



# Optimal Locations for Air Mobility Vertiports

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Project Status Update  
January 2022

This material is based upon work supported by, or in part by, the National Aeronautics and Space Administration under Contract NOIS2-049-RFTP



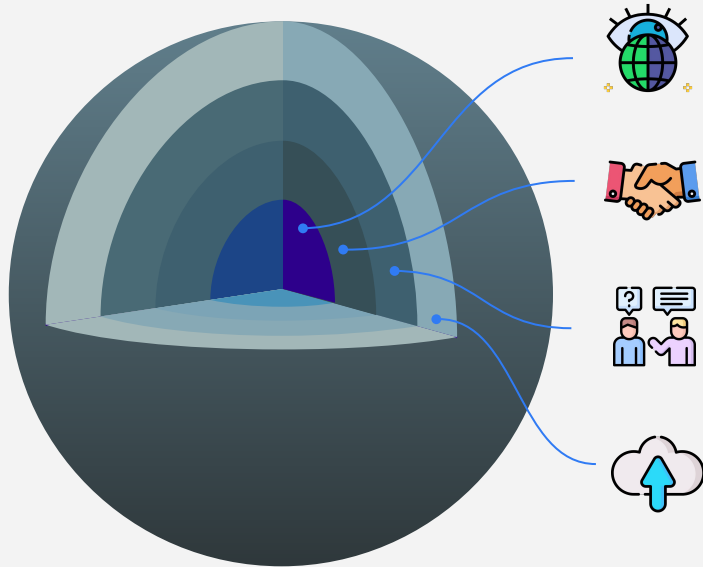
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*Wyatt created Maven to solve a problem he faced as an engineer and researcher: how to get the right knowledge and insights from the right people.*

# Knowledge Networks



**Employees:** Discover and share knowledge within your company



**Contractors:** Onboard, organize, manage, and compensate consultants



**Alumni:** Retain access to “tribal knowledge” after employees leave



**Marketplace:** Supplement your network with the Maven Knowledge Marketplace

# The Maven Knowledge Marketplace

**Over half a million Mavens in 220 Countries with over 5 BILLION hours of combined experience.**

## Including:

- Astronomers in Antarctica
- Biologists in Brunei
- CEOs in China
- Potato Chip Factory Managers in Pakistan
- Safari Organizers in South Africa

- |                  |                        |                |
|------------------|------------------------|----------------|
| 1 United States  | 8 South Africa         | 15 Philippines |
| 2 India          | 9 United Arab Emirates | 16 France      |
| 3 United Kingdom | 10 Italy               | 17 Kenya       |
| 4 Canada         | 11 Brazil              | 18 Mexico      |
| 5 Pakistan       | 12 Egypt               | 19 Spain       |
| 6 Australia      | 13 Saudi Arabia        | 20 Germany     |
| 7 Nigeria        | 14 Bangladesh          |                |

# Apps



## CONSULTATIONS

Speak directly with pre-qualified experts on your topics of interest.



## SURVEYS

Source responses to professionally-written questions from highly targeted populations.



## INNOVATION CHALLENGES

Crowdsource solutions to your most complex problems.



## CONSULTING PROJECTS

Hire an expert to digest your data, research a topic, take you on a tour, or solve a problem.



## COMING SOON! CHAT

Get quick answers and insights, prepare for Consultations, or keep the conversation going after the call.



## VIRTUAL ROUNDTABLES

Meet others sharing similar interests, expertise, and challenges without leaving your desk.



## ADVISORY BOARDS

Hire a team of mentors to provide strategic advice over the long term.



## TALENT

Source the right professionals to join your team on a part-time, temporary, or full-time basis.

# Study Overview

**Purpose:** To effectively solicit the public to obtain inputs on potential Advanced Air Mobility (AAM) vertiport locations for UAM and RAM operations that transport people, specifically:

- **Where they would like to see vertiports located**, and
- **How they would like to use this new mode of transport** (e.g. for “local” trips across town, for more “regional” trips between cities/towns, for business-related purposes, for leisure/personal purposes, routinely or only for “special” occasions, etc.)

**Methodology:** Maven conducted an **Electronic Survey** of individuals residing in specific geographies in order to obtain a broadly representative sample of the citizenry across all demographics and population density designations (e.g. rural, exurban, suburban, and urban). For the purposes of this Survey, Maven received input from over 1,500 individuals divided between the Los Angeles Metropolitan area (as a general proxy for urban residents), and the state of Ohio (as a general proxy for suburban, exurban, and rural residents).

# Survey Methodology

- Open to general public, but only targeted, paid sample in the targeted geographies is used in this analysis.
- Response quotas based on nested demographic characteristics, including location, population density designation (e.g. urban, suburban, exurban, rural), sex, race, and ethnicity. Other demographic data (age, employment status, income, etc.) collected, but not used for quotas due to complexity.
- “General-to-Specific” flow - initial questions do not mention AAM topic, which is revealed gradually to educate respondents and ensure first impressions are captured effectively.
- Mix of quantitative/structured and qualitative (open response) question types.
- Responses reviewed for quality, with unacceptable or low quality responses removed from analysis.
- All raw data, including unpaid responses, partial completes, and responses removed for quality control, are available to the Government. Respondents are **not** personally identifiable in the dataset.
- Further documentation of design choices and methodology available from Maven.

# January 2022 Update

- The following data was collected between **October 13, 2021** and **January 14, 2022**, with most sample received in the first 30 days.
- Sampling since mid-November has prioritized Hispanic/Latino respondents, especially in the LA Metro area.
- The Survey is closed; no further responses are being collected.



# Demographics - Geography

Location	Type	Quota	Completes	% of Target	Partial Completes	Completion Rate
LA Metro	Paid	750	759	101%	270	74%
Ohio	Paid	750	764	102%	291	72%
Other*	Unpaid	0	33	N/A	519	6%
<b>Total</b>			1,556		1,080	59%

\* Unpaid US participants via public link.

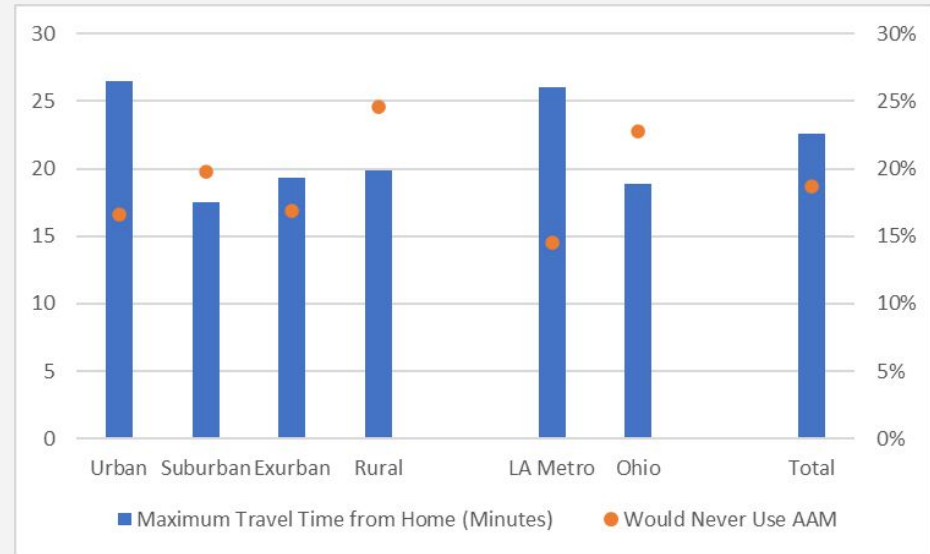


# Key Insights



# Key Findings – Vertiport Locations

To be considered a practical alternative to other forms of transportation, most respondents would like vertiports to be located **within 20 minutes of their homes**, although Urbanites expressed willingness to spend longer (average 27 minutes) getting to one.

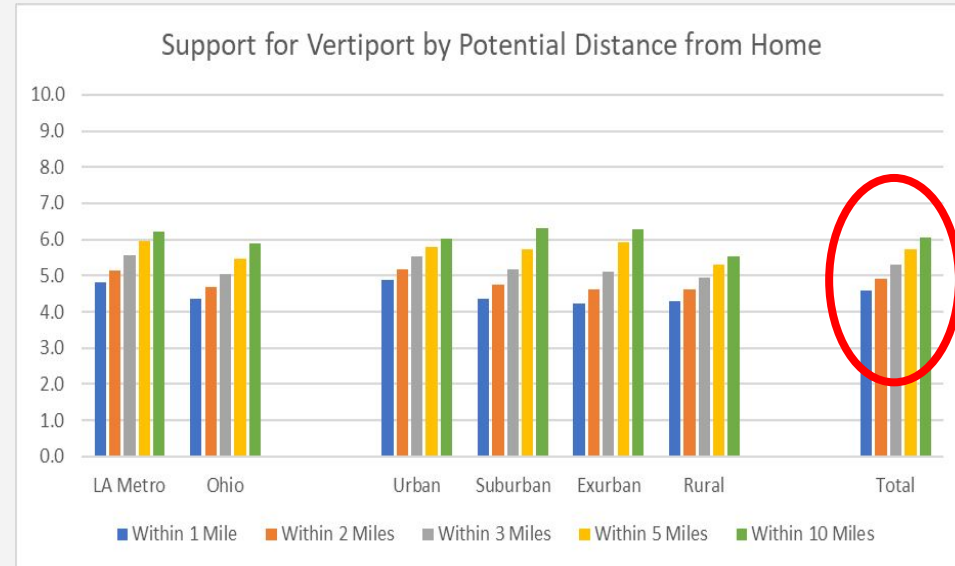


# Key Findings – Vertiport Locations

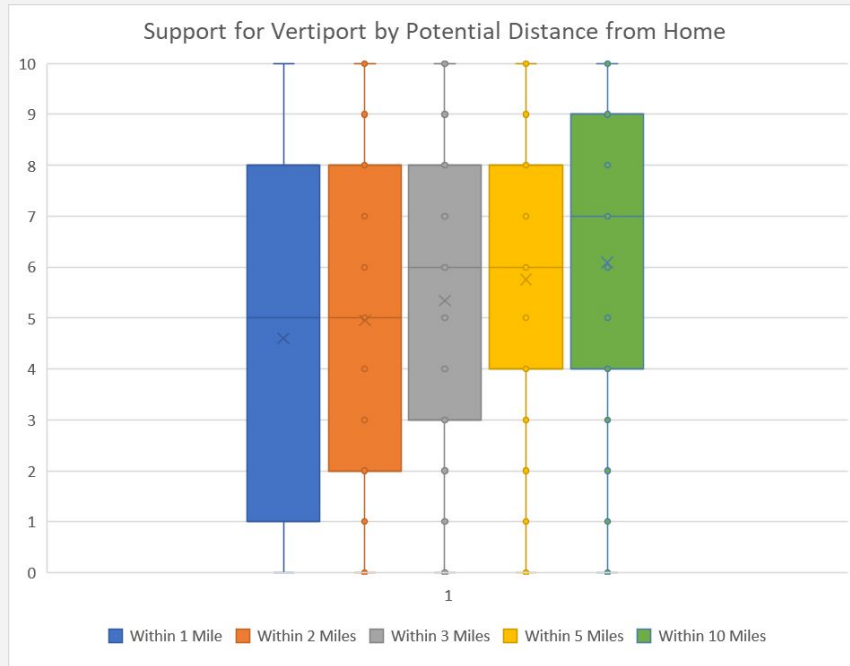
However, even at a distance of 10 miles away, **respondents are only lukewarm to the prospect of vertiports near their homes.**

LA Metro respondents were generally more accepting of the idea than Ohioans.

Overall support was highest among Suburban respondents.



# Key Findings – Vertiport Locations



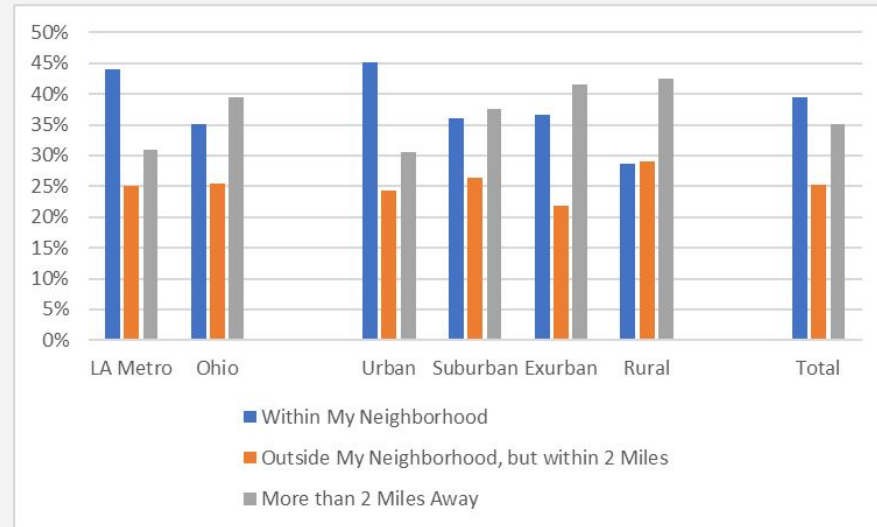
**Both support and opposition are strong, causing high variance in the data.** In other words, reactions are intense - respondents seem to either strongly support or strongly oppose vertiports in their areas.

	1 Mile	2 Miles	3 Miles	5 Miles	10 Miles
<b>Mode</b>	0	0	0	10	10
<b>Median</b>	5	5	6	6	7
<b>Mean</b>	4.6	4.9	5.3	5.8	6.1
<b>Standard Deviation</b>	3.6	3.4	3.3	3.2	3.3

# Key Findings – Vertiport Locations

Framing the question in relative terms (next door, down the street, etc.) yields quite different - and generally more positive - results.

**When asked in this way, nearly two-thirds of respondents indicated that a vertiport would be ideally located within 2 miles of their homes.**



# Key Findings – Vertiport Locations

On average, respondents prefer vertiports to be located approximately **30% closer (by travel time) to their workplaces than to their homes.**

Travel Time in Minutes to Vertiport from Workplace:

	Walking	Bicycle	Driving	Public Transportation
LA Metro	21	13	9	14
Ohio	26	7	9	7
Urban	24	11	9	14
Suburban	27	17	9	7
Exurban	16		7	
Rural	17	3	9	
Total	23	12	9	12

# Key Findings – Vertiport Locations

A major factor that influences this is the **First/Last Mile Transportation Issue** noted by many respondents:

*"If it can't deliver me to my actual destination, then I still need to rent a car, bring kids' car seats, etc. This only works great if it can take me very close to my destination."*

*"How do you get around from there?"*

*"Still need a car once I get there..."*

*"Getting to/from the vertiport without my vehicle..."*



# Key Findings – Vertiport Locations

Population Density has a strong influence on where respondents would put vertiports.

Relative Location	LA Metro	Ohio	Urban	Suburban	Exurban	Rural	Total
On the roof of your house or building	8%	4%	8%	4%	4%	3%	6%
In your yard	3%	3%	3%	3%	5%	5%	3%
Next door	2%	1%	2%	1%	2%	2%	2%
Down the street	8%	8%	9%	8%	10%	5%	8%
A few blocks away	12%	9%	13%	8%	11%	6%	10%
More than a few blocks away, but within your neighborhood	11%	10%	11%	12%	5%	8%	10%
Outside of your neighborhood, but within a mile	14%	13%	13%	14%	8%	16%	13%
Within 2 miles	11%	13%	11%	12%	13%	13%	12%
More than 2 miles away	31%	39%	31%	38%	42%	42%	35%

# Key Findings - Vertiport Locations

Rank	Best	Worst
1	Public Transit Station	<b>School</b>
2	In a Field	In a Park
3	On Top of Parking Garage	Shopping Center
4	Roof of Building	Roof of Building
5	Parking Lot	Sporting Venue
<b><i>Most Frequent Write-In Response</i></b>	<i>Existing Airport/Heliport</i>	<i>“Not close to my house.”</i>

# Key Findings – Vertiport Locations

Respondents were asked to describe their biggest concerns with the prospect of having a vertiport built in their area. As expected, **increased noise, traffic, and congestion, as well as safety concerns, were the most common responses.**



# The Ideal Vertiport Location (Summary Statement)

*“Close enough to home that it is convenient to get to (within 20 minutes or so), but far enough away that I don’t have to see or hear it. In other words, not in my neighborhood... unless I happen to live in a high rise in a city, in which case I want it on top of my building.*

*Close enough to my workplace that it’s a quick and easy walk or shuttle ride, so I don’t need a car on the other end.*

*Not close to schools or parks. At or near existing public transit stations or at the [abandoned mall/vacant lot/old gas station/empty field/other eyesore property] down the road would be perfect.”*

# Key Findings – AAM Concept Acceptance

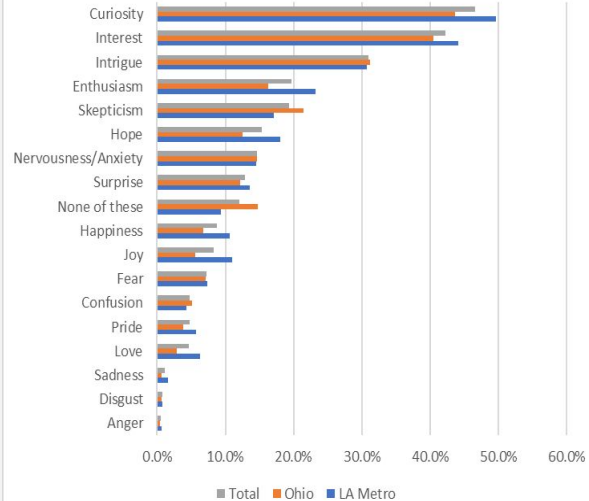
The video prompted a significant increase in positive sentiments regarding the AAM concept.

	LA Metro	Ohio	Total
After AAM Concept Intro Part 1 (Basic Description)	+22.0	+12.1	+17.3
After AAM Concept Intro Part 2 (More Details and Vehicle Images)	+19.6	<b>+7.5</b>	+13.6
After Vertiport Intro (Animation and Description)	<b>+26.3</b>	+18.3	+22.3

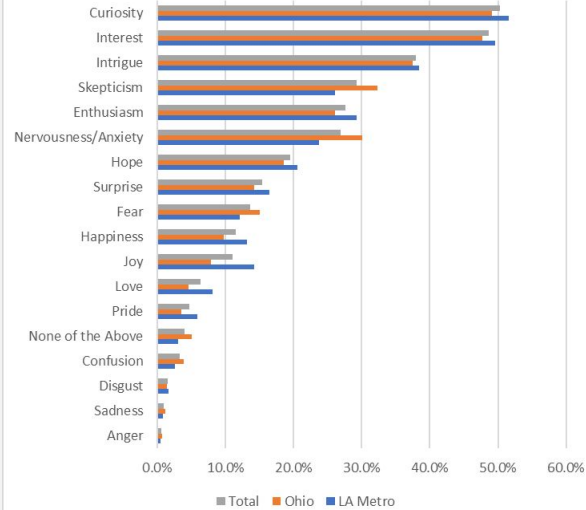
Sentiment Score = ((Positive Impressions - Negative Impressions) / Total Impressions) \* 100

# Key Findings – AAM Concept Acceptance

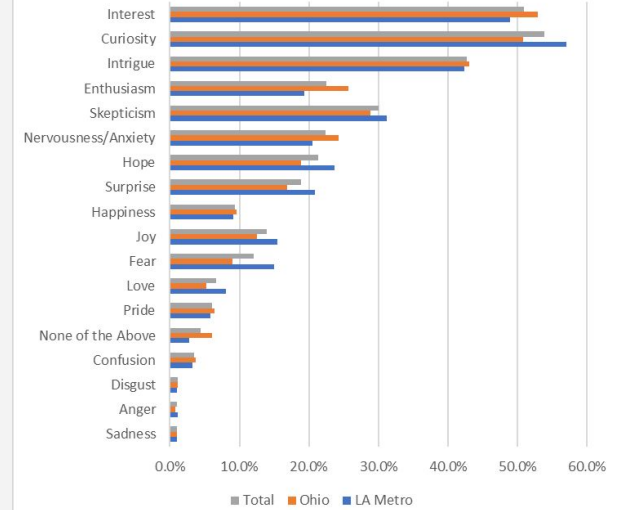
Initial Sentiment (after brief AAM introduction)



Secondary Sentiment (after AAM Intro Part 2)

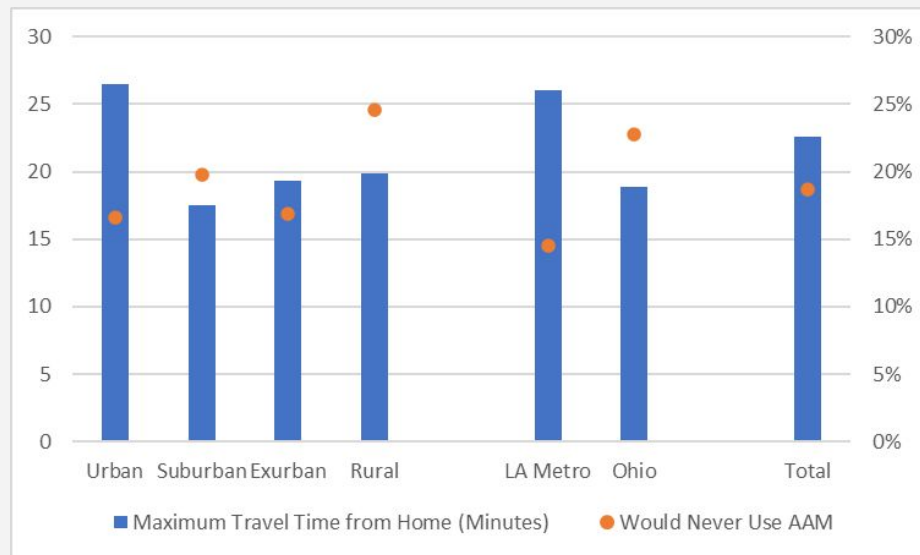


Tertiary Sentiment (after Vertiport Intro)



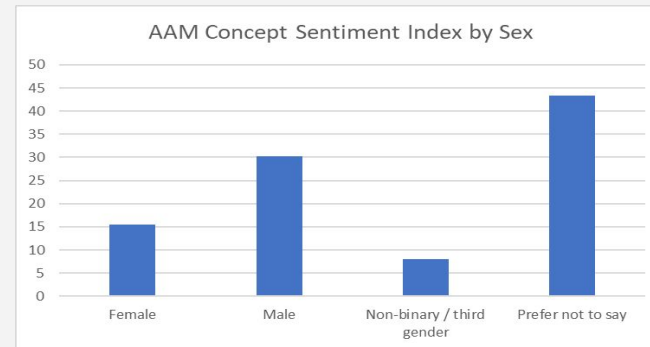
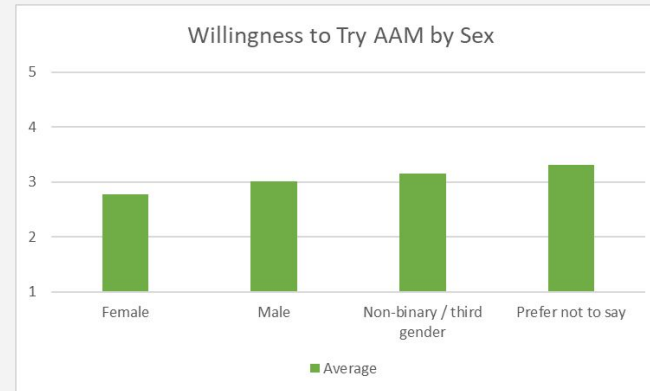
# Key Findings – AAM Concept Acceptance

Approximately 20% of respondents indicated that they **would never try AAM under any circumstances**. This sentiment was highest among Rural respondents (25%) and lowest among Urban respondents (16%).



# Key Findings – AAM Concept Acceptance

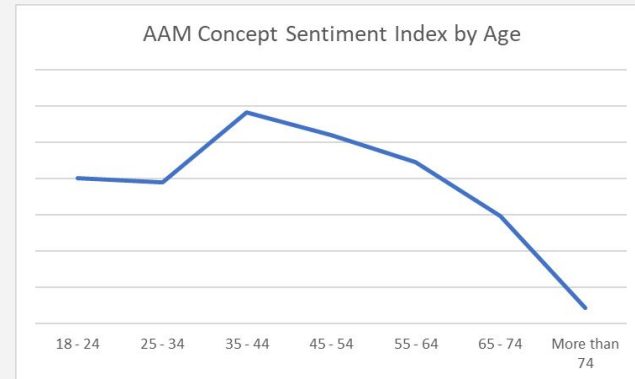
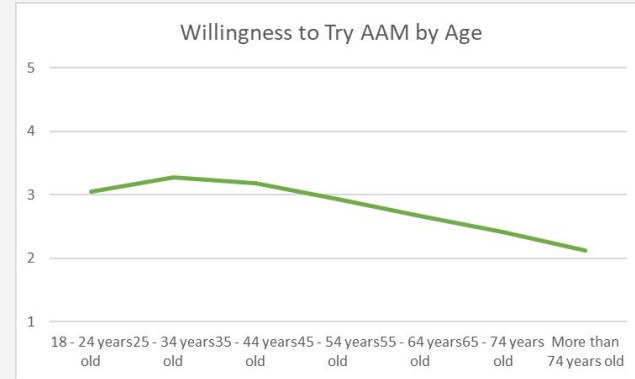
**Men expressed more enthusiasm than women for AAM.** Those who identified as non-binary or preferred not to state their sex expressed the highest overall enthusiasm and willingness, though sample size was very small.





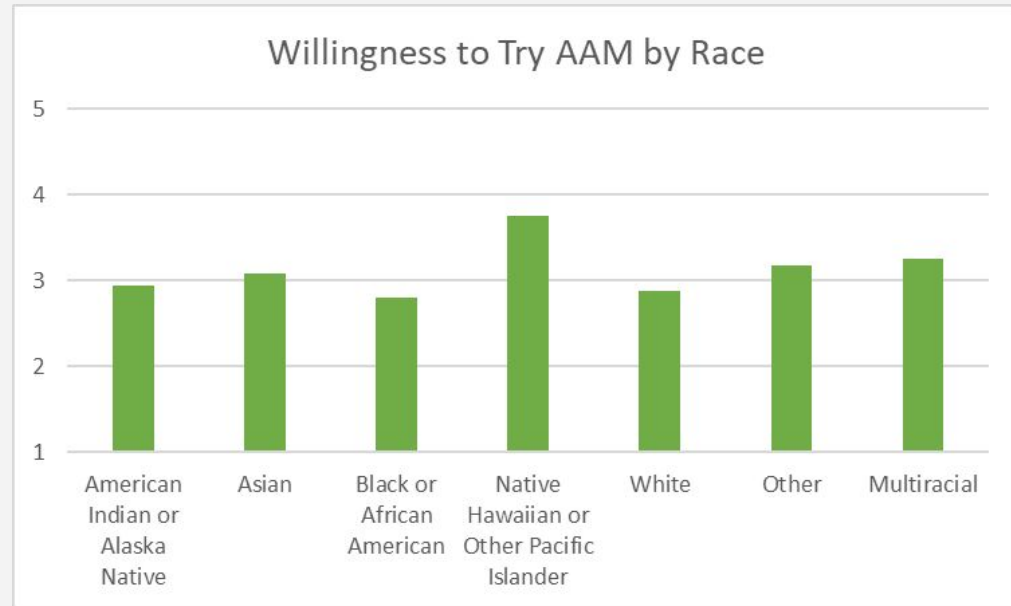
# Key Findings – AAM Concept Acceptance

Age is a strong indicator of sentiment toward and willingness to try AAM, peaking among **25-to-34-year-olds**, and declining steadily thereafter.



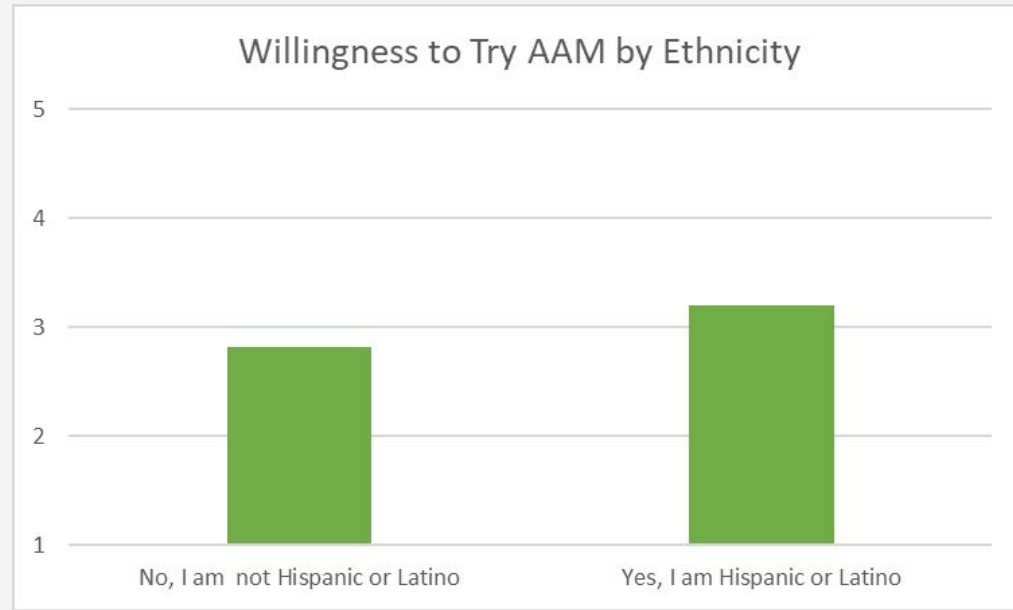
# Key Findings – AAM Concept Acceptance

Respondents who identified as **Native Hawaiian or Other Pacific Islander** expressed the greatest willingness to try out AAM (though small sample size). Among the major racial groups, **Asians** expressed the greatest willingness to try it, followed by Whites, and then Blacks or African Americans.



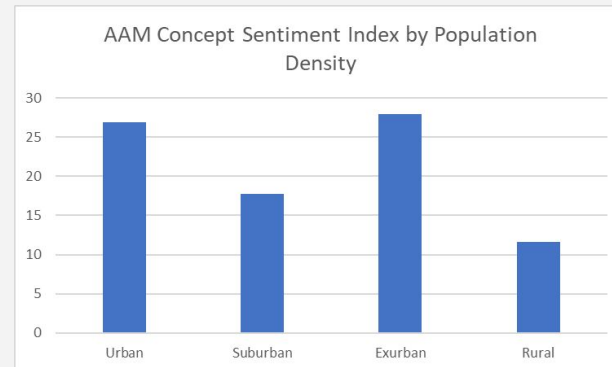
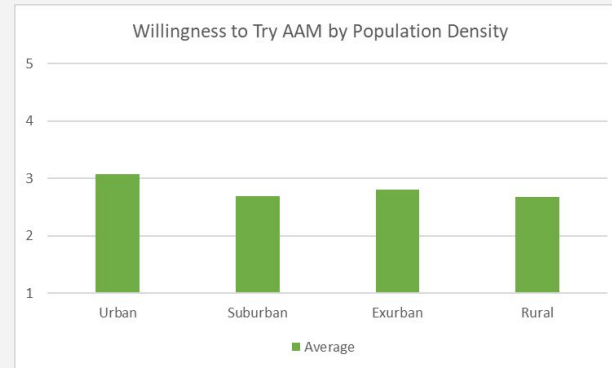
# Key Findings – AAM Concept Acceptance

Respondents who identified as **Hispanic or Latino** expressed greater willingness to try out AAM than non-Hispanic or Latino respondents.



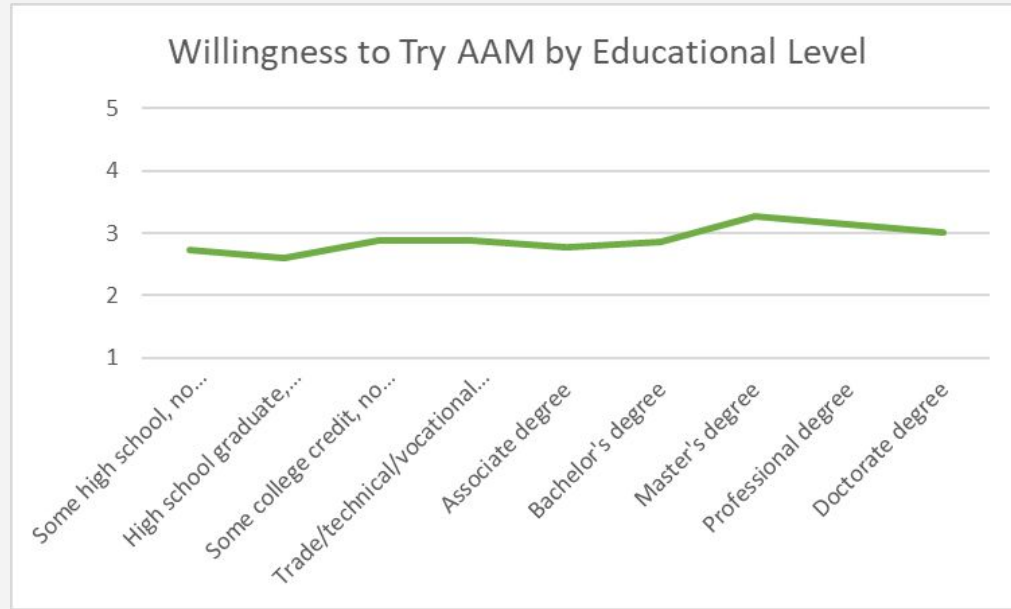
# Key Findings – AAM Concept Acceptance

**Urbanites expressed more willingness to try out AAM** than those living in less densely populated areas, while **those in Exurban areas showed the greatest enthusiasm for the AAM concept**. Rural residents were the least enthusiastic about it and least willing to try it.



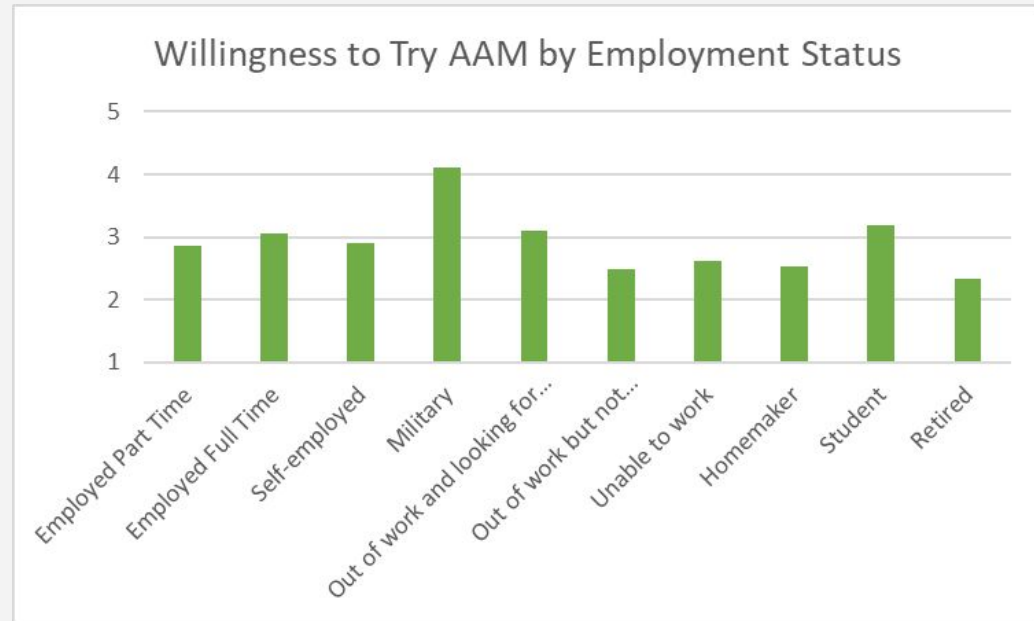
# Key Findings – AAM Concept Acceptance

Educational Level does not appear to be strongly correlated with acceptance of the AAM concept, although **advanced degree holders were slightly more willing to try it than others.**



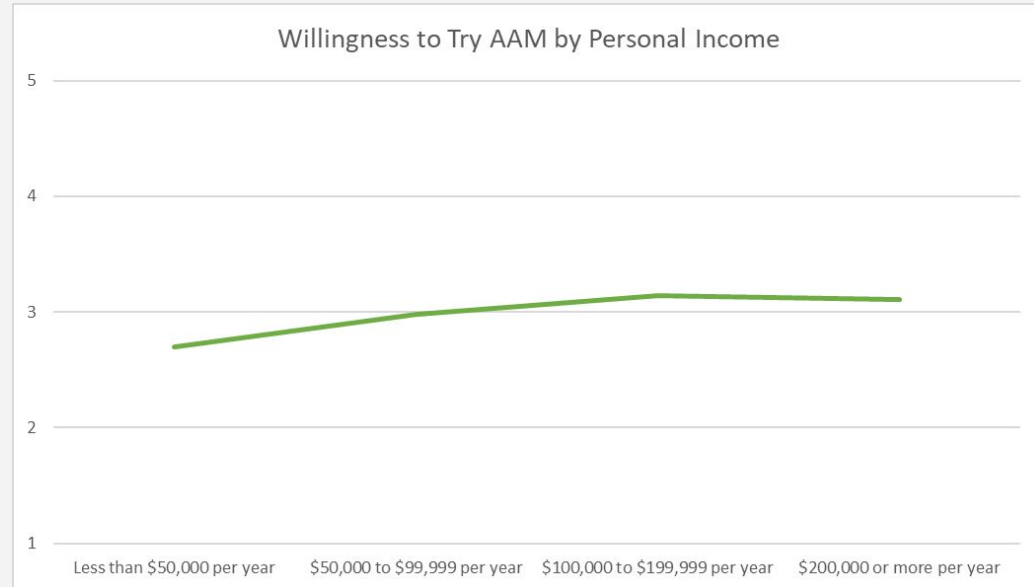
# Key Findings – AAM Concept Acceptance

**Employed individuals** are more likely to be willing to try AAM than those who are not employed. Retirees, those who are out of work but looking for work, and homemakers are by far the least likely to try AAM.



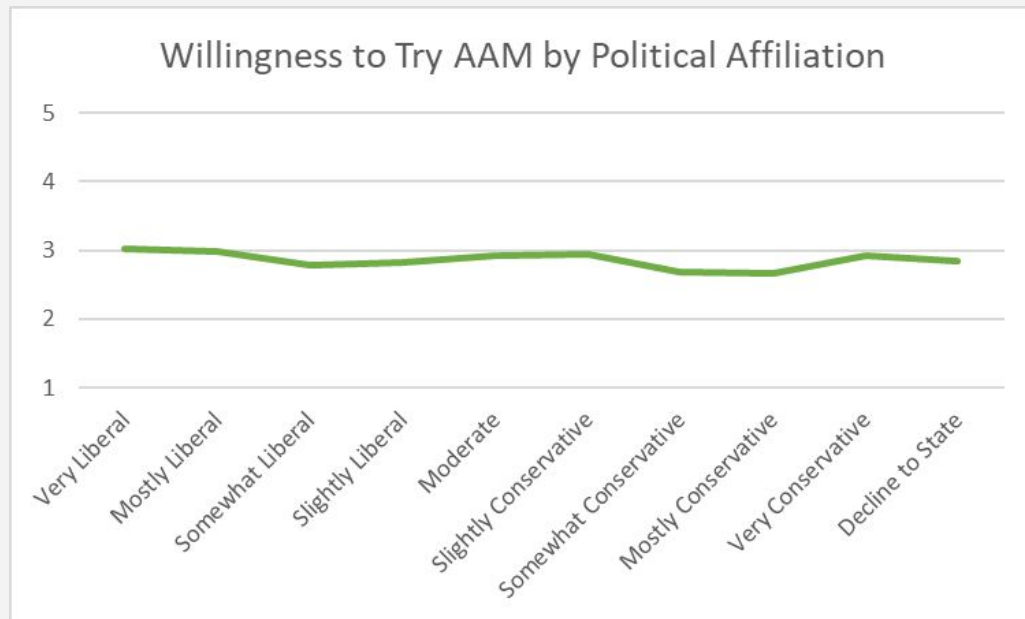
# Key Findings – AAM Concept Acceptance

Willingness to try AAM is correlated to personal income, with the highest level expressed by those earning **\$100,000 - \$199,999 per year**.



# Key Findings – AAM Concept Acceptance

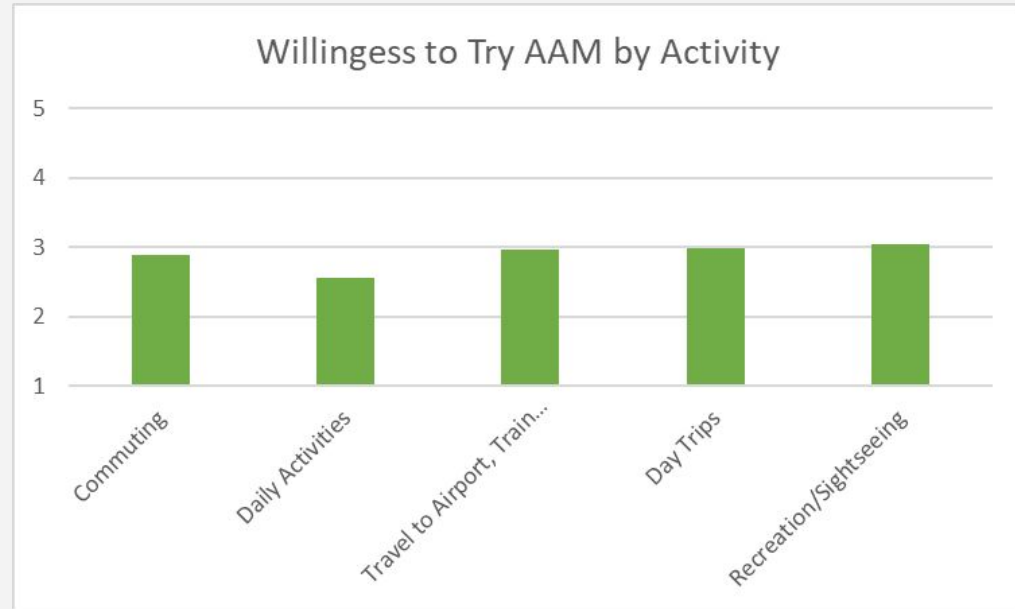
There is a slight correlation between political affiliation and willingness to try AAM, with **self-described Liberals generally more willing than self-described Conservatives.**





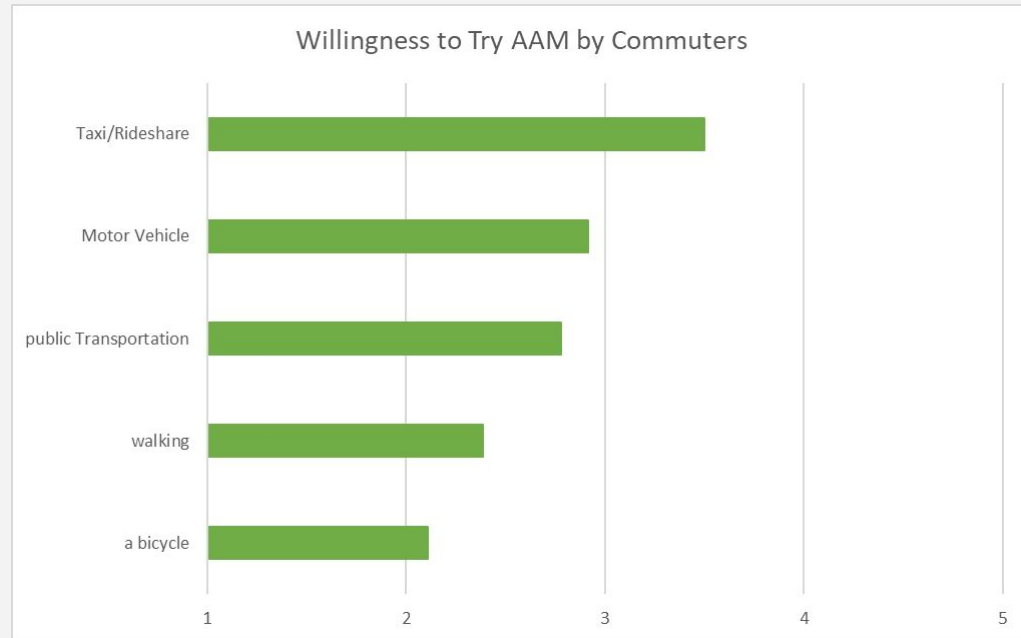
# Key Findings – AAM Concept Acceptance

**Recreation/sightseeing** is the activity for which respondents are most likely to try out AAM, followed by Day Trips and Travel to/from long-distance transportation hubs (airport, train station, etc.)



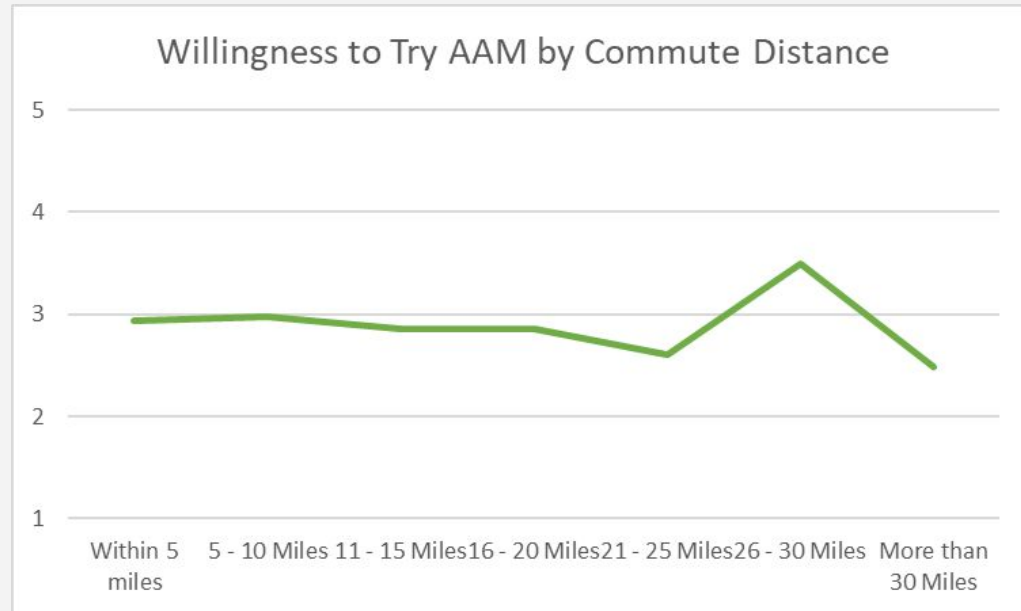
# Key Findings – AAM Concept Acceptance

Notably, **AAM appears attractive to commuters who primarily use taxis or rideshares to get to work**, but not attractive to those who commute in other ways, including other forms of public transportation.



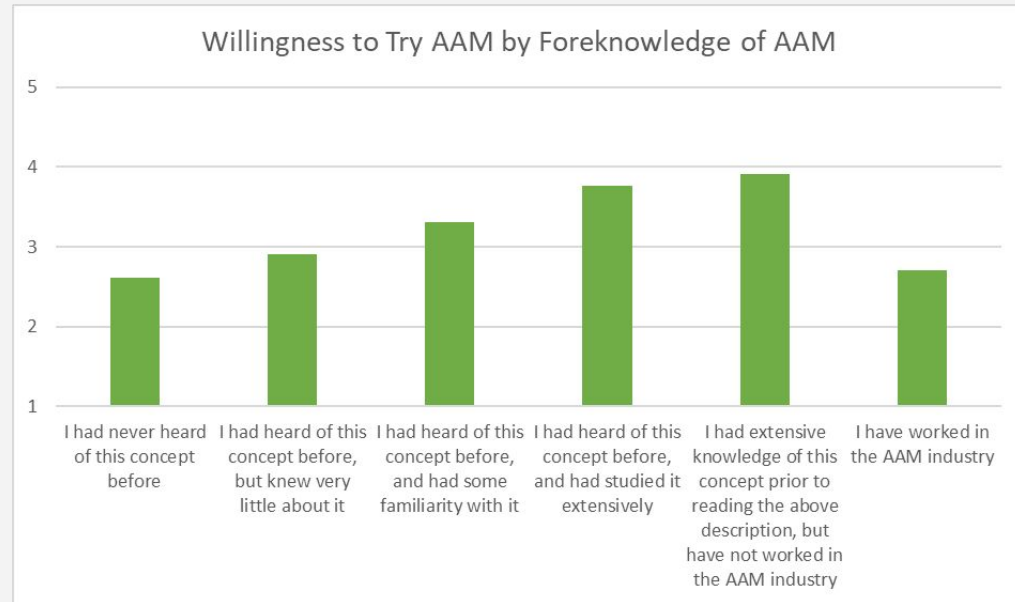
# Key Findings – AAM Concept Acceptance

**Curiously, individuals with longer commutes appear less willing to try AAM than those with short commutes**, except possibly among those with commutes of 26 - 30 Miles (could also just be noise in the data).



# Key Findings – AAM Concept Acceptance

Unsurprisingly, **willingness to try AAM is directly correlated to level of previous knowledge** of AAM. However, note the dropoff among people who have actually worked in the industry.

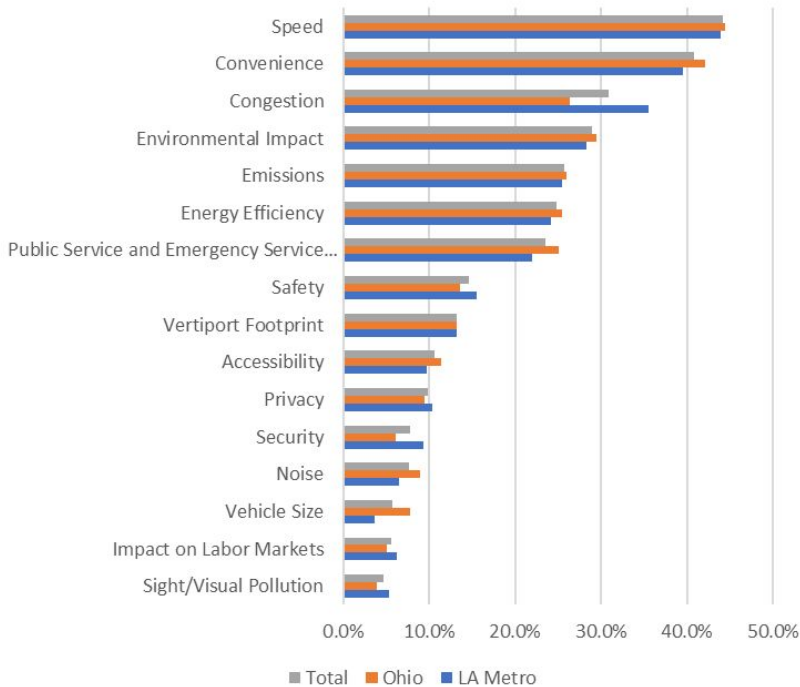


# “Most Willing” Persona

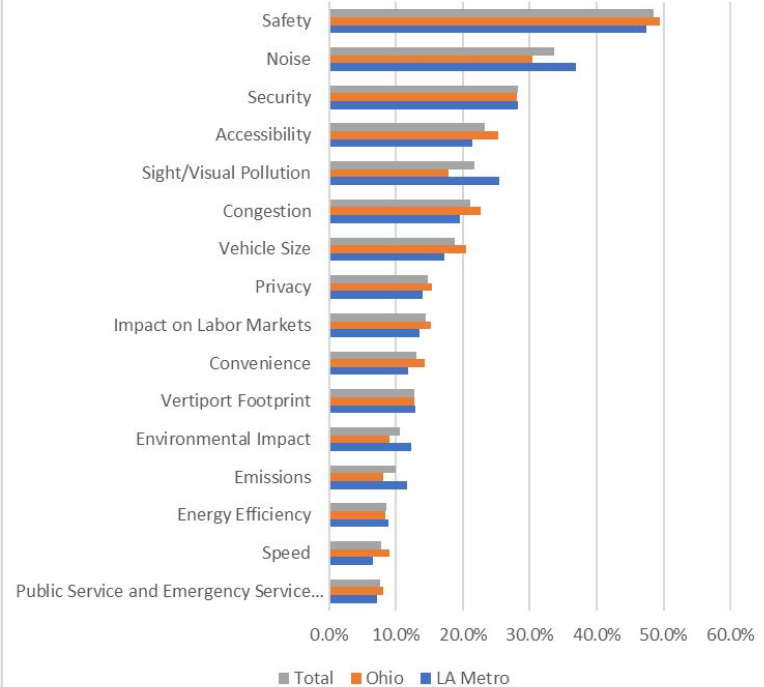
Working age Asian American men with advanced degrees who live in urban areas and earn between \$100k and \$200k per year.

# Key Findings - Perceived Benefits and Drawbacks of AAM

## Benefits



## Drawbacks





# Demographic Data



# Demographics - Population Density

Location	Urban (>3,000/mi <sup>2</sup> )	Suburban (1,000 - 3,000 /mi <sup>2</sup> )	Exurban (400 - 1,000 /mi <sup>2</sup> )	Rural (<400/mi <sup>2</sup> )
LA Metro	77.7%	14.3%	4.0%	4.0%
Ohio	22.0%	38.0%	14.6%	25.4%
TOTAL	49.8%	26.2%	9.3%	14.7%



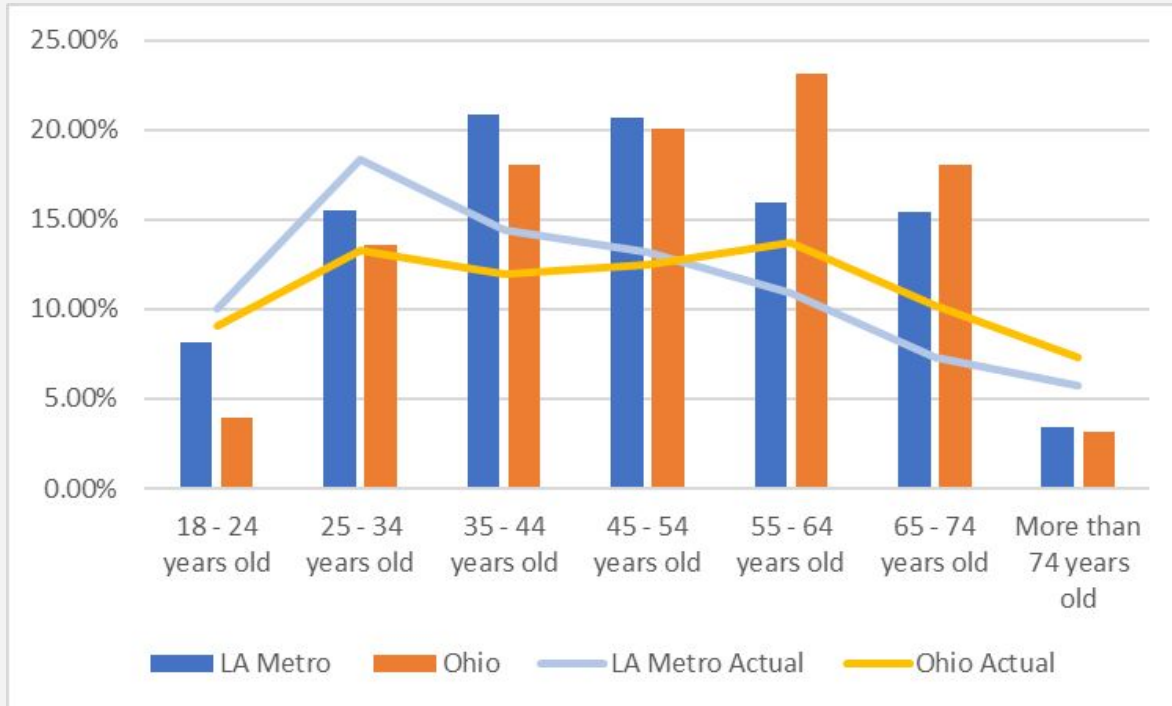
# Demographics - Race

Location		American Indian or Alaska Native	Asian	Black or African American	Native Hawaiian or Other Pacific Islander	White	Other	Selected Multiple Races
LA Metro	Responses	1.8%	13.2%	7.5%	1.1%	72.9%	5.5%	1.1%
	Actual (US Census Estimate for 2019)	1.3%	16.9%	7.3%	0.4%	70.8%	3.3%	
Ohio	Responses	1.3%	2.4%	11.5%	0.4%	83.6%	2.4%	1.0%
	Actual (US Census Estimate for 2019)	0.3%	2.5%	13.1%	0.1%	81.7%	2.3%	
TOTAL	Responses	1.6%	7.8%	9.5%	0.7%	78.2%	3.9%	1.0%

# Demographics - Sex and Ethnicity

Location		Male	Female	Non-binary/ Third Gender or Prefer Not to State		Hispanic or Latino	Not Hispanic or Latino
LA Metro	Responses	44.5%	53.5%	2.0%		32.2%	67.8%
	Actual (US Census Estimate for 2019)	49.3%	50.7%	N/A		45.1%	54.9%
Ohio	Responses	46.2%	52.0%	1.8%		2.6%	97.4%
	Actual (US Census Estimate for 2019)	49%	51.0%	N/A		4.0%	96.0%
TOTAL	Responses	45.4%	52.7%	1.9%		17.3%	82.7%

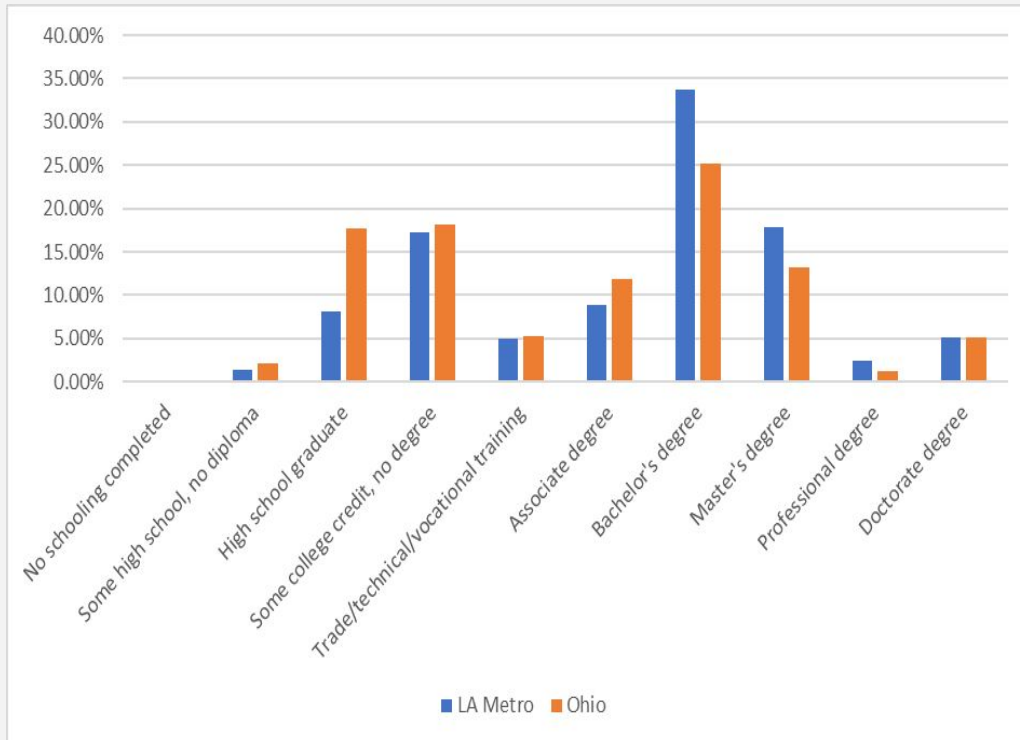
# Demographics - Age



# Demographics - Disability Status

Location	Ambulatory Difficulty	Cognitive Difficulty	Hearing Difficulty	Independent Living Difficulty	Self-Care Difficulty	Vision Difficulty	Any Disability	No Disability
LA Metro	4.9%	5.4%	4.4%	3.9%	2.1%	5.8%	19.1%	80.9%
Ohio	6.9%	5.5%	4.8%	3.8%	2.0%	4.2%	18.9%	81.1%
TOTAL	5.9%	5.5%	4.6%	3.8%	2.0%	5.0%	19.0%	81.0%

# Demographics - Highest Level of Education

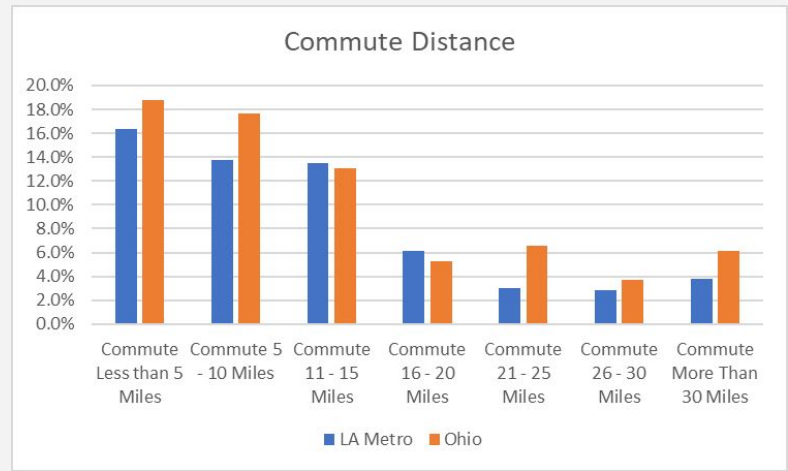


Location	Bachelor's Degree or Higher	Associate Degree or Lower
LA Metro	59.2%	40.8%
Ohio	44.8%	55.2%
<b>TOTAL</b>	<b>51.9%</b>	<b>48.1%</b>

# Demographics - Employment

Employment Status	LA Metro	Ohio
Employed Part Time	10.0%	7.9%
Employed Full Time	44.0%	41.6%
Self-employed	15.2%	10.3%
Military	0.3%	0.3%
<i>Total Employed</i>	69.4%	60.1%
Out of work and looking for work	5.4%	5.2%
Out of work but not currently looking for work	0.8%	1.4%
Unable to work	2.2%	6.4%
Homemaker	4.1%	5.2%
Student	3.7%	2.0%
Retired	13.4%	19.2%
None of the above	0.9%	0.4%
<i>Total Not Employed</i>	30.6%	39.9%

	LA Metro	Ohio
Work from Home	40.6%	29.0%
Commute	59.4%	71.0%



# Demographics - Income

## Personal Income



## Household Income



# Demographics - Household Size, Composition, and Ownership

Household Size	Adults	Children	Total
LA Metro	2.06	0.58	2.63
Ohio	1.95	0.53	2.48

Household Composition	Live Alone	Adults Only	Children Present	Single Parent
LA Metro	26.75%	66.4%	33.6%	7.4%
Ohio	26.57%	70.3%	29.7%	7.9%

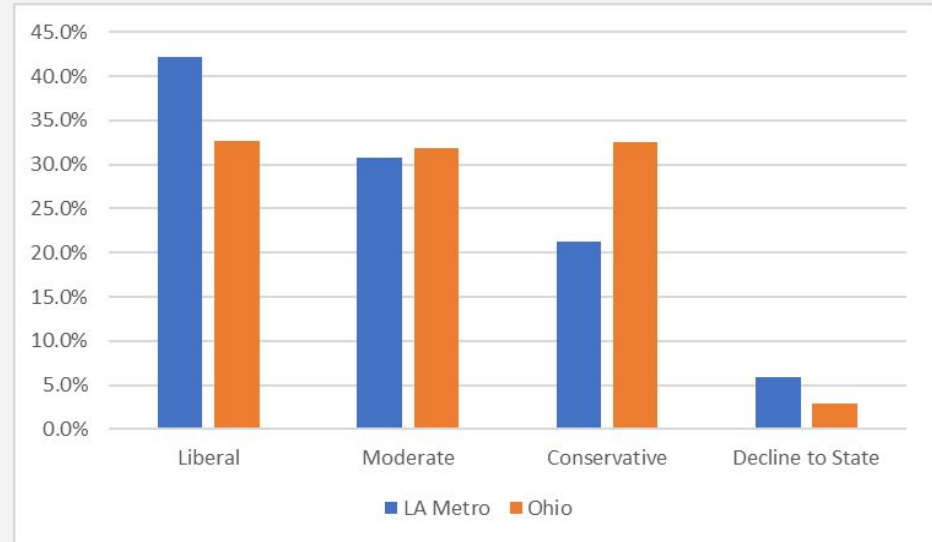
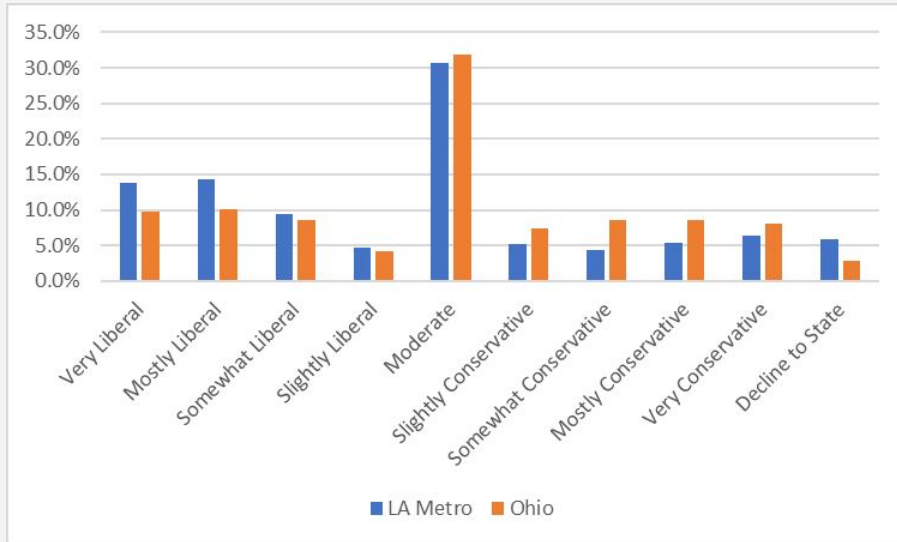
	Own Primary Residence	Rent Primary Residence
LA Metro	58.9%	41.1%
Ohio	68.5%	31.5%



# Demographics - Transportation

	Daily Activities		Commuting		Personal Day Trips		Work Day Trips	
	LA Metro	Ohio	LA Metro	Ohio	LA Metro	Ohio	LA Metro	Ohio
<b>Private Motor Vehicle</b>	84.2%	91.5%	70.5%	73.7%	90.8%	95.5%	74.2%	69.1%
<b>Taxi or Rideshare</b>	2.2%	1.0%	1.2%	0.5%	3.8%	1.3%	2.9%	2.4%
<b>Public Transportation</b>	3.4%	1.4%	7.5%	2.4%	4.3%	1.8%	4.9%	2.6%
<b>Bicycle</b>	0.8%	0.7%	0.3%	0.9%				
<b>Walking</b>	8.1%	4.4%	2.1%	2.4%				
<b>Intercity Bus (e.g. Greyhound)</b>						0.3%	0.2%	0.0%
<b>Intercity Train (Amtrak)</b>					0.7%	0.0%	0.5%	0.2%
<b>Private Airplane</b>						0.2%	0.7%	0.6%
<b>Helicopter</b>						0.2%	0.0%	0.0%
<b>Other</b>	1.2%	0.9%	18.4%	20.0%	0.4%	0.8%	16.5%	25.0%

# Demographics - Political Views



Note: Optional Question



# Respondent Background Information



# What LA Metro Respondents Like About Their Area



# What LA Metro Respondents Dislike About Their Area



# What Ohio Respondents Like About Their Area





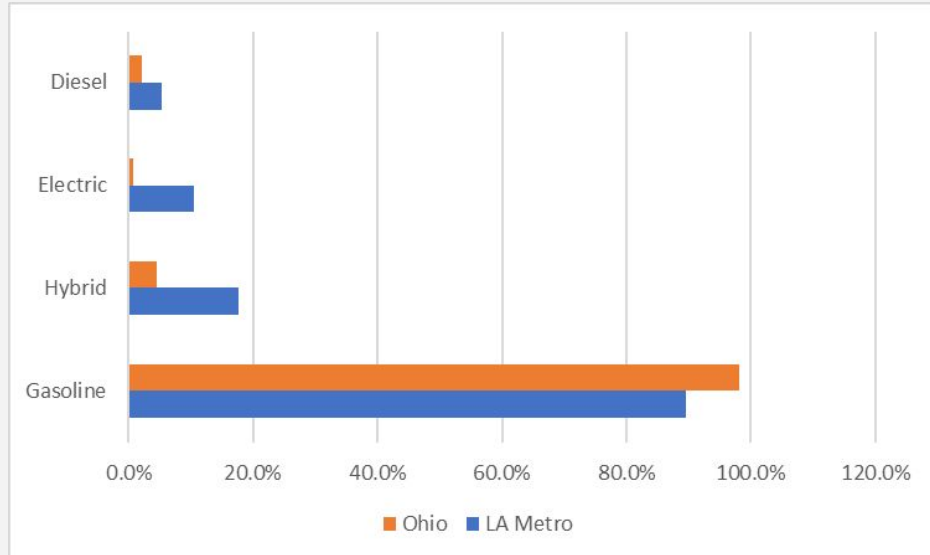
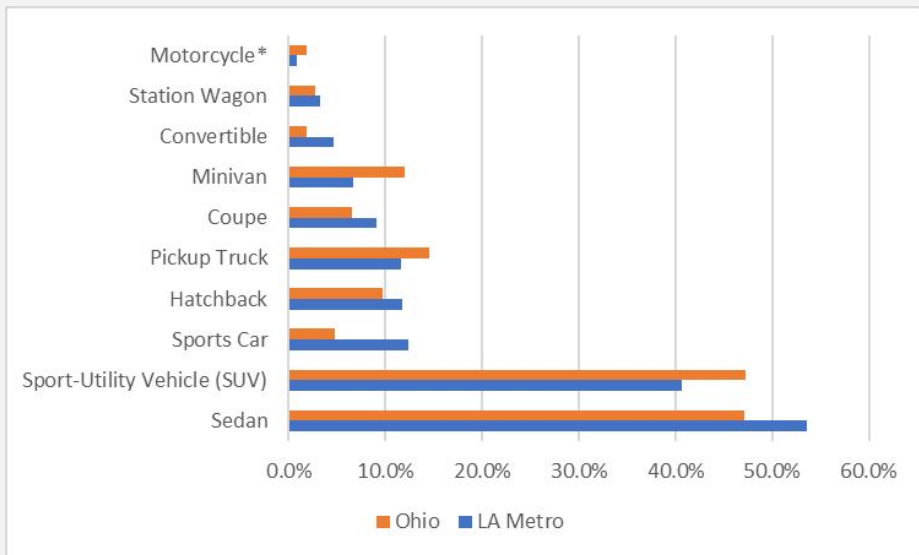
# Forms of Transportation

	Used Within Past Year		Primary Modes of Transportation							
	LA Metro	Ohio	Daily Activities		Commuting		Personal Day Trips		Work Day Trips	
			LA Metro	Ohio	LA Metro	Ohio	LA Metro	Ohio	LA Metro	Ohio
Private Motor Vehicle	92.9%	96.9%	83.7%	91.8%	83.6%	91.5%	89.5%	96.1%	85.9%	92.2%
Taxi or Rideshare	58.5%	31.0%	1.9%	1.2%	2.4%	0.6%	4.5%	1.2%	5.3%	3.1%
Public Transportation	31.4%	18.3%	4.1%	1.6%	9.0%	3.4%	5.6%	2.3%	6.8%	3.6%
Bicycle	23.3%	21.2%	1.2%	0.9%	1.5%	1.0%				
Walking			9.1%	4.4%	3.5%	3.6%				
Intercity Bus (e.g. Greyhound)	3.0%	1.7%					0.0%	0.2%	0.6%	0.2%
Intercity Train	7.2%	1.4%					0.4%	0.0%	0.9%	0.2%
Long Distance Ferry	2.5%	1.2%					0.0%	0.0%	0.0%	0.0%
Helicopter	0.7%	0.8%					0.0%	0.2%	0.0%	0.0%
Airplane	29.6%	21.3%					0.0%	0.2%	0.6%	0.7%

Note: Some transportation options were not made available for selection by respondents for certain activities (e.g. Walking for Day Trips). These are represented by cells highlighted in grey.

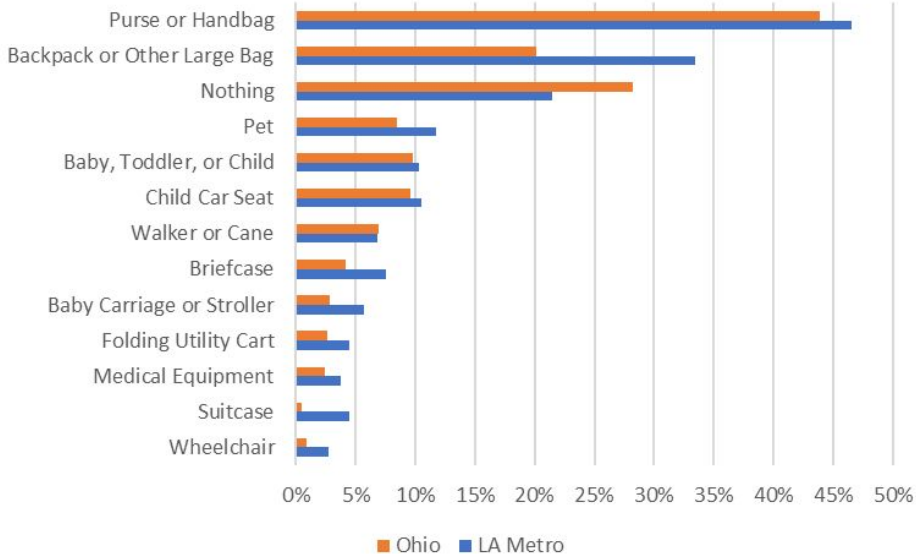


# What They Drive

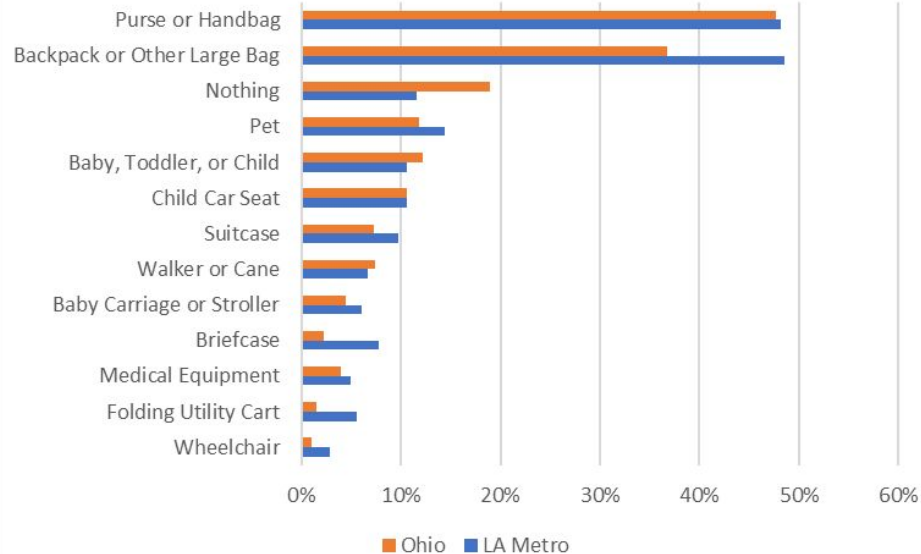


# The Things They Carry (Personal Transportation)

## Daily Activities (Shopping, Running Errands, etc.)



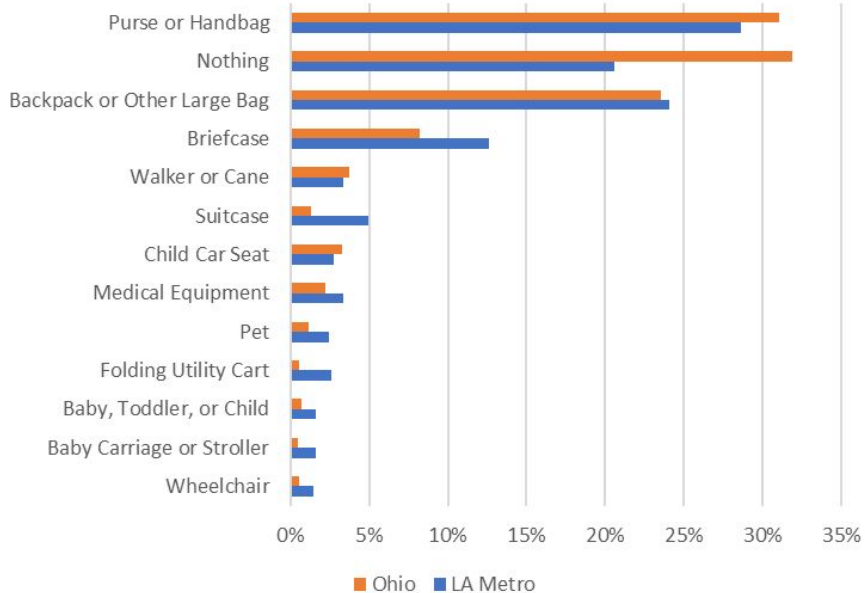
## Personal Day Trips



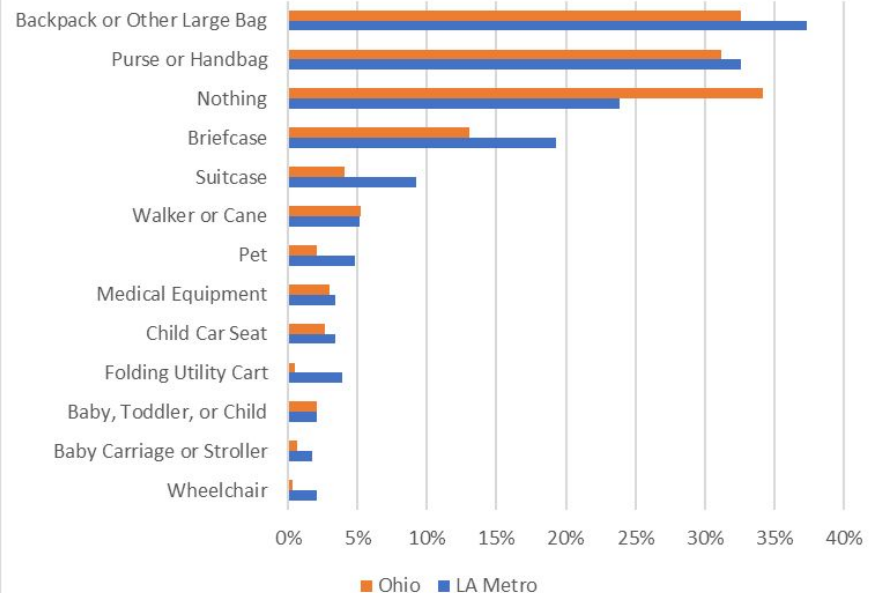
Common Write-in Responses: Shopping Bags, Tools, Water Bottles, Firearms, Sports Equipment, Coolers, Service Animals

# The Things They Carry (Work Transportation)

## Commuting



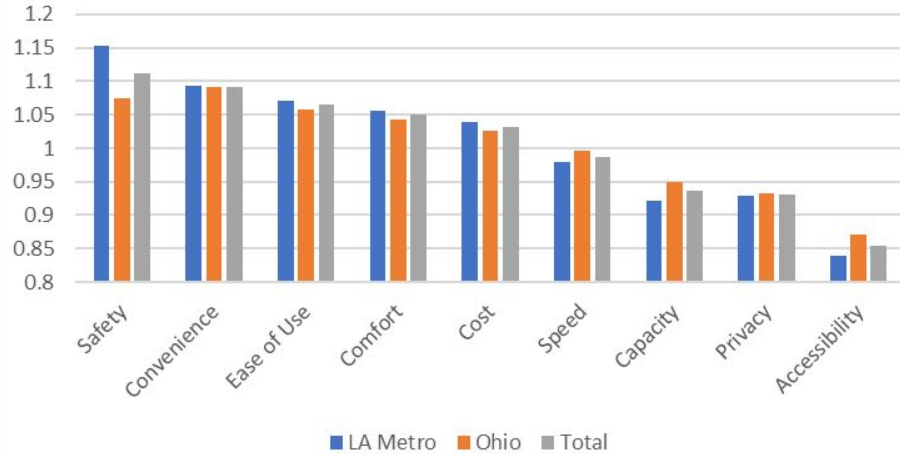
## Work Day Trips



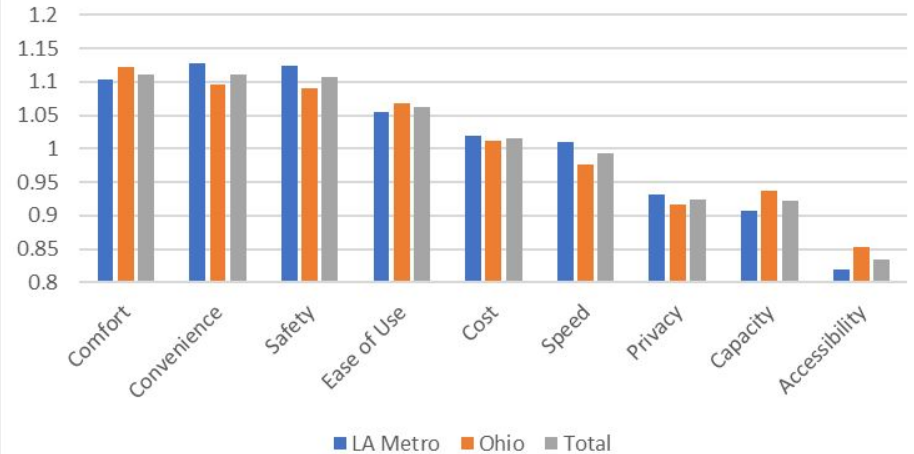
Common Write-in Responses: Lunch Bag/Box, Tools, Equipment

# What They Care About When Selecting Transportation

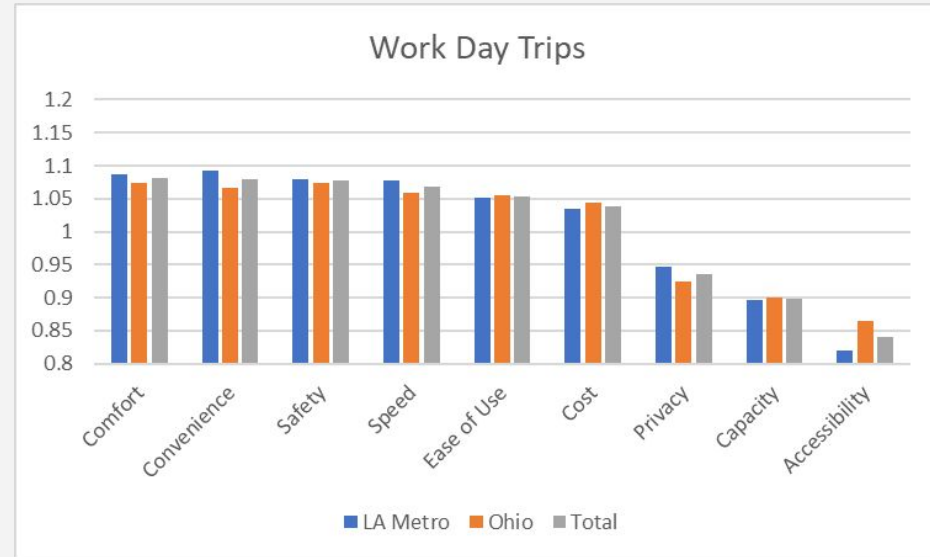
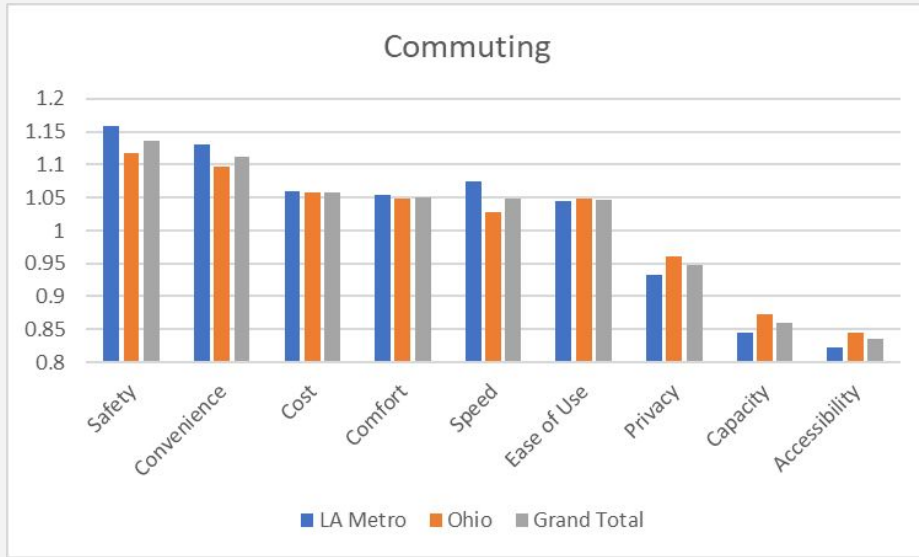
## Daily Activities



## Personal Day Trips



# What They Care About When Selecting Transportation

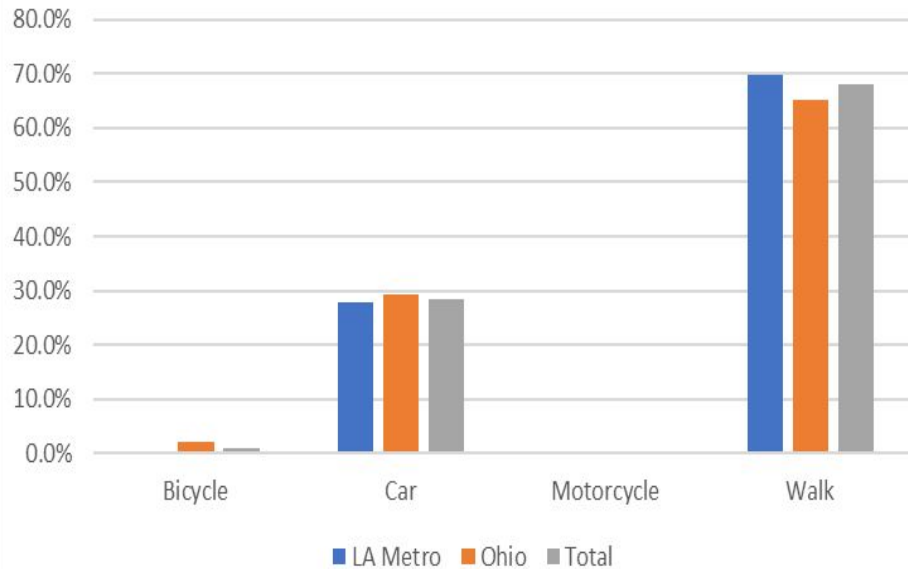


# What They Care About When Selecting Transportation

Rank	Daily Activities	Commuting	Personal Day Trips	Work Day Trips
1	Safety	Safety	Comfort	Comfort
2	Convenience	Convenience	Convenience	Convenience
3	Ease of Use	Cost	Safety	Safety
4	Comfort	Comfort	Ease of Use	Speed
5	Cost	Speed	Cost	Ease of Use

# People Who Use Public Transportation

Mode of Transportation to/from Transit Stop



Travel Time (Minutes)	LA Metro	Ohio	Total
Walking	9	8	9
Bicycle	35	12	18
Driving	17	21	18

# Aviation and UAV Experience

	LA Metro	Ohio	Total
Current Civilian Pilot	9	5	14
Former Civilian Pilot	19	3	22
Current Military Pilot	0	2	2
Former Military Pilot	7	2	9
Student Pilot	2	2	4
Aviation Industry Professional	9	7	16
Aviation Historian	10	4	14
Aviation Hobbyist	19	18	37
Subscribes to Aviation Publications	17	7	24
Follows Aviation Industry	41	16	57
Frequent Traveler, Elite	83	22	105
Frequent Traveler, Non-Elite	77	70	147

	LA Metro	Ohio	Total
Has worked for a drone manufacturer	10	3	13
Has worked for a drone services company	12	6	18
Experience with commercial drones	26	14	40
Experience with military drones	0	0	0
Owens a Consumer Drone	71	64	135
Wants a Consumer Drone	88	94	182
Enthusiast - follows drone industry developments	74	66	140



# AAM Intro Part 1 - Basic Info

## AAM Intro

Now we would like to turn our attention to the topic of **Advanced Air Mobility (AAM)**. This term refers to an air transportation system that moves **people and cargo** between places using revolutionary new aircraft that are only just now becoming possible.

Similar to drones, AAM vehicles:

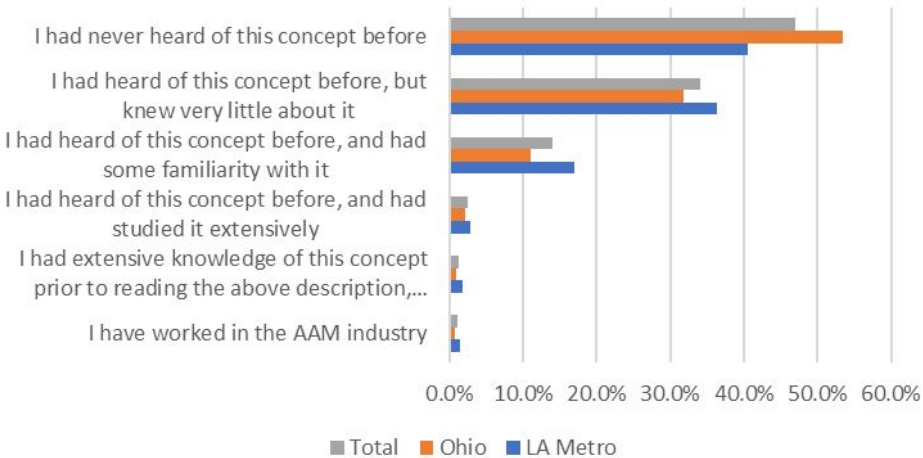
- are electric powered
- take off and land vertically (like a helicopter)
- are capable of moving people as well as goods or cargo
- can operate in a variety of locations, including places where conventional forms of aviation (airplanes, helicopters, etc.) can not, such as cities and neighborhoods.

Other terms for advanced air mobility you might have heard before include:

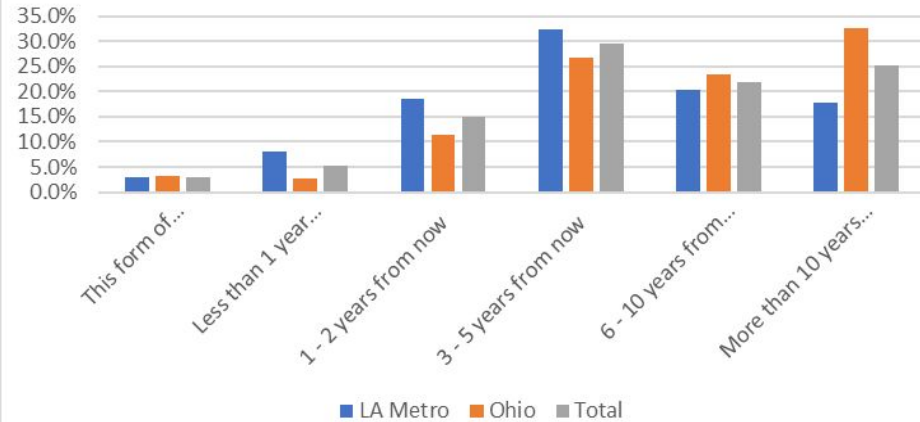
- Electric Vertical Take Off and Landing (eVTOL)
- Air taxi
- Flying taxi
- Heavy lift drone.

# AAM Foreknowledge and Availability Estimate

## Foreknowledge



## When do you think AAM will be available in your area?



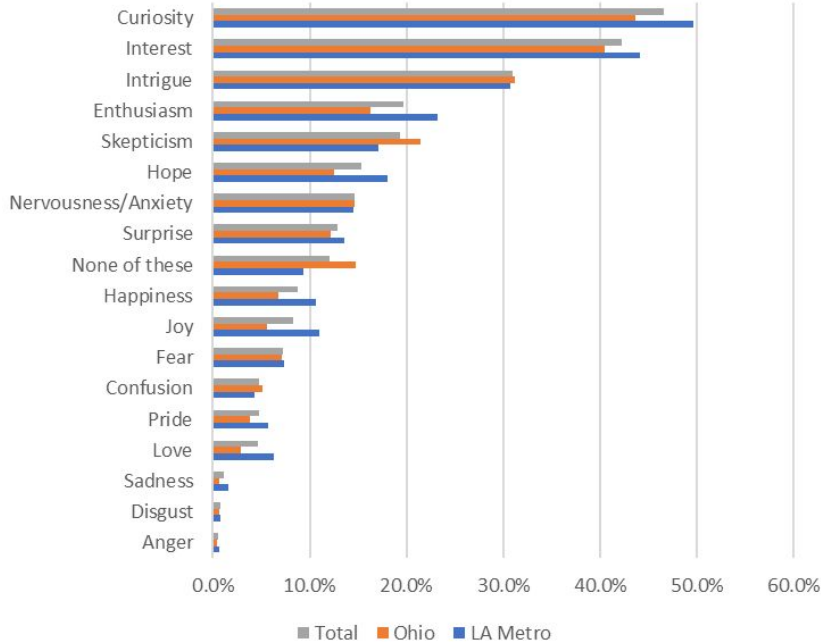


# Impressions of AAM



# AAM Initial Impressions

Initial Sentiment (after brief AAM introduction)



	LA Metro	Ohio	Total
Sentiment Index	+22.0	+12.1	+17.3
Level of Interest (Scale of 1 - 10, with 10 being the highest)	6.53	5.47	6.00

# Willingness to Try AAM

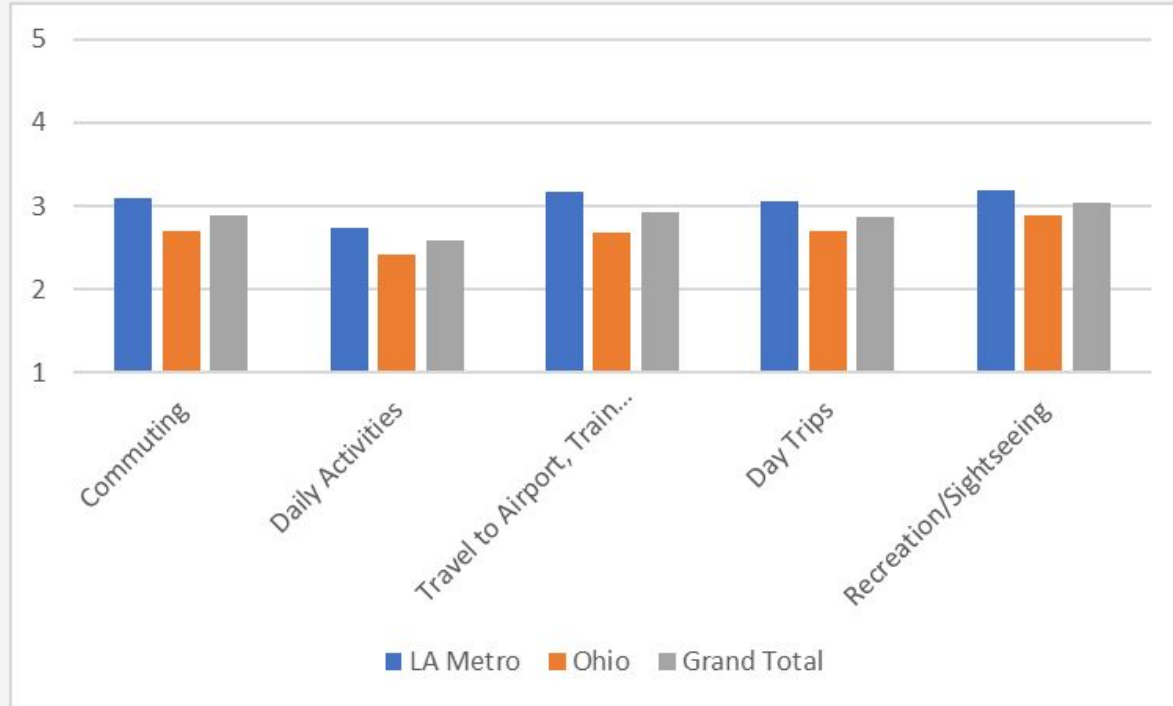
Extremely Willing

Very Willing

Somewhat Willing

Possibly Willing

Not at All Willing



# AAM Intro Part 2 - Vehicle Images

4 images of possible vehicle design concepts.

# AAM Intro Part 2 - Info Sheet

Here is some more information about these vehicles:

**Number of Passengers:** 2 to 6

**Pilots:** Some vehicles will have pilots. Others might be autonomous ("self-driving") or remote controlled. Passengers will not fly the vehicles themselves.

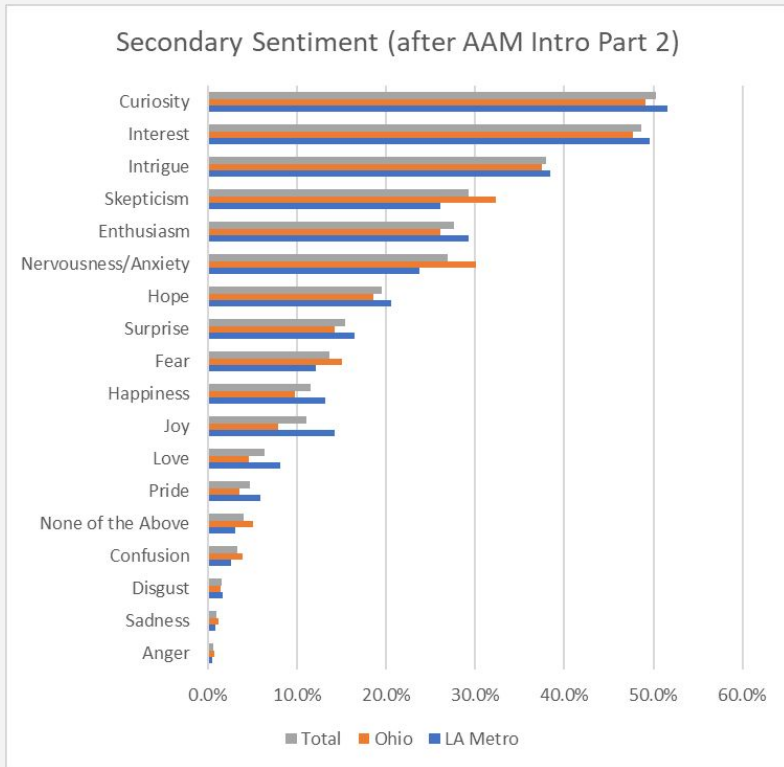
**Speed:** 50mph - 100mph

**Range:** Up to 150 miles

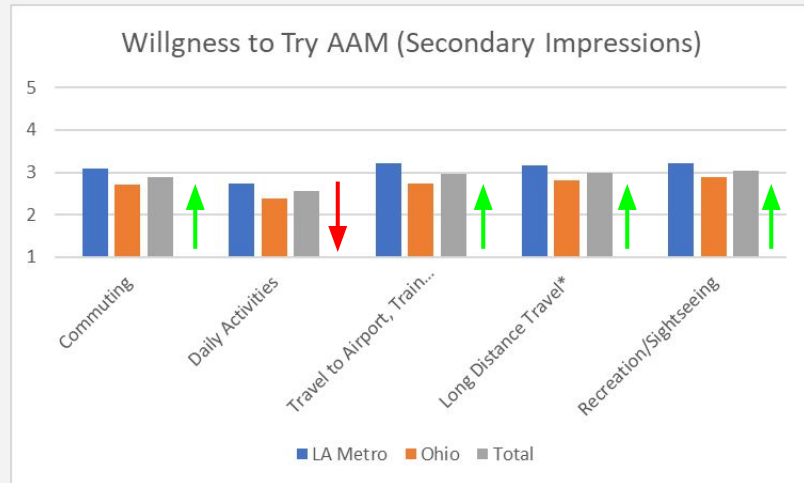
**Cruising Altitude:** Up to 10,000 feet above the ground (typically 1,000 - 3,000 feet)

**Interior Noise:** About the same as a commercial airliner

# AAM Secondary Impressions



	LA Metro	Ohio	Total
Sentiment Index	+19.6 ↓	+7.5 ↓	+13.6 ↓



\* Incorrect Label (should be Day Trips)





# Vertiport Siting



# Vertiport Introduction - Video



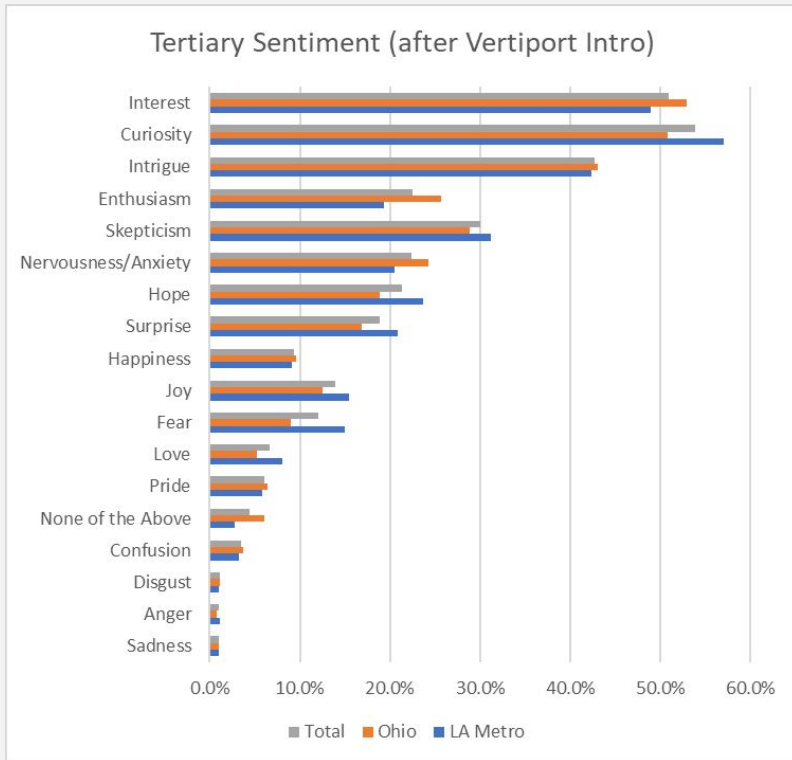
<https://www.youtube.com/watch?v=g4kbBm33c7E>

# Vertiport Introduction - Additional Information

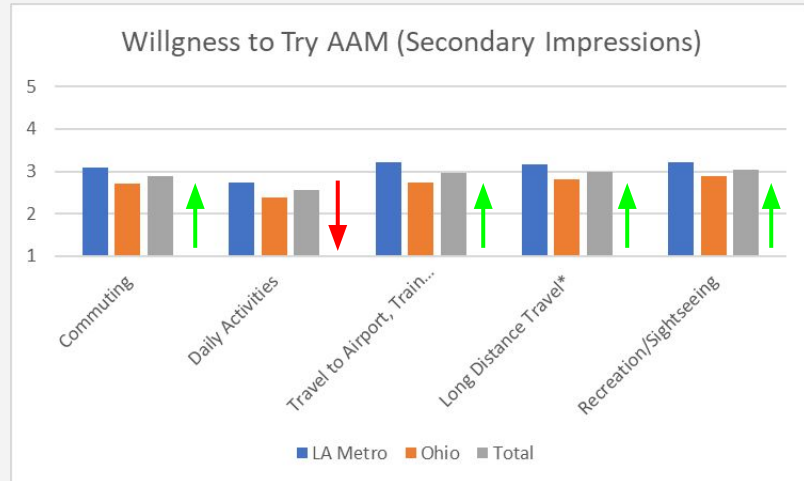
Here is some additional information about this air mobility concept:

- **How loud are these vehicles?** About the same volume as a motorcycle going by.
- **Do they fly directly over houses or buildings?** These vehicles take off and land vertically (straight up and down). During takeoff, a vehicle will ascend straight up above the landing area before proceeding toward its destination. Likewise, before landing, a vehicle will stay at its cruising altitude until it is close to the landing area, and then descend.
- **Are they safe?** Like all passenger and cargo aircraft operating in the United States, these vehicles will be certified for safety and regulated by the Federal Aviation Administration.
- **What kind of emissions do they produce?** Because these vehicles are electric powered, they do not produce any exhaust.
- **Where would vertiports be located?** The video you just watched showed a variety of possible locations, including the tops of buildings, on parking structures, and in fields and other open spaces.
- **How big are vertiports?** Depending on how much space is available, they could be any size ranging from a single landing pad (about the same size as a helicopter pad) to several pads together.

# AAM Tertiary Impressions



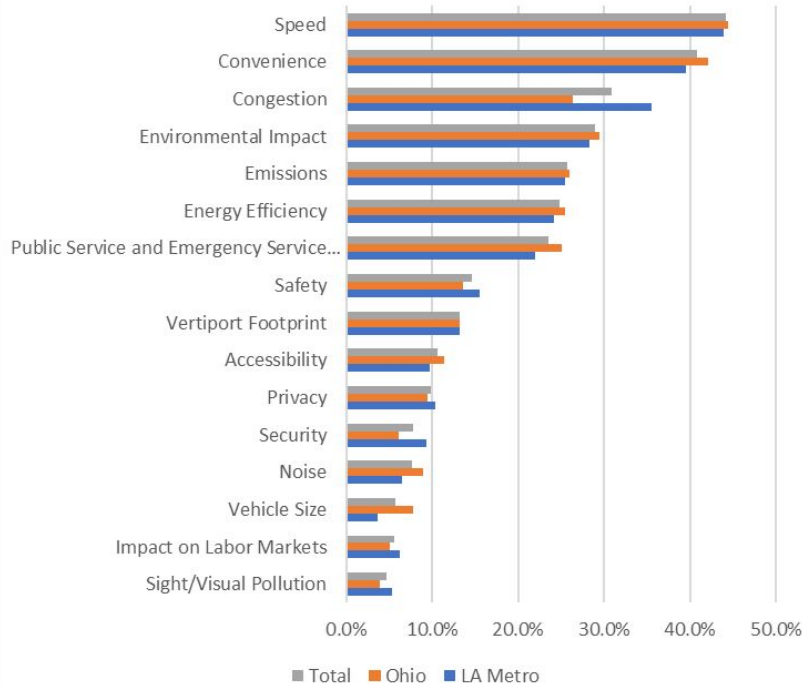
	LA Metro	Ohio	Total
Sentiment Index	+26.3 ↑	+18.3 ↑	+22.3 ↑



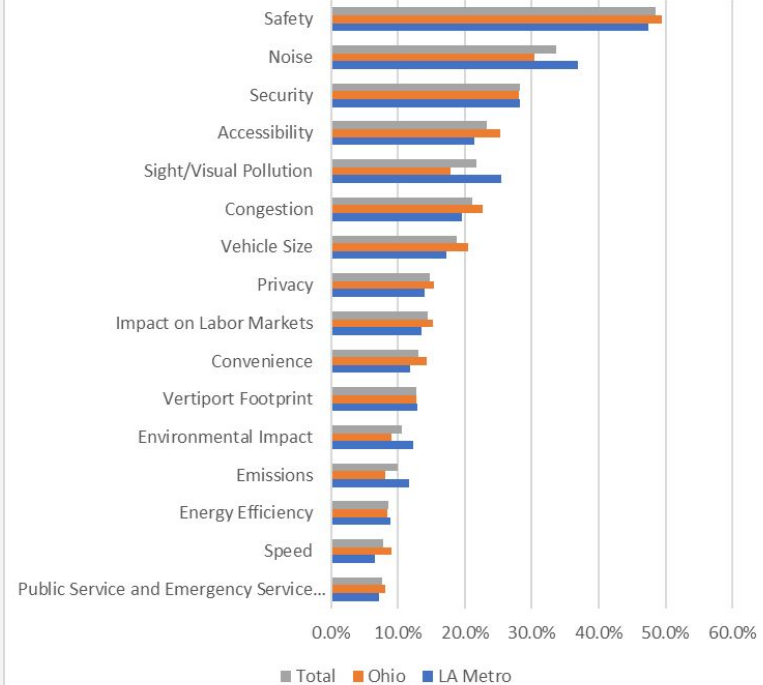
\* Incorrect Label (should be Day Trips)

# Perceived Benefits and Drawbacks of AAM

## Benefits



## Drawbacks



# Unforeseen Drawbacks Noted by Respondents

COST (Perceived to be Expensive)

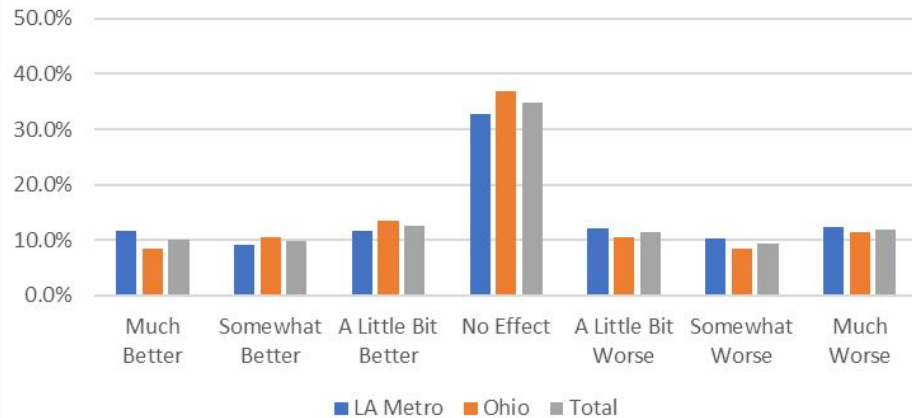
First/Last Mile Transportation: *"If it can't deliver me to my actual destination, then I still need to rent a car, bring kids' car seats, etc. This only works great if it can take me very close to my destination."*

Danger to Birds

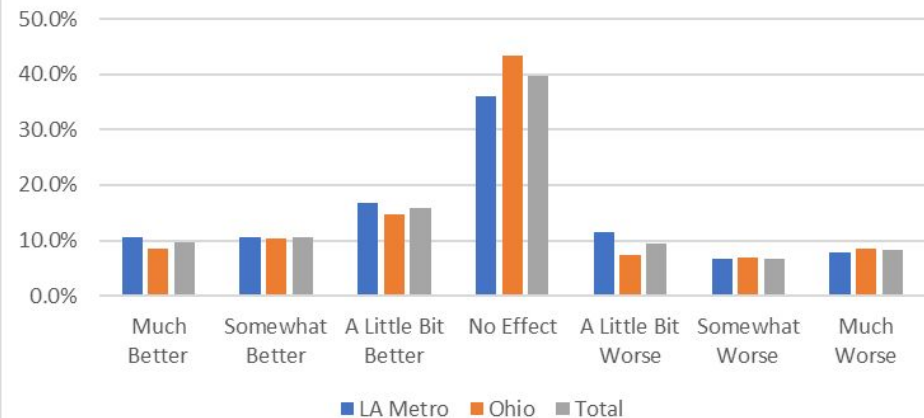
Equal Access (Limited to the Wealthy?)

# Community Impact

## Impact of a Vertiport on the Things I Like about My Community



## Impact of a Vertiport on the Things I Dislike about My Community



# Optimal Vertiport Locations - Travel Time (Minutes) From Home

	Walking	Bicycle	Driving	Public Transportation
LA Metro	26	16	12	19
Ohio	35	24	11	17
Urban	26	16	12	19
Suburban	33	28	11	17
Exurban	33	25	11	18
Rural	39	17	12	15
Total	30	20	12	18

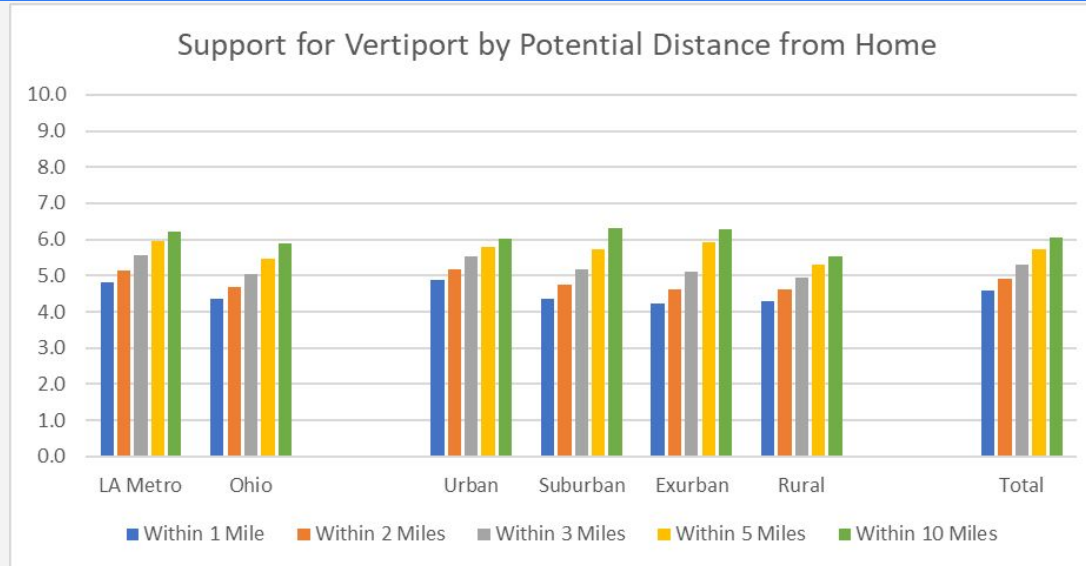


# Optimal Vertiport Locations - Travel Time From Work

	Walking	Bicycle	Driving	Public Transportation
LA Metro	21	13	9	14
Ohio	26	7	9	7
Urban	24	11	9	14
Suburban	27	17	9	7
Exurban	16		7	
Rural	17	3	9	
Total	23	12	9	12

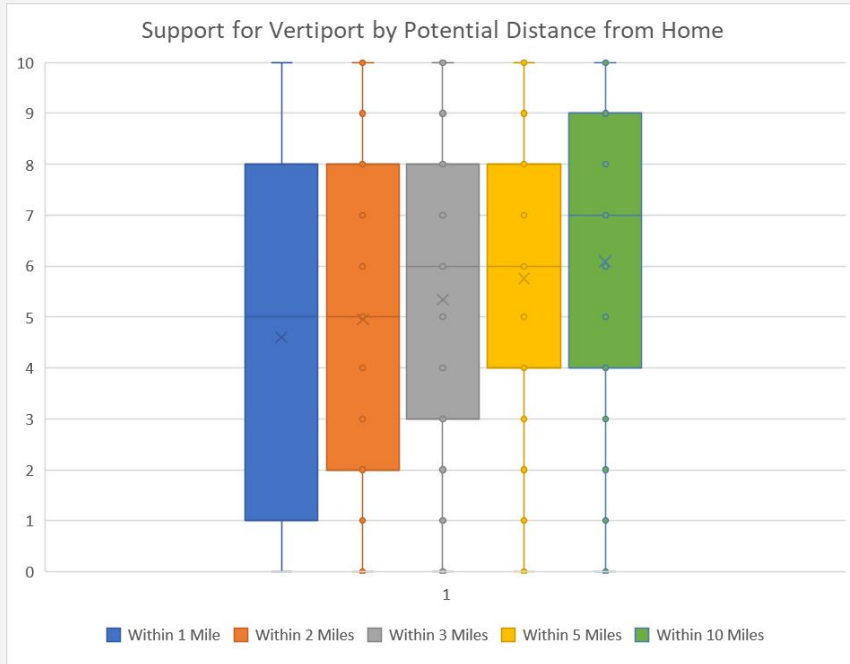
On average, respondents prefer vertiports to be located approximately **30% closer (by travel time)** to their workplaces than to their homes.

# Optimal Vertiport Locations - Distance From Home



- Even at a distance of 10 miles away, respondents are only lukewarm to the prospect of vertiports near their homes.
- LA Metro respondents were generally more accepting of the idea than Ohioans.
  - Overall support was highest among Suburban respondents.

# Optimal Vertiport Locations - Distance From Home



	1 Mile	2 Miles	3 Miles	5 Miles	10 Miles
<b>Mode</b>	0	0	0	10	10
<b>Median</b>	5	5	6	6	7
<b>Mean</b>	4.6	4.9	5.3	5.8	6.1
<b>Standard Deviation</b>	3.6	3.4	3.3	3.2	3.3

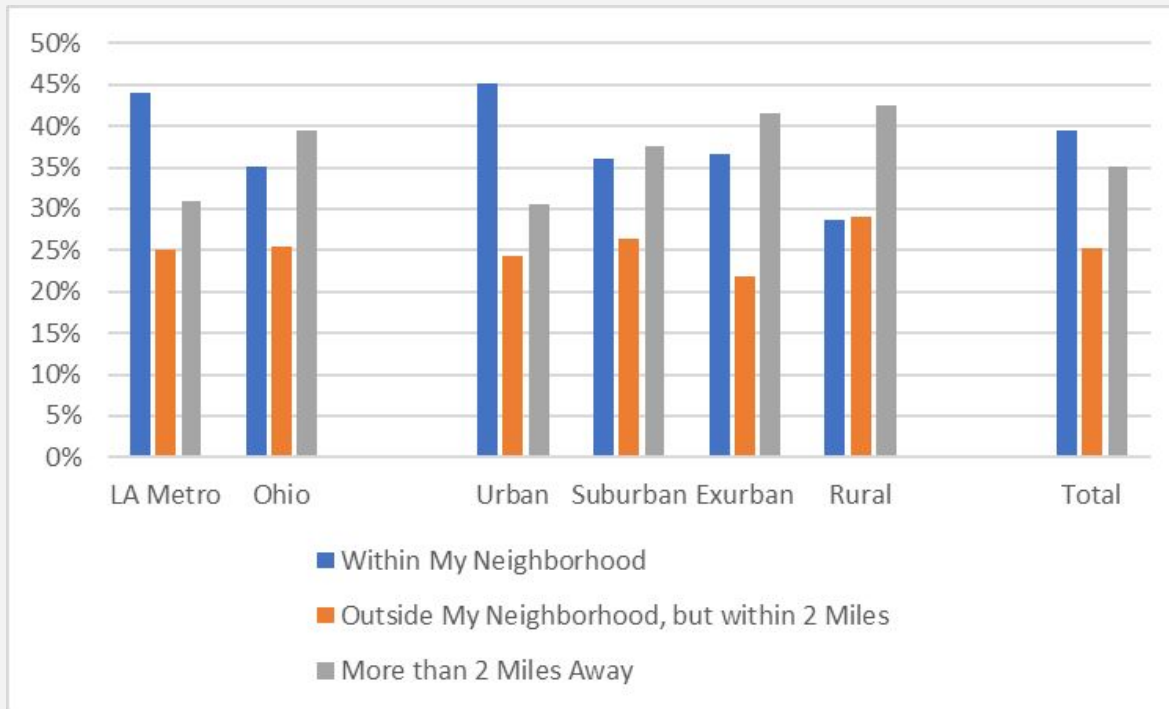
# Biggest Concerns



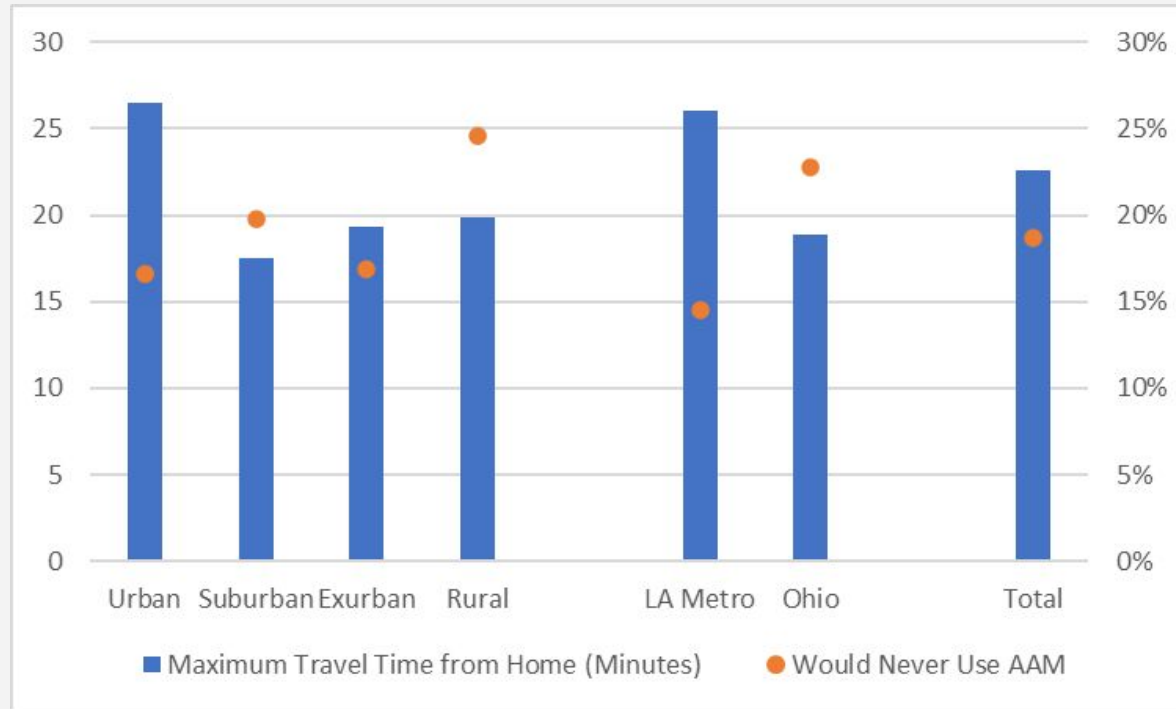
# Optimal Vertiport Locations - Relative Statements

Relative Location	LA Metro	Ohio	Urban	Suburban	Exurban	Rural	Total
On the roof of your house or building	8%	4%	8%	4%	4%	3%	6%
In your yard	3%	3%	3%	3%	5%	5%	3%
Next door	2%	1%	2%	1%	2%	2%	2%
Down the street	8%	8%	9%	8%	10%	5%	8%
A few blocks away	12%	9%	13%	8%	11%	6%	10%
More than a few blocks away, but within your neighborhood	11%	10%	11%	12%	5%	8%	10%
Outside of your neighborhood, but within a mile	14%	13%	13%	14%	8%	16%	13%
Within 2 miles	11%	13%	11%	12%	13%	13%	12%
More than 2 miles away	31%	39%	31%	38%	42%	42%	35%

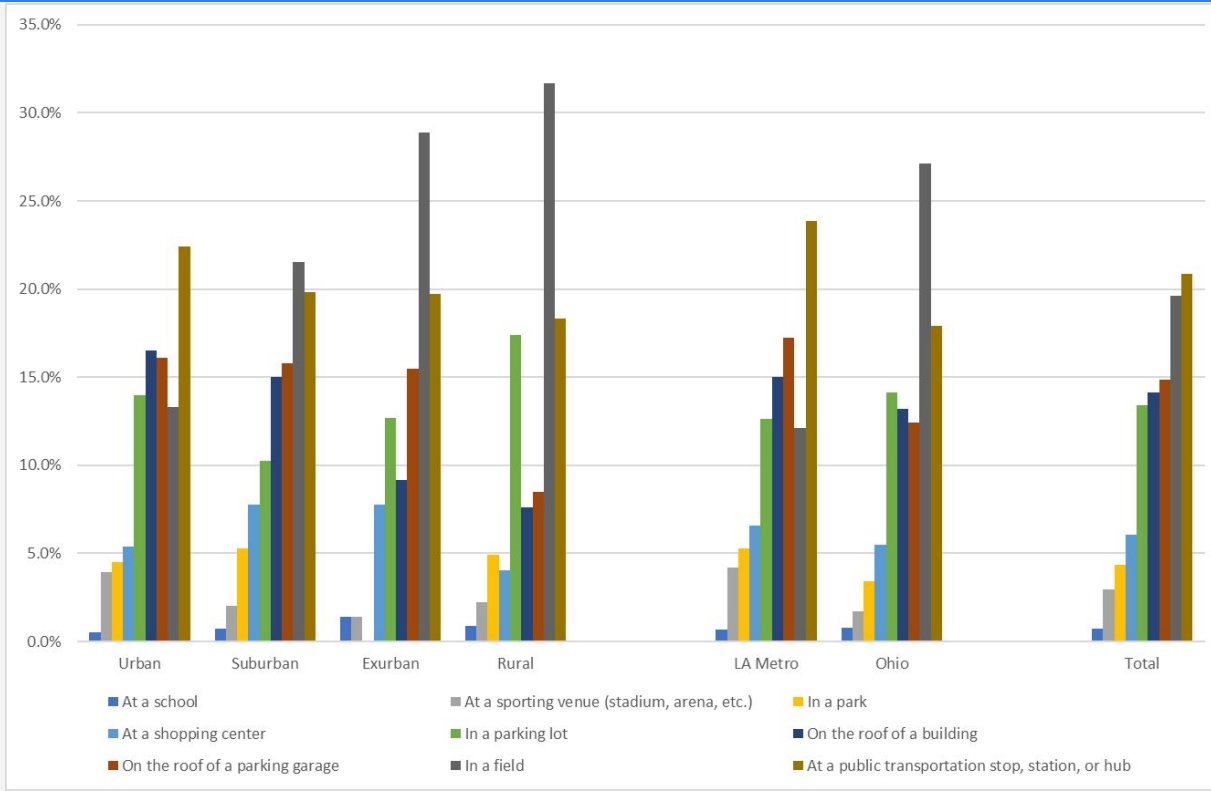
# Optimal Vertiport Locations - Relative Statements (Simplified View)



# Maximum Travel Time from Home to Vertiport

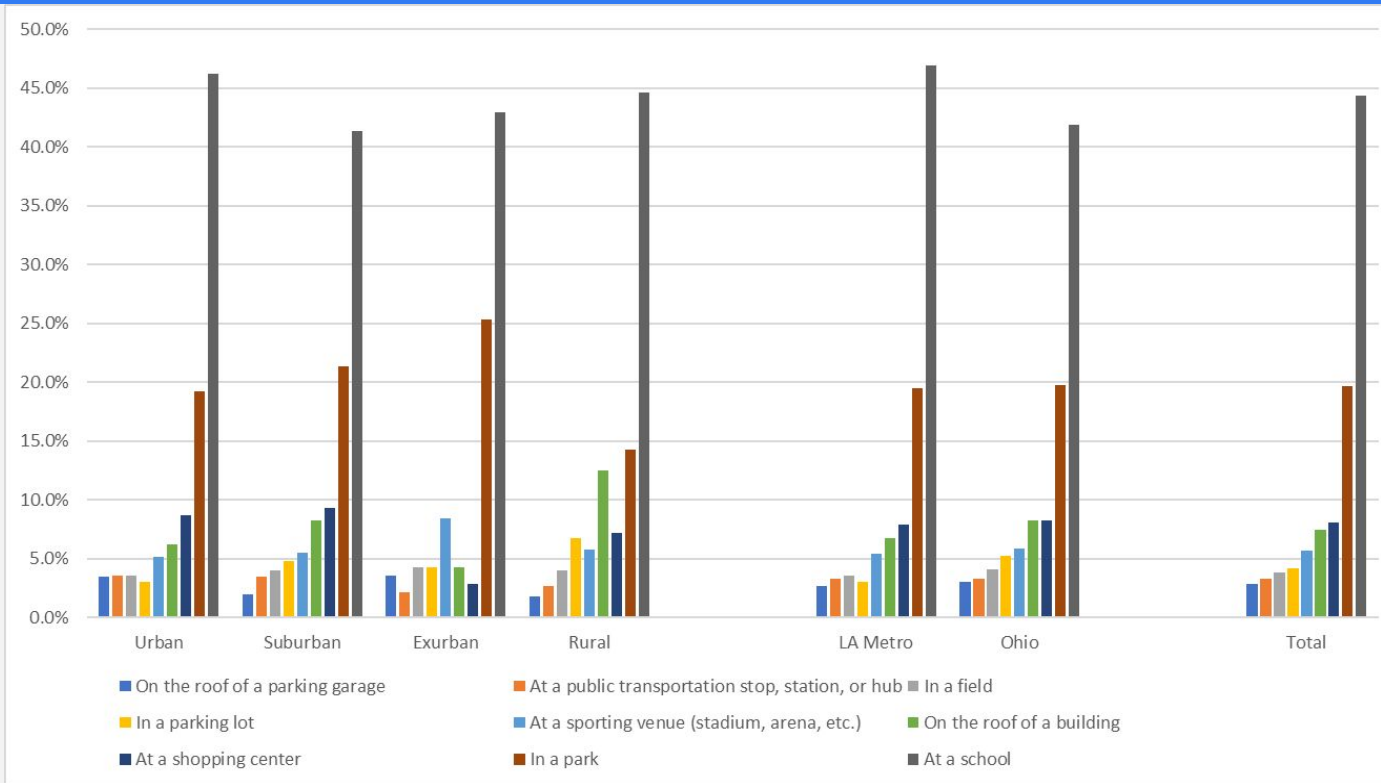


# Best Place for a Vertiport





# Worst Place for a Vertiport



# Best Vertiport Locations

Rank	Best	Worst
1	Public Transit Station	<b>School</b>
2	In a Field	In a Park
3	On Top of Parking Garage	Shopping Center
4	Roof of Building	Roof of Building
5	Parking Lot	Sporting Venue

