

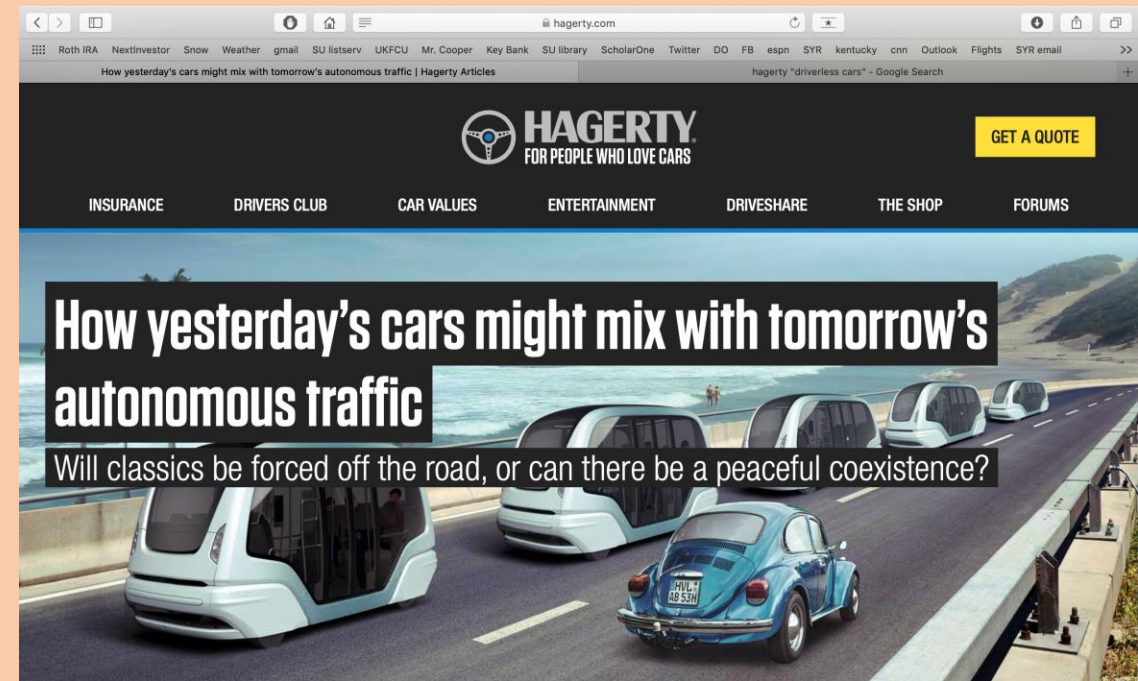


# New Technologies, Old Social Problems, and the Urban Landscape

**Jamie Winders, Director  
Autonomous Systems Policy  
Institute**

**Syracuse University**

[jwinders@maxwell.syr.edu](mailto:jwinders@maxwell.syr.edu)



# Autonomous Systems Policy Institute (ASPI)

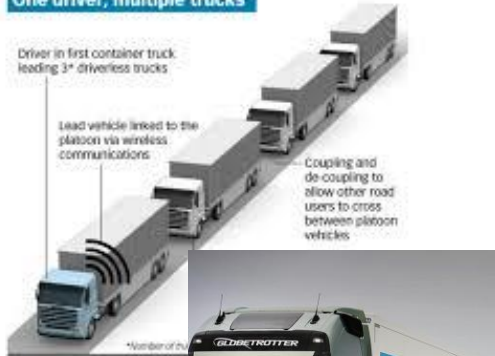
- Interest from app. 100 SU faculty
    - Across all SU schools and colleges
  - Contact with app. 100 external stakeholders
    - Insurance, aviation, engineering, automobiles, surveying, UAV design, transportation, urban and regional planning, air traffic management, disability advocacy
- (1) What would enhance interdisciplinary engagement around autonomous systems at SU?
  - (2) What are the most pressing research and policy needs related to autonomous systems?
  - (3) What skills and perspectives do SU students need to shape the design, regulation, and impacts of autonomous systems in productive and fair manners?

<https://www.maxwell.syr.edu/autonomous-policy/>

# Autonomous Systems Policy Institute (ASPI)



## One driver, multiple trucks



# URBAN AIR MOBILITY

Airbus believes that adding the third dimension to multimodal urban transport networks will improve the way we live and offer an alternative to congested megacity transport systems. To that end, the company is working with a diverse ecosystem to develop partnerships and a portfolio of projects to make urban air mobility a reality.

## Urban Air Traffic Management

Actively shaping regulations and future air traffic control requirements to safely utilise urban skies

### Voom

An on-demand service developed by A<sup>3</sup> that allows megacity dwellers to book a helicopter on a shared basis via a mobile app



### CityAirbus

A multi-passenger, self-piloted electric vertical take-off and landing (VTOL) demonstrator designed for urban air mobility with cost efficiency, high-volume production and a low environmental footprint in mind



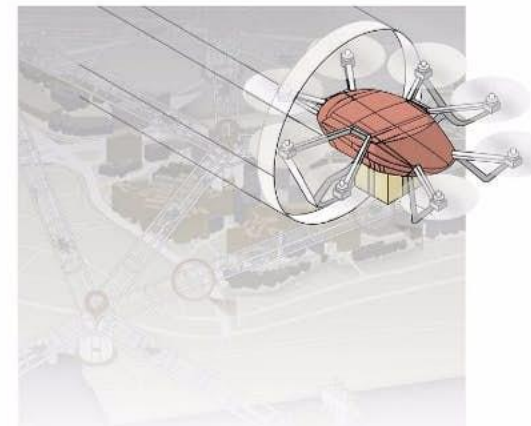
### Vahana

A single-passenger, self-piloted electric vertical take-off and landing (VTOL) aircraft being developed by A<sup>3</sup> to open up urban airways

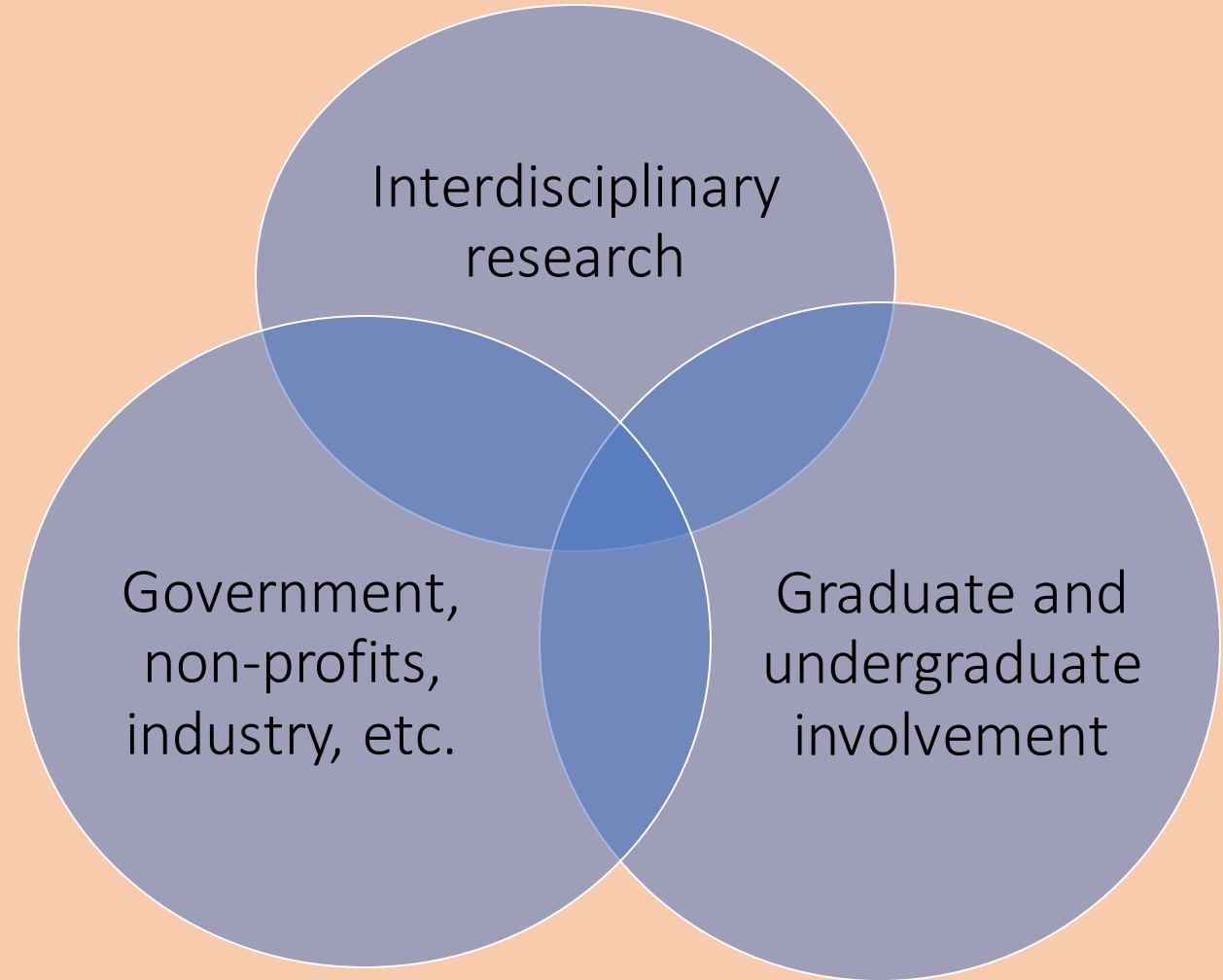
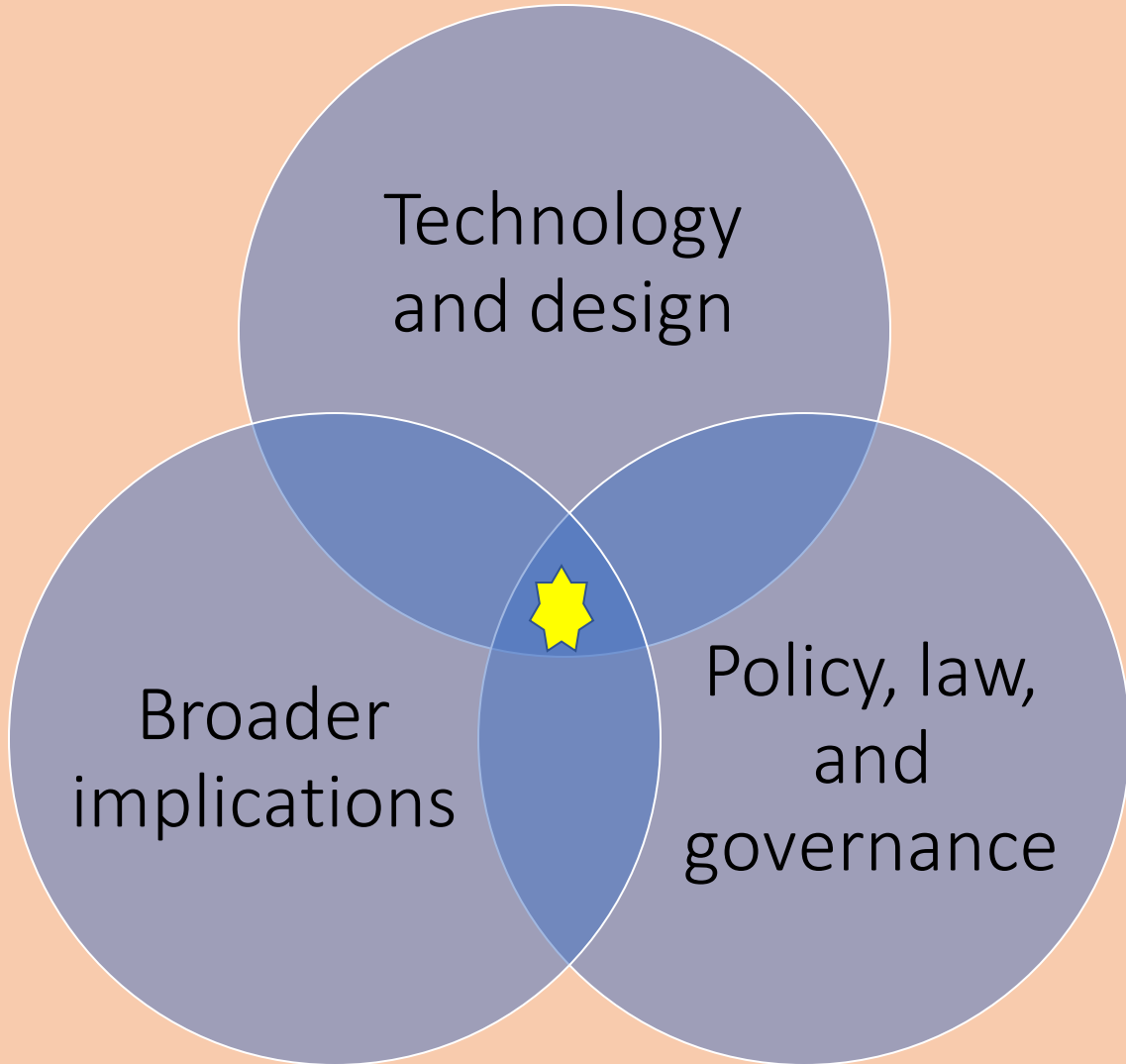


### Skyways

Collaboration with Airbus Helicopters and the National University of Singapore to test the seamless delivery of small parcels on its campus using unmanned aircraft systems



# Autonomous Systems Policy Institute (ASPI)



**Policy-  
technology  
interactions**

**Future of work**

**Human-machine  
teaming**

**Data  
visualization**

**Surveillance and  
privacy issues**

**Public  
perception, user  
experience**

**Data ownership,  
ethics, and  
management**

**Impacts on  
marginalized  
communities**

# Autonomous Systems Policy Institute (ASPI)

## Year 1: Building interdisciplinary research and teaching across SU

- New courses (*graduate and undergraduate*) on autonomous systems.
- Interdisciplinary research teams
- Events with campus and external experts (e.g., speaker series, workshops, symposia, etc.).
- Policy briefings, white papers, and working papers
- Outreach across the sectors associated with autonomous systems.
- Techniques workshops

## Year 2: Developing graduate and undergraduate curricula

- Undergraduate Integrated Learning Major in Autonomous Systems
- Graduate Certificate of Advanced Studies in Autonomous Systems
- Faculty-industry partnerships around policy, law, and governance of AUS.
- Executive education “boot camps” for government agencies, nonprofits, and industries.
- Post-doctoral positions
- Techniques workshops
- Events with campus and external experts

## Year 3: Establishing ASPI's reputation for interdomain, interdisciplinary research and teaching on AUS

- Postdoctoral students and visiting scholars
- Short-term executive fellowships for industries/sectors associated with AUS
- Educational events in DC, NYC, and West Coast
- Workshops for Congressional staff

**Liability/legal  
questions?**

**Design  
questions?**

**Socialization  
questions?**

**Built  
environment  
questions?**

**Behavioral  
questions?**

**Infrastructure  
questions?**

**Public  
acceptance/  
safety questions?**

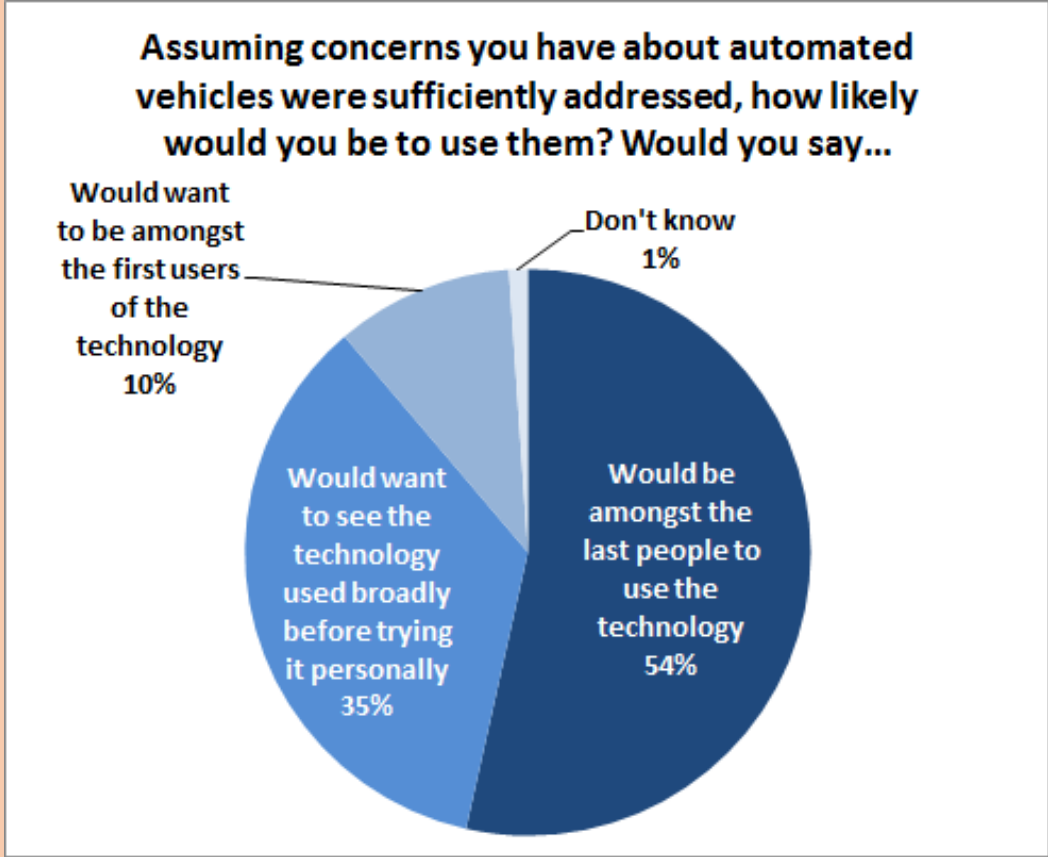
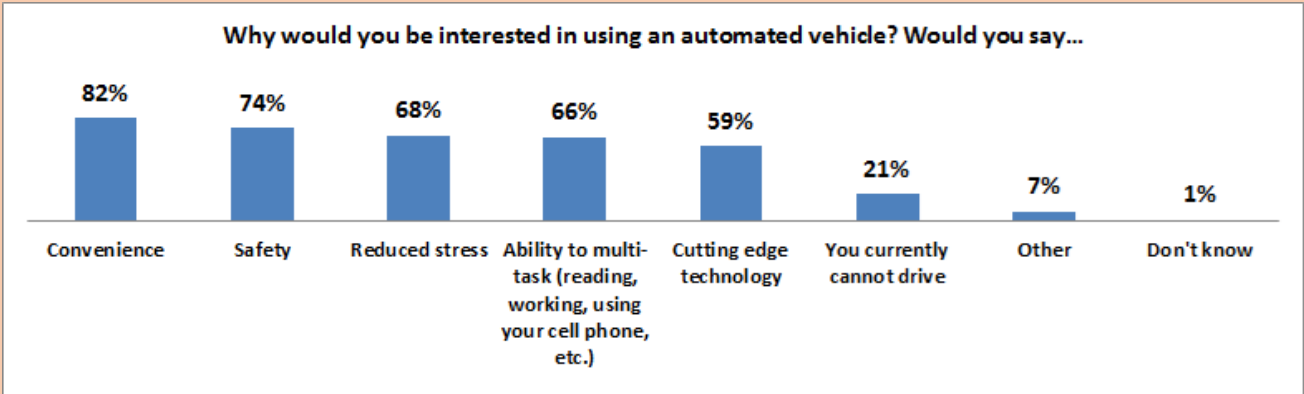
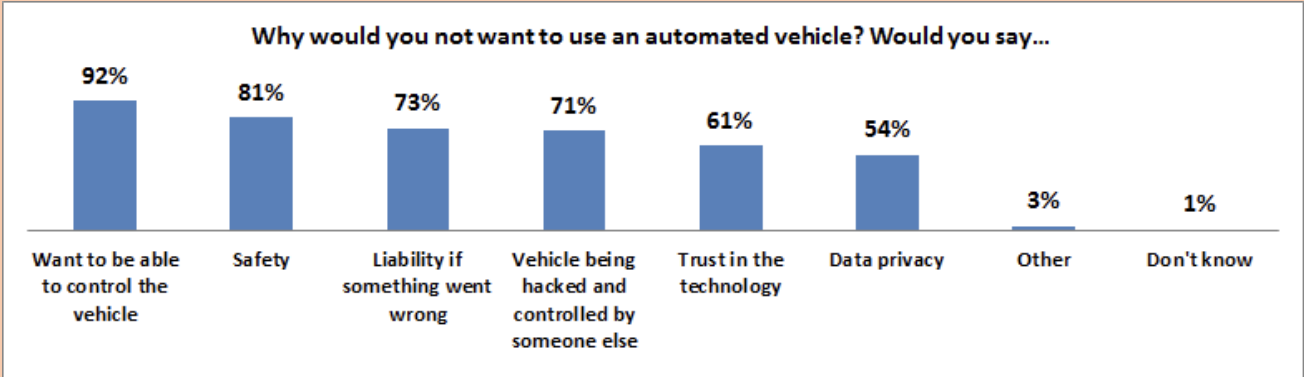
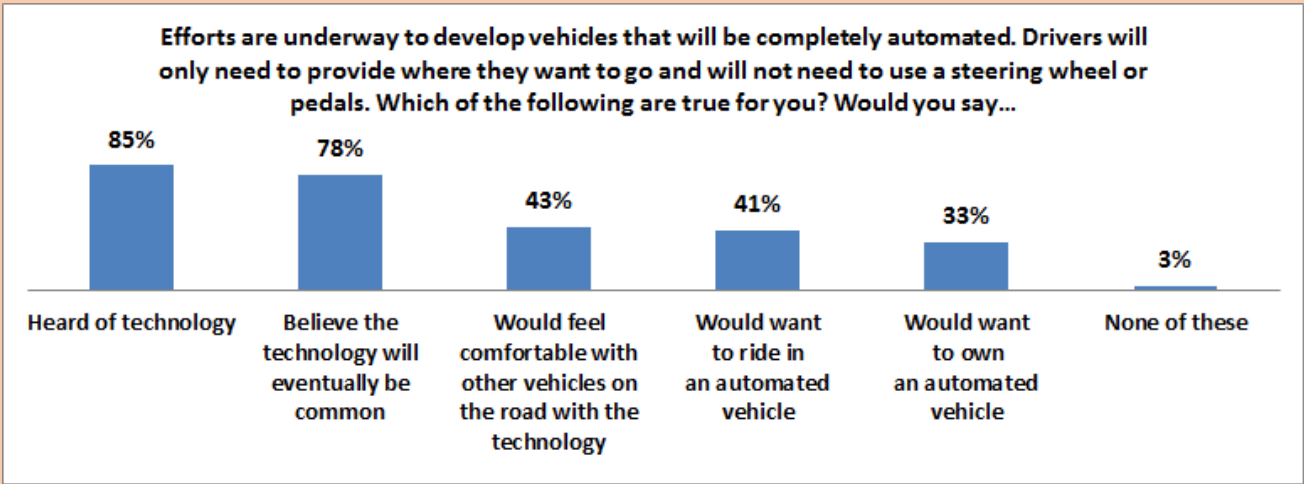
**But... old  
questions  
remain...**



**Question 1: What kinds of autonomous systems are likely to impact your city/region?**

**Question 2: How will local residents respond to these new systems?**

2017 survey of app. 1000 US residents for National Renewable Energy Lab



“Energy Implications of Current Travel and the Adoption of Automated Vehicles”  
 Kelly Fleming and Mark Singer

**Question 1: What kinds of autonomous systems are likely to impact your city/region?**

**Question 3: Who ensures the safety of autonomous vehicles, and how? Who communicates that safety to the wider public?**

**Question 2: How will local residents respond to these new systems?**



**Question 1: What kinds of autonomous systems are likely to impact your city/region?**

**Question 3: Who ensures the safety of autonomous vehicles, and how? Who communicates that safety to the wider public?**

**Question 2: How will local residents respond to these new systems?**



**Question 5: What arrangements/partnerships are productive for you, for your city, for your residents, and for the companies involved?**



**Question 6: How will –  
and how *should* – your  
city/region change in  
response to autonomous  
vehicles?**

**Question 7: What rules,  
norms should be in place to  
guide the use, presence of  
autonomous vehicles in  
your city/region?**

# Are we ready for autonomous vehicles? (Probably not)

Survey of transportation and planning officials in 120 US cities with populations greater than 100,000 residents.

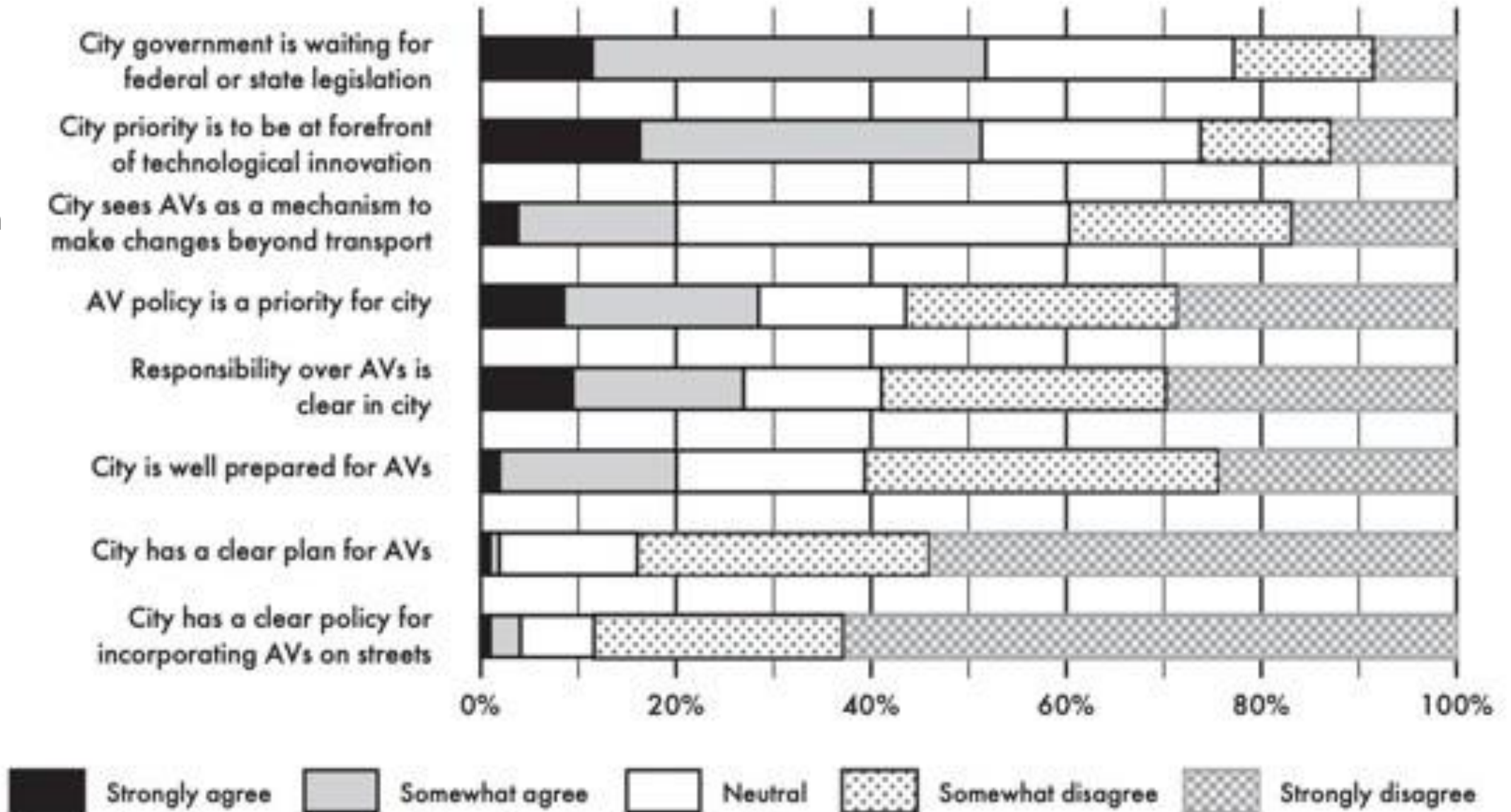


Figure 1. Respondents' sense of preparations for autonomous vehicles.

Anne Hudson, Jinhua Zhao, and Yonah Freemark in *Journal of the American Planning Association*

# Can new technology solve old social problems?

**(Probably not)**

- (1) Plan for the livable community you want, not for autonomous vehicles.
- (2) Determine where community and industry interests align and diverge.
- (3) Acknowledge different rates of change associated with autonomous vehicles. ***Whose pace SHOULD drive policy creation and planning?***
  - Fast technological change.
  - Slow, then sudden social acceptance.
  - 'Unchangeable' infrastructure.
  - Slow and sporadic policy creation.
- (4) Accept that there will be competition for autonomous vehicles in US communities AND pushback against them.

**Your questions,  
concerns, ideas?**

**[jwinders@maxwell.syr.edu](mailto:jwinders@maxwell.syr.edu)**