# THE FUTURE OF MOBILITY

## Autonomous, electric and shared

**Vincent Dupray, Peter Otto, Alexander Yakovlev** | November 2019


IPSOS VIEWS

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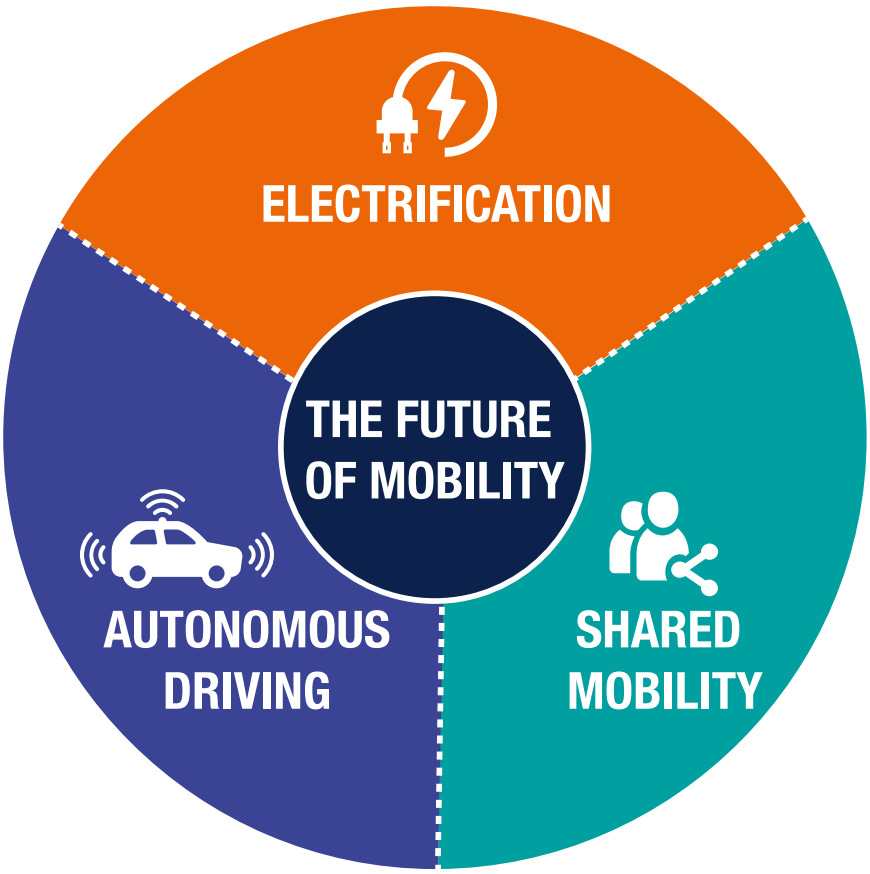
# CONTEXT

The automotive industry stands on the edge of a new era, with new technologies disrupting the way we drive. We are moving towards a future that will bring together the three main mobility trends – **autonomous driving**, **electrification**, and **shared mobility** (figure 1). Bringing together these technologies will allow, for example, the in-app ordering of a driverless taxi that will deliver its customer to a destination and then self-drive to the nearest wireless charge point to prepare for the next booking.

Our latest research shows that consumers are ready to accept this new transportation paradigm, but only under certain conditions. Drawing on findings from our Ipsos Automotive Navigator study[1], this paper reveals the latest levels of consumer interest, preferences, barriers and expectations around the three key trends affecting the industry.

**Figure 1** The three key mobility trends

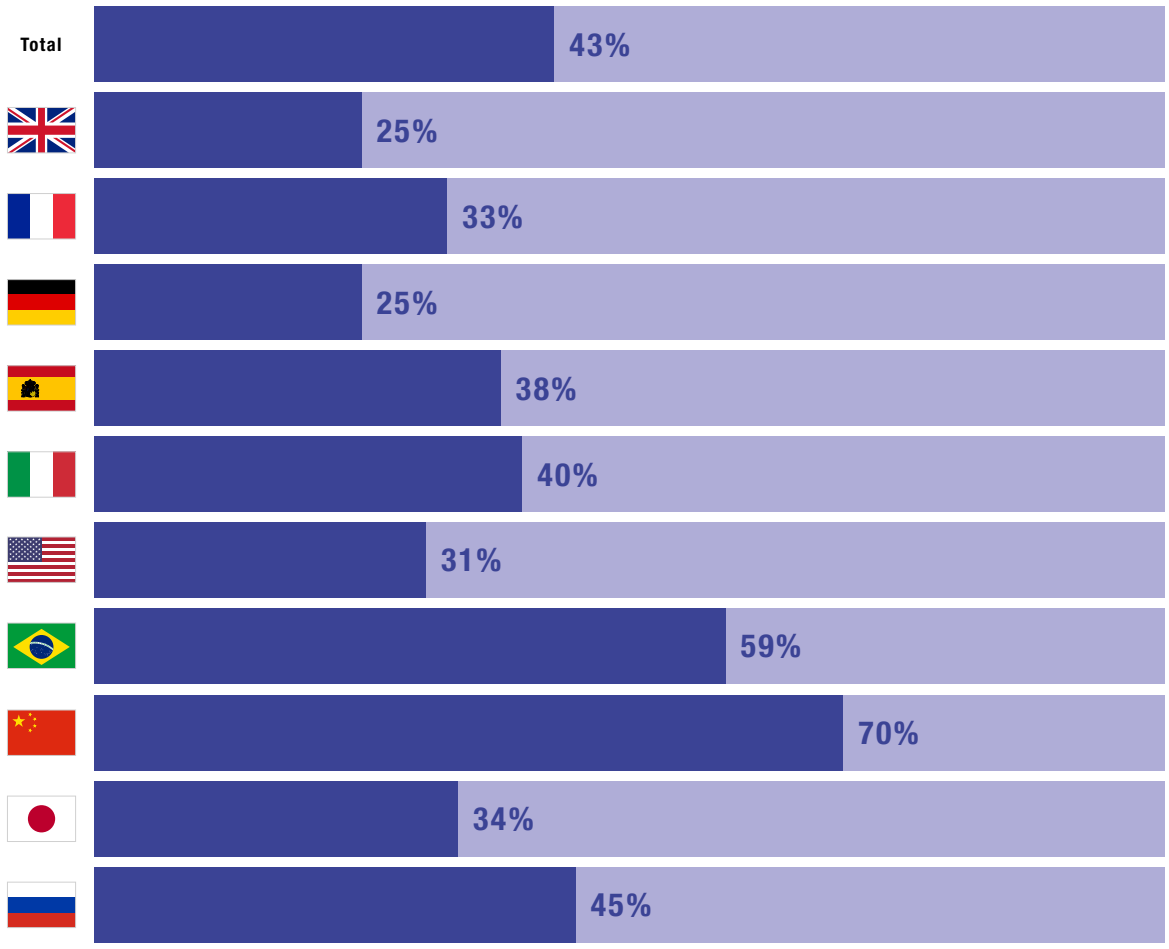


# AUTONOMOUS DRIVING – A FEAR OR A BENEFIT?

The operation of a car without regular human interaction opens doors to new ways of using vehicles and for new concepts to arise. Consumers expect an autonomous vehicle (AV) to be used primarily for commercial purposes, with just 43% of them imagining owning an AV for personal use (figure 2). This trend is even more prevalent in developed markets. Currently, private and commercial use are treated as parallel strategies by the industry so, alongside a clear focus on developing self-driving vehicles, the industry will need to prove the consumer benefits.

Out of the three big mentioned disruptors, autonomous driving is of the least interest to consumers, with just 19% of consumers 'very interested' in autonomous vehicles, compared to 34% who are ready to pay extra for a pure electric vehicle (vs. a car with an internal combustion engine of comparable power and space) and even more - 58% - expecting that shared mobility will replace personal car ownership in the future. Furthermore, we uncovered a decline in interest in fully autonomous vehicles now compared to 2017 – media headlines generated by accidents involving driverless cars will undoubtably have contributed to this trend. Thus, the safety of autonomous vehicles will need to be proven to consumers and traffic authorities if we are to see predicted growth rates.

**Figure 2** Level of interest in owning an autonomous car for personal use




*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

To date, consumers are still not convinced about the safety of AVs – even the minority, who are ready to drive/ride in fully autonomous mode, declare that they would spend more than half of their time still paying attention to the road. By comparison, semi-autonomous support systems are already well accepted by consumers – with features such as 'Accident Avoidance' and 'Advanced Drive Assist Systems' (ADAS) ranked respectively as the number one and number four most interesting connected car features (figure 3).

This being said, we also know that consumers are often skeptical about innovation. The success of autonomous driving will strongly depend on how much positive experiences are able to overcome deep-lying fears about losing control and being at the mercy of technology. Mobility providers have to support consumers with products and services that answer these fears. This also reveals the psychological importance of design elements, that make the new way of driving tangible.

Undeveloped legislation is another challenge in moving further and faster towards autonomous driving. Authorities appear reticent to allow vehicles with autonomous mode onto their roads. There are currently very few countries (or regions within countries) where level 3 autonomy[2] vehicles are allowed to be driven on the roads. Level 3, though allowing a high level of autonomy, still holds the driver responsible for any accident. Levels 4 and 5 autonomy already imply driverless car operation in some (level 4) or in any (level 5) situation, so even when AVs are proved to be safe, responsibility and liability in case of an accident needs to be crystal clear. This point is one of the main topics of conversations about AVs and, of course, insurance companies are also one of the key stakeholders in these discussions.

In contrast, the other future mobility trends of electric vehicles (EV) and shared mobility are more readily endorsed by officials. Norway is one of the most outstanding examples

**Figure 3** Level of interest in features of connected cars

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Accident avoidance | 57% | 62% | 61% | 74% | 71% | 62% | 81% | 77% | 64% | 78% |
| Emergency Service | 54% | 60% | 56% | 69% | 66% | 59% | 79% | 69% | 45% | 64% |
| Predicting the traffic | 53% | 51% | 49% | 54% | 53% | 50% | 73% | 60% | 44% | 60% |
| Advanced Drive Assist Systems | 44% | 51% | 50% | 57% | 50% | 49% | 70% | 67% | 40% | 63% |
| Check car location | 46% | 35% | 29% | 52% | 53% | 44% | 77% | 63% | 38% | 72% |
| Search for Nearby Parking Lots | 42% | 45% | 47% | 63% | 55% | 35% | 72% | 66% | 33% | 62% |
| Smart Refilling/Recharging | 43% | 42% | 37% | 53% | 53% | 41% | 74% | 63% | 31% | 53% |
| Automated Parking | 44% | 45% | 40% | 52% | 48% | 36% | 68% | 65% | 31% | 60% |
| Tele Diagnostic will send car-data | 35% | 31% | 27% | 43% | 48% | 40% | 66% | 60% | 25% | 79% |
| Connected Driver`s Preference | 37% | 31% | 28% | 43% | 36% | 43% | 65% | 53% | 24% | 52% |
| Mobile Health Management | 28% | 24% | 23% | 47% | 42% | 30% | 67% | 62% | 23% | 45% |
| Fully Autonomous Driving | 22% | 23% | 23% | 33% | 31% | 28% | 54% | 64% | 37% | 41% |
| Connected Route Service | 27% | 35% | 31% | 38% | 33% | 33% | 63% | 57% | 19% | 31% |
| Connected Homes / Daily Life Management | 22% | 19% | 16% | 32% | 36% | 26% | 61% | 55% | 23% | 33% |
| Mobile Living room | 18% | 14% | 13% | 23% | 19% | 20% | 43% | 52% | 21% | 33% |
| In-car Delivery | 16% | 14% | 12% | 21% | 20% | 15% | 41% | 40% | 15% | 20% |

LOW (RED) (GREEN) HIGH

*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

of how state actions can entirely change the landscape. A wide range of material and non-material incentives to EV owners, as well as the rapid development of charging station infrastructure across the country[3], have led to more than half of all new cars sold in Norway being either battery electric or a plug-in hybrid. This makes Norway the number one EV market in Europe and number three worldwide (after China and the US). According to The Paris Declaration on Electro-Mobility and Climate Change and Call to Action[4], 20% of vehicles on our roads should be electric by 2030, clearly signposting that such a change in dynamics is unlikely to happen without significant government intervention.

Interestingly, many regulations are now being initiated at a more micro level, rather than country level, by local city mayors and governments. Mega-cities (such as New York, Paris and London), with pollution and traffic density as key problems to be solved, are actively legislating different combinations of restrictive and supporting initiatives, such as tightening emission norms, car-free days/areas, tax benefits for EVs, and free parking for car-sharing, which really make an impact. For example, in London, one of the biggest motivators for switching from an internal combustion engine (ICE), and diesel in particular, is the new Ultra Low Emission Zone (ULEZ), implemented in April 2019[5]. The inconvenience of not being able to drive into the centre of London, along with the feeling that ICE vehicles provide little value for money in these circumstances, is frustrating enough for some people to begin seriously considering an EV.


**"One of the biggest motivators for switching from an internal combustion engine (ICE), and diesel in particular, in London is the new Ultra Low Emission Zone (ULEZ)."**

# WHAT DO CONSUMERS THINK ABOUT ELECTRIC VEHICLES?

Consumers are generally ready to accept the electrification of vehicles. They are seriously concerned about the high price of fuel (75%) and high emissions/pollution (55%) of an ICE car and understand the advantages of EVs over these aspects. Thus, environmental friendliness (42%) and being cheaper to run than fuel (36%) are identified as the top two advantages of EVs. Interestingly, while the environmental impact is clearly acknowledged across all countries, the economic benefits of EVs are perceived differently – for example, only 14% of Italians are convinced EVs are cheaper to run vs. 49% of those in the UK (figure 4). Such wariness and misunderstanding have resulted in the fact that just 9% of car owners seriously considered an EV during their recent car purchase.

At the same time, there remain two significant barriers in the way of increased electrification. Firstly, the limited driving ranges of EVs, challenging their suitability for long distance travelling (35%), closely allied to the second, the undeveloped infrastructure of public charging stations (36%). Notably, despite strong expectations towards the development of public charging infrastructure, this is only the second most preferred location to charge an EV, with charging at home/in car garage being the most likely option (figure 5).

**Figure 4** Potential benefits of electric vehicles

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Produce less pollution/gas emissions | 42% | 49% | 38% | 52% | 33% | 41% | 49% | 45% | 37% | 37% |
| Environmental friendliness | 40% | 46% | 44% | 51% | 30% | 36% | 46% | 48% | 38% | 46% |
| Cheaper to run (i.e., cheaper than running on fuel) | 49% | 23% | 36% | 24% | 14% | 45% | 28% | 37% | 34% | 40% |
| Save fuel resources | 31% | 30% | 17% | 37% | 33% | 36% | 35% | 39% | 16% | 39% |
| Ability to charge the vehicle at home | 30% | 34% | 28% | 23% | 18% | 33% | 33% | 23% | 45% | 37% |
| Are quiet when driving | 19% | 15% | 27% | 32% | 10% | 23% | 28% | 32% | 35% | 28% |
| Cheaper to maintain (i.e., less service visits) | 33% | 19% | 18% | 16% | 14% | 36% | 20% | 16% | 33% | 31% |
| Tax benefits or cash subsidy for purchase/owning | 28% | 25% | 27% | 22% | 19% | 26% | 19% | 26% | 26% | 24% |
| Use renewable energy | 30% | 24% | 19% | 30% | 22% | 27% | 32% | 20% | 12% | 19% |
| Ability to charge the vehicle at place of work | 11% | 14% | 9% | 10% | 8% | 12% | 21% | 16% | 11% | 21% |
| Use more advanced technologies | 9% | 7% | 13% | 17% | 9% | 10% | 24% | 20% | 9% | 18% |
| Free parking offered in some parking lots | 17% | 13% | 12% | 16% | 9% | 9% | 9% | 9% | 11% | 11% |
| Guarantee not to be affected by traffic bans | 8% | 15% | 24% | 15% | 11% | 3% | 9% | 19% | 3% | - |
| Accelerate faster than non-electric vehicles | 7% | 4% | 8% | 5% | 3% | 10% | 7% | 9% | 5% | 7% |
| Additional storage space (no front engine comp.) | 5% | 4% | 4% | 5% | 5% | 7% | 9% | 7% | 8% | 11% |
| Ability to drive in public transport/express lanes | 7% | 5% | 4% | 6% | 4% | 5% | 6% | 9% | 3% | 10% |
| Have an attractive exterior design | 5% | 2% | 3% | 4% | 3% | 7% | 6% | 7% | 4% | 8% |

LOW (WHITE) (BLUE) HIGH

*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

Current EV owners also mark their frustrations about occupied or broken stations, as well as about strongly varying costs at different charging stations.

Current EV ranges on a single charge already significantly exceed the average daily distance driven (approx. 40km) but have not yet reached the level that is expected by consumers - 350km range and charging frequency of once per week or less (figures 6 and 7). However, many of the recently announced EVs will match this expectation, thus hopefully removing these key barriers to EV adoption.

Furthermore, long term strategies of original equipment manufacturers (OEMs) are also straightforward, with those such as FCA and Toyota already committing to abandoning diesel technologies in the future. Some OEMs are even more aggressive, with Volkswagen AG introducing a plan of $50bn USD investment into electrification and stating that only fully electric models will be launched from 2026 onwards. Similarly, Volvo have announced that they will no longer develop new generations of ICE engines and that all new models introduced after 2019 will be either hybrid or fully electric. However, it is important to point out that this does not mean that ICE cars will not be produced at all after that – there will still be a market for them – but the technical progress will be concentrated in the EV area.

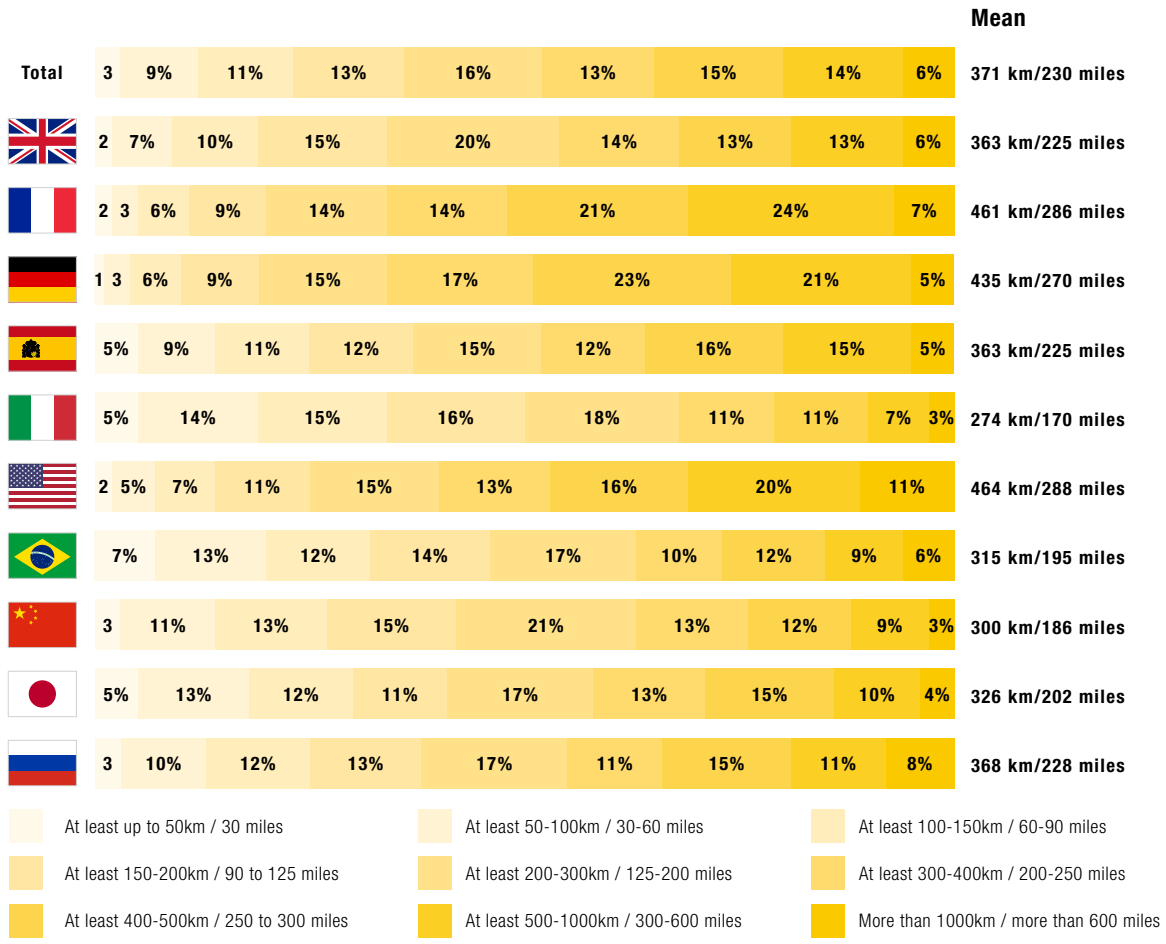
**Figure 5** Expectations towards charging place for pure electric vehicles

| | At home/in your garage | At work | At gas/petrol stations | At public charging stations |
|---|---|---|---|---|
| Total | 75% | 23% | 21% | 40% |
| | 76% | 19% | 17% | 32% |
| | 84% | 36% | 24% | 44% |
| | 71% | 24% | 19% | 38% |
| | 56% | 13% | 30% | 45% |
| | 61% | 14% | 28% | 43% |
| | 86% | 18% | 12% | 30% |
| | 75% | 21% | 25% | 42% |
| | 70% | 39% | 14% | 46% |
| | 75% | 8% | 24% | 42% |
| | 71% | 27% | 53% | 43% |

LOW (RED) (GREEN) HIGH

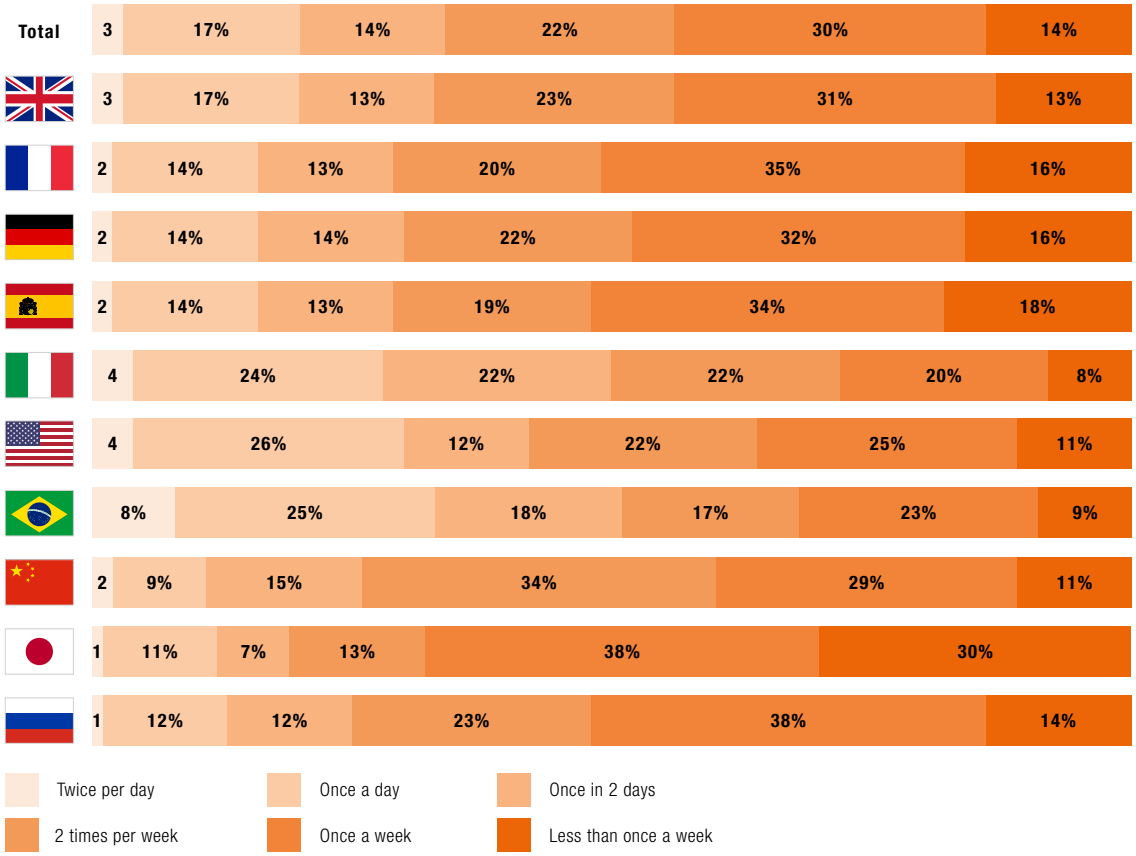
*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

**Figure 6** Expectations towards acceptable mileage of pure electric vehicles on one charge (%)




*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

**Figure 7** Expectations towards charging frequency of pure electric vehicles (%)




*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

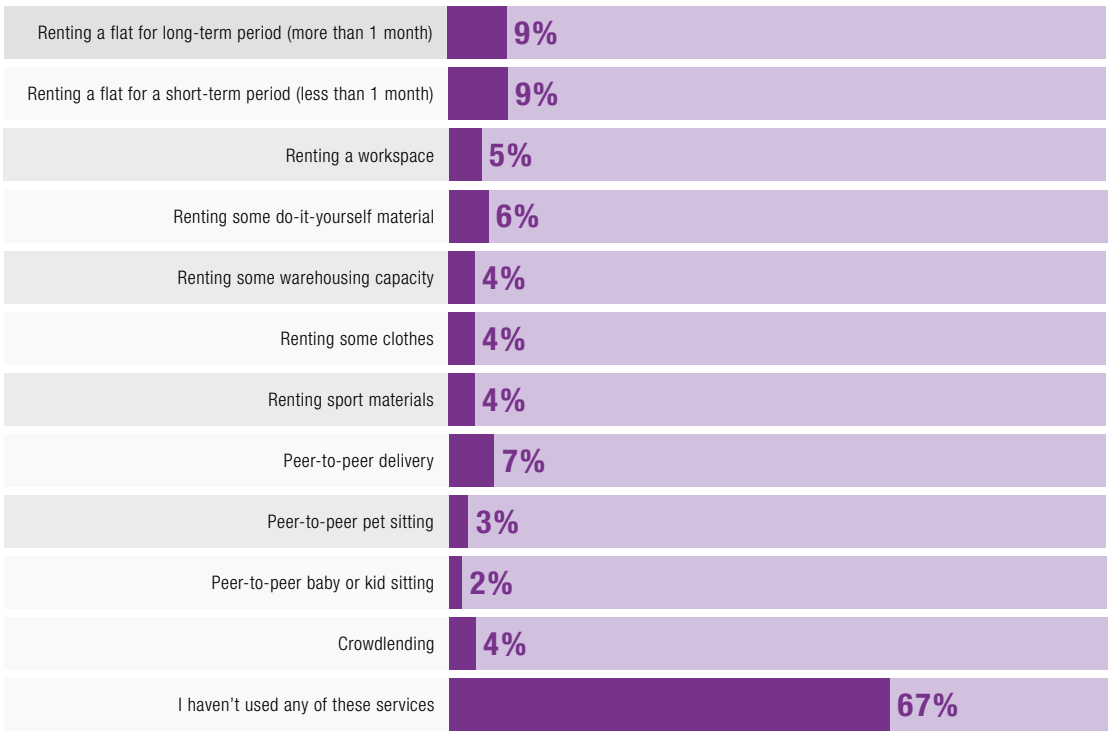
# HOW DOES THE SHARED ECONOMY AFFECT TRANSPORTATION?

The shared economy, occupying a wide range of applications from renting clothes to renting a flat, is increasingly influencing people's decisions. We asked consumers if they have used any of the given shared-economy services in the past 12 months (figure 8), with one-third of consumers stating they had. Consumers living in mega-cities are more open to this (38% in mega-cities vs. 28% in small cities/rural), but the biggest difference in accepting the "trend of sharing" is related to age. Already more than half (52%) of millennials (18-34 age bracket) have used shared economy services; for the over 50s, it's 18%.

Cultural and emotional aspects, which might not be visible at first glance, can also be found behind adaptations of shared mobility services in different markets. For example, one of the patterns of car-sharing in Japan is not all about driving anywhere, but rather using a vehicle as a physical space in order to take a nap or have a private phone conversation. Similarly, in the UK, services such as Paris-based BlaBlaCar, a long-distance carpooling service, have struggled to penetrate the market, with some analysts attributing this to British culture and a reluctance to share a long car journey with a stranger.[6]

Overall, the suggestion that car ownership is no longer a required precondition to using a car opens up significant opportunities for the automotive sector.

**Figure 8** Usage of shared economy services in the past 12 months - overall/global (across all countries)




*Source: Ipsos Automotive Navigator survey. Base: 93,584 participants across 10 participating countries.*

Although the majority of current car owners value convenience (58% - “driving own car, I don’t have to wait/walk”) and independence (52% - “flexibility - I can take any route I wish”) as the main benefits of having their own car, only 31% state that they personally would refuse to not own a car in the future. Interestingly, American, German and French people are, on average, least likely to imagine life without owning their car - 45%, 42% and 40% respectively (figure 9).

Some consumers are clearly already engaged in the economic efficiency of shared mobility services over owning their own car, with only 23% of respondents believing that owning a car is cheaper than paying to “rent” the same benefits. At the same time, most consumers struggle to see how shared mobility services can currently fully replicate the convenience and independence of owning their own car (figures 10 and 11).

We can therefore conclude that, at this stage of the transport evolution, the shared mobility option has begun but still has a considerable way to go before becoming mainstream – the early adopters who say that they will use car/ride-sharing services and do not intend to buy/own a car are mostly young and living in mega-cities.

Future consumer expectations also show a trend towards shared mobility – with a sizeable number believing that it will impact on car ownership patterns (figure 12).

The sharing, rather than owning, pattern affects much wider areas than simply who owns a car. We mentioned previously that AVs and EVs are also directly connected to shared mobility development. As part of that, many purchases around a car (e.g., selecting the brand of replacement tyres, or choosing between original or non-original spare parts) move from a B2C to B2B basis. This carries one of the biggest threats for car makers -

**Figure 9** Reasons for not owning a car in future

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| If total cost of ownership (fuel, repair, maintenance, tax, insurance, etc.) reaches unacceptable level | 51% | 43% | 38% | 51% | 40% | 41% | 61% | 54% | 46% | 64% |
| If there is no available parking space/if parking space cost reaches unacceptable level | 18% | 10% | 13% | 19% | 14% | 11% | 16% | 35% | 21% | 14% |
| If I receive tax benefits from the state for not owning a car | 22% | 11% | 12% | 23% | 21% | 16% | 21% | 10% | 18% | 14% |
| If all / almost all my transportation needs can be simply covered for lower costs than if owning a car | 34% | 27% | 29% | 37% | 31% | 30% | 35% | 29% | 33% | 26% |
| I will not refuse from owning a car | 31% | 40% | 42% | 26% | 32% | 45% | 21% | 16% | 33% | 24% |

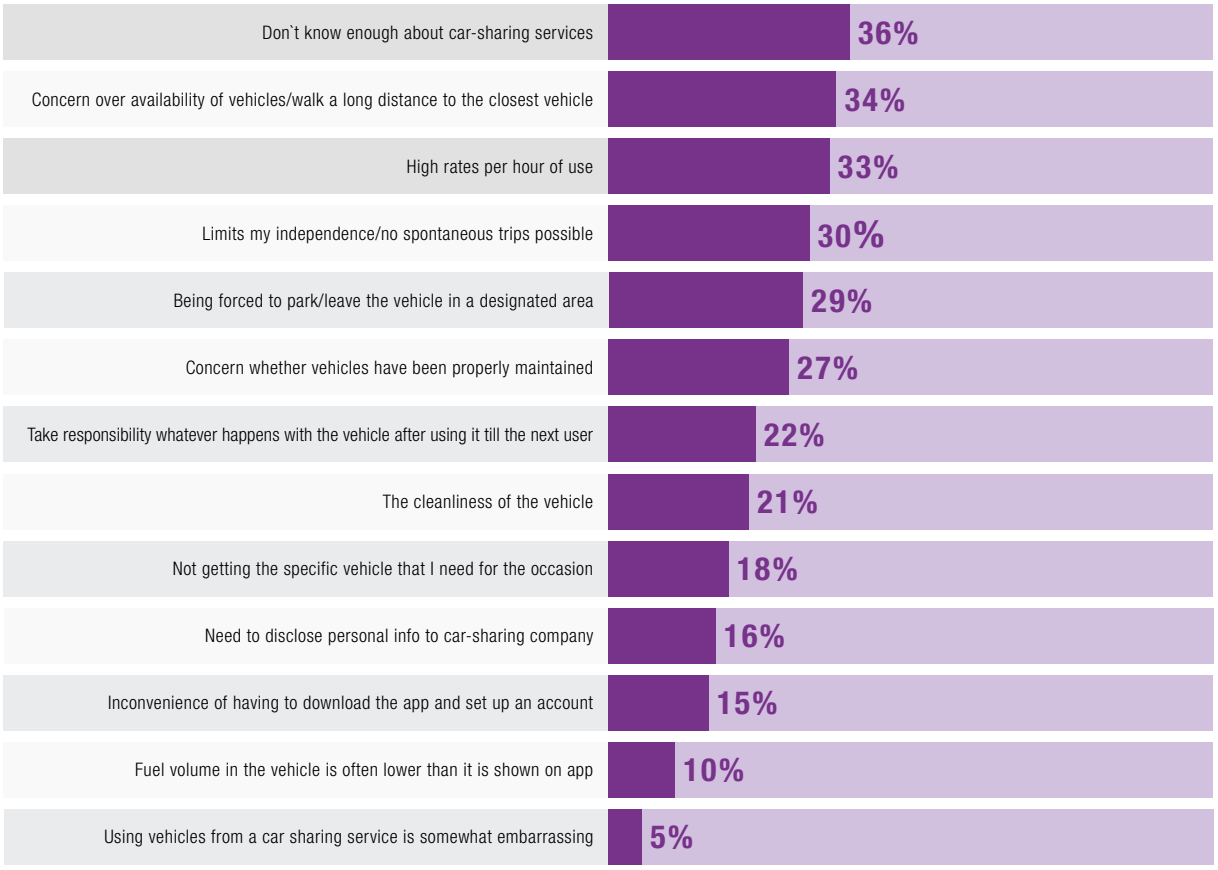
*Source: Ipsos Automotive Navigator survey. Base: 93,584 participants across 10 participating countries.*

losing the connection to their customers and becoming just vehicle providers to mobility third parties. By acknowledging this and aiming to build a stronger presence and leadership in the mobility field, OEMs are actively investing in their own mobility divisions, as well as building new partnerships (e.g. with IT companies). Such examples include the Volkswagen Group setting up the mobility division MOIA, the BMW/Daimler joint venture in mobility services, and the RenaultNissanMitsubishi Alliance partnership with Waymo on driverless cars.[7]

Altogether, the sharing paradigm has disrupted traditional line-ups in the automotive industry, opening the doors to new partnerships, mergers and acquisitions, as well as new players entering the market. For the moment, there is still an uncertainty about who is going to win this battle of the shared autonomous mobility as OEMs will be competing, and partnering, with high-investment players such as Apple, Uber and Didi.

**"Future consumer expectations also show a trend towards shared mobility – with a sizeable number believing that it will impact on car ownership patterns."**

**Figure 10** Potential barriers of car-sharing - overall/global (across all countries)




*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

**Figure 11** Potential barriers of ride-sharing - overall/global (across all countries)

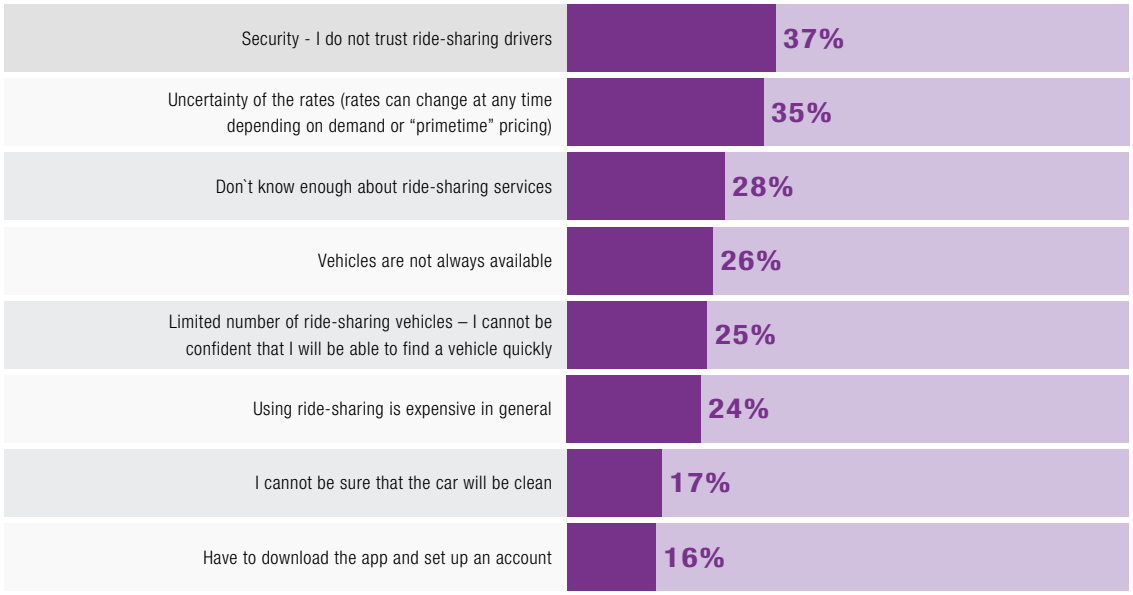



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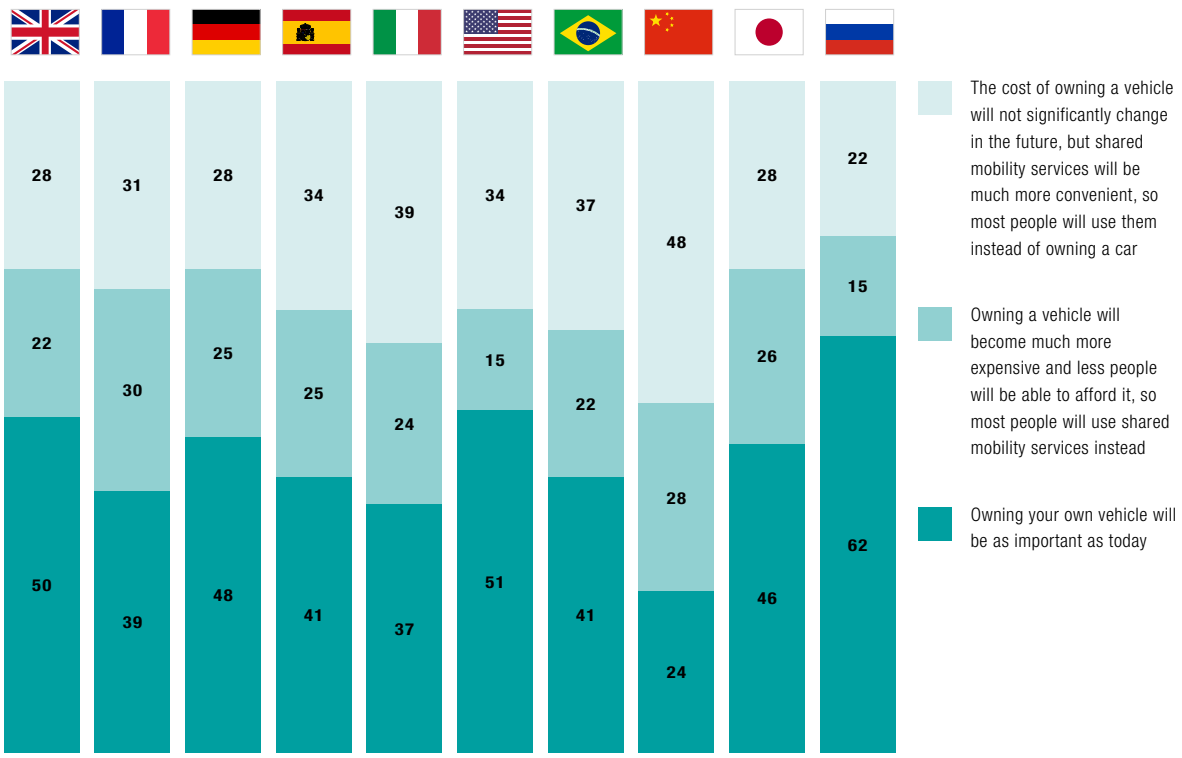
**Figure 12** Consumer predictions towards owning a car vs. using shared mobility in future




*Source: Ipsos Automotive Navigator survey. Base: 106,740 participants across 10 participating countries.*

# WHAT NEXT?

The core expectations in terms of mobility remain consistent, in order of freedom/time management, safety/security and affordability/simplicity. This means that the future mobility ecosystem will have to deliver the ease and cost-effectiveness that has been promised, as the economic factor will be dominant – 73% of people consider the cost of owning a car as a problem, whereas the purchase cost itself is only a problem for 45%.

The "new era of transportation" promises to be:

- Cheaper and better for the consumer (having access to a wider variety of vehicles)
- Cleaner and more connected for governments
- More profitable for the industry (more consumer touchpoints other than just selling and servicing a car – e.g. riding in autonomous vehicles, online purchases)

At the same time, it is evident that current transport systems will take time to change because of the headwinds that car makers and other mobility providers will need to overcome.

## ELECTRIC VEHICLES

In general, consumers are convinced about EV evolution, but this has not yet converted into solid sales. Current EVs are accepted primarily by innovators or with an obvious "push" basis, such as incentives offered to owners. To bring EVs to the mass market requires a new composition – a "competitive demand" – possibly meaning less, or no, consumer incentives, but compensated instead with higher EV ranges and well-developed charging infrastructure. More creative ideas are needed to find innovative ways for smooth charging and travelling, that require big investments and a scale effect in order to pay off. With this in mind, the next two years will be interesting to follow, especially considering the new regulations in China and Europe and the huge new offer of EVs and plug-in hybrid electric vehicles (PHEVs).

**"Although the big picture trend is clear, questions of how, when and where this 'new era of transportation' will start, as well as what mobility will look like in the future, are open."**

## SHARED MOBILITY

Ride-sharing and car-sharing are making car ownership less attractive for young urban people, but will this mentality remain when they have children? Older consumers seem less inclined to give up the freedom offered to them by owning their own car. The generational effect we expect to see, driven by global warming, should accelerate this trend towards sharing.

Although the big picture trend is clear, questions of how, when and where this "new era of transportation" will start, as well as what mobility will look like in the future, are open. We believe that the first strong impulse will come through the combination of shared mobility and electrification with consumers eager to test/use EVs in parallel to, rather than instead of, current car ownership. In this scenario, shared mobility and EV trends generate synergies – people will use shared mobility more often because they want to accumulate an EV experience, and they can do so without making the difficult psychological decision to buy an EV or move away from owning a car.

This may happen sooner than we expect in mega-cities, where consumer barriers are easier to overcome. Fixed/localised geographical perimeters make it possible to extensively cover a city with newly-built charging infrastructure, so charging an EV is not difficult. The concentrated number of consumers living in mega-cities generates an efficient demand for keeping a bank of shared vehicles, which in turn makes the walking/waiting time for a car/ride-sharing vehicle acceptable to consumers. Legislation taken at city level should help support early stage adoption. Finally, several mega-cities stepping into a new era of mobility together may generate a scale effect and reduce the costs of EV production, making it significantly lower than producing a traditional ICE vehicle.

## AUTONOMOUS VEHICLES

AVs are the main disruptor of the three big mobility trends and, as a result, they have a more uncertain future. Safety factors related to AVs means that the acceptance will likely be gradual, with legislation determining the speed of adoption in this space. We expect the first live AVs to be for business usage (e.g. delivery, transfer, and agricultural). In the beginning, AVs will be used on isolated lanes, or fixed routes such as the AV-route in Paris between Charles de Gaulle airport and the business district of La Défense, where the RenaultNissanMitsubishi Alliance and Waymo are planning a driverless transportation service from 2024. There is still a long way to go for AVs to disprove safety concerns and to be allowed on public roads. Only once this happens, will we see all three mobility trends assemble.

# 10 KEY TAKEAWAYS

We are moving towards a future that will bring together the **three main mobility trends** – autonomous vehicles (AVs), electric vehicles (EVs), and shared mobility. Our research suggests consumers are starting to get ready for this, but only under certain conditions.

Of the three main mobility trends, **EVs and shared mobility have more support** from consumers and officials than AVs.

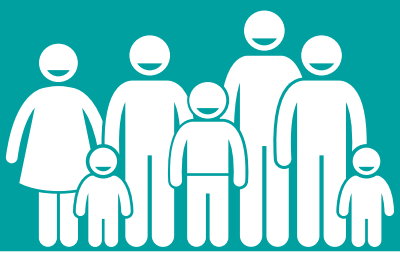
Perceptions of **AV safety** remain a key barrier to support, undoubtably impacted by media headlines involving driverless car accidents. In addition, consumers believe AVs mainly have **commercial** rather than **personal use**. In order to engage support, the industry needs to prove the consumer benefits of owning an AV, alongside a clear focus on technological developments.

There are **good levels of support for EVs** globally, with consumers citing the main benefits as environmental friendliness and cost effectiveness to run. However, **two main barriers remain in the way of increased electrification** – limited driving ranges and under-developed charging infrastructure.

Norway, the **no. 1 EV market is Europe**, is a sound example of how state actions can change the mobility landscape. Norwegian EV owners are offered a **wide variety of incentives**, and access to rapidly developing cross-country **charging infrastructure**, leading to more than half of all new cars sold in Norway being either battery electric or a plug-in hybrid.

There is no doubt we are entering a **new era for transportation** that promises cheaper, faster and better mobility options for the consumer. However, although the big picture trend is clear, questions of how, when, where and what mobility will look like in the future remain open.

Future consumer expectations show a trend towards **shared mobility**, but it still has a considerable way to go to becoming a mainstream option, with barriers including uncertainty about rates and lack of available vehicles. **Early adopters are mainly young and living in mega cities**, with car/ride sharing options making car ownership less attractive for young urban consumers.



The **shared economy** is increasingly influencing consumers' decisions. One-third of us have used a shared economy service in the past 12 months, but **geography** (38% in mega-cities vs 28% in small cities/rural) and **age** (52% of 18-34s vs 18% of over-50s) highlight a big divide here.

It's clear that significant **regulation and government intervention** are required to get more EVs on our roads in the next decade. On a **micro level**, initiatives by local mayors and governments, such as car-free areas and EV tax benefits, are having an impact in mega-cities like New York, Paris and London

In **mega-cities**, EV adoption is expected to be higher because consumer barriers are easier to overcome. Cities can be extensively adapted with **charging infrastructure**, removing the major challenge of finding an EV charge point.

## MORE INFORMATION

We already mentioned in our earlier 'Future of Mobility' series of publications[8-10] that transportation pattern changes may only happen if the interests of business and state coincide and consumers accept this newly offered composition. From Ipsos' side, we are committed to creating new solutions, developing methods and advancing our expertise, which in turn will help our clients to better understand the consumer perspective of this state-industry-consumer triangle. **For more information, please email FutureMobility@ipsos.com**

## ABOUT THE IPSOS AUTOMOTIVE NAVIGATOR STUDY

The Ipsos Automotive Navigator is a continuous syndicated study that provides insights into the three key trends in the automotive industry: Disruptive Driving (Autonomous and Connected Cars), Electrification, and Shared Mobility (Car-Sharing and Ride-Hailing). The survey evaluates consumer interest, preferences and potential barriers, as well as price expectations, for autonomous and connected vehicles across 10 countries (UK, France, Germany, Spain, Italy, USA, Brazil, China, Japan and Russia). Unless stated otherwise, all data in this paper is from the 2018 study.

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# THE FUTURE OF MOBILITY

## Autonomous, electric and shared

**Vincent Dupray** Chief Client Officer, Automotive, Ipsos

**Peter Otto** Chief Client Director, Automotive, Ipsos

**Alexander Yakovlev** Senior Client Officer, Automotive, Ipsos

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