

2023 Motional Consumer Mobility Report

ABOUT THE SURVEY

This report is based on independent research conducted by a third party for Motional that evaluates consumers' perception of autonomous vehicles and mobility options. The results consist of 1,000 total responses from general consumers in the United States who took an online survey. This survey was fielded in July 2023.



INTRODUCTION

2023 has been a year of important developments for artificial intelligence (AI). Innovations like ChatGPT, virtual reality, and robotics have paved a path for AI-based technology to become part of our everyday lives – including how we move around.

Autonomous vehicles (AVs) are becoming increasingly commonplace on the streets of major cities in the U.S. Motional is one of a handful of companies offering public robotaxi services, as well as the only offering passenger service and autonomous food deliveries. As consumer needs change, AVs have tremendous commercialization opportunities within the transportation space between human passengers, food orders, package deliveries, and other mobility needs.

The 2023 Motional Consumer Mobility Report, now in its fourth year, takes a deep dive into public perception and understanding of AV technology, including the headwinds AV companies face from the public, generational differences, and factors driving adoption.

AVs have tremendous commercialization opportunities within the transportation space.

This year's data shows that while there's still a greater need for AV education, those who have experienced riding in an AV have fewer concerns about the technology's safety. Furthermore, there appears to be a generational divide with awareness – Baby Boomers acknowledge having little to no knowledge of the industry, while younger generations, including Gen Z and Millennials, are open to the reality of AVs on the road. And with Americans becoming more accustomed to advanced technology, such as augmented reality, blockchain technology, 3D printing and more, consumers are now more trusting of driverless vehicles.

The report also shows the different application opportunities driving AV adoption. Younger generations see the benefit of using a robotaxi over a traditional ride-hail vehicle, particularly if it eliminates tipping. Removing reckless human driving behavior – including road rage, distractions, and inexperience – are key reasons consumers see a benefit to AVs. Autonomous food or package delivery is another way driverless technology can be gradually introduced and generally accepted into everyday life. And finally, most consumers aren't looking at driverless vehicles as a thrill ride; instead they are looking for AVs to help in their everyday lives – bring them to the airport, on errands, help save money, and reclaim personal time.



OVERCOMING HEADWINDS

While the AV space has seen significant technological advancements, educating the public on how the tech works remains a top priority to unlock mass adoption. According to survey findings, over half (55%) of respondents had little or no understanding of what AVs actually are or how they work. For Baby Boomers, that number grows to nearly 70%.

In tandem, over three quarters (79%) of Americans believe a company that builds vehicles with driver-assist features is the leading AV manufacturer. Cars with Advanced Driving-Assistance Systems (ADAS) that require human drivers behind the wheel are not considered AVs. Motional's robotaxis are Society of Automotive Engineers (SAE) Level 4 systems, where human drivers are not needed.

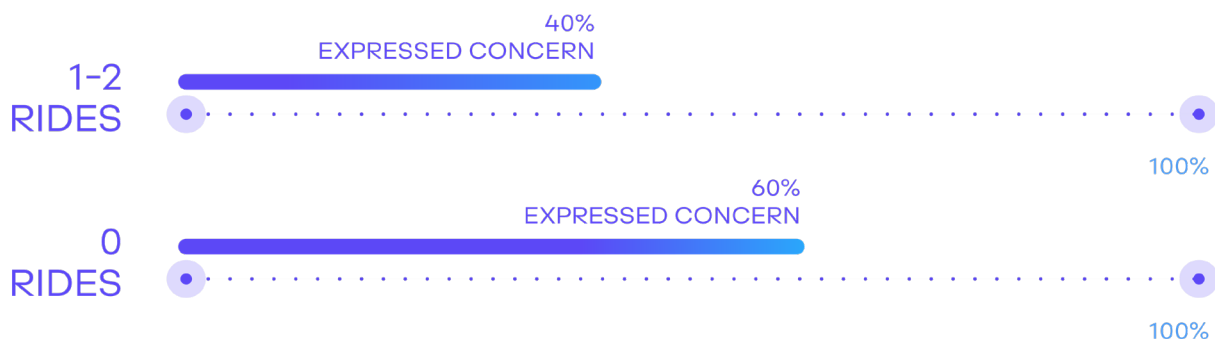
The survey also looked at the awareness divide among the generations and their attitudes toward the driverless industry. When it comes to AV adoption, younger generations seem to be less concerned about the vehicles hitting the

road –39% of Gen Z and 32% of Millennials stated they're only slightly concerned or not at all. That number shrinks among older generations, with only 23% of Gen X and 21% of Baby Boomers showing little to no concern about driverless vehicles on the road.

What is causing the uncertainty? For nearly three quarters (74%) of respondents, the answer is safety, followed by the vehicle's reaction time to unexpected occurrences on the road (50%), and the possibility of the vehicle making a mistake (44%).

That said, those who have ridden in an AV at least once are far less likely to be concerned (40% expressed concern) than those who haven't experienced one (60% expressed concern), showing education and exposure will be pivotal to growing adoption. In addition, those who self-identify as early tech adopters were much more likely to have already ridden in an AV, less concerned about the safety of the vehicle, and more likely to view it as a net-positive on society.

Those who have ridden in an AV at least once are far less likely to be concerned than those who haven't ridden.



THE ROAD TO ADOPTION

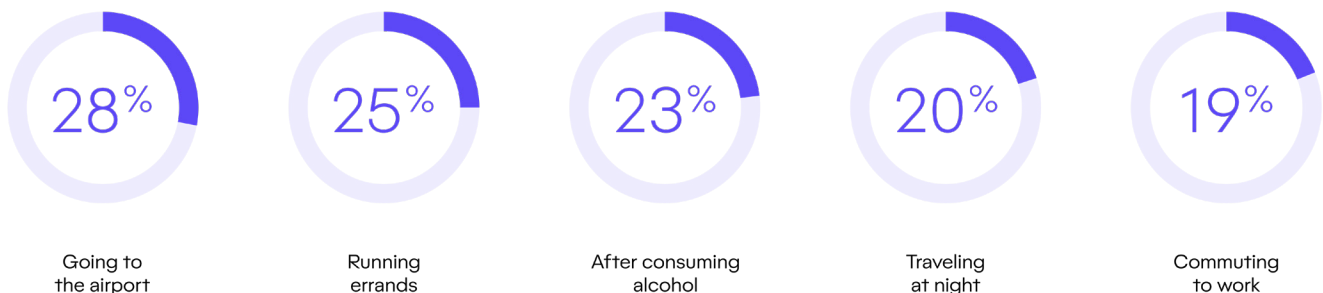
The 2023 report also dove into what would motivate Americans to adopt AVs, as well as their expectations for incorporating the vehicles into everyday life. And despite the assumption that many are looking to experience the “next big thing” in tech, results show that the potential first adopters are actually more pragmatic.

When asked what would prompt them to call a robotaxi over a human-driven ride-hail vehicle,

more than half (54%) of Gen Z cited not having to tip as their biggest motivator. This is true for other autonomous applications; respondents also said they were looking forward to using autonomous delivery vehicles, especially Millennials (39%).

In addition, respondents said they would choose a driverless robotaxi over a human-driven ride-hail for everyday tasks such as going to the airport, running errands, commuting, and traveling at night.

Reasons people say they'd try an AV



For those that have experience riding in an AV, those numbers increase - with nearly half (49%) of respondents who have ridden between 3-5 times saying they most desired using a driverless vehicle to get to and from work. For Gen Z and Millennials, they would consider taking a robotaxi as a more efficient way to run errands (43% and 31%) - and for Gen X, they're mostly looking for a way to get to the airport (30%).

The biggest benefit for many is the potential to improve roadway safety. According to the survey, 82% of Americans feel distracted drivers are the greatest threat to safety on the road today, followed by road rage (62%), inexperienced or bad drivers (54%), and traffic congestion (40%). Nearly half (49%) of respondents felt AVs could be a solution to drunk driving.

For Baby Boomers, however, the biggest potential benefit is as a solution to a top-of-mind problem. When asked what benefit they see AVs providing, 40% felt the technology could provide a transportation option for people who can't drive or have difficulty driving. That percentage increases for Boomers with knowledge of AVs.

CONSUMER TRUST OF LONG-TERM AV REALITY

Americans are bullish about the long-term benefits of AVs. When asked which will have the most positive impact on society, many (33%) said AI-powered functions (like ChaptGPT), followed by AVs (17%), 3D printing (15%), space travel (12%), IoT (10%), augmented reality (9%) and blockchain technology (5%).

DRIVERLESS VEHICLES IN CITIES TODAY

Despite the proliferation of AVs in Las Vegas, San Francisco, and Los Angeles, survey findings showed that many residents in California and Nevada seem unaware that AVs are available in their state - with nearly three quarters (74%) stating they didn't know they had access to the technology.

When it comes to younger generations in these markets, Gen Z and Millennials are most likely to lead adoption, with 51% of Gen Z and 46% of Millennials saying they are likely to test out an AV knowing it's available in their state.

CONCLUSION

- While safety is still a big concern, education and access are key to helping Americans understand the safety and benefits of driverless technology.
- Younger generations (Gen Z and Millennials) will drive AV adoption as they see the benefit in real-world use cases.
- Issues like public transportation, road safety issues, and accessibility are helping Americans understand the benefit of driverless technology.

