

**December 2021**

# **Technology Tracker: Wave 8**

**Report prepared for Department for  
Transport**

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# 1 Overview

Wave 8 of the Technology Tracker series involved a representative sample of 3,219 adults aged 16+ across England drawn from Ipsos’ KnowledgePanel. The survey was conducted using random probability sampling and used an online methodology for data collection. Fieldwork took place between 9th and 15th December 2021.

This is the second wave of fieldwork conducted by Ipsos, the first of which (Wave 7) was conducted between 24<sup>th</sup> and 30<sup>th</sup> June 2021 and published on gov.uk.<sup>1</sup> More information about the methodology and sample can be found in the appendix.

## 1.1 Awareness and knowledge

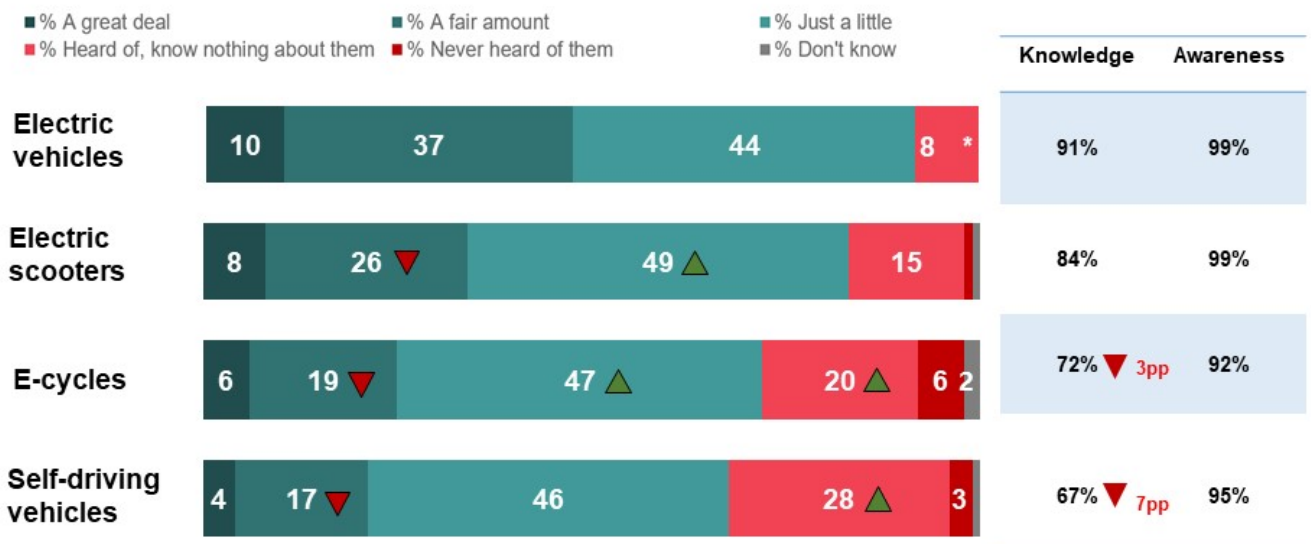
Figure 1.1 below shows that levels of awareness were comparatively high for electric vehicles and e-scooters across England, with self-reported knowledge highest for electric vehicles.

Awareness encompasses all respondents who had heard of a particular technology, including those who know nothing (but have heard of the technology), those who know just a little, a fair amount or a great deal. Knowledge is confined to those who said that they know just a little, a fair amount or a great deal.

Although awareness of self-driving vehicles and e-cycles is high, self-reported knowledge is lower for these technologies than it was for others. The largest gap between awareness and knowledge occurred for self-driving vehicles; two-thirds, 67%, reported having some knowledge, much lower than the proportion, 95%, who claimed some awareness.

Self-reported knowledge overall fell significantly for e-cycles (from 75% to 72%) and self-driving vehicles (from 74% to 67%) in the period since June 2021 (Wave 7).

**Figure 1.1 Knowledge and awareness by technology**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about them/it

Base: All 16+ in England Wave 8: (3219)  
 Fieldwork dates: Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

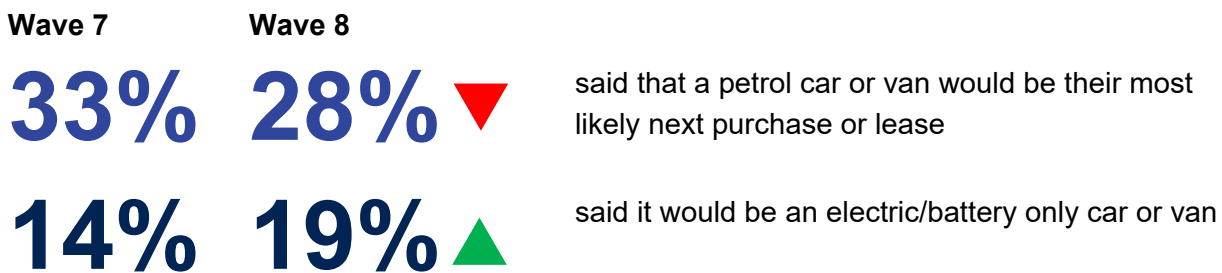
<sup>1</sup> <https://www.gov.uk/government/publications/transport-and-transport-technology-public-attitudes-tracker>

Where green and red triangles are featured on charts, this indicates a statistically significant difference from the previous wave (Wave 7) to Wave 8.

Due to a change in terminology from Wave 8, where previous reports refer to autonomous vehicles or AVs, these are now referred to as self-driving vehicles or SDVs. This is in-line with questionnaire wording and is more up-to-date terminology for this technology.

## 1.2 Future purchase intentions

Between June and December 2021 (Wave 7 and Wave 8), there was a clear shift in intentions among those who said they intend to buy, lease or replace a car or van in future. This period saw an increase in the proportion who said they would purchase or lease an electric car or van next, and a decrease in those who said they would purchase or lease a petrol car or van next.



Between June 2021 (Wave 7) and December 2021 (Wave 8), there was an increase in the proportion who said they know at least a little of the Government plan to end the sale of petrol and diesel vehicles by 2030 and hybrid vehicles by 2035 (78%, and now 83%).

Purchase intentions vary between the short- and long-term. For example, four in ten (43%) of those who intended to purchase or lease a new vehicle within 12 months said they planned to purchase a petrol vehicle, but this was 22% among those planning to buy or lease a vehicle in 5 years' time (or longer). The equivalent proportion of people intending to purchase an electric vehicle increased from 14% to 24%.

## 1.3 EV charging points

In December 2021, just under half (49%) reported having seen an EV charging point in their local area - defined as within 15-20 minutes' walk/less than a 5-mile drive - in the past month or so. Just under two-thirds (64%) said they had seen one outside their local area in the past month.

When asked unprompted (i.e. without being shown a list of possible concerns), four in ten people, 41%, said that they would have no concerns about using an EV charging point. Of those who did have a concern, availability and waiting times were the most common issues raised spontaneously by respondents.

## 2 Car access and purchase intentions

### 2.1 Ownership of licences and cars

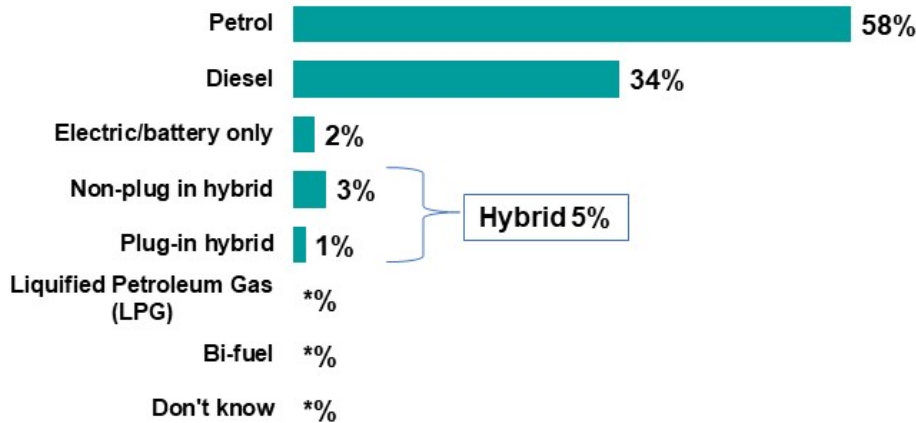
In December 2021, four in five people (79%) said they held a valid UK driving licence for a car and an additional 7% held a provisional licence. One in eight (13%) said they did not have a UK driving licence.

- Among those in ethnic minority groups, 30% said that they did not have a driving licence compared to 11% of white respondents.
- Those living in urban areas were more likely to have said they did not hold a licence; 15% compared to 5% of rural residents.
- Those in the lowest income households (with an annual household income of up to £25,999) were less likely to hold a licence; one in five, 21%, of this group said that they did not hold a licence compared to 5% of those in the highest income households (earning over £100,000 annually).

A majority said they personally own or have continual use of at least one vehicle - a car or van - (85%) compared to just 15% of those who do not. This is in line with the equivalent proportions in June 2021 (83%).

- Individuals without access to a vehicle were more likely to be prevalent among ethnic minority groups - two thirds of these groups (34%) said they had no access to a car or van compared to one in ten (13%) among white respondents.
- Those aged 16-24 were least likely to personally own or have access to a car or van (43%) did so compared to other age groups - for example, this applied to 88% of 35-44-year-olds compared to 93% of 55-64-year-olds.
- People living in urban areas were also much less likely to have access to a vehicle - 17% did not personally own or have access to a car or van compared to just 9% of rural residents.
- Similarly, individuals in the lowest annual incomes (with an annual earning of less than £25,999) were much less likely to have access to a car or van; 16% did not compared to 7% of those in households earning more than £100,000.

Nine in ten, 92%, of those who own or have continual use of at least one vehicle said that the one they used most, runs on either petrol (58%) or diesel fuel (34%). Smaller proportions - 2% and 4% respectively - said that they mostly used a vehicle using an electric battery or hybrid technology (including plug-in and non-plug-in versions). Overall, 6% said that the vehicle they used most recently was either fully electric or hybrid, although this proportion was much higher - 13% - among the highest income households (earning over £100,000 annually).

**Figure 2.1 Car or van use by vehicle type**

W8 INT Q201. Thinking now about the one car or van that you personally use the most, whether as a driver or passenger what fuel does the engine use?

Base: All who have personal use/own a car or (2575).  
Fieldwork dates: 9-15 December 2021

## 2.2 Purchase intentions

In Wave 8 (December 2021), a very high proportion of those holding a driving licence, 85%, said that they think they will purchase or lease a new or second-hand car or van at some point in the future while 9% said they had no intention to do so (6% said they didn't know). These are in line with intentions in June 2021 when 85% of driving licence holders said they think they will purchase or lease a new or second-hand car or van in the future in Wave 7.

- In Wave 8, a quarter of those aged 75+ (24%) had no intention to buy, lease or replace a car or van in the future, compared to 5% of 35-44-year-olds.

Of those intending to make a purchase or lease at some point, 30% said that they would be more likely to purchase or lease a *new* vehicle, while just under seven in ten (68%) said that this would most likely be a *second-hand* vehicle.

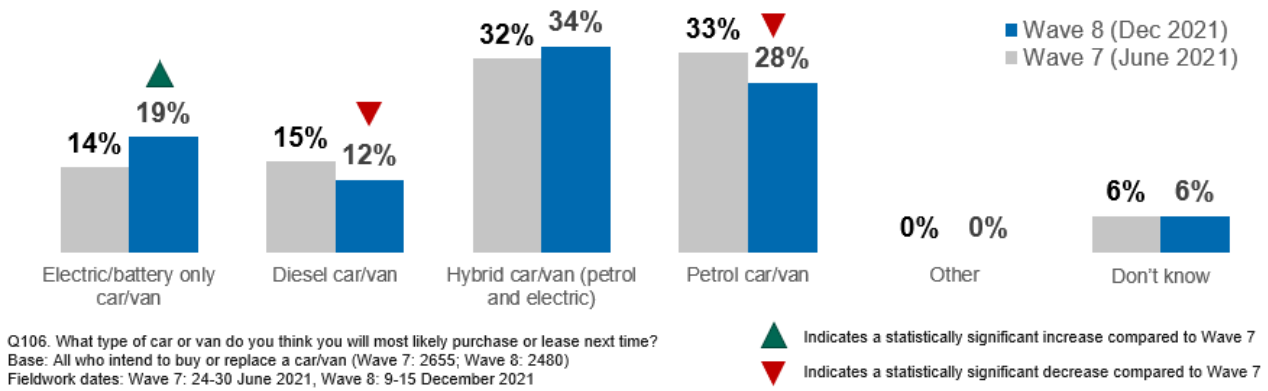
- 16-24-year-olds were much more likely to expect their next vehicle to be *second-hand*; 91%, compared to 75% of 25-34-year-olds and 67% of 35-44-year-olds. 65-74-year-olds were more likely to purchase a new car or van compared to respondents overall; 38% compared to 30% overall.
- More than three-quarters (79%) of those from lower income households (earning less than £25,999 per annum) intended their next vehicle to be *second-hand* compared to 50% of those higher income households (with income exceeding £100,000 per year). Conversely, the higher income group were more than twice as likely to say that they would likely purchase or lease a *new* vehicle compared to those in lower income households (49% to 18%).

Regardless of whether their next purchase or lease would be new or second hand, 28% of people who intended to purchase or lease a vehicle in future, said they were most likely to purchase or lease a petrol vehicle, a drop of five percentage points from 33% in June 2021 (Wave 7), shown in Figure 2.2 below. There was also a drop of three percentage points in the proportion who expected their next vehicle to be diesel over the same period - from 15% to 12%.



A third, 34%, said they would purchase or lease a hybrid car or van next, and a fifth (19%) said that they intend to purchase or lease an electric/battery only car or van - an increase of 5 percentage points from June 2021 (Wave 7) when 14% said they intended to purchase or lease an electric/battery only car or van next.

**Figure 2.2 Purchase intention**

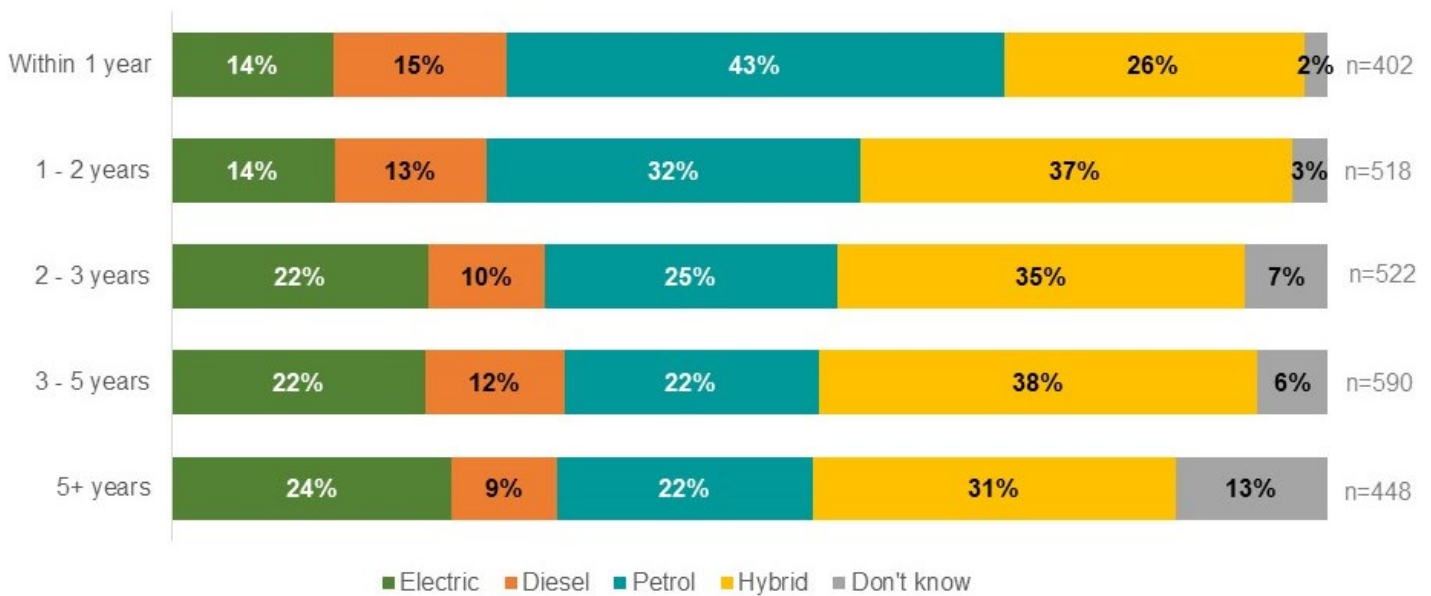


- The most significant increase in propensity to purchase or lease an electric/battery only car or van next was among 35-44-year-olds; a 10-point increase between June (Wave 7) and December 2021 (Wave 8), from 12% to 22%. This compared to smaller shifts among other age groups between waves - for example a 2-point increase from 17% to 19% among 45-54-year-olds. The youngest age group was the least likely to purchase or lease an electric/battery only car or van - a trend that has continued since June 2021 (Wave 7) when 9% of 16-24-year-olds thought this type of vehicle was their most likely purchase or lease compared to 7% in December 2021 (Wave 8).
- The youngest and oldest age groups were more likely to purchase or lease a petrol car or van compared to middle age groups: 38% of those aged between 16-24 said they were likely to do this, 34% of those aged 75+ and 23% of those aged 55-64, compared to 28% overall.
- The largest fall in the likelihood to buy petrol cars occurred among 16-24-year-olds; from 55% in June 2021 (Wave 7) to 38% in December 2021 (Wave 8). This age group were more likely in December 2021 than June 2021 to have said they would purchase or lease a hybrid vehicle next; the proportion doubled from 16% to 32%.
- Intention to purchase a hybrid car or van was largely consistent across age groups but this was higher among 55-64 and 65-74-year-olds (both 38%) than 25-34-year-olds (29%), mirroring patterns seen in June 2021 (Wave 7).
- As was the case in June 2021 (Wave 7), diesel was a relatively more common choice for people living in rural areas; 16% said they would purchase or lease this type of vehicle next time, compared to 11% in urban areas in December 2021 (Wave 8).
- In line with June 2021 (Wave 7), the highest income group (households earning more than £100,000 annually) were more likely to purchase or lease an electric/battery only car or van; 29% compared to 19% overall and 11% among the lowest income group (households earning less than £25,999 annually).

Purchase intentions vary between the short and long-term. For example, four in ten (43%) of those who intended to purchase or lease a new vehicle within 12 months said they planned to purchase a petrol vehicle while 14% planned to purchase one that is electric/battery only. However, 22% of those planning to buy or lease a vehicle in 5 years' time (or longer) said that they would be likely to buy a petrol one while 24% said it would be electric/battery only.

The likelihood of purchasing or leasing a diesel vehicle declined over time; 15% said they would purchase or lease a diesel vehicle within one year while 9% of those who planned to make a new purchase or lease in 5 years' time (or longer) said the same. The likelihood of buying or leasing a hybrid vehicle next was greater among those who were most likely to replace their vehicle in 3-5 years' time (38%) than it was among those who expected to replace their vehicle in 5 years' time or longer (31%).

**Figure 2.3 Purchase intention over time**



Q106. What type of car or van do you think you would purchase or lease next time?  
 Base: All who intend to buy or replace a car or van (2480).

Q104: When, if at all, do you think you will personally next buy, lease or replace a car or van, either new or second hand?  
 Base: All with a UK driving licence (2903).

Fieldwork dates: 9-15 December 2021

# 3 Electric Vehicles (EVs)

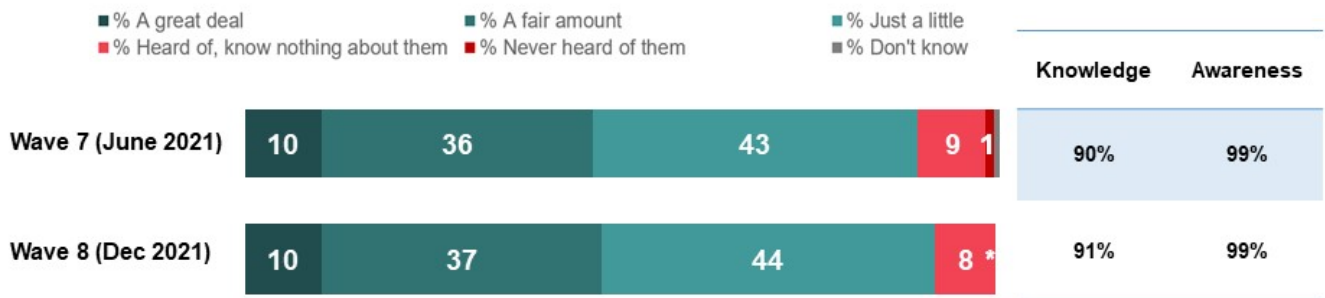
## 3.1 Knowledge and awareness

In December 2021 (Wave 8), levels of knowledge of electric cars or vans were in line with those of June 2021 (Wave 7), shown in Figure 3.1 below. Almost everyone (99%) claimed that they had at least heard of electric vehicles (EVs), while self-reported knowledge - knowing at least a little - was 91%.

There were some differences across sub-groups:

- While awareness was uniformly high across all groups, 14% of 25-34-year-olds said they know a *great deal* about EVs, as did 15% of those aged 35-44 compared to just 4% of those aged 75+.
- The greatest variation is by gender; 61% of men said they know a *great deal/fair amount* compared to 34% of women.
- Self-reported knowledge - those having said they know a *great deal or fair amount* about EVs - is also highest among those living in the South of England where it is 51% compared to a relatively low 41% in the North and among those living in rural areas; 54% compared to 45% in urban areas.
- Self-reported knowledge is lowest among those in lowest income households (earning less than £25,999 annually); 12% said that they have heard of EVs but know nothing about them, compared to 5% among those in the highest income households (earning over £100,000 annually).

**Figure 3.1 Knowledge and awareness of EVs**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about them/it  
 Q108. Before today, how much, if anything, would you say you knew about electric cars or vans?  
 Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219)  
 Fieldwork dates: Wave 7: 24-30 June 2021, Wave 8: 9-15 December 2021

## 3.2 Advantages of electric vehicles

In line with June 2021 (Wave 7), over three-quarters of people (77%) said they could think of at least one advantage of EVs over petrol or diesel cars or vans *unprompted* (without being shown a list). There were several differences between sub-groups:

- The proportion who could think of at least one advantage of EVs over petrol or diesel cars or vans was higher among younger people aged 16-24 (85%) compared to those aged 65-74 (70%), and 75+-years-old (71%) although there was a narrowing in the variation among different age groups

between June 2021 (Wave 7) and December 2021 (Wave 8). This is associated with an increase in the proportion of those among older age groups who were able to think of at least one advantage. For example, 71% of those aged 75+ said this in December 2021 (Wave 8), compared to 63% in June 2021 (Wave 7).

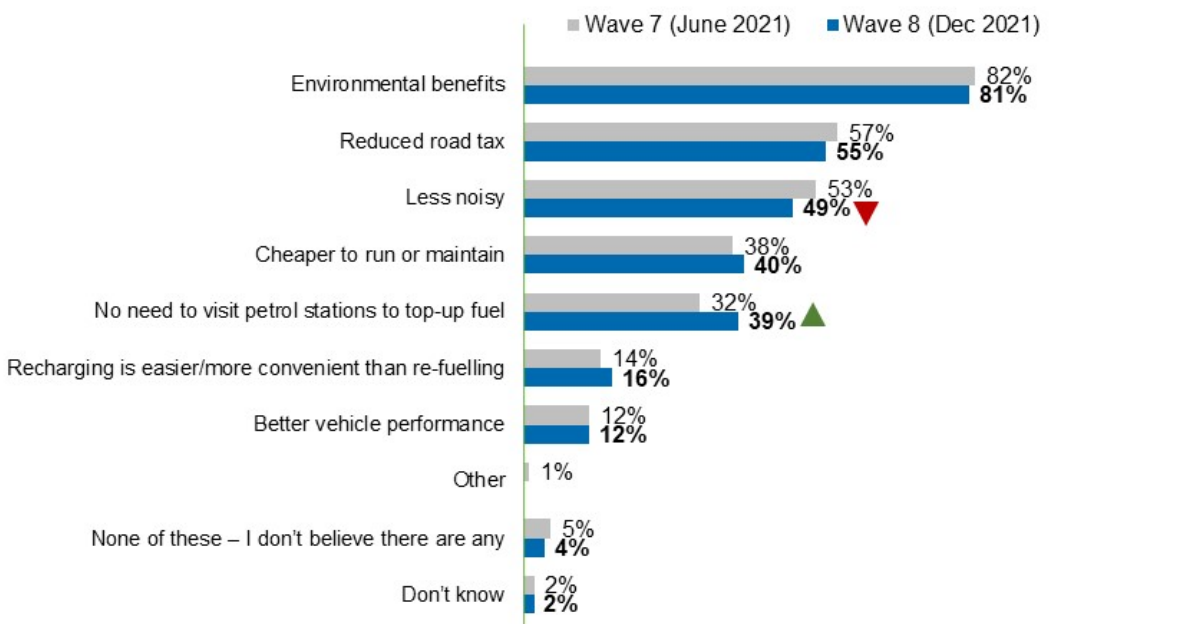
Among all adults, 12% said they could not think of any advantages of EVs, unprompted, and a further 7% said they did not believe there were any advantages of EVs.

- Those aged 65-74 were more likely to say they could not think of any advantages - 17% compared to respondents overall (12%). By contrast, 16-24-year-olds were least likely to have said they *believed there were no* advantages - 1% compared to 7% overall.

When *prompted* with a list of potential advantages, the advantage selected most frequently was environmental benefits - chosen by 81% - shown in Figure 3.2. Reduced road tax (55%) and less noise (49%) were among other frequently selected advantages. These were followed by EVs being cheaper to run or maintain (40%) and removing the need to visit petrol stations to top-up fuel (39%).

When prompted, in December 2021 (Wave 8) just under half (49%) said that EVs being less noisy was an advantage, which was down four percentage points from 53% in June 2021 (Wave 7). In Wave 8, there was a greater appreciation of EVs removing the need to visit petrol stations – up seven percentage points from 32% in June 2021 to 39% in December 2021.

**Figure 3.2 Advantages of EVs**



Q111. Which of the following, if any, do you think are advantages of fully electric over petrol or diesel cars or vans?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219).  
Fieldwork dates: Wave 7: 24-30 June 2021; Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
▼ Indicates a statistically significant decrease compared to Wave 7

There were several commonalities and differences between sub-groups:

- Environmental benefits the most mentioned advantage among all age groups, in line with June 2021.

- This advantage was selected in London more than elsewhere; 92% of those living in the capital chose this as an advantage. People living there were also more likely than average to select lower noise levels (55%) and the benefit of removing the need to visit petrol stations (48%).
- Younger age groups were more likely to have chosen more advantages when prompted. While no 16-24-year-olds and just 2% of 25-34s said there are no advantages, the equivalent proportion was 6% among those aged 55-64-years old and 7% for both the 65-74-year-old age group and those aged 75+.
- Appreciation of better vehicle performance and the cheaper cost of running or maintaining vehicles increased with income. A quarter (24%) of those in the highest household income bracket (earning more than £100,000 a year) mentioned this as an advantage, compared to 7% of those in the lowest household income bracket (earning less than £25,999).
- 16-24-year-olds were most likely to select the absence of the need to visit petrol stations; 54% chose this advantage compared to 30% of 65–74-year-olds.
- A significantly higher proportion of those in ethnic minority groups (61%) were more likely to select the absence of the need to visit petrol stations compared to white respondents (37%).

### 3.3 Disadvantages of electric vehicles

More than eight in ten (83%) said they could think of at least one disadvantage of EVs over petrol or diesel vehicles unprompted (without being shown a list), in line with a similar 82% in June 2021 (Wave 7).

- Those in older age groups were more likely to think of at least one disadvantage of EVs; 88% of those aged 45-64 compared to 69% of those aged 16-24.
- People living in rural areas were also more likely to think of at least one disadvantage compared to those living in urban areas; 89% compared to 81%.

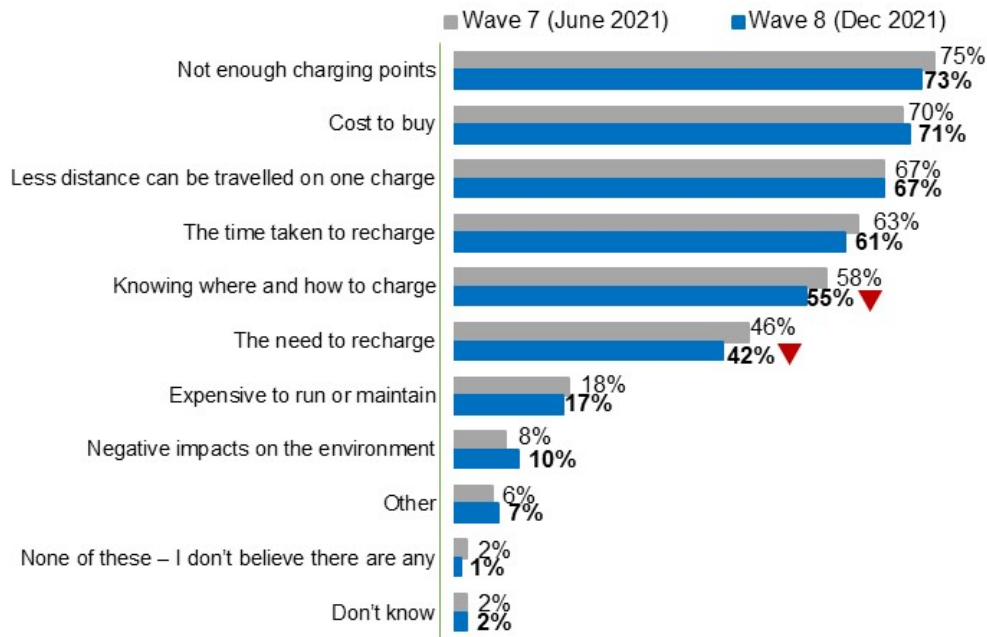
Overall, one in ten (10%) said they could not think of any disadvantages of EVs, while 3% said that they did not believe there were any disadvantages of EVs.

- Younger age groups were more likely to say they could not think of any disadvantages; 19% of 16-24-year-olds compared to 5% of those aged 45-54.

When shown a list of potential disadvantages of electric vehicles over petrol and diesel vehicles, concern about there being enough charging points was selected by almost three-quarters (73%) and this was the most selected disadvantage across sub-groups. It was closely followed by the cost of buying EVs (71%), and the shorter distance EVs can travel with each charge (67%).

Other issues around charging were also selected as disadvantages. For example, the time taken to recharge (61%), knowing how and where to charge (55%) and the need to recharge at all (42%) were selected by similar proportions of people as in June 2021 (Wave 7).

**Figure 3.3 Disadvantages of EVs**



Q113. Which of the following, if any, do you think are disadvantages of electric over petrol or diesel cars or vans?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219).  
 Fieldwork dates: Wave 7: 24-30 June 2021; Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

There were some differences among sub-groups in the disadvantages selected:

- Older age groups were more likely to select more disadvantages, although a higher proportion of those aged 16-24 cited environmental concerns as a disadvantage of EVs; 16% of this age group compared to only 6% of 65-74-year-olds.
- Those in the highest income bracket (with an annual household income of over £100,000) were more likely to select insufficient charging points (82%) compared to those in the lowest household income bracket (earning less than £25,999 per year) (67%). The cost of buying an EV was selected almost equally across income brackets.
- Those living in rural areas were more likely to select that less distance can be travelled on one charge than those living in urban areas (73% vs 65%).

**3.4 Government plan to end the sale of petrol and diesel vehicles by 2030 and hybrid vehicles by 2035 – awareness**

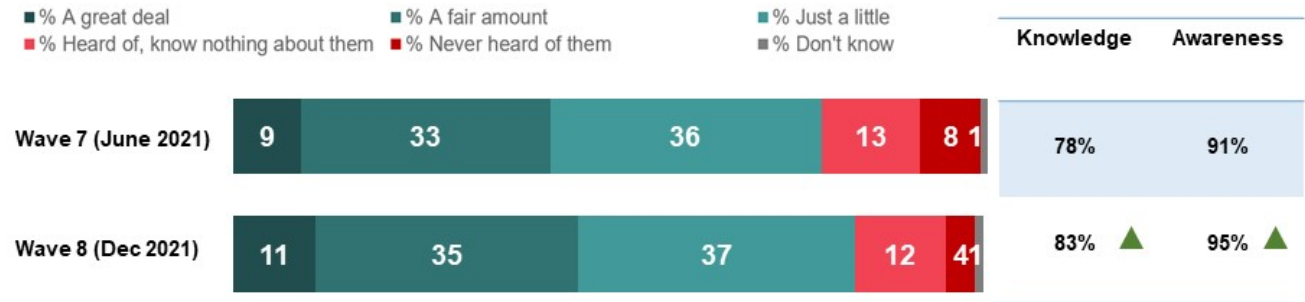
Respondents were provided with an outline of the Government’s plan to end the sale of new petrol, diesel and hybrid cars and vans as follows:

“The Government plan to end the sale of new petrol and diesel cars and vans by 2030. Some new hybrid cars and vans (which run on petrol and electric) will be available to buy until 2035. Petrol and diesel cars and vans can continue to be sold on the second-hand market.”



Knowledge of these plans was high; 83% of people claimed they know *at least* just a little about them, an increase of five percentage points since June 2021 (Wave 7). Around one in ten (11%) claimed to know a great deal and 35% said they know a fair amount; both increased by two percentage points between June 2021 and December 2021. Only 4% of people said they had never heard of the plan in December 2021, half the proportion who said they hadn't heard of the plan in June 2021.

**Figure 3.4 Awareness and knowledge of the plans to end the sale of new petrol, diesel and hybrid cars and vans**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about the proposal

Q114. Before today, how much, if anything, would you say you knew about the plan to end the sale of new petrol, diesel and hybrid cars and vans?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219).  
 Fieldwork dates: Wave 7 24-30 June 2021; Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

There were some differences among sub-groups:

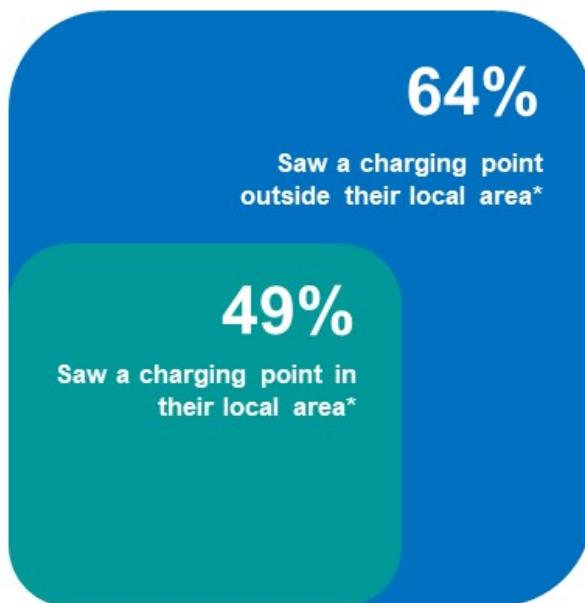
- Self-reported knowledge of the plans was higher among those aged 25 and over. For example, 68% of those aged 16-24 said they had some knowledge of the plans compared to 80% of 25-24-year-olds. This was higher still among those aged 65-74 where 90% said they knew about the plans.
- Those who intended to purchase or lease an electric vehicle next time, had greater self-reported knowledge of the plans (93%) compared to those who intended to purchase a different vehicle type - for example, 86% of those who intend to purchase a petrol vehicle next.

## 4 Electric Vehicle charging points

### 4.1 Location of EV charging points

In December 2021 (Wave 8), just under half (49%) reported having seen an EV charging point in their local area - defined as within 15-20 minutes' walk/less than a 5-mile drive - in the past month or so, while 46% said they had not. Nearly two-thirds (64%) said they had seen one outside their local area in the past month, while 28% had not.

**Figure 4.1 Proximity of EV charging points to local area**



Q203. Thinking back to the PAST MONTH or so, did you see an electric vehicle charging point(s) in the following places, or not?

Base: All 16+ in England (Wave 8: 3219).  
Fieldwork dates: Wave 8: 9-15 December 2021

\*Local area: Within 15-20 minutes walk or less than a 5 mile drive

There were some differences across sub-groups:

- Those aged 75+ were the least likely age group to have seen a charging point – 59% had not seen one locally and 38% had not seen one further afield. By contrast, 25-34-year-olds were most likely to have seen a charging point locally (57%) and elsewhere (71%).
- Visibility in local areas was significantly higher for those living in urban areas; 53% compared to 33% in rural areas. Those in rural areas were more likely to report they had seen a charging point outside their local area; 71% compared to 63% in urban areas.
- Those living in London were most likely to have seen a charge point locally (73%), compared to 39% in East of England or 40% in the East Midlands.
- Just over half, 52%, of those in the lowest income households (earning less than £25,999 per annum) said they had not seen a charge point in their local area compared to 39% in the highest income households (earning over £100,000 per annum). Similarly, the likelihood of seeing a



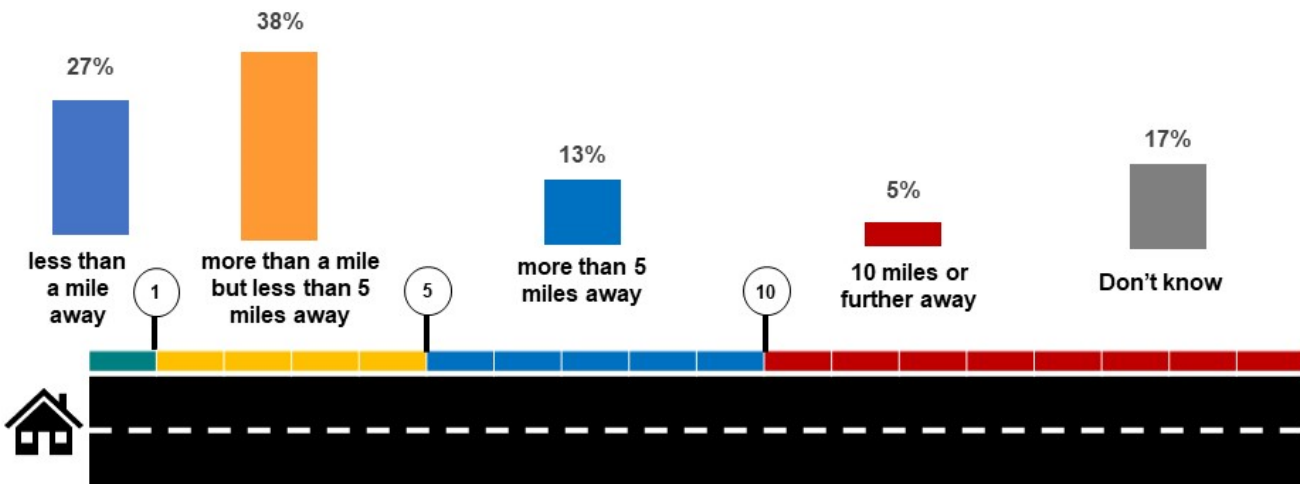
charging point outside of the immediate local area increased with income; 76% among the highest income group compared to 54% among the lowest income group.

Of those who had seen an EV charging point in the past month or so, around six in ten (59%) had done so at a supermarket. A third (33%) had seen a charging point in a public or council car park, 25% had seen one on the street, 24% at a motorway service station, 20% at a garage or petrol station and 15% outside a workplace.

- Three-quarters (73%) of the youngest age group had seen an EV charging point at a supermarket in the past month compared to 52% of those 75+.
- Over half (52%) of ethnic minority groups had seen a charging point on the street compared to 21% of white respondents. Three-quarters (74%) of those in London had seen one on the street.
- A quarter (25%) of 16-24-year-olds were most likely to have seen a charging point at a workplace, which was generally higher among the younger age groups, compared to 6% of 65-74-year-olds and 4% of those aged 75+.
- Two in five (40%) living in rural areas had seen a charging point in a public or council car park (vs 32% in urban areas).

Just over a quarter (27%) said their nearest charging point was within a mile of their home while more than half (56%) said it was further afield.

**Figure 4.2 Distance of EV charging points to home**



Q205. Thinking about where you live most of the time, how far away is the nearest charging point for electric vehicles?

Base: All 16+ in England (Wave 8: 3219).  
Fieldwork dates: Wave 8: 9-15 December 2021

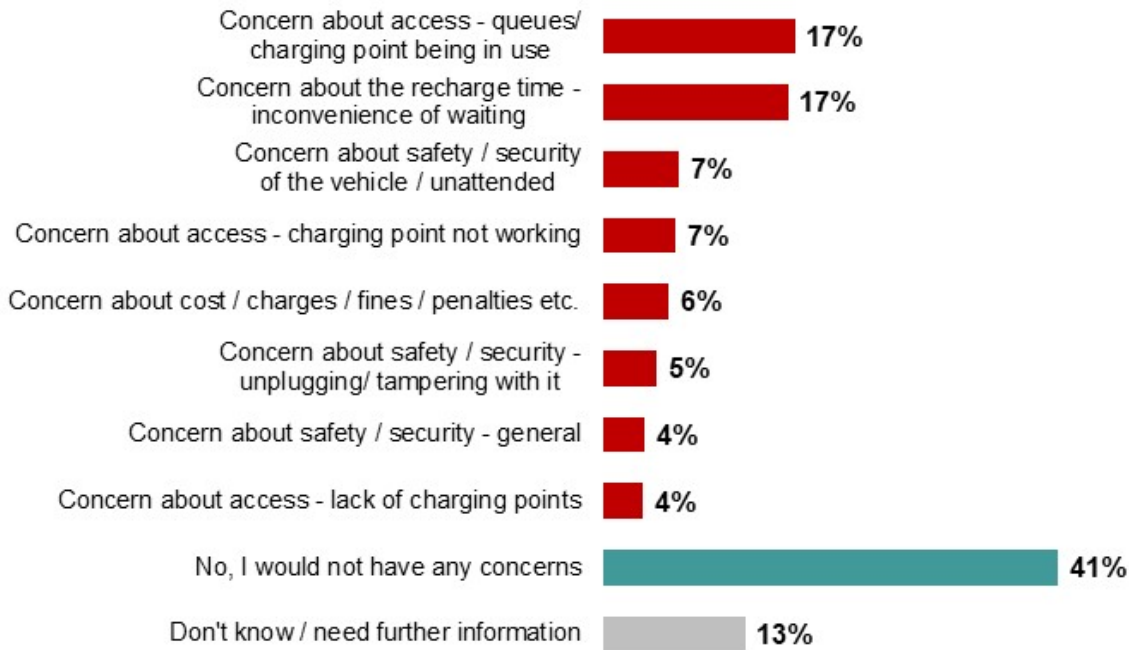
- Those in urban areas were more likely to say they had seen a charging point less than a mile away (32% against 8% in rural areas) and more than a mile but less than 5 miles away (39% against 31%). London had the highest proportion of people identifying a charging point within a mile (52%) compared to 27% overall.
- Recall of the proximity of charging points differed little by age; however, those aged 75+ were most likely to say they didn't know where the nearest one is (24%), followed closely by 22% of those

aged 16-24. Half the amount of 35-44-year-olds (11%) said they didn't know where the nearest charging point was.

### 4.2 Concerns about using EV charging points

Four in ten people, 41%, said, without being shown a list, that they would have no concerns about using an EV charging point. However, of those who did have concerns, this most often related to availability (17%), for example access or charge points being in use, and waiting times (17%), in particular the time taken to recharge.

**Figure 4.3 Concerns about using EV charging points (unprompted)**



Q206. As you may know, some electric vehicle owners charge their vehicles at charging points situated in public places. What concerns would you have, if any, about using a charging point such as this one once you had got there?

Base: All 16+ in England (Wave 8: 3219).  
Fieldwork dates: Wave 8: 9-15 December 2021

NB: This was an open question, later coded in to themes as part of the analysis

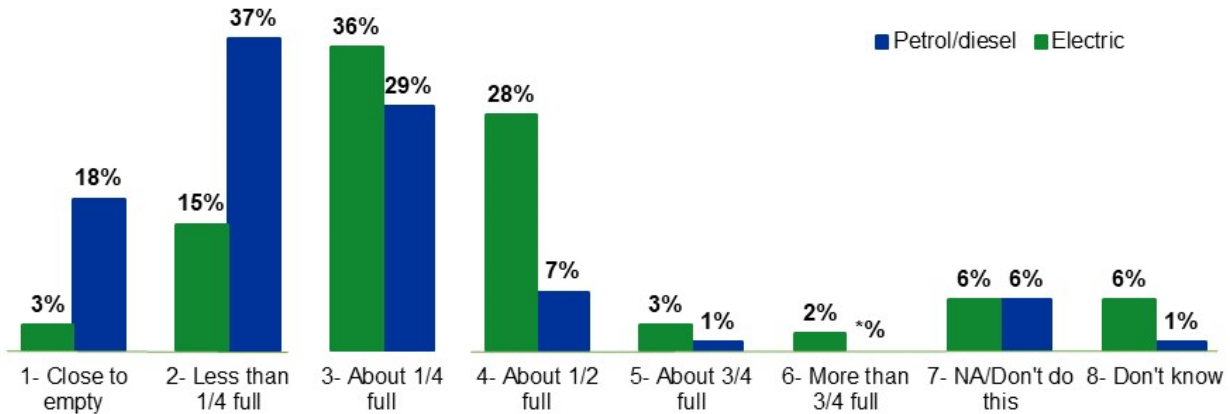
- 16-24s were the least likely age group to have any concerns; 61% said they had none. A fifth, 20%, of the oldest age group (75+), said they didn't know or would require more information. A quarter, 25%, of those aged 55-64 said they would be concerned about access relating to queues.
- Urban residents (6%) were more likely than those in rural areas (2%) to be concerned about security, and the charge point being unplugged or tampered with. Conversely, those in rural areas were almost twice as likely to be concerned about a charge point being faulty or broken than urban residents were (11% compared to 6%).

### 4.3 Attitudes towards re-fuelling and re-charging

Respondents were shown a fuel gauge and asked to select at which point on the gauge they would refuel their vehicle. The following question showed an electric battery gauge and respondents were asked at which point on the gauge they would recharge their vehicle.

As shown in Figure 4.4, people said they would be more likely to recharge their vehicle sooner than refuel their vehicle. While a majority (55%) of adults would refuel at less than a quarter of a tank, only a fifth, 18%, would recharge their vehicle at this point. Almost two-thirds (64%) would recharge their vehicle once they had reached between a quarter and a half-full battery, compared to 36% who would refuel then.

**Figure 4.4 Electric vehicle charge levels against petrol or diesel fuel levels**



Q207. Now thinking about if you were driving a petrol or diesel vehicle, at what point do you think you would typically fill-up the fuel tank?  
 Q208. Now thinking about if you were driving an electric vehicle, at what point do you think you would typically recharge your vehicle's battery?  
 Base: All England 16+ (3219).  
 Fieldwork dates: 9-15 December 2021

### Refuelling

Over a third, 37%, said they would top-up the fuel in their vehicle between being *close to empty and having less than a quarter of a tank left*. A smaller proportion, 29%, said that they would top-up once the fuel level was *about a quarter full*, while just under one in five (18%) said they would top-up the fuel in their vehicle when it was *close to empty*. A much smaller proportion (7%) said they would top up their fuel once it had around *half a tank of fuel* and 1% said they would top up once the level was at *three-quarters full*.

When considering *refuelling* their vehicle, there were some differences by sub-group:

- Those aged 35-44 and 45-54-years-old were comparatively more likely to say they would leave refuelling until the tank was close to empty - 26% and 23% respectively - compared to 16% of 16-24-year-olds.
- Those aged 65 or over were most likely to fill-up with the tank a quarter full 47% of those 75+ and 41% of those 65-74.
- While 45% of those in households earning between £52,000 and £99,999 per year would refuel when the tank was close to empty and having a quarter of a tank left, the equivalent proportion was 30% of those with a household income of less than £25,999.
- Rural residents were more likely than those in urban areas to fill-up at the quarter tank mark (35% compared to 28%).

## Recharging

More than a third of people, 36%, said they would typically recharge their electric vehicle once their battery had reached *a quarter* of its charge. Fewer than three in ten, 28%, would recharge once the battery was *half-way charged* while almost half this proportion (15%) would recharge once the battery was *between a quarter charged and almost empty*, while 3% would wait until the *charge was almost empty*. A similar proportion said they would recharge their battery once the battery was *around three-quarters full* (3%) and if the battery was *over three-quarters full* (2%).

When considering *recharging* their vehicle, there were some differences by sub-group:

- 16-24-year-olds were more likely than those aged 65-74 to wait until their charge was at levels of less than a quarter and fairly close to empty (33% and 12% respectively).
- A fifth, 20%, of urban residents would wait until their charge was at levels of less than a quarter and fairly close to empty compared to 13% of those living in rural areas.

# 5 Self-driving Vehicles (SDVs)

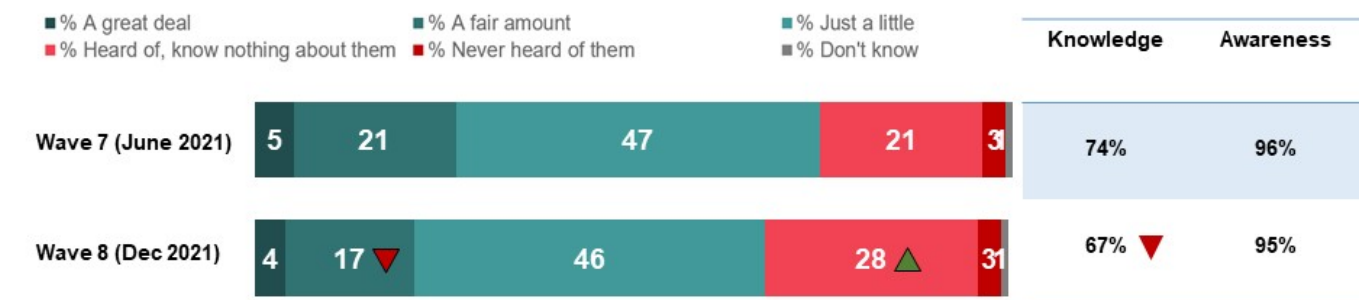
## 5.1 Knowledge and awareness

In December 2021 (Wave 8), two-thirds, 67%, claimed some level of knowledge of self-driving vehicles (SDVs)<sup>2</sup>, down from almost three-quarters (74%) in June 2021 (Wave 7), shown in Figure 5.1 below. Awareness of SDVs was high; 95% of people claimed some level of awareness.

There were some differences across sub-groups:

- 28% of 25-34-year-olds said they know a great deal or fair amount about SDVs (vs 21% overall), a significantly higher proportion than those aged 45+ (18% of 65-74-year-olds and 11% of those aged 75+ said they know a great deal or fair amount).
- Among those aged 16-24-years-old, there was a significant drop in the proportion of those that self-reported to have a great deal or fair amount of knowledge about SDVs, 25% in December 2021, down from 39% in June 2021.
- The greatest variation between sub-groups was by gender; while 33% of men said they know a great deal/fair amount, only 9% of women said this.
- Awareness was particularly high in London - 98% - which was significantly higher than the North East, North West, Yorkshire and Humber (all 93%) and East Midlands (96%). Knowledge and awareness were the same across urban and rural areas.
- The proportion of those that self-reported to have a great deal or fair amount of knowledge about SDVs was higher among those living in higher income households (27% of those who lived in households earning between £52,000 and £99,999 per year, compared to 19% of those in households who earned up to £25,999 and 20% of those who earned between £26,000 and £51,999 a year).

**Figure 5.1 Knowledge and awareness of SDVs**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about them/it

Q117. Before today, how much, if anything, would you say you knew about self-driving cars or vans?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219).  
 Fieldwork dates: Wave 7: 24-30 June 2021; Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

<sup>2</sup> Due to a change in terminology from Wave 8, where previous reports refer to autonomous vehicles or AVs, these are now referred to as self-driving vehicles or SDVs. This is in-line with questionnaire wording and is more up-to-date terminology for this technology.

## 5.2 Advantages of self-driving vehicles

Around half, 49%, said they could think of at least one advantage of SDVs *unprompted* (without being shown a list).

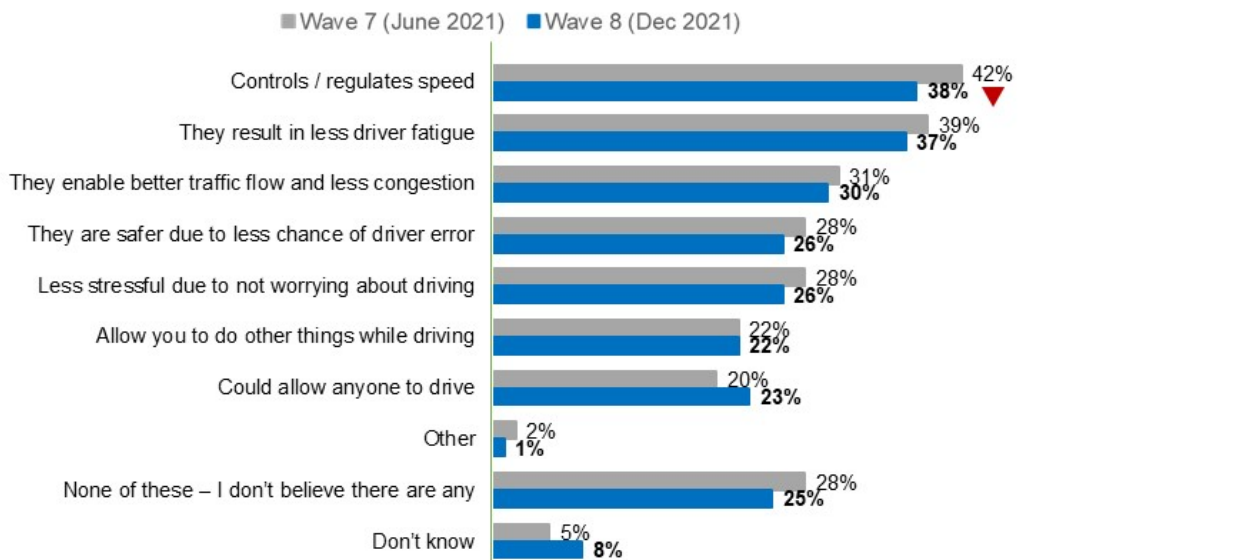
- The proportion was higher among younger people aged 16-24 (62%), 25-34 (62%), 35-44 (59%) and 45-54 (48%) and 55-64 (42%) compared to those aged 65-74 (36%), and 75+ years-old (30%).
- A higher proportion of ethnic minority groups were able to think of at least one advantage of SDVs; 65% compared to 48% of white respondents.

Just under three in ten, 28%, said they *could not think* of any advantages of SDVs, unprompted, and a further 14% said they *believed that there are no* advantages, although this figure is two percentage points lower than it was in June 2021 (16% in Wave 7).

- Those aged 65-74 were more likely to say they could not think of any advantages than other age groups; 39%, almost double the 20% of 16-24-year-olds who said they could not think of any advantages of SDVs.
- Those in lower income households (with an annual income of less than £25,999 per year) were more likely to say they could not think of any advantages (34%) compared to higher income households; 22% of those in households earning more than £52,000 per year.

When *prompted* with a list of potential advantages (shown in Figure 5.2), the advantages selected most frequently were that SDVs control/regulates speed (38%), that they result in less driver fatigue (37%) and less congestion (30%). These were followed by SDVs are less stressful due to not worrying about driving (26%) and being safer due to less chance of driver error (26%).

**Figure 5.2 Advantages of SDVs**



Q119. Which of the following, if any, do you think are advantages of self-driving vehicles?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219).  
Fieldwork dates: Wave 7: 24-30 June 2021; Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
▼ Indicates a statistically significant decrease compared to Wave 7

There were some differences between sub-groups:



- A higher proportion of older age groups said there were no advantages of SDVs than younger age groups. Fewer than one in ten, 8%, of 16-24-year-olds and 14% of 25-34s said there are no advantages compared to 40% of those aged 65-74-year-old age group and 42% among those aged 75+.
- Those living in London were significantly more likely to state that SDVs were less stressful due to not worrying about driving (36%) than all other regions, with the lowest proportion in the South West and in the North West (23%).
- People living in urban areas were more likely to select the following advantages in relation to SDVs than those living in rural areas: less driver fatigue (38%, 32% in rural areas), less stressful due to not worrying about driving (28%, 18% in rural areas) and that anyone could drive (24%, 18% in rural areas).

### 5.3 Disadvantages of self-driving vehicles

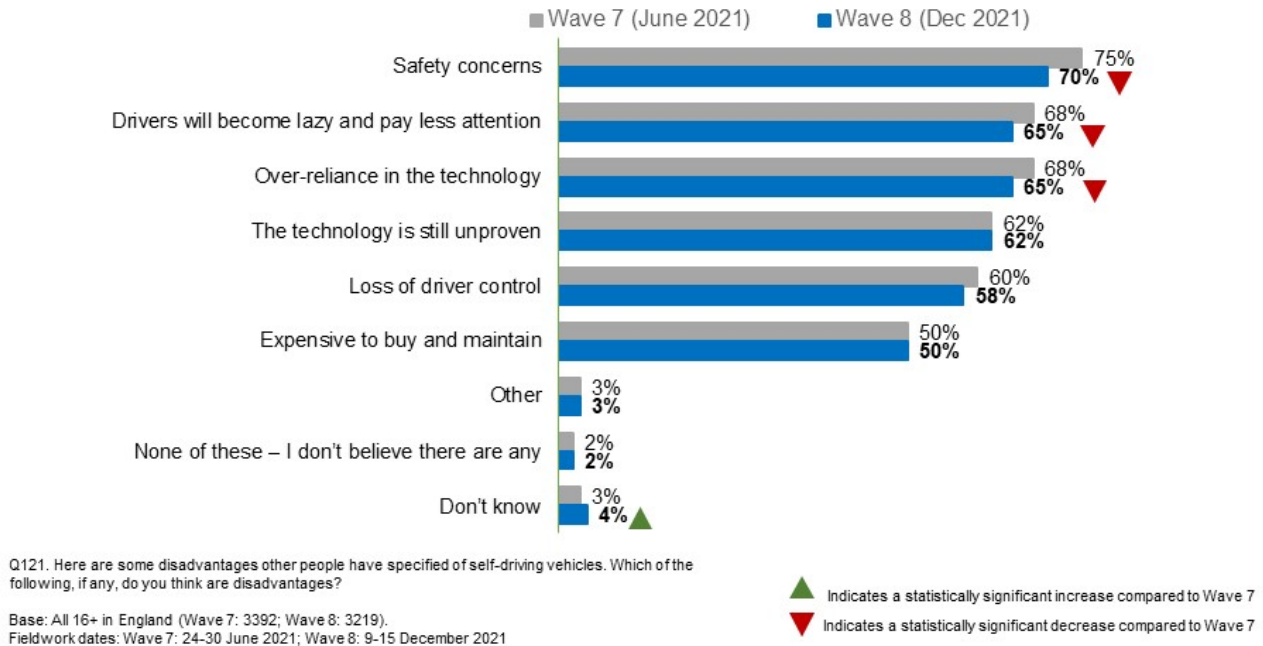
Eight in ten, 80%, said they could think of at least one disadvantage of SDVs, unprompted, down from 83% in June 2021 (Wave 7). A small proportion, 8%, said they could not think of *any* disadvantages while 2% said *they did not believe there were* any disadvantages of SDVs.

- Those aged 16-24-years-old were most likely to say they could not think of any disadvantages (14%, compared to 5% of those aged 75+); the proportion of 16-24 years old who say they could not think of any advantages has doubled since June 2021 (7%).

When presented with a list of potential disadvantages of SDVs, safety concerns were selected by 70% of adults. Although this remained the top selected disadvantage of SDVs, as it was in June 2021 (Wave 7), there was a reduction in the proportion that identified safety concerns - 75% selected this as a disadvantage in June 2021, compared to 70% in December 2021 (a decline of 5 percentage points).

Over-reliance on technology and the worry that drivers will become lazy were disadvantages chosen by 65%, a decline of 3 points from 68% in June 2021 (Wave 7). Concerns that the technology for SDVs is still unproven and loss of driver control were selected by 62% and 58% of adults respectively, while the expense of purchasing and maintaining an SDV was selected by half of adults (50%).

**Figure 5.3 Disadvantages of SDVs**



There were some differences among sub-groups:

- Older generations were significantly more likely than younger generations to select safety concerns, overreliance on technology and the technology for SDVs being unproven as disadvantages. For example, 73% of those aged 75+ said that safety concerns were a disadvantage, compared to 56% of those aged 16-24.
- Safety concerns were more likely to be selected by those living in rural areas; 75% compared to 69% of those living in urban areas.



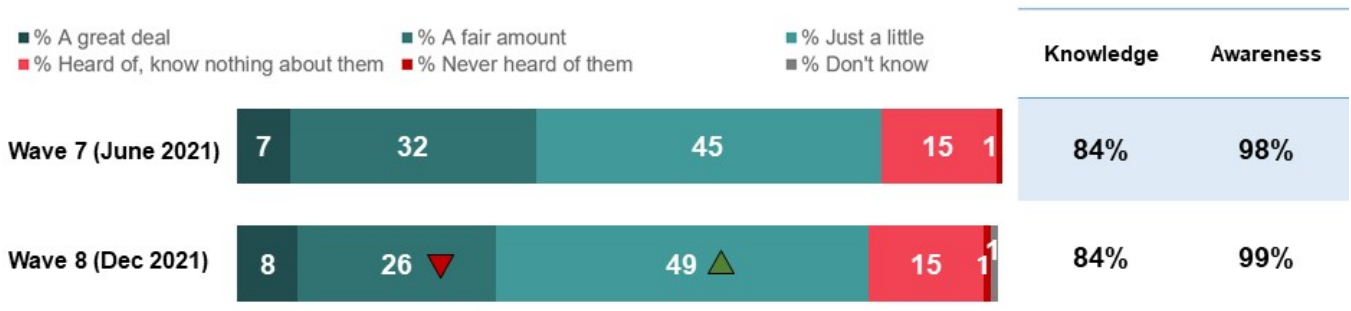
# 6 E-Scooters

## 6.1 Knowledge and awareness

Self-reported knowledge of e-scooters was high in December 2021 - 84% said they knew at least a little about e-scooters. Almost everyone said that they had heard of them - awareness was 99%, in line with June 2021 (99%).

- Self-reported knowledge overall was highest in the 35-44-year-old age group. Just under nine in ten, 88%, of this age group said they had some knowledge of e-scooters compared to 70% of the 75+ age group. The youngest age group, 16-24-year-olds, were most likely to have said they knew a great deal about e-scooters - 18% of this group compared to 1% of over 75s.
- Self-reported knowledge was higher among those living in urban areas; 85% said they had some knowledge of e-scooters while 77% of those living in rural areas said the same.
- People in London had particularly high self-reported knowledge of e-scooters - 92% compared to 73% of residents of Yorkshire and the Humber.

**Figure 6.1 Knowledge and Awareness of e-scooters**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about them/it

Q122. Before today, how much, if anything, would you say you knew about electric scooters  
 Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219)  
 Fieldwork dates: Wave 7: 24-30 June 2021, Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

## 6.2 Ownership, purchase intention, use and reasons

Reported ownership of e-scooters was low; just 1% of people said they owned one.

Usage of privately owned e-scooters was also low; 95% said they had never used a privately owned e-scooter or used one less often than once a year. A small proportion (5%) said they used one once a year or more often and 3% had used a privately owned e-scooter at least monthly.

As in June 2021, usage of rental e-scooters was similarly low; 94% reported that they either never used a rental e-scooter or used one less than annually (this was 95% in June 2021) and 6% said they used one once a year or more often, 3% said they used one monthly or more often.

Over half (57%) of those who had used either a privately owned or rental e-scooter said they had used one for fun. A quarter (25%) said they used an e-scooter to get to a leisure activity (e.g. eating/drinking, cinema). Other reasons for using an e-scooter included visiting family and friends (18%), to get to public transport (17%), to go to or from work (15%) or to go shopping (13%), while 11% said they used an e-

scooter for other work-related reasons. Relatively few reported using an e-scooter for going to medical appointments or to their place of education (both 8%).

More than nine in ten (94%) said they were either *fairly or very unlikely* to purchase an e-scooter in the next 12 months while 1% said they were *very or fairly likely* to do so.

- Older age groups were the least likely to expect to purchase an e-scooter; 99% of those aged 75+ having said they were *very unlikely* to do so, compared to 73% of 16-24-year-olds.
- White respondents were less likely than ethnic minorities to say they would purchase an e-scooter - 93% said they were *very unlikely* to do so, compared to 69%.

The expected likelihood of *hiring* an e-scooter in the next 12 months was low; nine in ten adults (90%) said that they were *fairly or very unlikely* to do this, while 4% said they were *fairly or very likely* to do so.

- Again, older age groups were the least likely to expect to hire an e-scooter. Almost all, 98%, of those aged 75+ said they would be *very unlikely* to do so while 60% of 16-24-year-olds said the same.
- 10% of 16-24-year-olds said they would be *very or fairly likely* to hire an e-scooter, while none of those adults aged over 75 said they would be likely to hire an e-scooter.
- Just over three quarters, 77%, of ethnic minority groups said they would be *very or fairly unlikely* to hire an e-scooter, compared to 92% of white respondents.

### 6.3 Advantages of e-scooters

A majority, 55%, of adults said they could think of at least one advantage of e-scooters unprompted (without being shown a list). This is a decline since June 2021 (Wave 7) when 61% said they could think of at least one advantage of e-scooters.

- Those aged 35-44 were the most likely age group to think of at least one advantage (62%), while those aged 75+ were the least likely (38%).
- Ethnic minority groups were more likely than white respondents to think of at least one advantage of e-scooters; 68% compared to 53%.
- Those in higher income households were more likely to say they could think of at least one advantage of e-scooters than lower income households; 68% of those in households earning £100,000 or more per year said this, compared to 50% of those in households earning less than £25,999 per year.

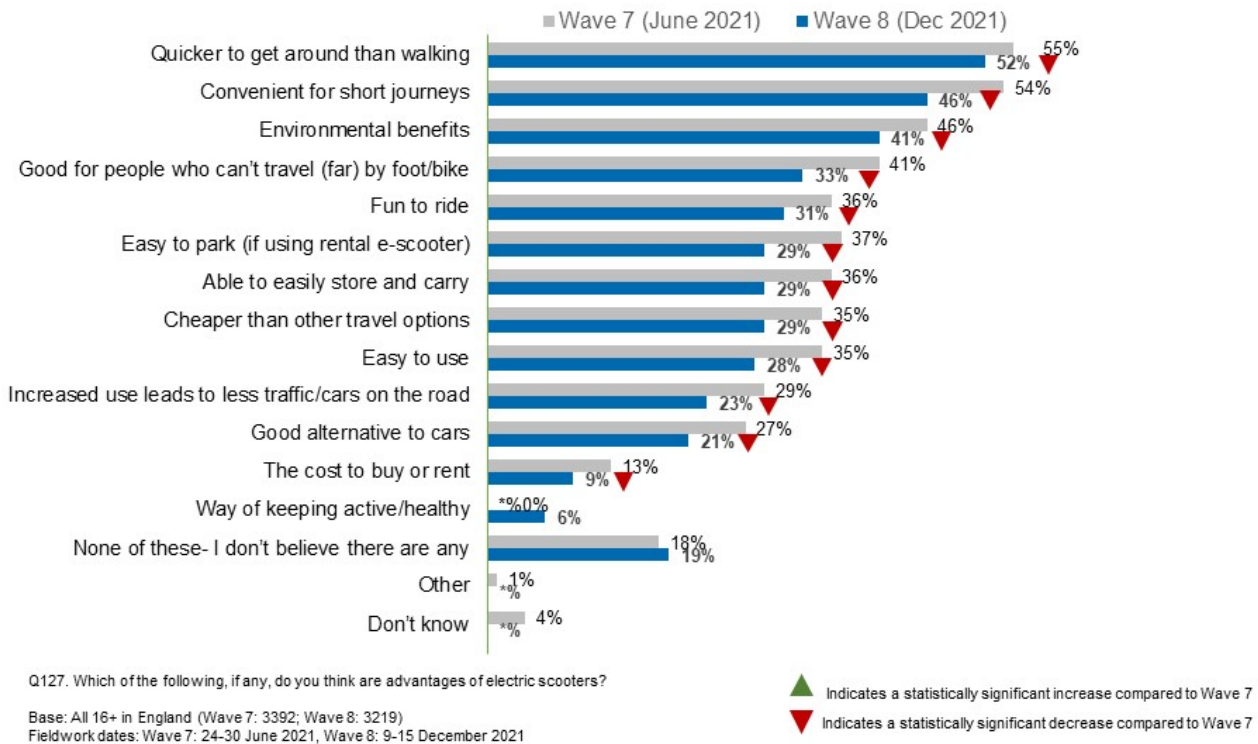
In December 2021, 18% said that could not think of any advantages of e-scooters while 21% said that they did not believe there were any advantages of e-scooters. Both these proportions were higher in December 2021 (Wave 8) than they were in June 2021 (Wave 7), when 16% said they could not think of any advantages of e-scooters and 17% said they did not believe there were any advantages.

- Over a quarter (26%) of those aged 75+ said they could not think of any advantages of e-scooters - an increase of 7 percentage points from June 2021 (Wave 7) - compared to 15% of those aged 25-34.

- A higher proportion - 30% - of those aged 75+ said that they did not believe there were any advantages of e-scooters compared to 26% in June 2021 (Wave 7), and 14% of those aged 16-24 in December 2021 (Wave 8).
- A quarter, 25%, of those in households earning less than £25,999 a year said they did not believe there were any advantages of e-scooters, more than double the proportion in the highest income bracket, those earning over £100,000 (10%).

When shown a list of possible advantages of e-scooters, Wave 8 saw a fall in the number of people who selected potential advantages of e-scooters across the board, as shown in Figure 6.2.

**Figure 6.2 Advantages of e-scooters**



Speed and convenience were given as the top two advantages of e-scooters - 52% said e-scooters are quicker than walking and 46% said they are convenient for short journeys. Environmental benefits were selected as an advantage by 41%, while 33% said they thought e-scooters were good for those who couldn't travel far by foot or bike.

- Ease to park, fun, and cost-effectiveness were selected as an advantage by a third or fewer; 32% saw ease of parking (for rental scooters) as an advantage, 31% said they are fun, and 29% that e-scooters are cheaper than other travel options. Ease of storage and ease of use were selected by 29% and 28% respectively, while the positive impact of reducing car traffic was chosen by 23%. A fifth, 21%, said e-scooters are a good alternative to cars and 6% said they are a way of keeping active and healthy.
- E-scooters being fun to ride was selected as an advantage by younger age groups; 49% of 16-24-year-olds and 41% of 25-34-year-olds. Only 18% of those aged 65-74 selected this as an advantage.

- Those in households earning between £52,000 and £99,999 per year were particularly likely to consider the speed of e-scooters compared to walking as an advantage (58%) and their convenience for short journeys was chosen by a similar proportion (55%).

### 6.4 Disadvantages of e-scooters

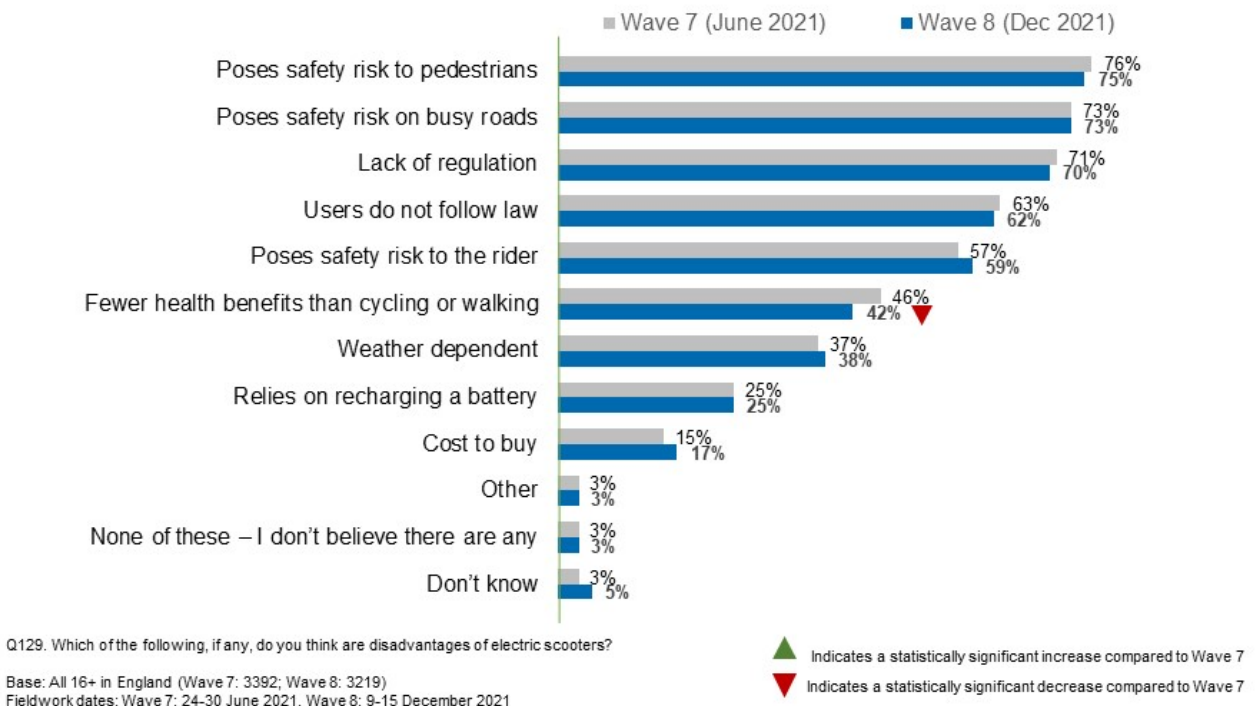
Eight in ten, 80%, said that they could think of at least one disadvantage of e-scooters unprompted (without being shown a list), in line with June 2021 (82%).

- This sentiment was highest among the 55-64 age group; 87% said they could think of at least one disadvantage compared to 67% of the 16-24 age group.
- Those living in the South of England were also more likely to be able to think of disadvantages of e-scooters compared to elsewhere; 83% of those in the South of England said this compared to 75% of those in the North.

Only 8% said they could not think of any disadvantages of e-scooters and a further 5% said they did not believe there were any disadvantages.

- Those in households without access to a car were more likely to say they could not think of any disadvantages; 14% compared to 7% of households that had access to at least one car.
- The youngest age group were most likely to say they did not believe there were any disadvantages of e-scooters; 12% of 16-24-year-olds compared to 2% of the 55-64 and 75+ age groups.

**Figure 6.3 Disadvantages of e-scooters**



When shown a list of possible disadvantages, safety concerns were among the most selected; 75% said e-scooters pose a risk to pedestrians, and 73% that e-scooters pose a risk on busy roads.

Seven in ten, 70%, said that the lack of regulation of e-scooters was a disadvantage, for example, no license, insurance or helmet required to use one. Concern that users of e-scooters do not follow the law

was selected as a disadvantage by 62%, while 59% said that they pose a risk to the rider. The limited health benefits of e-scooters compared to walking and cycling was selected by 42% of people, weather-dependency by 38% and a quarter, 25%, said that relying on a battery/charging was a disadvantage. The cost of purchasing e-scooters was chosen by 17% as a disadvantage.

- 55-64-year-olds and 65-74-year-olds were more likely to select disadvantages relating to safety concerns compared to other age groups. For example, 87% saw the risk e-scooters pose to pedestrians as a disadvantage compared to 58% of 16-24-year-olds.
- White respondents (72%) were more likely than ethnic minority groups (53%) to select a lack of regulation as a disadvantage of e-scooters.
- People in the South of England were significantly more likely to select the risk to pedestrians as a disadvantage compared to those living elsewhere; 79% compared to 72% of those living in the North of England and 71% of those living in the Midlands.

### Understanding of rules around e-scooter usage

Respondents were presented with a list of statements around e-scooter usage in the UK and asked to state whether they believed the statements to be true or false. The statements, and whether they are true/false, are listed below:

- a. if you own an e-scooter, you are legally allowed to ride it on pavements and footpaths? FALSE
- b. if you own an e-scooter, you are legally allowed to ride it on roads and cycle lanes? FALSE
- c. if you hire an e-scooter, you are legally allowed to ride it on pavements and footpaths? FALSE
- d. if you hire an e-scooter, you are legally allowed to ride it on roads and cycle lanes? TRUE

A small proportion, 16%, knew all the rules around e-scooter usage. More people correctly identified the rules relating to privately owned e-scooters compared to those relating to rental e-scooters; 46% correctly identified the true and false statements associated with them, compared to an equivalent 34% for rental e-scooters.

- Younger generations were generally less knowledgeable about the rules around e-scooter usage, both rental and privately owned. A fifth, 21%, of those aged 16-24 incorrectly said that privately owned e-scooters can be used on pavements and footpaths compared to 9% of 55-64-year-olds.
- Those in London were more likely to correctly identify that it is illegal to ride privately owned scooters on pavements and footpaths; 78% said this compared to 52% of those in the North East.
- Those in higher income households (earning £52,000 or more) were also more knowledgeable about this rule than those in lower income households (earning less than £52,000 per year). Around a quarter (74%) of those earning between £52,000 and £99,000 and 75% earning more than £100,000 correctly identified that it is illegal to ride privately owned scooters on pavements and footpaths, compared to 63% of those earning up to £25,999 per year.



# 7 E-Cycles

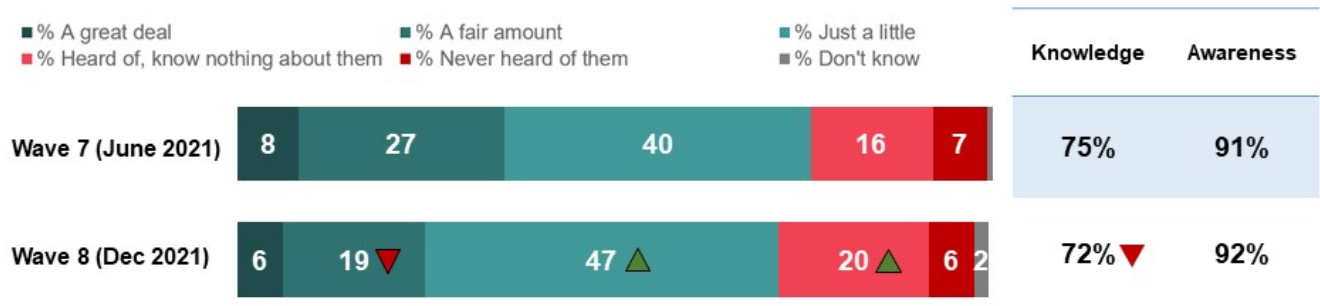
## 7.1 Knowledge and awareness

Self-reported knowledge of e-cycles was 72% in December 2021 (Wave 8), down from three-quarters (75%) in June 2021 (Wave 7). The proportion of those who said they know a great deal or fair amount fell ten percentage points between June 2021 (Wave 7) and December 2021 (Wave 8) from 35% to 25%. Self-reported awareness of e-cycles remained as high as it was in June 2021 when it was at 91%; 92% claimed some level of awareness in December 2021.

There were some differences among sub-groups:

- Just under three in ten, 28%, of the oldest age group, 75+, said they had heard of e-cycles but know nothing about them, which was higher than all other age groups, compared with 16% of 55-64-year-olds for instance.
- The level of self-reported knowledge and awareness was consistent across England’s regions. However, in the South West, knowledge was significantly higher (78%) than it was in the North East (68%), East Midlands (66%) and West Midlands (69%).
- Knowledge of e-cycles was higher among higher income households; it was 82% among those who lived in households with annual earnings of between £52,000 and £99,999, significantly higher than those who earned up to £25,999 (67%) and £26,000 to £51,999 (72%). Awareness was also higher for those earning between £52,000 and £99,999 - 97% for this group compared to 90% for those earning up to £25,999.

**Figure 7.1 Knowledge and awareness of e-cycles**



Knowledge answer codes: A great deal, A fair amount, Just a little  
 Awareness answer codes: A great deal, A fair amount, Just a little, Heard of, know nothing about them/it

Q137. Before today, how much, if anything, would you say you knew about e-cycles?

Base: All 16+ in England (Wave 7: 3392; Wave 8: 3219)  
 Fieldwork dates: Wave 7: 24-30 June 2021, Wave 8: 9-15 December 2021

▲ Indicates a statistically significant increase compared to Wave 7  
 ▼ Indicates a statistically significant decrease compared to Wave 7

## 7.2 Ownership, purchase intention, share schemes, use and reasons

Levels of ownership were low in December 2021; only 3% owned an e-cycle, compared to 47% who owned a standard bike. Overall, 2% said that they own both an e-cycle and a standard bike.

- E-cycle ownership was above-average among 45-54-year-olds (4%), 55-64-year-olds (6%) and 65-74-year-olds (5%); ownership was lower than 1% among 25-34 35-44-year-olds and 1% among 75+. Ownership for 16–24-year-olds was 2%.

Purchase intention was low; 90% of those who did not own an e-cycle said they were *fairly or very unlikely* to buy one in the next 12 months. However, 4% of current non-owners said that they would be *very or fairly likely* to do so in the next 12 months.

- 16-24-year-olds were the age group most likely to expect to purchase an e-cycle over the next 12 months; only 5% said that were *very likely* to purchase one. Conversely, 90% of those aged 75+ said they were *very unlikely* to purchase an e-cycle in the next 12 months, compared to 71% of 16-24-year-olds.

Use of e-cycles was also low; 94% said they use them less than annually or not at all. Six per cent used them at least annually, 5% at least monthly and 3% at least weekly.

- The 16-24 age group were much more likely to use e-cycles more often than other age groups; 13% said they used them at least monthly. Older age groups were more likely to never use them; 97% of those aged 75+.
- Those living in rural areas were more likely to never use an e-cycles (93%) compared to residents of urban areas (90%).

The main reason for using an e-cycle was for fun (67%). This was followed by leisure activity (27%), visiting friends/family (24%), commuting to work (16%) and going to/from education (14%). People also said they used them to go shopping (13%), to a medical appointment (13%), for other work-related reasons (10%) and to get public transport (7%).

Three quarters (76%) said they would be *very or fairly unlikely* to make use of an e-cycle share scheme in their area, while just over one in ten (12%) said they would be *very or fairly likely* to do so.

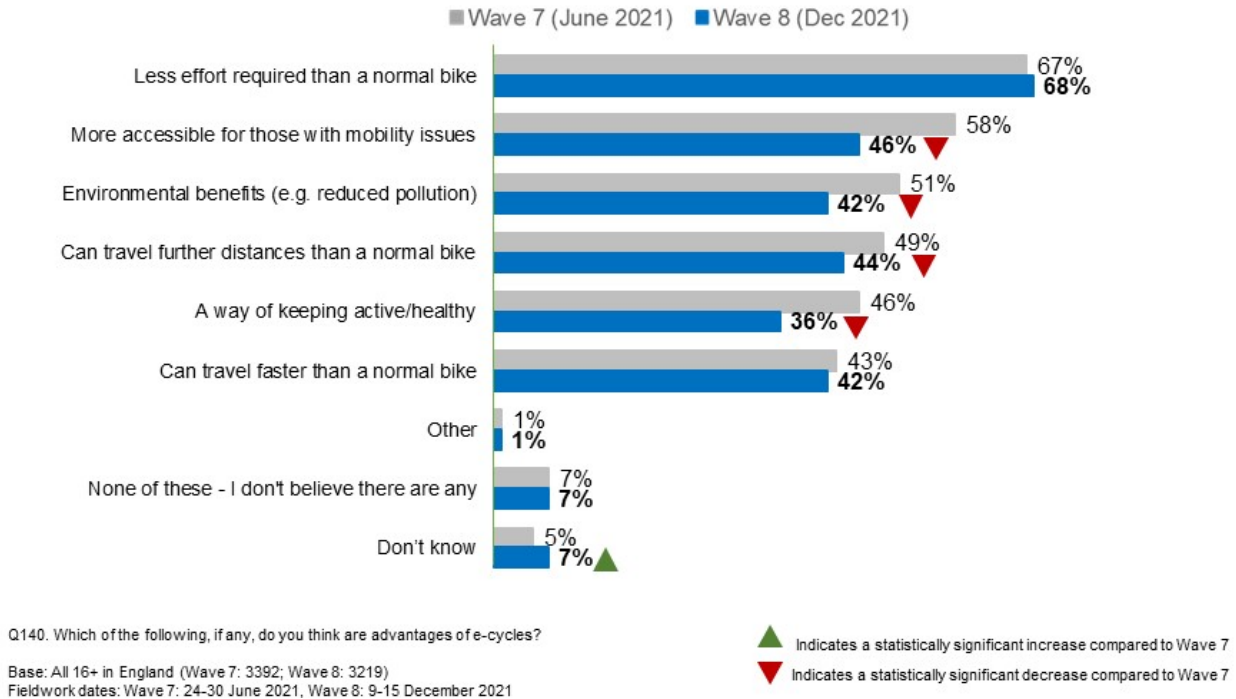
- Likelihood to use of an e-cycle share scheme decreased with age; 24% of 16-24-year-olds said they would be *very or fairly likely* compared to 2% of those aged 75+.
- Almost four in five (78%) white respondents said they would be *very or fairly unlikely* to use an e-cycle scheme, compared to 59% of ethnic minority groups.
- Those who had greater self-reported knowledge of e-cycles were more likely to make use of an e-cycle scheme. A quarter (25%) who said they knew a great deal or fair amount about e-cycles said they would be *very or fairly likely* to use a scheme, while 8% who had heard of e-cycles but didn't know anything about them said they would be *very or fairly likely* to do so.

### 7.3 Advantages of e-cycles

Most people could think of at least one advantage of e-cycles (72%) unprompted (without a list).

- Older generations (aged 45-74) were more likely to think of at least one advantage compared to younger age groups (aged 16-44). Those aged 55-64 were the most likely to be able to think of at least one advantage of e-cycles (82%); those aged 16-24 were the least likely (57%).
- Those in a household earning between £52,000 and £99,999 were significantly more likely to be able to think of at least one advantage (80%) compared to those in lower income households (68% of those in households earning less than £25,999).

**Figure 7.2 Advantages of e-cycles**



As shown in Figure 7.2, several e-cycle advantages were selected less frequently in December 2021 (Wave 8) than in June 2021 (Wave 7).

The advantage selected most frequently when shown a list was the lower effort required than a normal bike, chosen by 68%, consistent with findings in June 2021 (Wave 7) when this was also the most frequently selected advantage (67%). This was followed by enhanced accessibility for those with mobility issues (46%) although this decreased 12 points since June 2021 (Wave 7). Being able to travel further distances than a normal bike (44%) decreased 5 points since June 2021 (Wave 7).

People also selected the environmental benefits (42%) although the proportion was down 9 points since June 2021 (Wave 7), faster travel (42%), consistent with June 2021 (43%), and a way of keeping active/healthy (36%) although this was 10 points lower than in June 2021 (Wave 8).

- Those aged 45+ were more likely to see e-cycles requiring less effort than a normal bike as an advantage; more than three-quarters (78%) of those aged 55-74 compared to 53% of 16-24-year-olds.
- Younger age groups were more likely to see the speed of e-cycles as an advantage; 57% of 16-24-year-olds compared to 30% of 65-74-year-olds.
- Those in higher income household were more likely to see the further distances possible with e-cycles as an advantage; 54% of those who earned above £52,000 said it was an advantage, a higher proportion than among those who earned up to £25,999 (39%) and between £26,000 and £51,999 (40%).

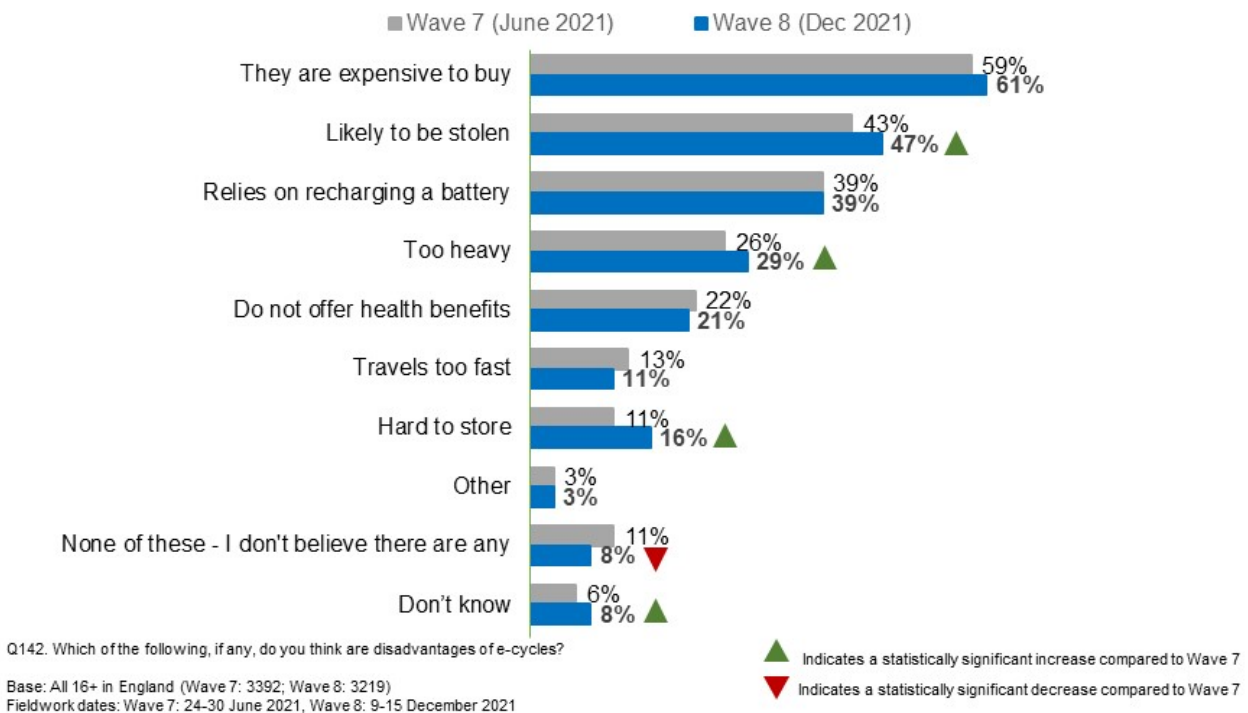


### 7.4 Disadvantages of e-cycles

Almost six in ten (57%) could think of at least one disadvantage of e-cycles. Just under a quarter, 23%, said they could not think of any disadvantages of e-cycles, and 10% said they did not believe there were any disadvantages.

- Older age groups were less likely to think of any disadvantages of e-cycles compared to those in younger generations; 30% of those aged 75+ compared to 16% of 16-34-year-olds.
- Those living in households earning £52,000 up to £99,999 per year were more likely to think of disadvantages of e-cycles (67%) than those in lower income households (51% among those earning less than £25,999 and 59% among those earning between £26,000 and £51,999).

**Figure 7.3 Disadvantages of e-cycles**



When prompted with a list of potential disadvantages of e-cycles - shown in Figure 7.3 - the disadvantage selected most frequently was that they are expensive to buy, chosen by 61%. This was followed by the likelihood of e-cycles being stolen (47%) and reliance on recharging a battery (39%). Smaller proportions selected their heaviness (29%), lack of health benefits (21%), being hard to store (16%) and that they travel too fast (11%). Only 1% of adults selected e-cycles being dangerous as a disadvantage.

- The expense of e-cycles was selected as a disadvantage more often by the 55-64 age group (68%) compared to 16-24-year-olds (51%).
- It was also selected as a disadvantage by 63% of white respondents in comparison to 49% of those from ethnic minority groups.
- Those living in London were more likely to select the difficulty of storing e-cycles (26%) and those living in urban areas were more likely than those living in rural areas to say that e-cycles are likely to be stolen (49% versus 38%), do not offer health benefits (22% versus 15%), are hard to store (17% versus 9%) and travel too fast (12% versus 7%).

Those in higher-income households (earning more than £100,000 per year) were less concerned about e-cycles relying on recharging a battery; 28% compared to 41% of those in households who earned up to £25,999, 42% of those who earned between £26,000 and £51,999 and 40% of those who earned between £52,000 and £99,999.

# 8 Appendix

## 8.1 Methodology

The Department for Transport (DfT) commissioned Ipsos to undertake a biannual survey to measure public awareness, attitudes and behaviours in relation to existing and emerging transport technologies, aiming to:

- fill gaps in knowledge about what the public know and think via a survey representative of those aged 16+ living in England; and
- identify and analyse differences between population subgroups.

Between 2017 and 2019, DfT's Technology Tracker series involved a biannual face-to-face omnibus survey up until Wave 5, conducted in December 2019. Due to the Coronavirus pandemic and the halt to face-to-face in-home interviewing, the survey moved to an online methodology for Wave 6 with a small number of respondents interviewed over the phone. Wave 6 was undertaken in August 2020. All previous wave data can be found here: <https://www.gov.uk/government/publications/transport-and-transport-technology-public-attitudes-tracker>

On behalf of DfT, Ipsos used its UK KnowledgePanel for the Technology Tracker series for the first time in June 2021; this entirely online methodology was used for Wave 7 onwards. Due to a change in methodology, it is not possible to provide direct comparisons with previous waves. This comparison is not possible due to:

- The survey wording has changed from previous waves so will not allow for direct comparison.
- The methodology change from face-to-face to online may impact selection effects, i.e. the different individuals taking part in the survey as a result of the change in sampling approach.
- The change in interview mode may also impact measurement effects, i.e. the difference in response given by respondents will not be like-for-like considering the change in method.

Due to this methodological change, Wave 7 and Wave 8 also included a survey design phase, including cognitive testing of the questionnaire through telephone depth interviews - further details of which can be found in Section 8.3 of this appendix.

A representative sample of 3,219 adults aged 16+ across England completed the survey between 9<sup>th</sup> – 15<sup>th</sup> December 2021. Wave 7 onwards involved random probability sampling, meaning that quotas were not used. Instead, Ipsos stratified KnowledgePanel sample to account for any over-/under-representation of groups and geographies within the composition of the panel as well as different response rates, before inviting panel members to take part.

To allow comparisons between ethnic minority groups and white respondents, the Department for Transport requested that Ipsos boosted the number of respondents from ethnic minority backgrounds once per year. This was completed in Wave 7 (resulting in an additional sample of 432) and will be completed again in Wave 9.

A full list of Waves and sample sizes can be seen below:

Wave	Fieldwork Dates	Sample Size (total, including boost)	Ethnic Minority Boost
Wave 7	24 <sup>th</sup> – 30 <sup>th</sup> June 2021	3,392	432
Wave 8	9 <sup>th</sup> – 15 <sup>th</sup> December 2021	3,219	N/A

Data are weighted by age, gender, region, Index of Multiple Deprivation quintile, education, ethnicity and number of adults in the household in order to reflect the profile of the adult population in England.

This report focuses on the following demographic groups: age, ethnicity, urbanity, and household income based on the following categories: <£25,999, £26,000-£51,999, £52,000-£99,999, £100,000+.

Commentary focuses on significant differences *between* sub-groups in the same category (e.g. different age groups) based on a 95% confidence interval. The exclusion of other groups and geographies does not mean there are not statistically significant differences – for example, men’s claimed levels of awareness and knowledge tend to be higher than women’s, and there are some differences between regions. However, data tables of the full Wave 7 dataset are available on request and are published alongside this report.

The total sum of answer codes may appear to be higher/lower than 100% and combinations might not sum to their constituent parts (e.g. ‘agree’ relative to ‘strongly agree’/‘tend to agree’). This is due to the rounding of results to the nearest whole number.

## 8.2 KnowledgePanel methodology

- Panellists are recruited via a random probability unclustered address-based sampling method. This means that every household in the UK has a known chance of being selected to join the panel. Letters are sent to selected addresses in the UK (using the Postcode Address File) inviting them to become members of the panel. Invited members are able to sign up to the panel by completing a short online questionnaire or by returning a paper form. Up to 2 members of the household are able to sign up to the panel. Members of the public who are digitally excluded are able to register to the KnowledgePanel either by post or by telephone, and are given a tablet, an email address, and basic internet access which allows them to complete surveys online.
- The survey was designed using a ‘mobile-first’ approach, which took into consideration the look, feel and usability of a questionnaire on a mobile device. This included: a thorough review of the questionnaire length to ensure it would not over burden respondents from focusing on a small screen for a lengthy period, avoiding the use of grid style questions (instead using question loops which are more mobile friendly, and making questions ‘finger-friendly’ to they’re easy to respond to. The questionnaire was also compatible with screen reader software to help those requiring further accessibility.
- The KnowledgePanel is a random probability survey panel. Therefore, the KnowledgePanel does not use a quota approach when conducting surveys. Instead invited samples are stratified when conducting waves to account for any profile skews within the panel.

Two members per household are allowed to register on the KnowledgePanel. Therefore, we employ a design weight to correct for unequal probabilities of selection of household members.

Calibration weights are also applied using the latest population statistics relevant to the surveyed population.

- Calibration weighting was applied using the following variables: Region and an interlocked variable of Gender by Age. Both use ONS 2020 mid-year population estimates as the weighting target.
- Demographic weights were then applied to correct for imbalances in the achieved sample; the data was weighted on: Education, Ethnicity, Index of Multiple Deprivation (quintiles), and number of adults in the household. Estimates from the ONS 2020 mid-year population estimates and Annual Population Survey were used as the weighting target.

### 8.3 Cognitive testing

As part of the questionnaire development, cognitive testing of specific questions in the survey took place between 9<sup>th</sup> – 19<sup>th</sup> November 2021. A total of 8 interviews were completed, following sampling criteria that took into account gender, age, social grade, educational attainment, urbanity, car ownership, concern about climate change, and their likelihood to purchase an electric vehicle in the next five years.

The objective of this exercise was to test understanding of both question wording – for example, terminology relating to “typical” behaviours or defining “local area” – and scales used, and to understand the thought process of respondents when answering these questions. As a result of the cognitive testing, questions were developed in line with the findings to ensure respondents were able to understand and answer questions accurately.

### 8.4 Questionnaire

#### Car use module

***The first set of questions are asked on behalf of the Department for Transport. The questions are about the different types of transport that you may use and your plans for the future.***

**ASK AGED 17+ ONLY**

**SINGLE CODE**

**Q101**

**Do you hold a valid UK car driving licence?**

This includes international permits or other foreign licences valid in the UK.

***Please select one option only***

1. Yes, full licence for car
  2. Yes, provisional licence for car
  3. Currently disqualified
  4. No, I do not hold a valid UK driving licence
998. Don't know

**ASK ALL**  
**SINGLE CODE**

**Q102**

How many cars or vans does your household own or have continuous use of at present?

*Please include company cars if available for your private use. Please also include any broken-down cars or vans which may be in use within the next month.*

*Please select one option only*

1. 1
2. 2
3. 3 or more
4. None
998. Don't know

**ASK ALL WITH CARS/VANS IN HOUSEHOLD OR HAVE USE OF THEM (CODES 1-3 AT Q102)**

**SINGLE CODE**

**Q103**

Do you personally own or have continual use of a car or van?

*Please include company cars if available for your private use. Please also include any broken-down cars or vans which may be in use within the next month.*

*Please select one option only*

1. Yes
2. No
998. Don't know

**ASK ALL WHO HAVE PERSONAL USE/OWN A CAR OR VAN [CODE 1 AT Q103]**

**SINGLE CODE**

**W8 INT Q201**

Thinking now about the one car or van that you personally use the most, whether as driver or passenger, what fuel does the engine use?

*If you use two or more cars/vans equally, please think about the one you used most recently.*

*Please select one option only*

1. Petrol
2. Diesel
3. Electric/battery only
4. Non-plug in hybrid
5. Plug-in hybrid
6. Liquefied Petroleum Gas (LPG)
7. Bi-fuel (a combination of any two of petrol or diesel or ethanol with national gas or LPG)
8. Other **(PLEASE SPECIFY)**
998. Don't know

**ASK ALL WITH CARS/VANS IN HOUSEHOLD OR HAVE USE OF THEM (CODES 1-3 AT Q102)**

**SINGLE CODE**

**W8 INT Q202**

Which **ONE** of the following best describes where you/your household typically parks your vehicle?

*Please think about parking at the property where you live most of the time. If you don't have a vehicle, please answer depending on where you would be able to or most likely to park.*

*Please select one option only*

1. In a space I own or that is allocated to me/us such as a private driveway or garage
2. In a communal or shared car park at the property
4. In a private car park
5. In a public or council car park
6. On a road or street
6. Where a friend or family member lives
7. Other **(PLEASE SPECIFY)**

Purchasing intentions module**ASK ALL WITH A VALID UK DRIVING LICENCE [CODES 1-3 AT Q101]****SINGLE CODE****Q104**

When, if at all, do you think you will personally next buy, lease or replace a car or van, either new or second hand?

*Please select one option only*

1. Within the next year
2. In more than 1 year, but up to 2 years
3. In more than 2 years, but up to 3 years
4. In more than 3 years, but up to 5 years
5. In more than 5 years
6. I don't intend to ever buy or replace a car/van
998. Don't know

**ASK ALL WHO INTEND TO BUY OR REPLACE A CAR/VAN- (CODES 1-5 AT Q104)****SINGLE CODE****Q105**

And is the car or van that you intend to buy or lease in the future more likely to be new or second hand?

*Please select one option only*

1. More likely to be a new car/van
2. More likely to be a second-hand car/van
998. Don't know

**ASK ALL WHO INTEND TO BUY OR REPLACE A CAR/VAN (CODES 1-5 AT Q104)****SINGLE CODE****Q106**

What type of car or van do you think you will most likely purchase or lease next time?

If you would buy more than one type, please select which one you would use for your main vehicle.

*Please select one option only*

**RANDOMISE CODES 1-4**

1. Petrol car or van
2. Hybrid car or van (petrol and electric)
3. Diesel car or van
4. Electric/battery only car or van
5. Other **PLEASE SPECIFY [FIX]**
998. Don't know **[FIX]**

**ASK ALL WHO WILL MOST LIKELY PURCHASE A HYBRID CAR/VAN (CODE 2 AT Q106)****SINGLE CODE****Q107**

What type of hybrid car or van do you think you will most likely purchase or lease next time?

*Please select one option only*

**RANDOMISE CODES 1-2**

1. A plug-in hybrid (that plugs in to an external power source to recharge)
2. A non-plug-in hybrid (that recharges while driving and is ultimately fuelled by petrol or diesel – it cannot be plugged in to an external power source)
3. Undecided **[FIX]**
998. Don't know **[FIX]**

Electric vehicles module**ASK ALL****SINGLE CODE****Q108**

Unlike hybrid cars or vans, battery electric vehicles run fully off electricity. These fully electric cars or vans plug in to an external power source to recharge.

Before today, how much, if anything, would you say you knew about electric cars or vans?

*Please select one option only*

1. A great deal
2. A fair amount
3. Just a little
4. Heard of, know nothing about them
5. Never heard of them
998. Don't know

**ASK ALL****SINGLE CODE****Q110**

Would you personally say there are any advantages of fully electric over petrol or diesel cars or vans, or not?

*Please select one option only*

1. Yes, I can think of some advantages / at least one advantage
2. No, I cannot think of any advantages
3. I don't believe there are any advantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODE 1-8****Q111**

Which of the following, if any, do you think are advantages of fully electric over petrol or diesel cars or vans?

*Please select all that apply*

**RANDOMISE CODES 1-7**

1. Environmental benefits (e.g. reduced pollution)
2. Cheaper to run or maintain
3. Less noisy
4. Reduced road tax
5. Better vehicle performance (e.g. speed, handling, size, looks)
6. No need to visit petrol stations to top-up fuel
7. Recharging is easier / more convenient than re-fuelling
8. Other **(SPECIFY) FIX**
9. None of these – I don't believe there are any advantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE****Q112**

Would you personally say there are any disadvantages of electric over petrol or diesel cars or vans, or not?

*Please select one option only*

1. Yes, I can think of some disadvantages / at least one disadvantage
2. No, I cannot think of any disadvantages
3. I don't believe there are any disadvantages
998. Don't know / need further information



**ASK ALL****ALLOW MULTICODE 1-9****Q113**

Which of the following, if any, do you think are disadvantages of electric over petrol or diesel cars or vans?

*Please select all that apply*

**RANDOMISE CODES 1-8**

1. Less distance can be travelled on one charge
2. Not enough charging points
3. Expensive to run or maintain
4. Knowing where and how to charge
5. The time taken to recharge
6. Cost to buy
7. The need to recharge
8. Negative impacts on the environment
9. Other **(SPECIFY) FIX**
10. None of these – I don't believe there are any disadvantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE****Q114**

The Government plan to end the sale of new petrol and diesel cars and vans by 2030. Some new hybrid cars and vans (which run on petrol and electric) will be available to buy until 2035. Petrol and diesel cars and vans can continue to be sold on the second-hand market.

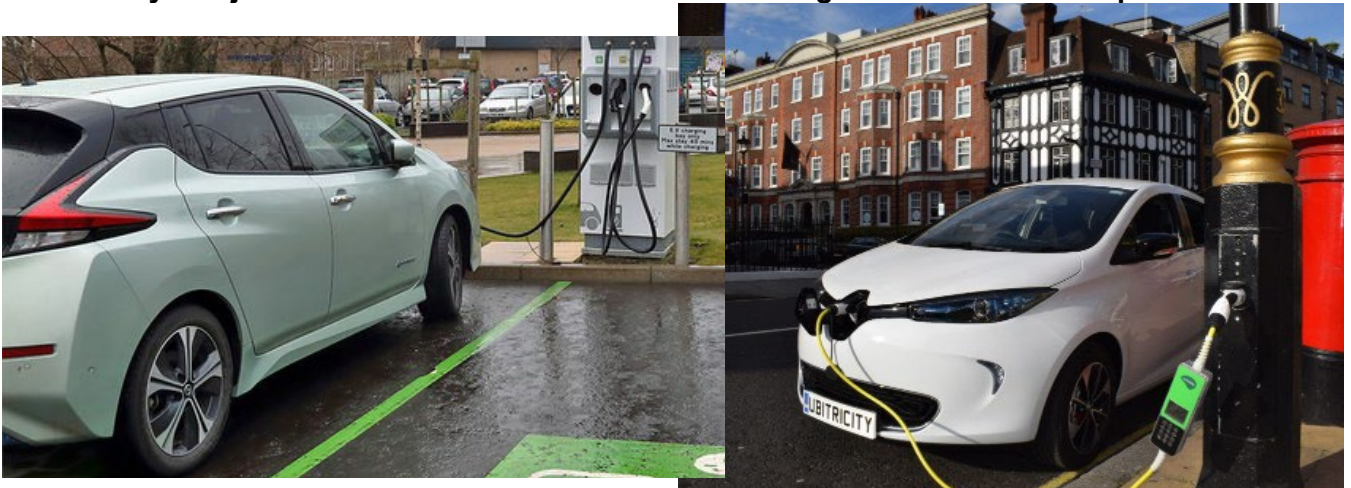
Before today, how much, if anything, would you say you knew about the plan to end the sale of new petrol, diesel and hybrid cars and vans?

*Please select one option only*

1. A great deal
2. A fair amount
3. Just a little
4. Heard of, know nothing about the proposal
5. Never heard of the proposal
998. Don't know

**ASK ALL****SINGLE CODE PER STATEMENT****W8 PUR Q203**

These next questions are about electric vehicle charging points – that is, places where members of the public can charge an electric vehicle perhaps when they are en route somewhere or because they cannot charge their vehicle at home. These are found in some car parks, at garages and service stations on motorways/major roads and in towns and cities. The images show some examples.



Thinking back to the PAST MONTH or so, did you see an electric vehicle charging point(s) in the following places or not? It does not matter whether or not you used the charging point.

**ALWAYS IN THIS ORDER**

- a) ...within your local area – that is within 15-20 minutes' walk or less than 5 minutes' drive?
- b) ...somewhere outside your local area?

**Please select one option only**

1. Yes – did see an electric vehicle charging point
2. No – did not see an electric vehicle charging point
3. Don't know/can't remember

**ASK ALL WHO RESPONDED A/1 OR B/1 AT W8 PUR Q203**

**ALLOW MULTICODES AT 1 - 7**

**W8 PUR Q204**

You said that you have seen an electric vehicle charging point(s) in the past month. Where did you see it/them?

**Please select all that apply**

1. On the street
2. At a supermarket
3. At a public or council car park
4. At a workplace e.g. outside business offices
5. At a garage/petrol station where you can refuel
6. At a service station on a motorway/major road
7. Other (PLEASE SPECIFY)
998. Don't know/can't remember [EXCLUSIVE]

**ASK ALL**

**SINGLE CODE**

**W8 PUR Q205**

Thinking about where you live most of the time, how far away is the nearest charging point for electric vehicles – that is, a point which can be used by any member of the public wanting to charge an electric vehicle? If you are not sure, please give your best estimate.

**Please select one option only**

1. Less than a mile away (approximately a 3-minute drive, 20-minute walk)
2. More than a mile but less than 5 miles away (up to a 15-minute drive, 1 hour walk)
3. More than 5 miles but less than 10 miles away (up to a 30-minute drive, 1.5 hour walk)
4. 10 miles or further away
998. Don't know

**ASK ALL**

**OPEN ENDED**

**W8 PUR Q206**

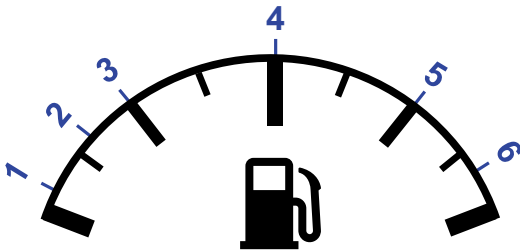
As you may know, some electric vehicle owners charge their vehicles at charging points situated in public places. What concerns would you have, if any, about using a charging point such as this once you had got there?

**[OPEN ENDED TEXT BOX]**

2. No, I would not have any concerns [EXCLUSIVE]
998. Don't know / need further information [EXCLUSIVE]

**ASK ALL**  
**SINGLE CODE**  
**W8 PUR Q207**

Now thinking about if you were driving a petrol or diesel vehicle, at what point do you think you would typically fill-up the fuel tank? Do you think you would do this when the fuel indicator showed...

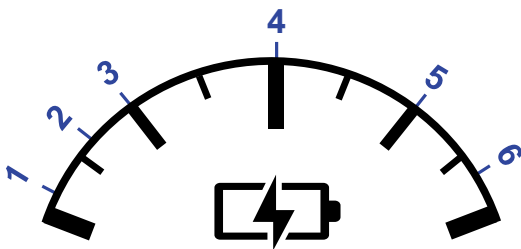


**Please select one option only**

- 1. 1 - The tank being close to empty
- 2. 2 - The tank being less than a ¼ full (less than 25%) and fairly close to empty
- 3. 3 - The tank being about ¼ full (25%)
- 4. 4 - The tank being about ½ full (50%)
- 5. 5 - The tank being about ¾ full (75%)
- 6. 6 - The tank being more than ¾ full (more than 75%)
- 7. Not applicable/don't do this
- 998. Don't know

**ASK ALL**  
**SINGLE CODE**  
**W8 PUR Q208**

Now thinking about if you were driving an electric vehicle, at what point do you think you would typically recharge your vehicle's battery? Do you think you would do this when the indicator showed the charge...



**Please select one option only**

- 1. 1 - Being close to 'empty'
- 2. 2 - Being less than a ¼ charged (less than 25%) and fairly close to 'empty'
- 3. 3 - Being about a ¼ charged (25%)
- 4. 4 - Being about ½ charged (50%)
- 5. 5 - Being about ¾ charged (75%)
- 6. 6 - Being more than ¾ charged (more than 75%)
- 7. Not applicable/wouldn't do this
- 998. Don't know

Self-driving vehicles module**ASK ALL****SINGLE CODE**

Q117

Now a few questions about self-driving cars or vans, commonly referred to as automated cars or vans. Self-driving vehicles are not yet available for everyday use in the UK.

Before today, how much, if anything, would you say you knew about self-driving cars or vans?

*Please select one option only*

1. A great deal
2. A fair amount
3. Just a little
4. Heard of, know nothing about them
5. Never heard of them
998. Don't know

**ASK ALL****SINGLE CODE**

Q118

Would you personally say there are any advantages of self-driving vehicles, or not?

*Please select one option only*

1. Yes, I can think of some advantages / at least one advantage
2. No, I cannot think of any advantages
3. I don't believe there are any advantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODES 1-8**

Q119

Which of the following, if any, do you think are advantages of self-driving vehicles?

*Please select all that apply*

**RANDOMISE CODES 1-7**

1. They are safer due to less chance of driver error
2. Allow you to do other things while driving
3. They result in less driver fatigue
4. They enable better traffic flow and less congestion
5. Could allow anyone to drive
6. Less stressful due to not worrying about driving
7. Controls / regulates speed
8. Other **(SPECIFY) FIX**
9. None of these – I don't believe there are any advantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE**

Q120

Would you personally say there are any disadvantages of self-driving vehicles, or not?

*Please select one option only*

1. Yes, I can think of some disadvantages / at least one disadvantage
2. No, I cannot think of any disadvantages
3. I don't believe there are any disadvantages
998. Don't know / need further information

**ASK ALL**

**ALLOW MULTICODES 1-7**

**Q121**

Here are some disadvantages other people have specified of self-driving vehicles. Which of the following, if any, do you think are disadvantages?

*Please select all that apply*

**RANDOMISE CODES 1-6**

- 1. Safety concerns
- 2. Loss of driver control
- 3. Drivers will become lazy and pay less attention
- 4. Over-reliance on technology
- 5. The technology is still unproven
- 6. Expensive to buy and maintain
- 7. Other **(SPECIFY) FIX**
- 8. None of these – I don't believe there are any disadvantages **FIX, EXCLUSIVE**
- 998. Don't know **FIX, EXCLUSIVE**

E-Scooters Module

**ASK ALL**

**SINGLE CODE**

**Q122**

An electric or motorized scooter is a scooter with a small engine or electric motor. An electric scooter is commonly referred to as an e-scooter. E-scooters can be purchased for private use or hired in a number of locations across the country.

Before today, how much, if anything, would you say you knew about electric scooters?



*Please select one option only*

- 1. A great deal
- 2. A fair amount
- 3. Just a little
- 4. Heard of, know nothing about them
- 5. Never heard of them
- 998. Don't know

**ASK ALL****SINGLE CODE****Q123****Do you personally own an electric scooter?*****Please select one option only***

1. Yes
2. No
998. Don't know

**ASK ALL****SINGLE CODE****Q124****How often, if at all, do you personally use a privately owned electric scooter in the UK?*****Please select one option only***

1. At least once a day
2. 5 or 6 times a week
3. 3 or 4 times a week
4. Once or twice a week
5. Less than that but more than twice a month
6. Once or twice a month
7. Less than that but more than twice a year
8. Once or twice a year
9. Less than once a year
10. Never

**ASK ALL****SINGLE CODE****Q125****How often, if at all, do you personally use a rental electric scooter in the UK?*****Please select one option only***

1. At least once a day
2. 5 or 6 times a week
3. 3 or 4 times a week
4. Once or twice a week
5. Less than that but more than twice a month
6. Once or twice a month
7. Less than that but more than twice a year
8. Once or twice a year
9. Less than once a year
10. Never



**ASK ALL WHO RESPONDED 1 – 9 AT Q124 OR Q125****MULTICODES 1-10****W8 ES Q209**

**What are your reasons for using an e-scooter?**

**Please only include travel within the UK.**

**Please select all that apply**

**RANDOMISE CODES 1-9**

1. Going to or from work
2. Other work-related reasons e.g. travelling to a meeting outside my usual place of work
3. Visiting friends / family
4. Going shopping
5. Just a ride / for fun
6. Going to or from education (e.g. school, college, university etc.)
7. Going to or from a leisure activity (e.g. eating / drinking, cinema, music venue, playing sport etc.)
8. Going to or from a medical appointment (e.g. doctor, hospital, dentist etc.)
9. To get to public transport
10. Other **(PLEASE SPECIFY) [FIX]**
998. Don't know **[FIX, EXCLUSIVE]**

**ASK ALL****SINGLE CODE****W8 ES Q210**

**How likely or unlikely are you to purchase an e-scooter in the next 12 months?**

**Please select one option only**

1. Very likely
2. Fairly likely
3. Neither likely or unlikely
4. Fairly unlikely
5. Very unlikely
998. Don't know

**ASK ALL****SINGLE CODE****W8 ES Q211**

**How likely or unlikely are you to hire an e-scooter in the next 12 months in the UK?**

**Please select one option only**

1. Very likely
2. Fairly likely
3. Neither likely or unlikely
4. Fairly unlikely
5. Very unlikely
998. Don't know

**ASK ALL****SINGLE CODE****Q126**

**Would you personally say there are any advantages of electric scooters, or not?**

**Please select one option only**

1. Yes, I can think of some advantages / at least one advantage
2. No, I cannot think of any advantages
3. I don't believe there are any advantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODES 1-14****Q127**

**Which of the following, if any, do you think are advantages of electric scooters?**

**Please select all that apply**

**RANDOMISE CODES 1-13**

1. Environmental benefits (e.g. reduced pollution)
2. Quicker to get around than walking
3. Easy to use
4. Cheaper than other travel options
5. Able to easily store and carry (e.g. onto other forms of transport, into work)
6. Good alternative to cars
7. Convenient for short journeys
8. Increased use leads to less traffic/cars on the road
9. Fun to ride
10. Easy to park (if using rental e-scooter)
11. Good for people who can't travel (far) by foot/bike
12. The cost to buy or rent
13. A way of keeping active/healthy
14. Other **(SPECIFY) FIX**
15. None of these – I don't believe there are any advantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE****Q128**

**Would you personally say there are any disadvantages of electric scooters, or not?**

**Please select one option only**

1. Yes, I can think of some disadvantages / at least one disadvantage
2. No, I cannot think of any disadvantages
3. I don't believe there are any disadvantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODES 1-10****Q129**

**Which of the following, if any, do you think are disadvantages of electric scooters?**

**Please select all that apply**

**RANDOMISE CODES 1-9**

1. Poses safety risk on busy roads
2. Poses safety risk to pedestrians (e.g. on the road, pavements)
3. Users do not follow law
4. Poses safety risk to the rider
5. Relies on recharging a battery
6. Fewer health benefits than cycling or walking
7. Weather dependent
8. Lack of regulation (e.g. no licence/insurance/helmet required)
9. Cost to buy
10. Other **SPECIFY, FIX**
11. None of these – I don't believe there are any disadvantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**



**ASK ALL****SINGLE CODE PER STATEMENT****W8 ES Q212****ROTATE STATEMENTS A/B, AND C/D FOR HALF OF RESPONDENTS****E-scooters can be purchased for private use or hired in a number of locations across the country.**

**Here are some statements about rules about using e-scooters in the UK. For each one I would like you to tell me whether you think it is true or false or whether you don't know.**

- a) If you own an e-scooter, you are legally allowed to ride it on pavements and footpaths?
- b) If you own an e-scooter, you are legally allowed to ride it on roads and cycle lanes?
- c) If you hire an e-scooter, you are legally allowed to ride it on pavements and footpaths?
- d) If you hire an e-scooter, you are legally allowed to ride it on roads and cycle lanes?

***Please select one option only***

- 1. True
- 2. False
- 3. Don't know

e-Cycles Module**ASK ALL****SINGLE CODE****Q137**

**An electric cycle or e-cycle, commonly referred to as an e-bike, is one that is powered by electricity as well as propelled by pedals.**

**Before today, how much, if anything, would you say you knew about e-cycles?**



***Please select one option only***

- 1. A great deal
- 2. A fair amount
- 3. Just a little
- 4. Heard of, know nothing about them
- 5. Never heard of them
- 998. Don't know

**ASK ALL****SINGLE CODE PER STATEMENT****W8 EC Q213****Do you personally own...**

- a. ...an e-cycle?
- b. ...a standard cycle (e.g. a push bike)?

**Please select one option only**

1. Yes
2. No
3. Don't know

**ASK THOSE WHO DO NOT OWN AN E-CYCLE (W8 EC Q213 STATEMENT A= 2 OR 3)****SINGLE CODE****W8 EC Q214****How likely or unlikely are you to purchase an e-cycle in the next 12 months?****Please select one option only**

1. Very likely
2. Fairly likely
3. Neither likely or unlikely
4. Fairly unlikely
5. Very unlikely
998. Don't know

**ASK ALL****SINGLE CODE****Q138****How often, if at all, do you personally use an e-cycle?****Please select one option only**

1. At least once a day
2. 5 or 6 times a week
3. 3 or 4 times a week
4. Once or twice a week
5. Less than that but more than twice a month
6. Once or twice a month
7. Less than that but more than twice a year
8. Once or twice a year
9. Less than once a year
10. Never

**ASK ALL****SINGLE CODE****W8 EC Q215****How often, if at all, do you personally use a standard cycle (e.g. a push-bike)?****Please select one option only**

1. At least once a day
2. 5 or 6 times a week
3. 3 or 4 times a week
4. Once or twice a week
5. Less than that but more than twice a month
6. Once or twice a month
7. Less than that but more than twice a year
8. Once or twice a year
9. Less than once a year
10. Never

**ASK ALL WHO RESPONDED 1 – 9 AT Q138****MULTICODE CODES 1-10****W8 EC Q216**

**What are your reasons for using an e-cycle?**

**Please only include travel within the UK.**

**Please select all that apply**

**RANDOMISE CODES 1-9**

1. Going to or from work
2. Other work-related reasons e.g. travelling to a meeting outside my usual place of work
3. Visiting friends / family
4. Going shopping
5. Just a ride/ for fun
6. Going to or from education (e.g. school, college, university etc.)
7. Going to or from a leisure activity (e.g. eating / drinking, cinema, music venue, playing sport etc.)
8. Going to or from a medical appointment (e.g. doctor, hospital, dentist etc.)
9. To get to public transport
10. Other **(PLEASE SPECIFY) [FIX]**
998. Don't know **[FIX, EXCLUSIVE]**

**ASK ALL****SINGLE CODE****Q139**

**Would you personally say there are any advantages of e-cycles, or not?**

**Please select one option only**

1. Yes, I can think of some advantages / at least one advantage
2. No, I cannot think of any advantages
3. I don't believe there are any advantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODES 1-7****Q140**

**Which of the following, if any, do you think are advantages of e-cycles?**

**Please select all that apply**

**RANDOMISE CODES 1-6**

1. Environmental benefits (e.g. reduced pollution)
2. A way of keeping active/healthy
3. Less effort required than a normal bike
4. Can travel further distances than a normal bike
5. Can travel faster than a normal bike
6. More accessible for those with mobility issues
7. Other **SPECIFY, FIX**
8. None of these – I don't believe there are any advantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE****Q141**

**Would you personally say there are any disadvantages of e-cycles, or not?**

**Please select one option only**

1. Yes, I can think of some disadvantages / at least one disadvantage
2. No, I cannot think of any disadvantages
3. I don't believe there are any disadvantages
998. Don't know / need further information

**ASK ALL****ALLOW MULTICODES 1-8****Q142****Which of the following, if any, do you think are disadvantages of e-cycles?****Please select all that apply****RANDOMISE CODES 1-7**

1. They are expensive to buy
2. Too heavy
3. Likely to be stolen
4. Travels too fast
5. Hard to store
6. Do not offer health benefits
7. Relies on recharging a battery
8. Other **SPECIFY, FIX**
9. None of these – I don't believe there are any disadvantages **FIX, EXCLUSIVE**
998. Don't know **FIX, EXCLUSIVE**

**ASK ALL****SINGLE CODE****W8 EC Q216**

**An e-cycle share scheme is a service that allows people to pay to hire an e-cycle by collecting it from a “docking” point such as a bike rack or a “dockless” location such as a pavement or where it has been left by previous users. This could involve share schemes that are available to anyone, or they could be targeted share schemes that are available to employees in a workplace, or community groups.**

**How likely or unlikely would you be to use an e-cycle share scheme if it was available in your area?****Please select one option only**

1. Very likely
2. Fairly likely
3. Neither likely or unlikely
4. Fairly unlikely
5. Very unlikely
998. Don't know

## 9 Our standards and accreditations

Ipsos' standards and accreditations provide our clients with the peace of mind that they can always depend on us to deliver reliable, sustainable findings. Our focus on quality and continuous improvement means we have embedded a "right first time" approach throughout our organisation.



### ISO 20252

This is the international market research specific standard that supersedes BS 7911/MRQSA and incorporates IQCS (Interviewer Quality Control Scheme). It covers the five stages of a Market Research project. Ipsos was the first company in the world to gain this accreditation.



### Market Research Society (MRS) Company Partnership

By being an MRS Company Partner, Ipsos endorses and supports the core MRS brand values of professionalism, research excellence and business effectiveness, and commits to comply with the MRS Code of Conduct throughout the organisation. We were the first company to sign up to the requirements and self-regulation of the MRS Code. More than 350 companies have followed our lead.



### ISO 9001

This is the international general company standard with a focus on continual improvement through quality management systems. In 1994, we became one of the early adopters of the ISO 9001 business standard.



### ISO 27001

This is the international standard for information security, designed to ensure the selection of adequate and proportionate security controls. Ipsos was the first research company in the UK to be awarded this in August 2008.



### The UK General Data Protection Regulation (GDPR) and the UK Data Protection Act (DPA) 2018

Ipsos is required to comply with the UK GDPR and the UK DPA. It covers the processing of personal data and the protection of privacy.



### HMG Cyber Essentials

This is a government-backed scheme and a key deliverable of the UK's National Cyber Security Programme. Ipsos was assessment-validated for Cyber Essentials certification in 2016. Cyber Essentials defines a set of controls which, when properly implemented, provide organisations with basic protection from the most prevalent forms of threat coming from the internet.



### Fair Data

Ipsos is signed up as a "Fair Data" company, agreeing to adhere to 10 core principles. The principles support and complement other standards such as ISOs, and the requirements of Data Protection legislation.

# For more information

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## About Ipsos Public Affairs

Ipsos Public Affairs works closely with national governments, local public services and the not-for-profit sector. Its c.200 research staff focus on public service and policy issues. Each has expertise in a particular part of the public sector, ensuring we have a detailed understanding of specific sectors and policy challenges. Combined with our methods and communications expertise, this helps ensure that our research makes a difference for decision makers and communities.

