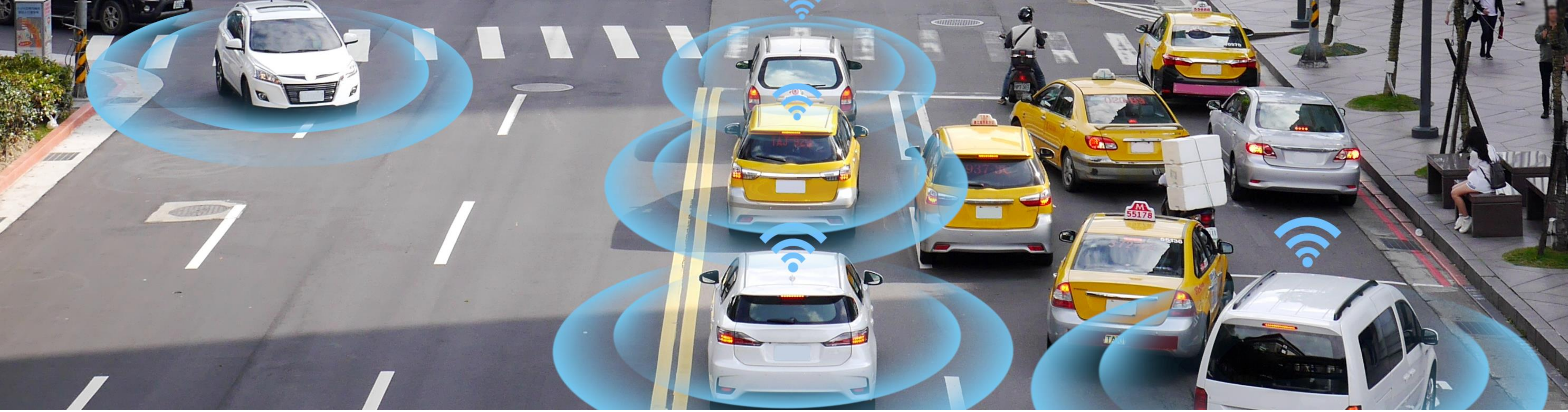

Thank you!

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