

How we travel on land

Chapter 3



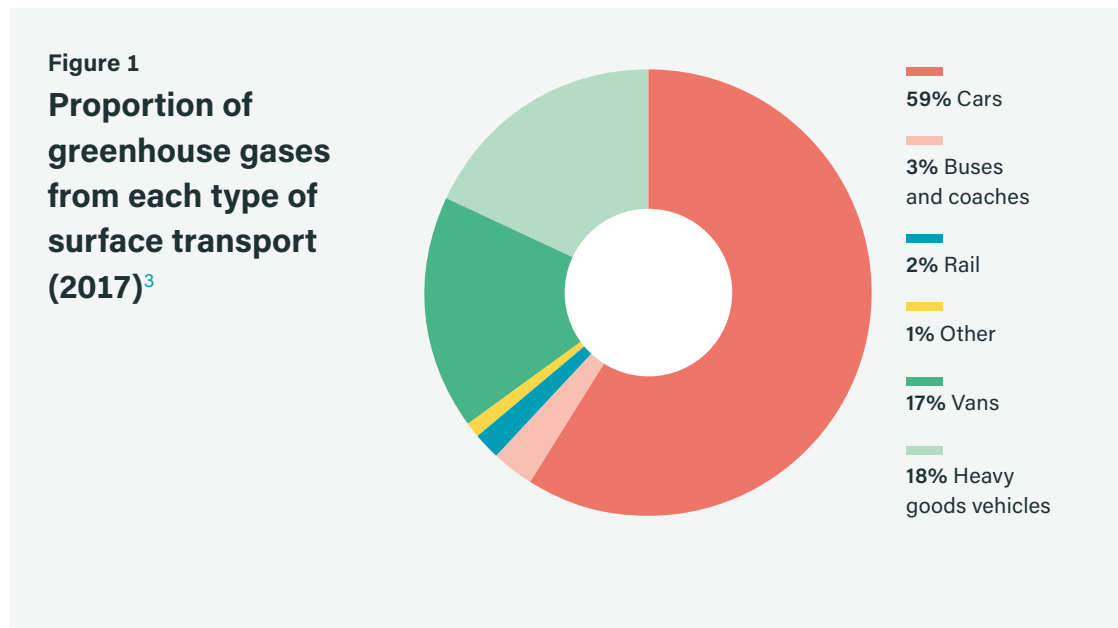
Summary of recommendations

- 1** Assembly members identified **18 considerations that they would like government and Parliament to bear in mind when looking at surface transport and the path to net zero.** These included that solutions must be accessible and affordable to all sections of society, the need to “help create massive change at an individual level”, and a wish for cross-party action.
 - Government investment in low carbon buses and trains;
 - Quickly stop selling the most polluting vehicles;
 - Adding new bus routes and more frequent services;
 - Making public transport cheaper;
 - Bringing public transport back under government control;
 - Grants for businesses and people to buy low carbon cars;
 - Localisation;
 - Investing in cycling and scootering facilities;
 - Increasing investment to make buses faster and more reliable;
 - Car scrappage scheme.
- 2** Assembly members aimed to **minimise restrictions on travel and lifestyles,** placing the emphasis on shifting to electric vehicles and improving public transport, rather than on large reductions in car use.
- 3** Assembly members recommended a **future for surface transport in the UK** that includes:
 - A ban on the sale of new petrol, diesel and hybrid cars by 2030–2035;
 - A reduction in the amount we use cars by an average of 2–5% per decade;
 - Improved public transport.
- 4** In terms of **how the UK should make these changes,** assembly members recommended a wide range of policies aimed at moving quickly to low carbon vehicles, increasing the use of public and active transport, and discouraging car ownership and use. These included:
 - As well as the wish to minimise restrictions on lifestyles, **assembly members’ rationale for their decisions** included points around the speed of change, feasibility, practicalities, cost (both personal and overall), and co-benefits such as improved air quality, reduced congestion and impacts on local areas and high streets. Assembly members consistently raised the importance of accessibility and affordability, stressing the need to avoid negative consequences for rural areas, mental health and isolation, people with a disability, and those on low incomes.

How we travel on land

The ways we travel on land are collectively known as ‘surface transport’. Surface transport includes cars, vans and lorries, as well as public transport like buses, coaches and trains. It also includes ‘active transport’ – for example, when we walk, cycle or scoot.

Surface transport accounts for 70% of the UK’s total greenhouse gas emissions from transport¹ and 23% of the UK’s greenhouse gas emissions overall.² Most of these emissions come from cars, with just 5% arising from public transport.



Surface transport includes both passenger or ‘personal’ transport, and freight. Personal transport is what people use to travel for pleasure, for everyday activities (like going shopping)

¹ With the rest made up of air travel (22%) and sea travel (8%).

² BEIS (2019) Final UK greenhouse gas emissions national statistics 1990–2017.

³ BEIS (2019) Final UK greenhouse gas emissions national statistics 1990–2017.

and for almost all work. Freight is transport used to move goods. It includes goods for everything, including farming, industry, shops and online shopping deliveries. It also includes transport used for services, for example the vans used by decorators, plumbers or to deliver the post.

Climate Assembly UK considered personal transport only. It did not look at freight. This followed guidance from Parliament that, if there was not time to consider both, its committees most wanted to hear assembly members' views on personal transport. Personal surface transport accounts for 15% of the UK's greenhouse gas emissions overall.

What did the assembly consider?

Thirty-six assembly members considered the topic of surface transport in-depth. We selected these assembly members from the assembly as a whole using random stratified sampling. This ensured that they remained reflective of the wider UK population in terms of both demographics⁴ and their level of concern about climate change.

These assembly members heard a wide range of views both on what the future of surface transport could look like for the UK, and how we might move towards that future. They had the opportunity to question each speaker⁵ in detail. These evidence sessions took place at weekend two of the assembly.

Assembly members spent weekend three of the assembly discussing the evidence they had heard and their own views in-depth, before reaching conclusions on three separate areas:

- A. **Considerations:** the overarching considerations that government and Parliament should bear in mind when making decisions about surface transport and the path to net zero;
- B. **Futures:** what the future of surface transport in the UK should look like;
- C. **Policy options:** how the UK should move toward this future.

Assembly members also had the opportunity to discuss and add **anything else they wanted to say** to government and Parliament about surface transport and the path to net zero. Assembly members' views on the implications of Covid-19 for this topic are touched on in Chapter 10.

⁴ Age, gender, ethnicity, educational qualification, where in the UK they live and whether they live in an urban or rural area.

⁵ The assembly heard from six speakers on surface transport: Professor Jillian Anable, University of Leeds (informant); Ellie Davies, Committee on Climate Change (informant); Lynn Sloman, Transport for Quality of Life (informant); Jason Torrance, UK100 (informant); Steve Melia, University of West England (advocate); John Siraut, Jacobs (advocate). All speakers' presentations are available as slides, videos and transcripts at climateassembly.uk/resources/. An 'informant' is a speaker who we asked to cover the range of views and available evidence on a topic. An 'advocate' is a speaker who we asked to give their own view, or the view of their organisation. Assembly members knew whether speakers were informants or advocates.

Contents of this chapter

A. Considerations	page 64
B. Futures	page 66
Vote results	page 75
Futures – conclusions	page 78
C. Policy options	page 79
Moving quickly to low carbon vehicles	page 80
— Vote results	page 89
Discouraging car ownership and use	page 91
— Vote results	page 101
Increasing the use of public and active transport	page 104
— Vote results	page 112
Policy options – conclusions	page 115
D. Anything else to tell government or Parliament	page 117
Conclusions	page 118

A. Considerations

Assembly members reached their first decisions on surface transport by discussing their answers to the following question:

What considerations should government and Parliament bear in mind when making decisions about surface transport and the path to net zero?

Assembly members thought about their answers to this question individually. They then discussed their views in small groups, with each table agreeing their five top considerations. These top considerations had to, between them, represent the range of views at the table.

Facilitators took the top considerations from each table and grouped similar options together to create a list on which assembly members could vote. They checked this list back with assembly members to make sure they had accurately reflected their views. This included making any necessary adjustments. Each assembly member could then vote for the four options that they felt to be most important.

The results were as follows. The wording of the considerations in the table is either word for word what assembly members wrote on their option cards or, where facilitators combined similar options from several tables, how we described the options to assembly members prior to the vote. Where applicable, we have also included in italics further detail on what assembly members wrote on their option cards.

Rank	Consideration	% assembly members who chose it as a priority
1	Solutions must be accessible and affordable to all sections of society	56
2	<p>Help create massive change at an individual level, including:</p> <ul style="list-style-type: none"> ▪ Carrot and stick approach ▪ Education ▪ Information ▪ Be prepared to make unpopular decisions <p><i>Some assembly members talked about the need to “enable behaviour change AND get a wider public understanding of [the] imposed chang[e] through public education/information.” Others felt that “education is critical to demonstrate the co-benefits to society such as health” or suggested “public education videos.”</i></p>	47
3	Make decisions in a way that means they cannot be changed by every new government (cross-party support)	39
4	<p>The polluter pays</p> <p><i>Some assembly members noted specifically that this applied to “companies that have the most negative impact”, while others stated more generally that “those who pollute should pay more.” Some advocated “introduc[ing] laws/regulation as soon as possible.”</i></p>	36
5	<p>Check and be careful about side effects and unintended consequences (moral, ethical and environmental implications, and the effect on the rest of the world)</p> <p><i>Some assembly members noted particular risks around new technologies and mining.</i></p>	33
=6	<p>Invest in and develop public transport/infrastructure to make it accessible</p> <p><i>Some assembly members stated that “transport options should be accessible to everyone” and “regular.”</i></p>	25
=6	<p>Greater investment in R&D from Government and private companies for both new and existing technologies (sooner rather than later)</p> <p><i>Some assembly members suggested that new technologies could be “better and safer” or suggested that “the Government[’s] role is to enable and incentivise the adoption of new technologies.”</i></p>	25
8	Invest in and develop public transport/infrastructure to be affordable (free?) for people using it	22
9	Long-term consequences of science, claims, decisions, policies assessed by an independent regulator	19
=10	<p>Protect jobs and industry – and support them to transition</p> <p><i>Some assembly members noted that “transition to low carbon options risks losing jobs which needs to be managed by initiatives to re-train [the] workforce.”</i></p>	17

=10	Dunkirk example	17
	<i>Note: This referred back to a case study presented by one of the speakers, Lynn Sloman, during Weekend Two. It showed the impact of introducing free bus travel in Dunkirk in autumn 2018. Bus trips on some routes increased by 85%, and half of the new bus users previously travelled by car.</i>	
12	Realism of planned change	14
=13	Joined up public transport planning with service level reliability	11
=13	Long-term and phased transition in a way/manner that benefits people and causes minimal disruption to their lives	11
=13	Charging infrastructure (especially for high-density housing) and ensure it works – e.g. adapters, charge points etc	11
16	Safe, more and good infrastructure for cycling	8
17	In considering cost think about what is reasonable for individuals, governments and business and both users and non-users of particular transport	6
18	Enable maintaining quality of life for all (including people with disabilities, rural communities)	3

Note: It is worth noting that considerations specifically around improving public transport – ranked 6, 8, 10 and 13 above – together received 27 votes, which would have placed them first. However it is possible that individual assembly members voted for more than one option within this group, which is why we have treated them separately.

B. Futures

After deciding on their most important considerations, assembly members moved on to look at what the future of surface transport should be for the UK.

To aid them in this process, the Expert Leads presented assembly members with three scenarios:

1. Fast action to change the cars we drive;
2. Changing the cars we drive and how much we use them;
3. Reducing the amount travelled across all transport types.

Together these scenarios covered a broad range of views about what could happen to surface transport to help the UK meet its 2050 net zero target.

Assembly members discussed each of the scenarios or ‘possible futures’ in turn, before voting on them by secret ballot.

We start by presenting the rationale for their views, taking each possible future in turn.

[Jump to the vote results on page 75](#) →

B.1 Fast action to change the cars we drive

The emphasis of this possible future was on changing the types of car that we drive. It would involve:

- Banning the sale of new petrol, diesel and hybrid cars by 2030;
- Quickly stopping the sale of the most polluting vehicles, for example some SUVs;
- Reducing the amount we use cars by about 2% per decade, for example stopping car use in the centre of large urban areas;
- Faster uptake of electric buses and trains;
- Strictly limiting new road building until virtually all petrol, diesel and hybrid cars are gone from the roads (around 2045).

Assembly members discussed this possible future in small groups. They identified the following pros and cons.

+ Pros

- + **Doesn't require reduced car use** – some assembly members liked that you “do not have to reduce car use”, or that this option involves “less car use reduction than other options – so people get to keep their (beloved) cars.”
- + **Less authoritarian** – some assembly members felt that this option involved “fewer restrictions on individuals”, or described it as the “least authoritarian route to reductions.”
- + **Impactful and quick** – some assembly members said there would be “guaranteed change – through legislation” or “fast, decisive action that will make an immediate impact.” Others said we would “reach [the] target of net zero sooner”, or that this was the “quickest way to effectuate change.”
- + **Co-benefits including air quality** – some assembly members suggested that this future would bring “benefits for all: e.g. air quality, saving money on new roads, car running costs reduce.” Others suggested that there would be “air quality improvement in city centres”, that “air quality will improve quickly”, or that “in society change is possible to make [a] cleaner/pleasant atmosphere, starting with active transport.”
- + **Stopping selling the most polluting vehicles** – some assembly members said they supported “stop[ping] selling the most polluting vehicles” including because they “will encourage greener choices.”
- + **No road building** – some assembly members said that the “ban [on] road building is positive” or that “not building new roads would save money that could be spent on greener solutions.”
- + **Better and more used public transport** – some assembly members said that “making cars more expensive should help [the] push on fixing public transport” or that “no cars in [the] city centre [would]... encourage public transport.”
- + **Electric public transport** – some assembly members liked the idea of “more electric trains and buses”, or a “faster uptake on [electric] buses and trains.”



- + **Feasible** – some assembly members described this future as “feasible – more achievable”, or said that “no more car use in city centres is cost effective and can be done tomorrow.”
- + **“Shot in the arm for car industry”**
- + **“The running costs [of cars] will be improved with electric cars”**
- + **“Allows people time to adjust to changes”**

⊖ Cons

- **Price, affordability and rural areas** – some assembly members suggested that the “price[s] [of electric cars] would need to be more realistic than they are now” or worried about “affordability – being forced to upgrade your car before you need to.” Others asked “how/what to buy if [you] need a car in 2025? Electric car probably too expensive?” Some assembly members expressed concerns that if it’s “more expensive to travel by car, people in rural areas may be penalised.”
- **Congestion** – some assembly members suggested it would “not solve [the] problem of congestion” or that “there would be just as many cars on the road”. Others commented “don’t like banning road building – concern will result in more congestion.”
- **Feasibility and readiness** – some assembly members questioned “is it technically feasible (2030 is only 10 years away)?”, or “will EV infrastructure be there?”to.” Others said the “infrastructure [is] not ready yet.” or stated that their support was conditional on ‘charging infrastructure ...[being] in place.’
- **Job losses** – some assembly members asked “what would happen to petrol stations and the jobs they create?” or said “not building roads will impact jobs and also mean regional poverty (southeast only benefit).” Some others questioned the “time frame”, suggesting it was “very soon” and would result in “job loss.”

- **Banning hybrids** – some assembly members disliked “banning hybrids” or asked “why are petrol, diesel and hybrid grouped together? They are different.”
- **Scrapping cars** – some assembly members asked “is it fair to scrap cars early, if people have just bought them?” or suggested there might be problems “managing high volumes of scrapped cars.”
- **Fewer benefits** – some assembly members said there would be “no urban improvement which has [positive] effects on health which should be [a] priority!” or that there would be “no benefit for non-car users, no improvement in public transport.”
- **“Quickly stop selling most polluting vehicles – reduction in choice”**
- **“Demonised for driving classic cars and motorbikes”**
- **“Need to build electric rail to compensate for no road building”**
- **“Shuts down consideration of alternative fuels option”**
- **“Overall eventual footprint worse because of EV production”**
- **“Not enough solutions to replace petrol, diesel and hybrid cars (electric cars)”**

Some assembly members attached conditions to their support for this possible future, suggesting that:

- “Renewable energy sources [would need to be] in place”;
- “Government fleets should be converted first as an example of leadership (charging point at No. 10).” Other assembly members stated more generally that “all [car] fleets should be converted”;
- We should “star[t] with active transport.”

When we asked assembly members to rank the possible futures in their order of preference, this scenario received significant support from assembly members. Please see below for the results of the vote.

B.2 Changing the cars we drive *and* how much we use them

This scenario would involve a combination of changing the types of car that we drive and reducing the amount we drive. It would include:

- Banning the sale of new petrol, diesel and hybrid cars by 2032–2035;
- Reducing the amount we use cars by an average of 5% per decade, meaning for example that only half the people who drove to work pre Covid-19 would be able to do so;
- One or more of:
 - Improving public and active transport (e.g. trains, buses, cycling, e-biking, walking);

- Helping people to travel shorter distances by planning the location of houses and shops etc better;
- Making it more expensive to travel by car compared to other transport types;
- Strictly limiting new road building until virtually all petrol, diesel and hybrid cars were gone from the roads (around 2050)

Assembly members discussed this possible future in small groups. They identified the following pros and cons.

⊕ Pros

- + **Public and active transport** – some assembly members liked the idea of “improved public transport” or suggested there would be “improvement in quality of life by improving public transport.” Others backed “increasing active travel” or a “focus on expanding correct infrastructure / creating new infrastructure to include options for cyclists and walkers.” Some said more generally that this future “considers options for non-car users.”
- + **Air quality, pollution and health** – some assembly members cited the “health benefits from active travel, air quality improvement, [and] better urban environments”, with some stating that “all health will improve.” Some noted “air quality improvement” specifically, or suggested that electric cars would resolve problems caused by people not turning their engines off at traffic lights.
- + **Support for localisation** – some assembly members said this future would “benefit [the] localisation of services” or “improve local shopping.” Others noted that “new estates do not have local amenities (shops/doctors etc) so you are forced to use [a] car – [they] need better public services.”
- + **Longer until ban** – some assembly members said that the ban on petrol, diesel and hybrid cars was “not completely straightaway reducing people’s options – good option for car users” or that there was a “longer time to adapt to change.”
- + **Encouraging behaviour change** – some assembly members said it would “encourage a behaviour change” or “encourage choosing EV so [as] not to be penalised.” Others suggested that “making it [car use] more expensive will make people travel by public transport to save money” or that “reducing car use by 5% will improve use of public greener transport.”
- + **Emissions reduction** – some assembly members liked that it would “reduce CO₂ use” or said the “reduction in emissions begins earlier.”
- + **Feasibility** – some assembly members liked the “realism – e.g. 5%” or suggested that “no more car use in city centres [is] easy to do, cost effective and can be done tomorrow.”
- + **“Greater sense of personal choice – more choice in how you make specific journeys e.g. car/public transport/cycle”**
- + **“Planning – better town centre”**
- + **“Reduction of cars should result in quieter roads – making it easier to get around”**
- + **“Strictly limiting sale of petrol, diesel and can help the new industry to fund/fix new tech”**

⊖ Cons

- **Unachievable** – some assembly members suggested that “changing ingrained behaviour is very hard” or asked, “how do we know [a] 5% reduction is achievable?”. Others asked “banning – is 2032/2035 realistic” or said “people will continue to buy second hand petrol/ diesel cars – they will be cheaper than buying a new electric car within the 2032–2035 period.” Some assembly members felt that “improving public transport will not stop people driving their own cars” or said they were “sceptical that public transport [would be] good enough to reduce car use by 5%.”
- **Increased costs, including for particular groups** – some assembly members disliked “making it more expensive to travel by car”, suggesting that it “penalises car users by increasing costs to them [when an] increase in green solutions shouldn’t take choices away from them (independence).” Some assembly members worried increased costs “may price people out of essential travel”, with some particularly noting the “impact on disabled [people] of increased costs.” Others said it is “not practical to increase cost... Rural areas need to drive to health centre – school etc.” Some assembly members asked “how much price change increase [is] needed to change behaviour – big stick.”
- **Lifestyles and flexibility** – some assembly members said it would “make it harder for people to live as they do today”, or noted that people would “have to change their transport.” Others questioned whether “people really mak[e] journeys now that they consider unnecessary?” or worried that “not driving to work takes away flexibility e.g. if child is ill.”
- **Banning road building** – some assembly members said “limiting new road build[ing] will have [a] negative effect on rural/non-accessible areas” or would result in “increased congestion; reduced growth; poorer quality of life.”
- **“Will lead to more carbon emissions lasting longer – because diesel and petrol on the road longer”**
- **“Particulate emissions from EV – still an issue”**
- **“Where do we find the £28 billion generated by fuel tax?”**
- **“What happens to [e.g.] Ikea deliveries?”**

Some assembly members noted conditions to their support for this future, stating that:

- “Public transport [in rural areas] would need to be as good as city transport”;
- It would have to be “easier to bring shopping back by public transport”;
- There would need to be “new estates planned”;
- They would want the ban on petrol, diesel and hybrid cars to be 2032 not 2035.

When we asked assembly members to rank the possible futures in their order of preference, this scenario received significant support from assembly members. Please see below for the results of the vote.

B.3 Reducing the amount travelled across all transport types

This scenario places the emphasis on reducing the total amount we travel, including significant reductions in car use. It would involve:

- Leaving the phase out of petrol, diesel and hybrid cars and buses to happen naturally as car companies start to offer electric cars into the marketplace;
- The option to introduce a ban on sales of petrol, diesel and hybrid cars later if the sale of electric cars is too slow;
- Reducing car use by an average of 10% per decade, meaning for example that less than half of those driving to work pre Covid-19 would be able to do so and double the number of people would need to holiday by train instead of by car;
- All of:
 - Improving public and active transport (e.g. trains, buses, cycling, e-biking, walking);
 - Helping people to travel shorter distances by planning the location of houses and shops etc better;
 - Making it more expensive to travel by car compared to other transport types;
- No building roads until virtually all petrol, diesel and hybrid cars are gone from the roads (around 2050)

Assembly members discussed this possible future in small groups. They identified the following pros and cons.

⊕ Pros

- + **Localisation** – some assembly members liked the “local community focus” or the idea of “services available locally”, suggesting there would be “better local planning and amenities” or “more local services improved.” Some felt it would lead to “more mobile services (e.g. medical services).” Others said localisation would mean “more leisure time as less travel time.”
- + **Improved public and active transport** – some assembly members liked the idea of “improving public transport”, or an “improvement of public transport and cycling routes.” Others said “a big investment in electric public transportation benefits communities.”
- + **Behaviour change and a greater range of options** – some assembly members stated that “much improved public transport, car sharing, cycling and walking means less need to own a car.” Others suggested there would be “positive behavioural change” or said the scenario included “many options to reduce car use e.g. public transport, shorter distances to shops.” Some said it “reduces the need for any kind of transport [beyond walking].”
- + **Co-benefits** – some assembly members suggested that “with public transport you will interact more and meet people” or that there would be “health benefits – mental.” Others felt there would be “less congestion overall, more open spaces” or noted we would be “reducing polluting car use by 10% per decade.”

- + **Flexibility of approach** – some assembly members said that they “like the idea of delaying the ban on petrol and diesel but [with the] option to use [a ban later] if needed.” Some said the approach had “more flexibility... in case electric vehicle development does not progress as expected.”
- + **Time for technology to develop** – some assembly members said the fact there was “no date to stop sales of new cars, allows time for technology to develop replacements” or stated the “ban is later – more time for technology to develop.”
- + **“Increase of jobs in businesses”**
- + **“Phase out of cars would be easier for people to accept”**
- + **“Less fuel dependency on Middle East”**

⊖ Cons

- **Impact on quality of life, particularly for certain groups** – some assembly members said this option “may increase isolation and loneliness”, worried about the “impact of increased costs on rural and disabled communities” or said it would lead to “reduced mobility, poorer life aspirations [and a] poorer standard of life.” Others talked about the “social impact on mental health” or noted that “travel has mental health and psychology benefits.” Some labelled the scenario “oppressive”, suggesting that “the impact of road closures would affect people disproportionately.”
- **Restricted choice** – some assembly said it would “take choice away from consumers”, or “force people to reduce their travel options.” Others disliked “restrictions on travel – because they are looking at reducing travel on all transport (you can only go so far on a bike).” Some suggested that “many people will not want [a] decrease in car use, on only pollution.”
- **Lack of emphasis on technology** – some assembly members disliked the “lack of emphasis on technological solutions” or noted “less reliance on technology / restricting travel.”
- **Feasibility** – some assembly members felt a 10% reduction in car use per decade “will be hard” or queried “10% reduction in car use per decade – achievable?” Others asked “can the planning/rebuilding be done in time? How much shift is needed?”
- **Cost** – assembly members had a variety of concerns around cost, including the affordability of public transport compared to alternatives. Some commented that “if public transport is not affordable it will cost more to use for holidays etc” or that the “train is expensive compared to alternatives.” Others worried about the “devaluation of current cars – or cars brought in the near future” or the “rebuilding costs” of towns.
- **Emissions** – some assembly members said that this option would “take longer to achieve net zero emissions” or that “we will still be producing emissions from cars until later.”
- **“Impact on car building industry – reduces jobs”**
- **“Reducing car use puts strain on other transport services”**
- **“It would mean alternative ways to reduce emissions if EV is relaxed”**

When we asked assembly members to rank the possible futures in their order of preference, this scenario received very limited support from assembly members. Please see below for the results of the vote.

General comments

Some assembly members made cross-cutting comments about all the possible futures:

- **Freedom versus restrictions:** some assembly members wanted to emphasise the “need for personal freedom.” Others suggested that “we are already dealing with restrictions in our everyday lives so this is just one more.”
- **Roles:** some assembly members noted that the “government has to take the lead to make things happen... Onus needs to be on government to enable the policies – e.g. on public transport, better active travel.” Others noted that there is also an important role for business in creating change.
- **Public transport:** some assembly members commented that “the train situation needs improving, people will be put off using the trains if they are stranded.”
- **Car industry:** some assembly members noted that “the car industry will be affected across all scenarios.” Others said that “all [the futures] are bad [for the car industry]... The car industry needs more time to adjust.”
- **Car size:** some assembly members suggested that “some small cars are now only available in electric, because they don’t meet EU emission requirements. That means the cheapest cars won’t be the smallest.” Others said they were concerned that “people would buy a mid-sized petrol car because they can’t afford a smaller car, which would have a greater environmental impact.”
- **Synthetic fuels:** some assembly members were unhappy that “we heard about the use of synthetic fuels for planes, but not cars.”
- **Hybrid cars:** others noted that “all three futures talk about banning hybrid cars, but ... some assembly members didn’t think that they were bad.”
- **Future generations:** some assembly members commented that “the implications will impact some more than others – think future generations! Urgency matters!”
- **IT use:** some assembly members asked “what about IT to reduce travel e.g. virtual reality.”

Vote results

Assembly members voted on the possible futures by secret ballot. The ballot paper asked them to rank the possible futures in their order of preference.

The votes were counted in two ways:

- **Counting assembly members' first preference votes only.** This tells us what assembly members would and wouldn't choose if they could have their preferred future.
- **Using Borda count.** This involves allocating points for preferences – a first preference vote scored two points, a second preference vote one point. A third preference vote scored no points. Counting the votes like this tells us which futures are most acceptable to the greatest number of assembly members.

'**Fast action to change the cars we drive**' received most first preference votes. Assembly members gave two reasons more than any others for this choice on their ballot papers. The first was around the **lack of restriction on travel and lifestyles**. Comments included:

- “ We should be free to travel when and where we like – options 2 and 3 are restricting.”
- “ The less government led social engineering the better. Restricting or imposing individual behaviour undermines the liberal principle that everyone has the right to make choices and self-determination.”
- “ It focuses on introducing greener solutions but without taking the choice or car owners' independence away.”
- “ Least restrictions on mobility (standard of life).”

The other frequently given rationale was **the speed of change**. Comments included:

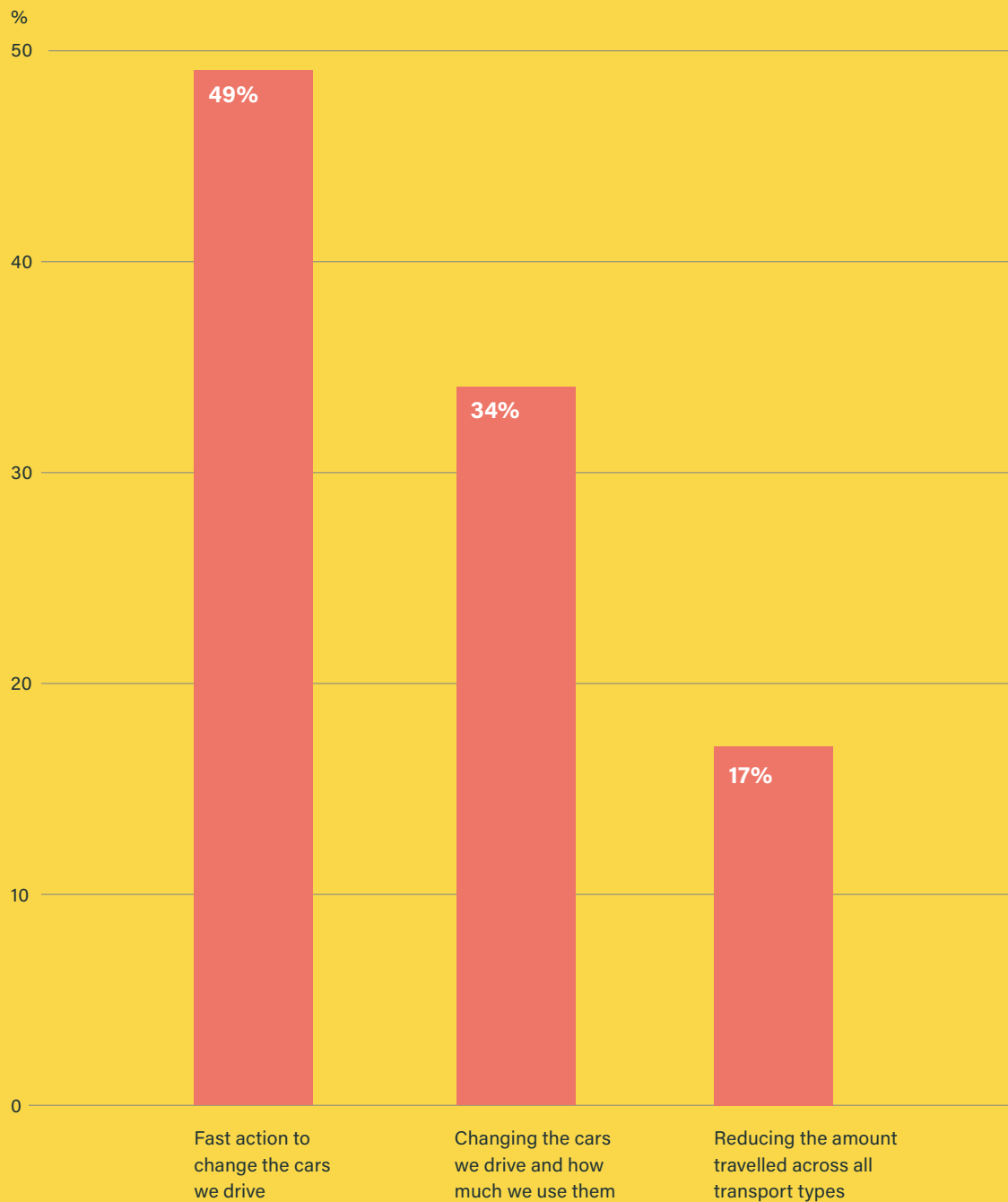
- “ If we are going down this route (a must) then [the] quicker the better. Will be “hiccups” therefore [we need] time to “mend” problems.”
- “ This guarantees fast action that I believe is required.”
- “ The faster the better in spite of it being challenging. But don't force a reduction in travel, [stop] polluting transport only.”
- “ Rapid movement to electrified (low CO₂) transport.”

Some assembly members' rationale was multifaceted. For example:

- “ Fast decisive, immediate action – no time wasted planning on building new things so we can quickly start to reduce emissions and then focus on other things. Realistic, not a drastic change that is hard for everyone to adjust to. Benefits everyone – air quality improves, money saved on cars.”

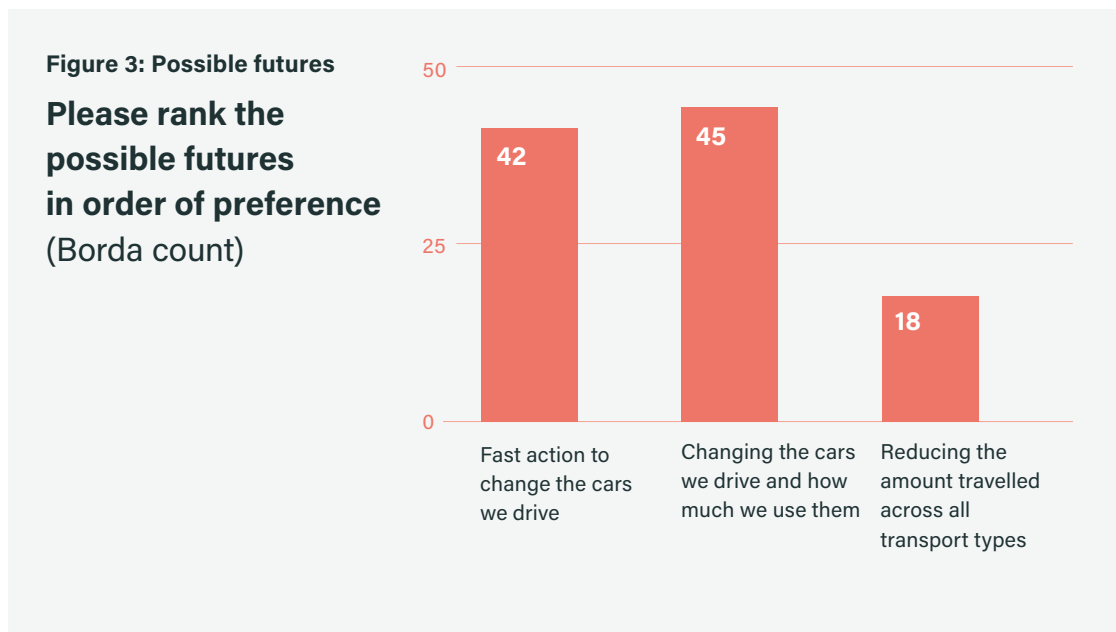
Figure 2: Possible futures

Please rank the possible futures in order of preference
(% 1st preference votes)



“ (I don’t actually think any option seems completely viable, but. . .) I think action has to be taken on current cars ASAP (although don’t necessarily agree with hybrid). If everyone could afford electric vehicles then this wouldn’t prevent people travelling as they currently do – ergo standard of living shouldn’t be compromised. Concerned other options don’t give enough time to fix other transport options. Also don’t believe people will reduce the amount they travel by car.”

Other reasons highlighted by one or two assembly members included support for the take up of electric buses and trains, support for banning SUVs, a suggestion that this future has fewer downsides than the alternatives, and a belief that the “health benefits for people who have asthma would be important.” One assembly member commented that “social change is much harder than technological change.”



‘Fast action to change the cars we drive’ also did well in the Borda count, but the future that scored highest by a small margin was ‘**changing the cars we drive and how much we use them**’. Assembly members who chose this latter option as their first preference gave a range of reasons for their choice.

There was a feeling amongst some assembly members that this option presented a **balanced middle ground that was more viable and less radical**:

- “ Most viable option – middle ground – more comprehensive approach that considers reducing and banning petrol/diesel and offers improvement and alternatives to how we can travel (instead of driving).”
- “ There needs to be a balance and this seems to be the best balance.”
- “ Less radical compared to other options. More practical and positive.”

Others talked about the **impact this future would have on emissions and congestion**:

- “ I think that by reducing car use we will reduce carbon emissions and maybe ... focus on only using transport as a way from getting from A to B rather than being lazy!”
- “ It will cut emissions and have health benefits.”
- “ Less cars, less pollution, less congestion.”

Some assembly members said that they felt this future was **less restrictive and offered more choice**:

- “ I’m not supportive of restricting travel, improving public transport so citizens have more options is a positive step rather than an authoritarian move towards dictatorship I’m not supportive of.”
- “ The perception of greater personal freedom to choose the most appropriate mode of transport for any given journey.”

Other comments included that this future “gives people time to adjust, whilst still taking positive action”, or that it “encourages public transport improvements and allows more time for the charging infrastructure to be sufficient for the uptake required.”

‘**Reducing the amount travelled across all transport types**’ scored poorly in terms of both first preference votes and the Borda count. It was assembly members’ least preferred option by some distance.

One assembly member abstained from the votes, stating that the options were “not comprehensive and not objective.”

Futures – conclusions

Taken together, assembly members’ discussions and votes suggest a future involving:

- **A ban on the sale of new petrol, diesel and hybrid cars by 2030–2035;**
- **A reduction in the amount we use cars by an average of 2–5% per decade;**
- **Improvements to public transport** – the idea of better public transport was overwhelmingly mentioned as a positive in assembly members’ discussions. Some assembly members also welcomed the idea of improvements to the infrastructure for active transport.

Assembly members’ discussions show that many felt it was important to **minimise restrictions on travel and lifestyles**. They often saw a quick ban on the sale of new petrol, diesel and hybrid cars as the best way to do this: people could continue to travel by car as long as the car was electric. Some assembly members also raised doubts about whether greater reductions in car use were feasible in terms of behaviour change. For a smaller number of assembly members the least restrictive future was one that gave them the greatest choice of transport modes.



Speed of change was also an important factor for some assembly members. Those who supported an earlier ban on the sale petrol, diesel and hybrid cars felt “the faster, the better”. Others felt that a slightly later ban within the 2030–2035 range would give people longer to adapt and allow more time to prepare the necessary infrastructure.

Assembly members saw **co-benefits**, particularly around improvements in air quality and reductions in congestion as positives. They also raised a **range of concerns around affordability**, including the need to not “price people out of essential travel.” Some assembly members particularly noted the need to avoid negative consequences for rural areas and people with a disability, as well as around mental health and isolation.

C. Policy options

After considering what the future of surface transport in the UK could look like, assembly members moved on to consider how we might get there. Specifically they looked at policy options in three areas:

1. Moving quickly to low carbon vehicles;
2. Discouraging car ownership and use;
3. Increasing the use of public and active transport.

For each of these areas, the Expert Leads recapped and explained potential policy options. Assembly members discussed these ideas in their groups before voting by secret ballot. They were also able to note additional suggestions for steps that could be taken.

C.1 Moving quickly to low carbon vehicles

Assembly members looked at seven options for moving quickly to low carbon vehicles:

- Quickly stop selling the most polluting cars;
- Grants for businesses and people to buy low carbon cars;
- Car scrappage scheme;
- Advertising restrictions on certain cars;
- Access to longer range cars for electric car owners;
- Government investment in low carbon buses and/or trains;
- Lowering speed limits on dual carriage ways and motorways.

We start by presenting the rationale for their views, taking each policy option in turn.

[Jump to the vote results on page 89](#) →

Quickly stop selling the most polluting cars

This would involve telling car companies that they could not sell their most polluting cars in the UK from a certain date. The government has already told car companies that they will not be able to sell new petrol and diesel cars in future. The date of this ban was originally 2040 when it was announced in 2019, but was brought forward to 2035 in February 2020.

Assembly members identified the following pros and cons about a quick stop to selling the most polluting cars.

+ Pros

- + **Co-benefits** – some assembly members suggested there would be “improved air quality” or an “immediate decrease in pollution.” Others said that we would “quickly start cutting down pollution”, “reduce pollution more quickly” or “decrease the polluting cars on the road drastically.” Some noted benefits for “health and safety e.g. in schools – air quality” or “improvement for other road users.”
- + **Swift and simple** – some assembly members suggested it is “very easy to implement ASAP”, “simple to implement”, “swift and simple to implement” or that it “gets the whole process going – no ‘faffing’ around – just do it.” Others labelled it a “fast and effective solution that does not require a lot of new tech.” Some commented that the “quicker these cars are removed from the roads the better.”
- + **Good cost-benefit ratio** – some assembly members described it as a “quick fix that’s not really that detrimental to anyone’s way of life” or commented “we don’t need SUVs on the road.” Others said there was “large benefit, lowish cost.”

- + **Impact on emissions** – some assembly members said it “will accelerate [the] net zero target”, create a “big drop in emissions” or result in a “quicker reduction in average CO₂ emissions.”
- + **Certainty for business** – some assembly members liked that “car manufacturers [would] know where they stand” or that there would be “certainty for manufacturers.”
- + **Progress on electric car manufacture and uptake** – some assembly members felt it would “encourage manufacturers to improve electric cars” or that “uptake of electric cars would increase dramatically.”

⊖ Cons

- **Loss in revenue from fuel duty** – some assembly members worried about a “fuel tax deficit”. Others commented “loss in revenues – how to replace?”, “fuel tax will need to be replaced by other taxes – fairness”, or “government will need to find the lost revenue from fuel tax elsewhere.”
- **Impact on business and jobs** – some assembly members noted that “car companies will have to adjust” or that “if car companies are losing money there will be jobs lost.”
- **“Reduction in personal choice of vehicles”**
- **“What will happen to all unwanted vehicles?”**
- **“[Need to] define polluting”**
- **“No willingness to change!”**

Grants for businesses and people to buy low carbon cars

Since 2011, the government has given car dealerships money to discount the price of brand-new electric and hydrogen cars. In the budget in March 2020, the plug-in car grant was extended for another three years, but the amount available per car was reduced to £3,000 from £3,500, and it is only available for pure battery electric cars that cost £50,000 or less.

Assembly members identified the following pros and cons about grants for businesses and people to buy low carbon cars.

⊕ Pros

- + **Accessibility** – some assembly members felt that it would mean “owning EV is more accessible” or commented that “off-setting initial costs can make electric vehicles more accessible for the general public.” Others said that *“it needs to be affordable to everyone.”*
- + **“Kick start market for electric cars”**
- + **“Fleet vehicles should be EV”**

⊖ Cons

- **Grants not enough** – some assembly members said that the “grants aren’t high enough for purchasing a new EV”, that the “grant’s not enough at £3,500”, or that the “grant [is] not big enough.” Others commented that “electric cars [are] still expensive, even with grants” or that “£3,500 is not that big an incentive to buy an electric car!”
- **Impact on EV prices** – some assembly members asked “won’t car companies put prices up if [they are] receiving a grant?” or suggested it was a “disincentive for manufacturers to reduce cost.” Others labelled it “good for the dealer, not the buyer; benefit should go direct to the buyer.”
- **“Cars will [still] be unaffordable to the less well off”**
- **“Not everyone wants to drive so do they get taxed extra?”**
- **“Rapid collapse of value of diesel, petrol cars”**
- **“No incentives for 2nd hand EV”**

Some assembly members also noted conditions around their support for this policy option, or additional ideas:

- **Comparative price:** some assembly members said that the “grant has to take it to same or below [the] price of petrol/diesel”, that it’s a “good incentive if [the] price is similar to current cars”, or that their support “depends on [the] size of grant;”
- **Tax incentives:** some assembly members suggested there should be “more incentives i.e. no VAT on EV for 5 years” or that there should be “tax incentives to buy low carbon cars.”
- **Who the grants help:** some assembly members said policy-makers should “relate [the] grant to people’s income” or that the grants “need to be aimed at low income families and those in hard to reach rural areas and not for business for it to be fair;”
- Others disagreed saying they would support the policy “if the grant is only for business;”

Car scrappage scheme

This would involve incentivising owners of older, high CO₂ vehicles to scrap them, by offering cash or credit towards electric cars, bikes or public transport season tickets. The amount people received towards an electric car is likely to be around £2,000.

Assembly members identified the following pros and cons about a car scrappage scheme.

+ Pros

- + "Provides financial incentive to sell polluting vehicles"
- + "Great if your car is worth less than the payment receive"
- + "Will encourage more electric car sales"
- + "Gives the ability to use money on bikes or public transport"
- + "Improvements with air pollution"
- + "Only one that has an impact on CO₂ immediately"
- + "Can still reuse/recycle vehicle"

- Cons

- **Waste** – some assembly members worried about a "lack of capacity to process recycling of removed cars." Others asked "where will they go" or "what % of scrapped cars can be recycled? Working cars being scrapped feels wasteful."
- **Costs and pricing** – some assembly members suggested that it "only works for cars valued below £2k", that it's "only applicable for old/low value cars", or that you "might not get [the] full value of [the] car." Others said "have to buy a new car – price inflated."
- **Subsidising foreign manufacturers** – some assembly members said "public expenditure [would be] used to subsidise manufacturers yet most new cars are manufactured overseas" or that "you need to focus the credit on bikes and public transport so you don't subsidise foreign manufacturers."
- "Even with the car scrappage scheme a lot of people still can't afford electric cars"

As with the previous policy option, some assembly members suggested that the grant should "relate ... to people's income."

Advertising restrictions on certain cars

Advertising restrictions would make it illegal for car manufacturers to advertise their most polluting cars.

Assembly members identified the following pros and cons about advertising restrictions on certain cars.

+ Pros

- + **Proven** – some assembly members commented that it's "proven to work" or "it works very well." Others said "people are more likely to buy when they are advertised" or that adverts are "proven techniques to reach large populations."
- + **Discouraging production of most polluting cars** – some assembly members said it "would hopefully discourage production of polluting cars" or that it "removes [an] incentive to make more SUVs as demand should reduce."
- + **Cost** – some assembly members liked that there is "no cost to [the] tax payer" or that there's "no cost to introduce." Others suggested it is "very easy to implement tomorrow at low cost for a lowering of emissions."
- + **"Doesn't impact on people's options"**
- + **"Stops pollution/sets rules"**
- + **Some assembly members said it worked well with the policy option to 'quickly stop selling the most polluting cars', suggesting that the "advertising will follow."**

⊖ Cons

- **"Should discourage production – not ban advertising – this is wasteful and punitive"**
- **"I don't think this would have much impact. I think people buy based on what they see driven around rather than on TV"**
- **"Ways around it – petrol heads are clued up"**
- **"Does it give [the] wrong message?"**
- **"It doesn't go far enough"**
- **"Negative impact on the economy"**

Access to longer range cars for electric car owners

A scheme like this would mean that, when a customer buys an all-electric car, it would be compulsory for the car company to loan a longer-range vehicle to them for several days a year.

Assembly members identified the following pros and cons about access to longer range cars for electric car owners.

+ Pros

- + **Freedom** – some assembly members said it would provide “long-distance access outside cities” or that it “lessens restrictions, helps in keeping current freedoms.”
- + **Addresses a key problem / may increase take-up** – some assembly members felt it “solves a key issue that many people raise. A very good option that incentivises people to buy electric cars.” Others felt it would “increase use of electric vehicles” or, more cautiously, that “maybe it would make EV an option.”
- + **“Cost”**
- + **“If you legislate that car sellers must do this, it costs nothing to implement”**

– Cons

- **Practical issues** – some assembly members felt there would be practical issues. Comments included:
 - “Needs planning ahead – not always an option”*
 - “What about emergencies? Not practical”*
 - “Limit to how long you can have them for?”*
 - “Not long enough. Would need weeks or more occasions”*
 - “Availability: -Christmas -Half-term”*
 - “Booking availability, holiday at same time etc.”*
- **Feasibility and bureaucracy** – some assembly members feared it would be “bureaucratic” or suggested “car dealers [are] highly unlikely to loan cars and [it would be] very difficult to manage [the] process.”
- **Limits to freedom unless more charging points** – some assembly members said it “wouldn’t give range of freedom as you are limited to charging points” or that “electric cars only have a short range (120 miles) so would need more charging points.”
- **Not needed?** – some assembly members suggested it “may not be needed e.g. hire, rail” or asked “why can’t they all be long range?”
- **“Only benefits those with money for new cars”**

Some assembly members asked “would there be a scheme for 2nd hand EV?”

Government investment in low carbon buses and/or trains

The government already subsidises some electric and hydrogen buses. There is also currently a programme to electrify the railways, but it has recently slowed.⁶

Assembly members identified the following pros and cons about government investment in low carbon buses and/or trains.

+ Pros

- + **Better, more accessible public transport** – some assembly members suggested that “investment is absolutely necessary to make these options more affordable and accessible”, or that this is an “opportunity for radical redesign of buses (accessibility).” Others commented that the “more efficient public transport, [the] more people would use it.”
- + **Needed** – some assembly members said “we need it!” or it “needs to be done sooner rather than later.” Others said it’s “self-explanatory really and needs to be done.”
- + **Jobs and industry** – some assembly members suggested it would “revitalise [the] train industry” or said it “would be good if government investment in low carbon jobs can create skills and careers.”
- + **Leadership and responsibility** – some assembly members said it “doesn’t push the responsibility for change on [to the] public only. It initiates the process of change.” Similarly, others commented that it would involve “lead[ing] by example.”
- + **“Improves air quality for commuters”**
- + **“Focusing on investing more in public transport will reduce emissions a lot as the number of users is high”**
- + **“Will help speed up the understanding of hydrogen power”**

– Cons

- **Cost and who pays** – some assembly members asked “who pays”, “where is the money coming from?”, or “how much would it cost, would it be economically viable?”
- **Tech issues and practicalities** – some assembly members suggested that the “battery range for a bus surely won’t be long enough for most journeys”, or that it “will take a long time to charge.” Others asked “what happens with a power cut?”
- **“How realistic is it to electrify the rails? And how soon can these changes be implemented?”**
- **“More electricity is needed so better infrastructure”**
- **“Would take a very long time to actually reduce emissions”**

⁶ HC Deb, 20 July 2017, col 72WS. The Government announced the cancellation of many newly electrified lines in favour of hybrid (bi-modal) trains.

Some assembly members said they would support this policy option if we “move quickly to low carbon vehicles”, or “if [it’s] quicker (speed).” Others noted that “if Government/Parliament implement public transport to run for longer and at later times people would use it more.”

Lowering speed limits on dual carriage ways and motorways

This would involve lowering the speed limit for cars on roads where it is 70mph to 60mph.

Assembly members identified the following pros and cons about lowering speed limits on dual carriageways and motorways.

+ Pros

- + **Immediate effect** – some assembly members described it as “immediate” or suggested it’s “very easy to do tomorrow and immediately reduces emissions.” Another commented: *“I like lowering speed limits on dual carriageways and motorways because it seems like a straightforward enough method that has immediate positive impacts.”*
- + **Reducing accidents** – some assembly members noted it would “reduce accidents” or “also [have] benefits in reducing RTAs [Road Traffic Accidents].”
- + **Impact on emissions** – some said it would “reduce carbon” or result in “decreased carbon emissions.”
- + “Lowers the speed limit thus cutting down on the use of fuel”
- + “Increased fines for the treasury – voluntary tax”

- Cons

- **Compliance and enforcement** – some assembly members said they “don’t believe people would stick to this at all” or that “no one will abide [by it] anyway.” Others said “no one sticks to [the] limit as it is so I can’t see it working without a lot of intervention” or “it won’t work unless you’re going to restrict the cars and have someone policing it – people will carry on going 70+.” Some assembly members queried “do [the] police have resources to enforce this” or suggested there is “insufficient capacity for enforcement.” Some said it would be “difficult to enforce.”
- **Journey times** – some assembly members said they disliked the impact on “journey times”, or that it “increases journey time. The limits may not be needed on electric cars?” Others felt that “lowering speed will affect productivity, [and] impact on people’s working day, [and] free time.”
- “It is a con for electric cars. It would put people off buying electric cars because there is no benefit to using them”
- “Will surely increase concertina effect and increase standing traffic and pollution”
- “Still isn’t going to lower emissions enough!”



Some assembly members said this policy option would need to be accompanied by “advice and education on how to drive more efficiently.” Others said the premise should be that “EVs are run on 100% (90%) green energy by 2030.”

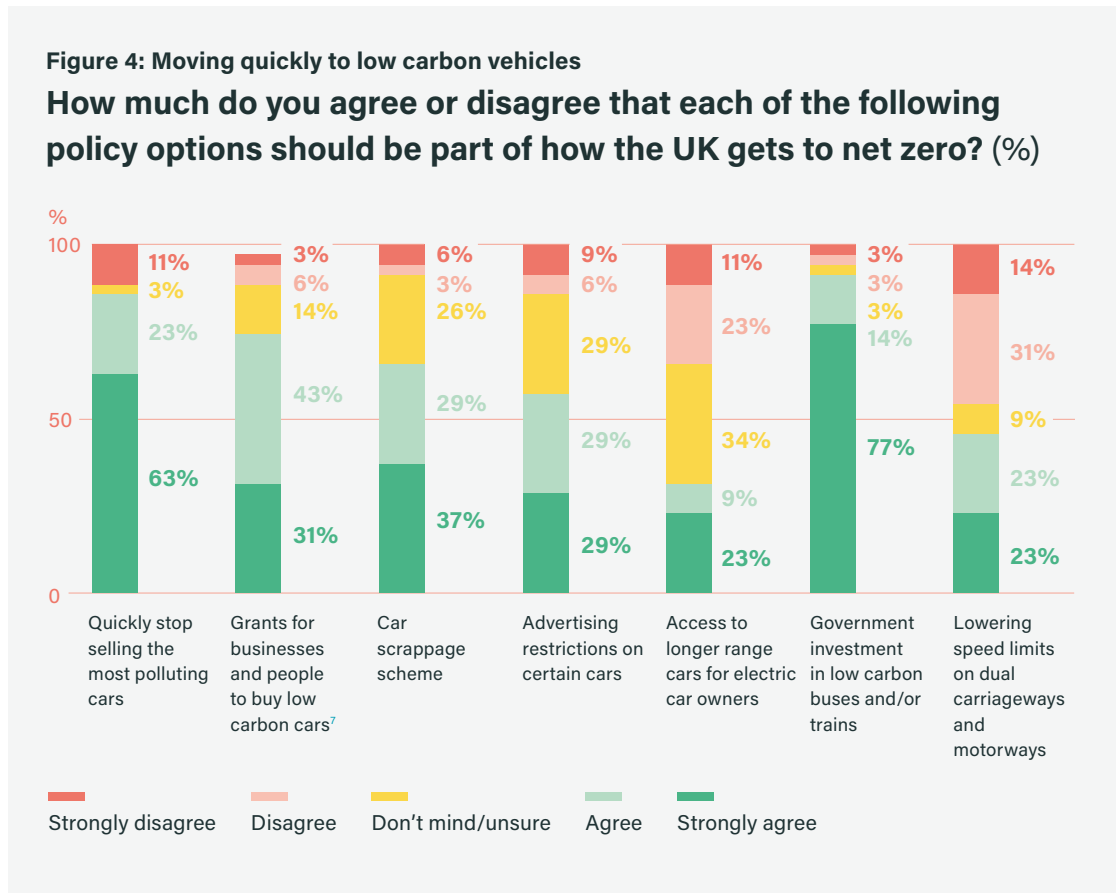
Additional ideas

During their discussions, assembly members noted a range of additional points and suggestions:

- “ You need to address [electricity] supply before EVs”
- “ You must get people on your side”
- “ Need [for] education”
- “ Make city centres car free (with free public transport to replace it)”
- “ Congestion charging”
- “ Synthetic fuels”
- “ Wealth tax on high end polluters/vehicles”
- “ Legislate that businesses (such as Uber, car clubs, hire cars etc) must only use EVs going forward and legislate that going forward all delivery vehicles must be EVs”
- “ More criteria to get a driver’s licence → less people, alter behaviour”
- “ Car scrappage scheme to support the purchase of 2nd hand EVs.”

Vote results

Assembly members voted by secret ballot on the seven policy options for moving quickly to low carbon vehicles. There were two ballot papers. The first ballot paper asked assembly members how much they agreed or disagreed that each policy option should be part of how the UK gets to net zero. The second ballot paper asked them to rank the options in their order of preference. The votes from this second ballot paper were counted both in terms of first preference votes and via Borda count.



Two policy options stood out for their popularity amongst assembly members. Large majorities of assembly members ‘strongly agreed’ or ‘agreed’ that **‘government investment in low carbon buses and/or trains’** (91%) and **‘quickly stop selling the most polluting vehicles’** (86%) should be part of how the UK gets to net zero.⁷

Two options also stood out for their lack of popularity. Under half of assembly members ‘strongly agreed’ or ‘agreed’ that **‘access to longer range cars for electric car owners’** (32%) and **‘lowering speed limits on dual carriageways and motorways’** (46%) should be part of how the UK gets to net zero. There was also significant opposition to both measures, with 34% and 45% of assembly members ‘strongly disagreeing’ or ‘disagreeing’ that they should be used. Although a large number of assembly members (34%) said they ‘didn’t mind’ or ‘were unsure’ about access to longer range vehicles, these results do suggest it was less popular than other options.

⁷ One assembly member abstained from the vote on ‘grants for business and people to buy low carbon cars’ so the figures for this option add up to 97% not 100%.

Smaller majorities of assembly members supported the three other policy options.

In order of assembly members' preference, these were:

- **Grants for businesses and people to buy low carbon cars** – 74% 'strongly agreed' or 'agreed' that they should be part of how the UK gets to net zero; 14% said they were 'unsure' or 'don't mind';
- **Car scrappage scheme** – 66% 'strongly agreed' or 'agreed'; 26% said they were 'unsure' or 'don't mind';
- **Advertising restrictions on certain cars** – 58% 'strongly agreed' or 'agreed'. 29% said they were 'unsure' or 'don't mind'.

The preference voting largely reinforced the results of the first vote, but provided two additional insights. The results suggest that:

- 'Quickly stop selling the most polluting cars' was the most important policy to assembly members by some distance, followed by 'government investment in low carbon buses and/or trains';
- Amongst options that a majority of assembly members supported in the first vote, 'advertising restrictions on certain cars' was their least preferred policy by some distance.

'Access to longer range cars' and 'lowering speed limits' again scored more poorly than the other policy options.

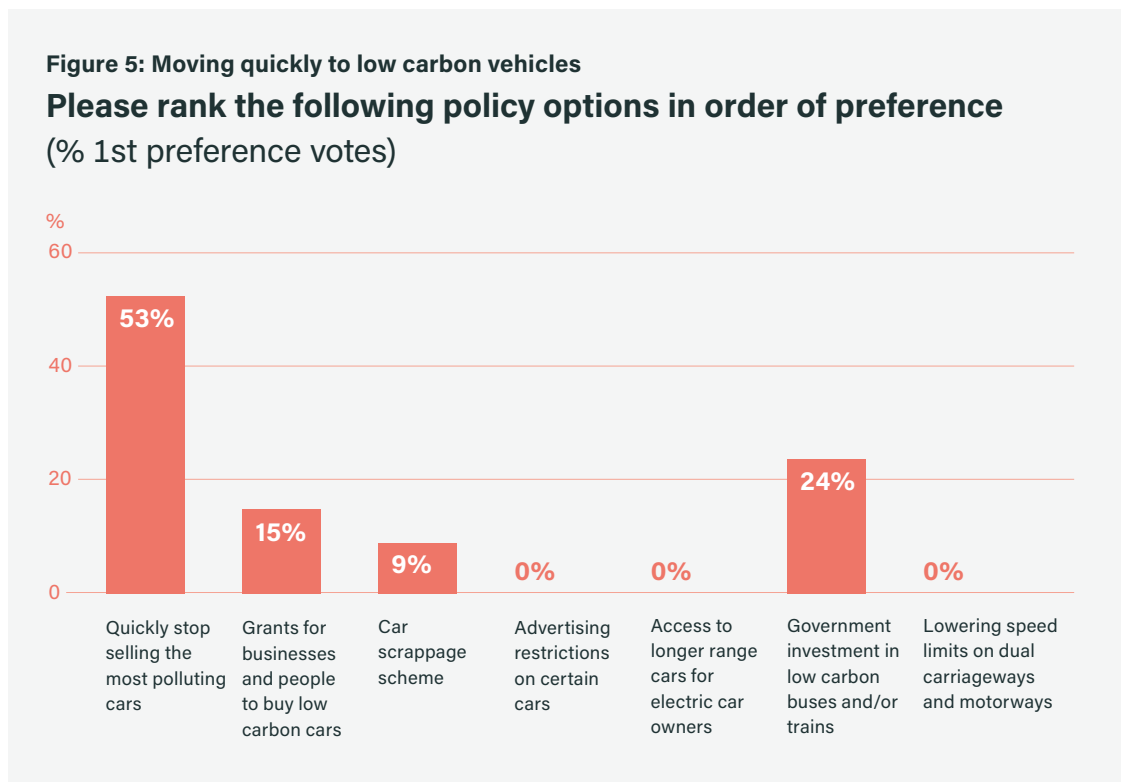
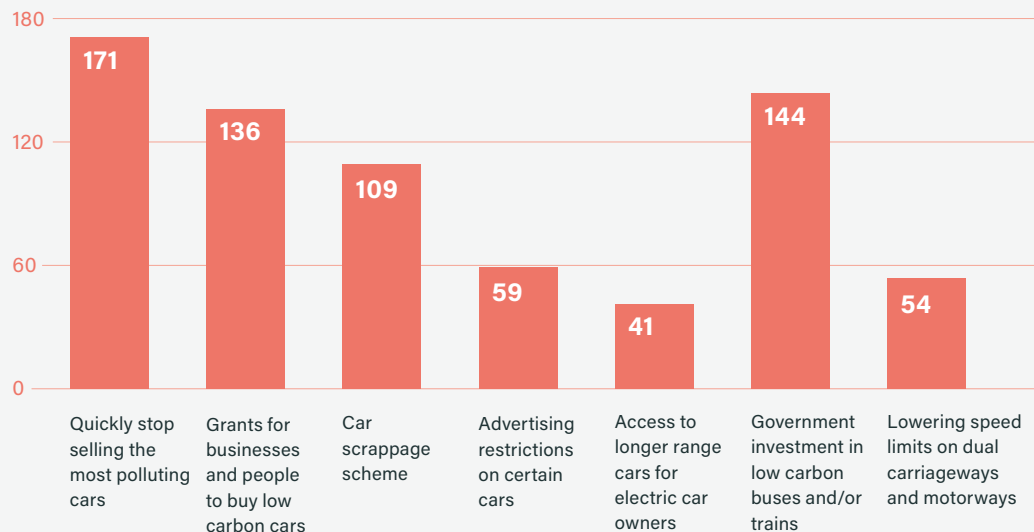


Figure 6: Moving quickly to low carbon vehicles

Please rank the following policy options in order of preference
(Borda count)



C.2 Discouraging car ownership and use

Assembly members looked at eight options for discouraging car ownership and use:

- Closing roads to cars;
- Charging to use the roads;
- Increasing fuel duty;
- Local business levy;
- Reducing parking space;
- Car sharing;
- Car clubs;
- Localisation.

We start by presenting the rationale for their views, taking each policy option in turn.

[Jump to the vote results on page 101](#) →

Closing roads to cars

This would involve restricting cars in certain lanes, roads or zones. It could eventually mean that cars are not allowed in most town centres. There could also be temporary closures, such as regular car free days.

Assembly members identified the following pros and cons about closing roads to cars.

+ Pros

- + **Reduced pollution and health benefits** – some assembly members said it would “cut pollution”, result in “cleaner air”, or make a “fast improvement to air quality.” Others suggested it would be “better for pedestrians’ and residents’ health.”
- + **Other uses for roads and safer spaces** – some assembly members commented that you “may be able to utilise the roads that were shut” or that “closure would make a lot of sense e.g. times when children are playing.” Others said it would create “safer spaces” or liked “keeping cars off the road legally! For safe walking/cycling.” Some assembly members said it would result in “more pedestrian areas.”
- + **Benefits for towns, cities, high streets** – some assembly members felt it “would create more environment friendly towns and cities”, or suggested that areas would “need to have better public services which could lead to a revival of the high street.”
- + **Feasible / achievable** – some assembly members commented that “park and ride in cities is shown to work” or suggested that it “can be done very quickly by investing in electric buses.”
- + **“More active travel in towns/cities”**
- + **“This would make people think of other options; they might end up preferring this”**

– Cons

- **Impact on certain groups and essential activities** – some assembly members said it “can unduly impact disabled [people]” or asked “what about people with disabilities?” Others suggested it would “discourage certain groups of people from visiting”, “may limit people from doing things they need to do”, or that “exemptions [would be] needed for some workers.”
- **Congestion and emissions** – some assembly members suggested that “closing down roads would congest roads therefore increasing emissions”, that there would be “more traffic jams” or “more congestion, more emission, more pollution.” Others said it would simply result in “more traffic/business elsewhere” or “higher carbon emissions in other areas.”
- **“It would not provide an opportunity for cycling lanes”**
- **“People taking longer journeys to get to the same place”**
- **“Supporting local businesses – may suffer if people can’t drive into town”**

Some assembly members said this policy option is “only good if transport infrastructure is good.”

Charging to use the roads

This would involve charging drivers according to (a) which roads they use at which times of day; and (b) how polluting their car is. This could be done either nationally or locally.

Assembly members identified the following pros and cons about charging to use the roads.

+ Pros

- + **Increasing awareness and behaviour change** – some assembly members felt this would “make people more considerate of the pollution their car is giving off.” Others said it “may make people change!” or “would cut out unimportant journeys.”
- + **The polluter pays** – some assembly members liked that it “would make the drivers who use the roads pay more for the privilege” or that “the polluter pays.” Others said that it “seems fairer than other propositions”, that it’s “potentially fair (depending on how implemented)”, or that it’s an “even and fair approach between those who need to use cars because they live in rural areas where public transport is not common and those who don’t have to because they live in cities.”
- + **Money for government** – some assembly members commented that “government can get a lot of money from the charges, especially from busy crossings.” Others liked that the “duty is not ring-fenced. Politicians should spend [the money] where needed.”
- + **Flexibility to help low paid** – some assembly members suggested that as it’s a “simple usage tax [you] can have a free allowance (mileage free) for low paid.” Others said they liked that “low income families are subsidised.”
- + **“Would be in favour of temporary charging times to ease congestion/pollution”**
- + **“Very quickly reduces emissions”**
- + **“Toll roads used abroad”**
- + **“You decide how much you spend”**

⊖ Cons

- **Data and privacy** – some assembly members asked “will the government abuse the data, sell it etc” or cautioned “big brother – concern about being tracked and where data goes.”
- **Impact on low paid** – some assembly members said it risked “causing a rich/poor rift – everything needs to be affordable for everyone.” Others commented that the “increased cost would put a strain on the lower paid” or that “if people are on a tight budget it would put people off going [to] places if they are going to get a road users’ bill.”
- **“Creates unintended traffic blight through diverting to other routes”**
- **“Could inflate the cost of delivered goods massively”**
- **“Impact on small businesses”**

- "Important to consider all aspects of travel. Car type, mpg, road, time etc"
- "Fairness issues"
- "Need choice to use 'toll'"

Some assembly members noted conditions that would need to be met for them to support this policy, or additional suggestions for how it could work:

- "If selective about what times of day, like rush hour"
- "If just towns and cities"
- "Providing they get rid of the road tax"
- "Must subsidise lower income families to make it fair"
- "It has to go hand in hand with affordable public transport"
- "Good, but must be used for right reasons (Big Brother)"
- "Using new tech, cars should be charged per mile"

Increasing fuel duty

This would involve increasing fuel tax on petrol and diesel. The money raised could be used to improve alternatives to travelling by car, although this isn't the case at the moment.

Assembly members identified the following pros and cons about increasing fuel duty.

+ Pros

- + "Would make drivers reduce their travel and consider alternative transport"
- + "Easier for individuals to budget for than road charging"
- + "Used to value travel by car - more use, more pay"
- + "Very quickly reduces emissions"
- + "The polluter pays"
- + "Potentially fair. Most closely related to CO₂ emissions"

⊖ Cons

- **Impact on certain groups** – some assembly members felt it would “price people out of driving ...[who] may not have other alternatives.” Others said “only the wealthy will [be able to] afford to drive.”
- **Problems with how it would work** – some assembly members disliked the “uneven distribution of charges” or stated that “all cars should pay the same tax regardless of age etc.”⁸
- **Lack of impact** – some assembly members commented that “we already pay a high fuel duty compared to other countries and it hasn’t reduced car use” or that the “duty [is] already high and had no impact.”
- **What money gets spent on** – some assembly disliked that the money raised “doesn’t get spent on improving public transport” or that the “money isn’t ring-fenced.”
- **Prices** – some assembly members worried that “prices will rise” or asked “will it affect bus prices? Delivery costs go up?”
- **“Impact on small businesses/delivery vehicles”**
- **“[Ring-fencing] Will cause a large hole in government funding streams”**

Some assembly members noted conditions that would need to be met for them to support the policy, or additional suggestions for how it could work:

- **Ring-fence money:** some assembly members said they would support it “only if [the] increase [is] hypothecated and used to fund CO₂ emission reduction.” Others said the money raised it “needs to be spent on net zero;”
- **Help for certain groups:** some said they would support it “if [there is a] reduced tax in the countryside/rural areas because fuel [is] more expensive” or “as long as low income families are subsidised and it is ring-fenced for sustainable spending.”

Some assembly members said it should “**provide more incentive for electric car usage**” or was “**okay on [the] worst polluters.**”

Local business levy

This would involve charging businesses for each parking space that they own, or for each person that they employ. The money would be used to improve alternatives to travelling by car in that area.

Assembly members identified the following pros and cons about a local business levy.

⁸ The Expert Leads had noted that cars that use less fuel and therefore produce less carbon emissions would pay less duty.

⊕ Pros

- + **Charge to business not individuals** – some assembly members liked the “cost being passed to the business not [the] individual” or “taking it off the individual – only if businesses pay!”
- + **Raising money** – others suggested it “helps the government cover costs” or is a “very easy way to raise money for green spending as long as it is relative to business size.”
- + **“Would encourage staff/businesses to use alternative transport e.g. cycles, car share, buses”**
- + **“It works in Dunkirk”⁹**
- + **“The land can be used for other businesses (encourage public/shared transport)”**

⊖ Cons

- **Impact on certain groups** – some assembly members said that “exemptions [would be] needed for disabled employees reliant on cars” or that it is “bad for shift and key workers where public transport [is] not available.”
- **Impact on businesses and fairness between different businesses** – some assembly members said that a “business levy for parking is tax on business” or suggested “some businesses could struggle to find extra money.” Others labelled it an “extra expense for small businesses” or said it “could see small businesses going under.” Some assembly members made additional points:
 - “Businesses with private land and lots of spaces will be penalised”*
 - “Very unfair: employee density vs business profitability e.g. supermarket vs bit-barn”*
 - “Companies will struggle to hire employees if they find it inconvenient to travel to work or have to find alternate transportation when they have a car”*
- **Cost to employee (passing on the cost)** – some assembly members said that businesses “will charge employees to go to work” or disliked “employees having to pay to go to work” or the “cost to [the] employee.”
- **Disincentive to employ staff** – some assembly members felt it would act as a “disincentive to employ staff” or a “disincentive for employment.”
- **Where people end up parking** – some assembly members felt it “encourages parking away from work in residential areas” or suggested that a “lack of parking spaces creates conflict between local businesses and residents.”

Some assembly members said they would support the policy “as long as it [the levy] is relative to business size.”

⁹ As previously noted, this referred back to a case study presented by one of the speakers, Lynn Sloman, during Weekend Two of the assembly. It showed the impact of introducing free bus travel in Dunkirk in autumn 2018. Bus trips increased 85%, and half of the new bus users previously travelled by car. Lynn’s talk is available at climateassembly.uk/resources/

Reducing parking space

This would involve reducing parking space through double yellow lines, residential parking zones, removing car parks, making car parks smaller and/or limiting parking space for new houses.

Assembly members identified the following pros and cons about reducing parking space.

+ Pros

- + "Will reduce vehicles going into towns/city [with people] using public transport [instead]"
- + "There should be areas free from parking such as schools and elderly people's homes"
- + "More space for growing natural sources and more pleasant societies"
- + "Very easy to do. Loss in revenue can be balanced by a business levy"

- Cons

- **Where people would park** – some assembly members predicted a "displacement of parking on to side roads or pavements." Others said that "people tend to park illegally if there is no parking space."
- **Impact on high streets** – some assembly members stated that "reducing car spaces could result in lost revenue to high streets" or that "removing car space will impact on town shopping." Others felt there would be a "big impact on local businesses e.g. retail shops."
- **Impact on certain groups** – some assembly members suggested that "people who are reliant on cars would not be able to get around" or that it "punishes residents who may need a car for any number of reasons."
- **Compatibility with other changes needed** – some assembly members asked "if we're encouraging people to have electric cars, but decreasing parking – how will people charge their cars?" Others queried "if we reduce space where will the electric cars, car club cars and car sharing cars go that we are trying to incentivise?"
- **Congestion** – some assembly members said "reducing parking space leads to congestion" or that "reducing parking spaces would cause more congestion on the roads."
- "Conflates parking shortage with climate change issues"
- "People need to go places, so need to park"
- "Business park car parks – what would the space be used for?"
- "Could affect house prices"
- "Personal experience of conflict between local businesses and residents over employee parking"

Some assembly members said decision-makers would need to be “careful how you apply [the policy] – don’t conflate [it] with revenue raising” or that it “could increase the use of public transport (need better infrastructure).”

Car sharing

This would involve getting more people to share vehicles through ‘match-making’ apps and incentives like carpool lanes and exemptions from parking charges. This may require some financial support for businesses and local authorities to set up and operate the software, and to develop and enforce car pool lanes and car parking spaces.

Assembly members identified the following pros and cons about car sharing.

+ Pros

- + “Alternative to owning a car but still have independence”
- + “Share petrol costs, parking”
- + “Affordable for those on lower income”
- + “Can cut emissions cheaply if done by an app or employers”
- + “Carpool fares – can incentivise the use of car sharing”

- Cons

- **Loss of independence** – some assembly members disliked the “loss of independence” or “being reliant on someone else. What if ill? Car trouble? Insurance?”
- **People not keen** – some assembly members said “people aren’t keen” or that “many people would feel uncomfortable car-sharing – we have this option already but there is a reason why it is so unpopular.”
- **Safety** – some assembly members raised concerns about “security/personal safety”, “safety concerns, who am I getting into a car with?” or “safeguarding.” Others noted you “could be sharing your car with anyone.”
- **Abusing the system and enforcement** – some assembly members worried about the “potential to abuse the system” with others suggesting “ways would have to be found of enforcing/checking car share” or asking “does the app pay the driver? How do you enforce sharing cash?”
- “May increase journey time and CO₂ output”
- “Time/cost”
- “Car insurance issues”



Some assembly said they would support this policy “if organised by a company – they could pay.” Similarly, others said it “needs to be well organised” or that we “need to use apps/methods so [it’s] organised.”

Car clubs

This would involve pay-as-you-go renting of cars that are available throughout your area. These would be booked through an app and could be used for short periods of time. At the moment car clubs tend to be run by commercial operators. They do however need local authority funds to dedicate car parking spaces to them, promote them, and provide some subsidy for electric vehicles.

Assembly members identified the following pros and cons about car clubs.

+ Pros

- + **Benefits for certain groups** – some assembly members felt it would be “especially good for retired people who don’t use their car, very often” or would result in “cheaper insurance for young people than owning a car.” Others felt it would “help lower income holders to also have this option” or that it could be “use[d] for shift workers’ systems.”
- + **Less car ownership** – some assembly members felt it would result in “less car ownership” or labelled it a “great idea for reducing the need for buying a car.”
- + **Cost effective, easy, convenient and clean** – some assembly members suggested it is a “cost effective solution”, or that it “could be [a] cost effective and easier solution.” Others said it is “very easy to implement and clean if car clubs must use EVs.” Some assembly members commented that it is “convenient, easy”, or “excellent in cities – works with Zipcar and in Paris.”
- + **“I like this because I think it is viable. There is a rise in popularity of renting things and subscriptions because there is less responsibility and commitment. If they are renting the car they also don’t need to worry about managing and repairing the car”**

⊖ Cons

- **Practical issues** – some assembly members raised “concern about what happens if [you] damage [the car]” or queried “insurance issues?” or “insurance?”
- **Doesn't work in rural areas** – some assembly members said they were “concerned about how many cars there would need to be in rural areas” or that it “only works practically in urban [areas].”
- **“Requires lots of organisation to plan booking a car to presume when you need it”**
- **“Time to pick up/drop off”**
- **“More people drive that don't already”**
- **“People become less able, less confident drivers”**
- **“Money isn't ring-fenced”**
- **“Variable costs? If so then accessibility?”**
- **“What's the difference between car clubs and traditional car rental?”**

Some assembly members commented that it “needs to be affordable” or that it “works better in some areas than others e.g. urban vs rural.”

Localisation

This would involve changing regulation to ensure that new houses can only be built with good public transport links. It would also involve including or putting back into local areas services such as post offices, local shops, health centres and schools.

Assembly members identified a number of pros and cons about localisation.

+ Pros

- + **Better community ties** – some assembly members said localisation “could create better community ties in new developments”, “could improve social isolation as they need shops/ doctors.” Others noted that “many new developments have little community amenities so this would improve community engagement in local areas.”
- + **Better amenities and accessibility** – some assembly members felt that “town planning needs to include services and transport” or liked the idea of “post office revival.” Some said that “all society would have accessibility.”
- + **Reduction in car dependency and ownership** – some assembly members felt it would “discourage car dependency” or “reduce the need for private car ownership” or “encourage people to walk leaving the car at home and exercise”
- + **“A good long-term solution. Legislate property developer to invest in transport infrastructure”**
- + **“Seems like an obvious action to implement”**

⊖ Cons

- **Difficult to make work** – some assembly members raised queries about “feasibility”, asking “how would this be implemented?” or saying they “don’t think this will happen.” Others suggested it would be “difficult to recruit doctors” or “difficult to encourage business.” Some said thinking was needed on “how to get ‘services’ to back ‘localisation’.”
- **Green belt loss** – some assembly members suggested it would “upset environmentalists and [to] expect opposition if you want to build on green belts.” Others suggested there would be “green belt loss” with “wildlife affected”, or that “green belt loss will result in [an] urban spiral.”
- **“High density living is low quality of life”**
- **“Unsure about time frame”**
- **“Loss of economies of scale of distribution means higher price of goods”**
- **“Not always optional for everyone!”**

Additional ideas

During their discussions on discouraging car ownership and use, some assembly members noted additional points or suggestions:

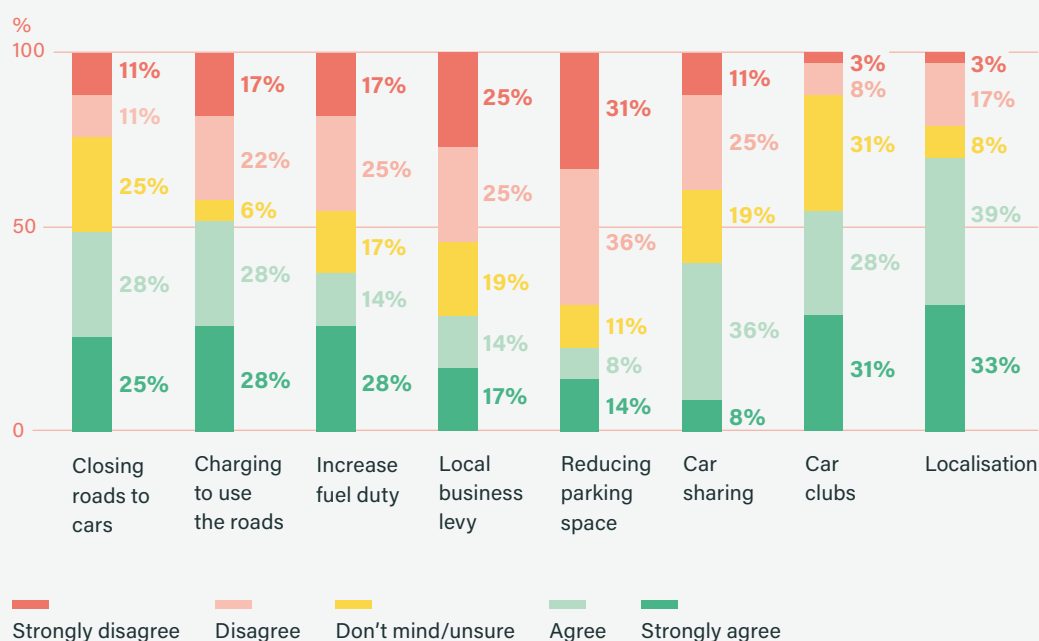
- Carbon zones in every city/town;
- If car use is to be discouraged then “public transport infrastructure ... must be in place”;
- “Car ownership per se isn’t the problem. An (e.g. old) polluting car that does little/ no miles isn’t polluting”;
- “Amazon deliveries – should be delivered to work or [we need] localisation. We know this is freight but [it] has impacts on localisation and what we buy and how.”

Vote results

Assembly members voted by secret ballot on the eight policy options for discouraging car ownership and use. There were two ballot papers. The first ballot paper asked assembly members how much they agreed or disagreed that each policy option should be part of how the UK gets to net zero. The second ballot paper asked them to rank the options in their order of preference. The votes from this second ballot paper were counted both in terms of first preference votes and via Borda count.

Figure 7: Discouraging car ownership and use

How much do you agree or disagree that each of the following policy options should be part of how the UK gets to net zero? (%)



Overall, these policy options were less popular amongst assembly members than those for moving quickly to low carbon vehicles. In general, levels of agreement were lower and levels of disagreement significantly higher. Many assembly members had been clear when discussing the future of surface transport in the UK (see Section B above) that they wanted to minimise restrictions on travel and lifestyles. Their comparative dislike of policy options for discouraging car ownership and use is consistent with that view.

A majority of assembly members supported four of the policy options for discouraging car ownership and use. In assembly members’ order of preference these were:

- **Localisation** – 72% of assembly members ‘strongly agreed’ or ‘agreed’ that this should be part of how the UK gets to net zero. 20% ‘strongly disagreed’ or ‘disagreed’;
- **Car clubs** – 59% ‘strongly agreed’ or ‘agreed’. Levels of disagreement were low, with more assembly members (31%) saying they ‘didn’t mind’ or ‘were unsure’;
- **Charging to use the roads** – 56% ‘strongly agreed’ or ‘agreed’. 39% ‘strongly disagreed’ or ‘disagreed’;
- **Closing roads to cars** – 53% ‘strongly agreed’ or ‘agreed’. 22% ‘strongly disagreed’ or ‘disagreed’.

Only a minority of assembly members supported the other policy options. The **least popular was ‘reducing parking space’**; a sizeable majority of assembly members (67%) strongly disagreed or disagreed with this proposal.

Figure 8: Discouraging car ownership and use

Please rank the following policy options in order of preference
(% 1st preference votes)

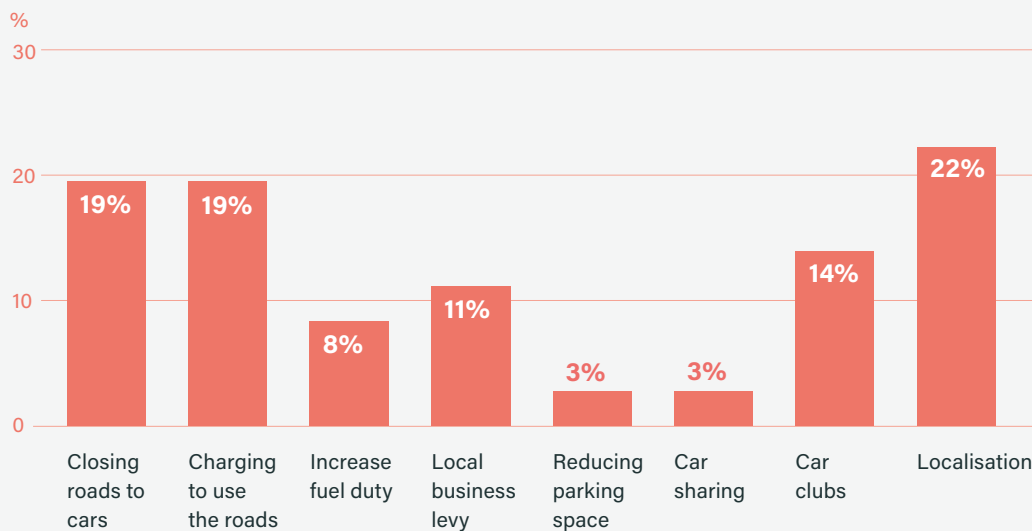
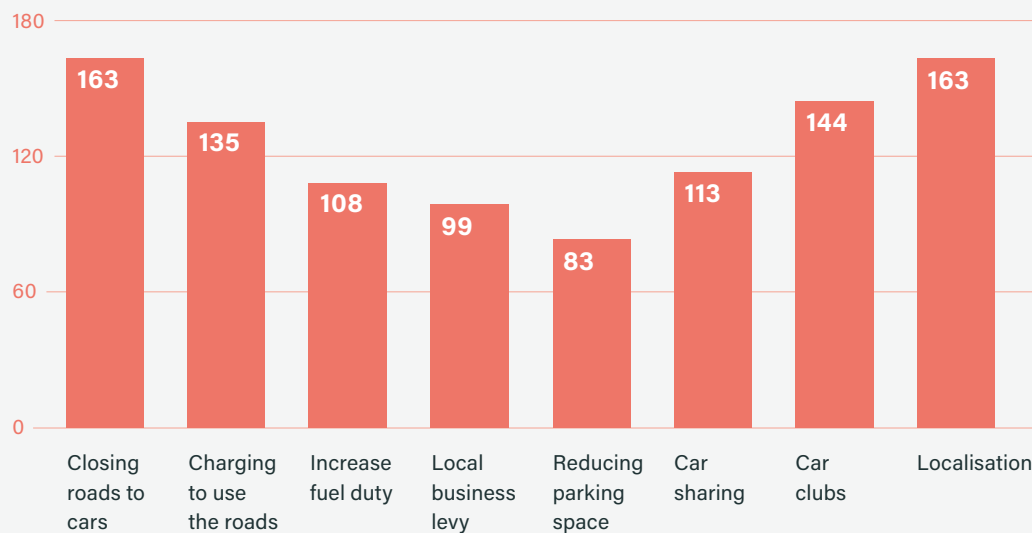


Figure 9: Discouraging car ownership and use

Please rank the following policy options in order of preference
(Borda count)



The same four policy options scored most highly in the preference voting, with ‘localisation’ and ‘closing roads to cars’ jointly topping the Borda count. These results suggest that ‘closing roads to cars’ is more acceptable to a greater number of assembly members than ‘charging to use the roads’ or ‘car clubs’.

C.3 Increasing the use of public and active transport

Assembly members looked at seven options for increasing the use of public and active transport:

- Adding new routes and more frequent services;
- Increasing investment to make buses faster and more reliable;
- On-demand buses;
- Making public transport cheaper;
- Bringing public transport back under government control;
- Investing in cycling and scootering facilities;
- Grants to buy electric bikes.

We start by presenting the rationale for their views, taking each policy option in turn.

[Jump to the vote results on page 112](#) →

Adding new routes and more frequent services

This would involve increasing relevant government funds paid to local authorities, so that the latter could add new routes and/or provide more buses on existing routes. There are many services that private bus companies will not operate because they are not profitable. Government funding to plug this gap has been cut in recent years.

Assembly members identified the following pros and cons about adding new routes and more frequent services.

⊕ Pros

- + **Reduced car use** – some assembly members liked the idea of “new routes to areas that feel the need to drive as there is no alternative.” Others noted that “people would not have to use cars for essential journeys.”
- + **More people would use the service** – some assembly members felt that it “would encourage more people to use the service” or that “improvement would increase use.”
- + **“Increase government funding should enable more routes... and bring back closed down routes”**

⊖ Cons

- **Unrealistic** – some assembly members suggested that “people who live in places with no bus route will already have cars, so not use buses.” Others said that “bus services are still unusable in rural areas – unrealistic to make [them] comparable to [a] car.”
- **Cost and use of money** – some assembly members worried about the “cost to [the] taxpayer”, or asked “how much would it cost? Would it effect investment in other areas?” Others said that “if [it] remains in [the] private sector then [it] will cost more money” or that “private companies currently waste money on routes that are empty.”
- **“Relies on infrastructure to implement”**
- **“Needs enough people using it for it to be a benefit”**

Some assembly members advocated “research [on] where routes are most needed” or said they would support this idea “if bus routes run earlier and later.” Others said it “would only be worth doing if price of travel reduces.”

Increasing investment to make buses faster and more reliable

This would involve investment in bus priority lanes and better interchanges such as bus stations.

Assembly members identified the following pros and cons about increasing investment to make buses faster and more reliable.

⊕ Pros

- + **Increasing public transport use** – some assembly members said that “if [the] bus service is faster, more people will use the bus”, that “faster bus services will be an incentive for people who drive for faster travel” or that it “would encourage people to use public transport.”
- + **Reducing car use and congestion** – some assembly members suggested that “full buses reduce road congestion” or that “more bus lanes = more buses = less cars.”
- + **Support for particular technologies** – some assembly members suggested “investing in hydrogen buses – no CO₂” or that an “increase in investment [in] bus infrastructure in cities could include overhead electric rail to reduce emissions as well.”

⊖ Cons

- **Feasibility** – some assembly members said it “sounds great, but don’t see it being feasible because of space being taken up.” Others suggested that “not all roads are capable of being converted to include bus lanes especially where cycle lanes already exist.” Some assembly members queried “is congestion an issue? If so, they won’t be reliable.”
- **“Would it be worth the investment? Smart motorways have caused massive travel disruption for little benefit”**
- **“Faster buses = more CO₂?”**

Some assembly members commented that implementation would be “reliant on develop[ing] infrastructure.”

On-demand buses

This would involve buses in rural areas and smaller towns that you can call through an app or phone. These buses would pick you up from where you are and drop you where you need to go, or to another bus or rail interchange.

Assembly members identified the following pros and cons about on-demand buses.

⊕ Pros

- + **Benefit to certain groups** – some assembly members suggested that it “could help people in more isolated areas, especially the elderly who need to get to doctors appointments etc.” Others said it “hopefully will be a benefit to [the] elderly and people in rural areas.”
- + **Stopping empty buses** – some assembly members said that it “could ensure buses are full (depending on how it works)” or that it “stops empty buses from driving around taking space and polluting.”
- + **“Gives people more independence (may give up car)”**
- + **“On-demand (small) buses could be electric”**
- + **“Shared (Uber)”**
- + **“Cheap solution”**

⊖ Cons

- **Not accessible to everyone** – some assembly members said it “may not be suitable for disabled [people]” or that “it might be harder for older or disabled people to use as it requires a smart phone and app etc.”

- **Feasibility, including signal and internet access** – some assembly members noted “issues with internet access” or said that “if you need to get somewhere in an emergency and there’s no signal you won’t be able to use the app.” Others said they “can’t see how it could effectively work e.g. rural areas.”
- **Practicalities for passengers** – some assembly members said there would be the “worry [you] might not get one and then [have] no transport.” Others said they are “concerned people [would be] inconvenienced because [they] have to wait.” Others queried “time – it would take longer if picking people up?”
- **Costs** – some assembly members said it “could be loss making” or that “increase[d] cost for on demand buses would be an additional cost to [the] tax payer.”
- **“Concerned empty buses sitting around”**
- **“Don’t think really it is on demand”**

Some assembly members said it would be “good if you can call up as well (older people like to phone)” or felt “there will be an element of trial and error.”

Making public transport cheaper

This would involve discounted or free buses or trains.

Assembly members identified the following pros and cons about making public transport cheaper.

+ Pros

- + **More people would use / consider it** – some assembly members suggested that “making public transport cheaper and more reliable could result in more users” or that “making it free would encourage way more people to use it.” One assembly member commented “this could convince me to get public transport more even if the journey takes longer.” Other assembly members suggested that it “would make bus/train travel more of [a] considered option” or that it “would be a good financial incentive for commuters.”
- + **Reducing car use** – some assembly members said it “might encourage people to give up their cars” or that “currently people are priced out of public travel. [This is an] [i]ncentive not to drive.” Others noted “free travel = convenient for everyone and replaces cars.”
- + **Benefits to economy** – some assembly members suggested that “affordability allows people to travel more. Could boost economy as more spending” or that it would “improve [the] economic well-being of society (increased wealth).”
- + **Support for free use or cheaper fares** – some assembly members stated “make it free at point of use”, or “free public transport for all.” Others noted that “currently bus fares have gone up higher than inflation – instead it should be lower.”
- + **“Improve wellness (increased health)”**
- + **“Massive drop in emissions”**

⊖ Cons

- **Experience** – some assembly members felt that “free travel on buses is still not as nice as going in [a] car” or that it’s “got to be nicer than [going by] car before [it can] have an impact on CO₂.”
- **Cost** – some assembly members noted that “it has to be paid for” or disliked the “cost to [the] taxpayer.”

Some assembly members said they would support this policy “if [the] infrastructure is there/ readily available.”

Bringing public transport back under government control

This would involve national government, local government or groups of local authorities controlling bus, tram and/or train services.

Assembly members identified the following pros and cons about bringing public transport back under government control.

⊕ Pros

- + **Integration and planning** – some assembly members suggested it “will enable the implementation of an integrated system”, would create “possibilities for [the] better integration of public transport” or “would allow all bus and rail networks to be integrated – improv[ing] connections and use.” Others said that “hopefully [those responsible would] get planning right i.e. [the] right hand [would] know what [the] left hand is doing.”
- + **Better services** – some assembly members said that “bringing public transport back under the control of government could result in better services” or that “public transport under government control [is] better than private, because it works.”
- + **Price and payments** – some assembly members suggested it is a “clear way to drop rail fares and make it more affordable” or predicated there would be a “cost benefit to the user (private companies charge what they like).” Others said it “will improve consistency with price and could [lead to]... subsidised travel” or that “by putting public transport under Government, there can be a standardised payment system.”
- + **Known to work** – some assembly members described it as a “proven effective policy. European and other countries are well run.” Others said that it “works in London – we can use TfL model”, or that the “Dunkirk option is best.”¹⁰
- + **Less profit focussed** – some assembly members said it meant “routes can be determined by necessity instead of profit” or that it would “help ‘less profitable’ routes.”

¹⁰ As previously noted, this referred back to a case study presented by one of the speakers, Lynn Sloman, during Weekend Two of the assembly. Lynn’s talk is available at climateassembly.uk/resources/



- + “Easier to regulate and control under government control”
- + “Government managed school bus system – for all school kids”
- + “Ensures that money is being used for transport, not local authorities”

⊖ Cons

- **Not in favour of nationalisation** – some assembly members said they are “not convinced nationalisation works” or that “we should be moving to smaller more efficient government and nationalisation is moving in the wrong direction.”
- **Cost to taxpayer** – some assembly members noted it “has to be paid for”, asked “how much will it cost to buy back routes?” Others said they had “concerns about government ownership bringing value for money or being a money pit for tax payer money.”
- **“Union problems”**
- **“Do we currently have true competition in transport services?”**
- **“Who monitors quality and standards?”**

Investing in cycling and scootering facilities

This would involve investment in cycle lanes, cycle parking, free cycling lessons and shared ‘pay as you go’ bikes. It would also include segregated cycle lanes and cycle lanes outside urban areas.

Assembly members identified the following pros and cons about investing in cycling and scootering facilities.

+ Pros

- + **Safety and accessibility** – some assembly members said it “ensures cyclist safety”, that “safer cycling would improve accessibility for users” or that it would “mak[e] bikes safe [and people] more confident about riding a bike.” Others said it would be “safer for pedestrians and cyclists if cyclists have their own cycle super highways.”
- + **Health benefits** – some assembly members liked that it “has a huge benefit for health” or that “it is healthier for the public, reduces car use.” Some said there would be “positive health improvements IF done right – physical and mental.”
- + **Meeting a need** – some assembly members commented that “investing in cycle lane infrastructure is necessary to enable greater cycle use.” Others stated “joined up cycle lanes [are] needed”, “need storage” or “training is important = confidence and safety.” Some liked the idea of “safe places to store bikes when shopping/at work.”
- + **Important** – some assembly members said “it is as important [as] reading and writing!” or that “Councils must invest.”
- + **“Would prefer more cycle lanes and pedestrian spaces than roads”**
- + **“Drop in emissions”**

– Cons

- **Cost and affordability** – some assembly members disliked the “cost of implementing infrastructure for cycling”, suggesting “it costs £700k per 1km for the best cycle lanes.” Others said “local councils can’t afford to do it.”
- **“Would need to make new cycle lanes in all rural areas as it is quite dangerous to cycle there and this puts people off”**
- **“Difficult to cycle in bad weather”**
- **“Pay as you go may result in increased bike theft”**
- **“Competition for limited road – bus/cycle lanes”**
- **“Bike users should be made to take a proficiency test as quite a few are a danger on the road”**
- **“Many cyclists refuse to use existing cycle lanes and insist on road use!”**
- **“No health benefits if you are cycling next to traffic”**

Grants to buy electric bikes

This could involve both a UK national grant scheme and local authorities offering grants to enable experimentation with different approaches. Grants of about £250 per e-bike are effective in other countries.

Assembly members identified the following pros and cons about grants to buy electric bikes.

+ Pros

- + **Viable and affordable** – some assembly members commented that “grants for e-bikes [are] large enough to be useful” or that it “makes buying an e-bike much more viable – grant money is very good in comparison to the average price.” Others said it “makes cycling more affordable for longer distances.”
- + **Incentivising uptake** – relatedly, others liked the “financial incentive for the general public to engage in cycling”, or said “grants are good – [they] encourage use of e-bikes.” Some suggested grants might result in people “getting a bike when you might not have thought about it before.”
- + **“Encourages exercise”**
- + **“Really good if it benefits [those on] low incomes and people with health issues”**
- + **“Safer than racing bikes”**

– Cons

- **Safety** – some assembly members worried about “safety for pedestrians (people cycle on pavements!)”, said “e-bikes [are] more dangerous than motorbikes in rural areas – e.g. for pedestrians”, or highlighted “increased risks to pedestrians, particularly [those who are] visually impaired and elderly.”
- **No impact on emissions?** – some assembly members suggested e-bikes would “most likely only [be] bought for leisure – therefore no carbon decrease.” Others queried “will this really have much of an impact on emissions?”
- **Not possible for everyone** – some assembly members noted “not everyone can” or said “even with grants [it’s] still too costly for low income families.”
- **“Subsidising manufactures”**
- **“Insurance and licencing”**

Some assembly members said the “grant has to be large enough to make a difference.”

Additional ideas

During their discussions about increasing the use of public and active transport, some assembly members noted additional suggestions:

- “ Legislate for all schools to teach cycling”
- “ Make more guided bus and rail”¹¹
- “ Sensor systems to control/manage train routes” allowing for a greater bunching of trains and a reduction in delays. This would “replace any pollution if [the trains are] electric!”
- “ Smart buses” that have more sensors, for example to avoid the bunching of services or automatically count passengers to know if extra buses are needed;
- “ One ticket system with no penalty”
- “ There must be subsidies for low income areas and people”

Others commented “this is all part of a joined up approach to transport – we like them all, so ranking [them on our ballot papers] is hard.”

Vote results

Assembly members voted by secret ballot on the seven policy options for increasing the use of public and active transport. There were two ballot papers. The first ballot paper asked assembly members how much they agreed or disagreed that each policy option should be part of how the UK gets to net zero. The second ballot paper asked them to rank the options in their order of preference. The votes from this second ballot paper were counted both in terms of first preference votes and via Borda count.

Assembly members supported a wide range of policies to increase the use of public and active transport. This is consistent with their earlier preferences for improvements in these areas (see Sections A and B above).

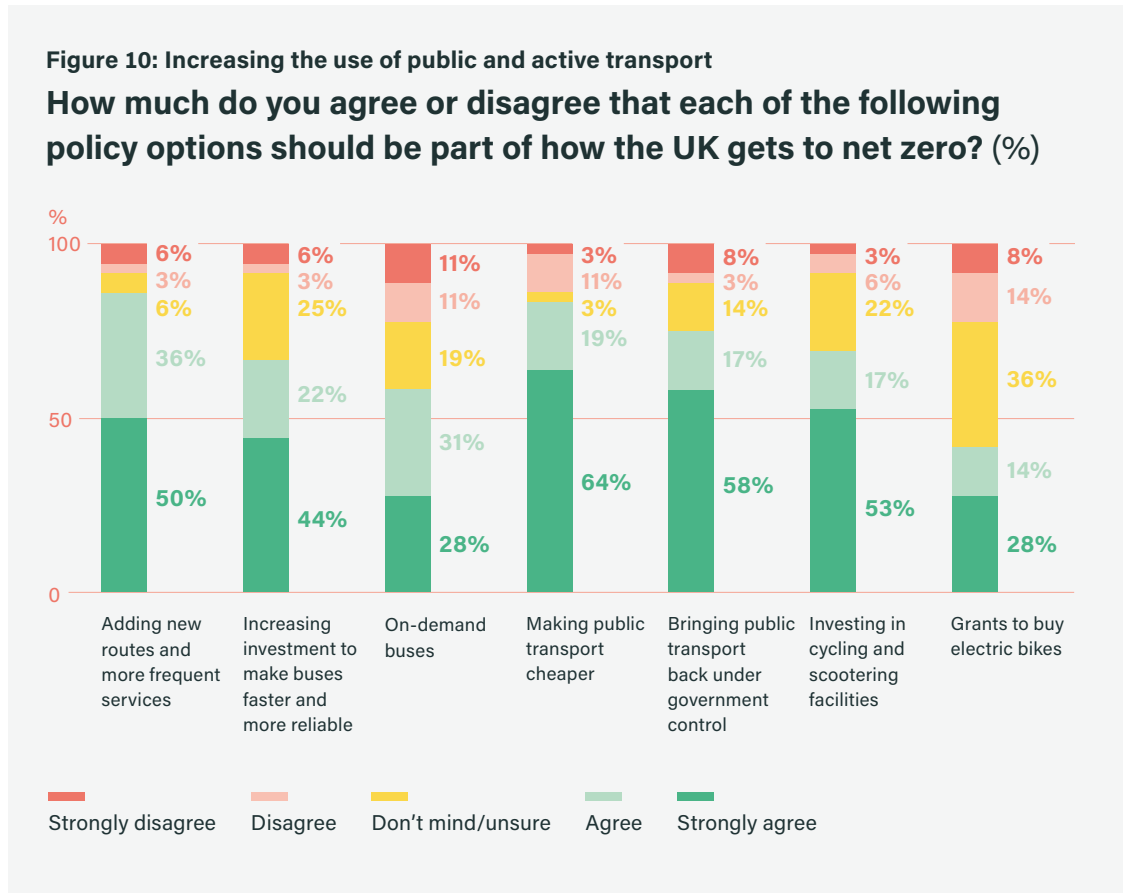
Large majorities of assembly members ‘strongly agreed’ that four of the policies should be part of how the UK gets to net zero. Levels of ‘strong agreement’ with these policies were high (at least 50% in all cases):

- **Adding new routes and more frequent services:** 86% ‘strongly agreed’ or ‘agreed’, including 50% who ‘strongly agreed’;
- **Making public transport cheaper:** 83% ‘strongly agreed’ or ‘agreed’, including 64% who ‘strongly agreed’;
- **Bringing public transport back under government control:** 75% ‘strongly agreed’ or ‘agreed’, including 58% who ‘strongly agreed’;
- **Investing in cycling and scootering facilities:** 70% ‘strongly agreed’ or ‘agreed’, including 53% who ‘strongly agreed’.

¹¹ This is where buses or trains are guided automatically along a purpose-built track. The driver controls the speed. Guided buses are flexible in that they can also be driven on normal roads.

A majority of assembly members ‘strongly agreed’ or ‘agreed’ with the introduction of two further policies:

- Investing in faster and more reliable buses: 66% ‘strongly agreed’ or ‘agreed’;
- On-demand buses: 59% ‘strongly agreed’ or ‘agreed’.



The only policy option that a majority of assembly members failed to support was ‘grants to buy electric bikes.’ Only 22% of assembly members ‘disagreed’ or ‘strongly disagreed’ with this policy. However, a large percentage (36%) ‘didn’t mind’ or were ‘unsure’, leaving the percentage of those ‘agreeing’ or ‘strongly agreeing’ at just 42%.

The ranking votes shed some additional light on assembly members’ views: all the policies about public transport (except on-demand buses) scored more highly than those about active transport.

Figure 11: Increasing the use of public and active transport
Please rank the following policy options in order of preference
 (% 1st preference votes)

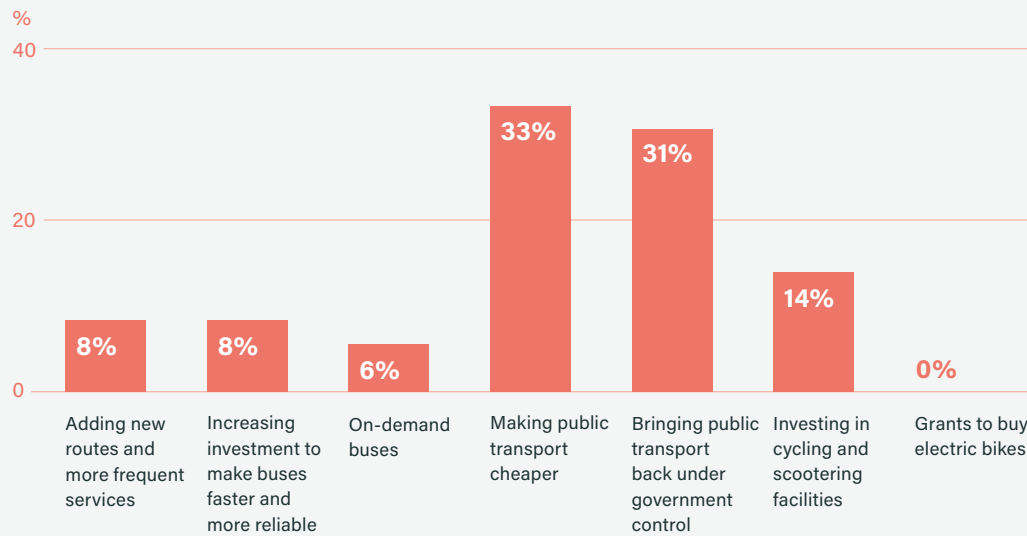
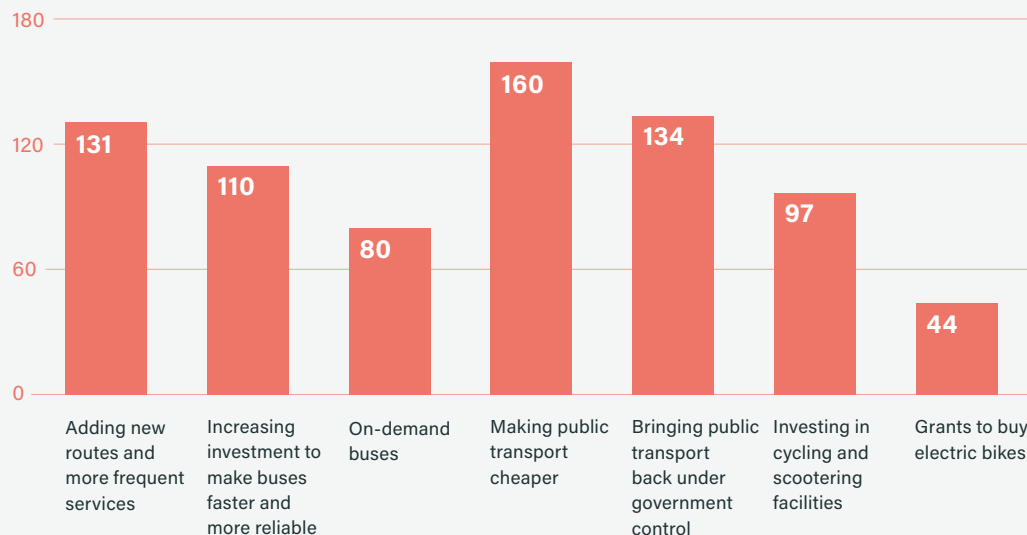


Figure 12: Increasing the use of public and active transport
Please rank the following policy options in order of preference
 (Borda count)



Policy options – conclusions

Assembly members' policy recommendations reinforced their earlier preferences. Assembly members had already indicated support for moving quickly to low carbon vehicles and improving public transport. Their broad support for policies in these areas was consistent with that view (please see the table below).

Conversely, many assembly members had been clear that they wanted to minimise restrictions on travel and lifestyles. Their comparative lack of support for policy options to discourage car ownership and use reaffirms that preference.

% Assembly members who agreed or disagreed with policy options

Policy option	Policy objective	% strongly agree or agree	% strongly disagree or disagree
Government investment in low carbon buses and trains	Moving quickly to low carbon vehicles	91%	6%
Quickly stop selling the most polluting vehicles	Moving quickly to low carbon vehicles	86%	11%
Adding new bus routes and more frequent services	Increasing the use of public and active transport	86%	9%
Making public transport cheaper	Increasing the use of public and active transport	83%	14%
Bringing public transport back under government control	Increasing the use of public and active transport	75%	11%
Grants for businesses and people to buy low carbon cars	Moving quickly to low carbon vehicles	74%	9%
Localisation	Discouraging car ownership and use	72%	20%
Investing in cycling and scootering facilities	Increasing the use of public and active transport	70%	9%
Increasing investment to make buses faster and more reliable	Increasing the use of public and active transport	66%	9%
Car scrappage scheme	Moving quickly to low carbon vehicles	66%	9%
On-demand buses	Increasing the use of public and active transport	59%	22%
Car clubs	Discouraging car ownership and use	59%	11%
Advertising restrictions on the most polluting cars	Moving quickly to low carbon vehicles	58%	15%
Charging to use the roads	Discouraging car ownership and use	56%	39%
Closing roads to cars	Discouraging car ownership and use	53%	23%

Note: this table only includes policy options that at least 50% of assembly members supported



On **moving quickly to low carbon vehicles**, assembly members were particularly supportive of options to **‘quickly stop selling the most polluting vehicles’** and **‘government investment in low carbon buses and/or trains’**. There was also significant support for **‘grants for businesses and people to buy low carbon cars’**. Assembly members did not support **‘access to longer range cars for electric car owners’** or **‘lowering speed limits on dual carriageways or motorways.’** Assembly members’ rationale for their decisions included factors around:

- Personal costs and affordability, including for those on low incomes;
- Overall costs, who pays and who benefits;
- Practicalities around implementation;
- The impact on emissions;
- And potential co-benefits.

Assembly members’ preferred options for **increasing the use of public and active transport** were: **‘making public transport cheaper’**; **‘bringing public transport back under government control’**; and **‘adding new bus routes and more frequent services’**. They also backed the introduction of other policy initiatives. In general, assembly members were more supportive of policies to improve public – as opposed to active – transport. Assembly members did not support grants to buy electric bikes. Assembly members’ rationale for their decisions around public and active transport included a wish to see increased use of public transport, and considerations around cost (both personal and overall) and accessibility. For individual policies, impacts around safety, health and the ability to plan a better service were also important.

As already noted, assembly members were overall less supportive of policies to **discourage car ownership and use**. However a large majority of assembly members (72%) supported one policy option, **'localisation'**, with **'closing roads to cars'** also performing well in the Borda count. Small majorities of assembly members supported two further policies, 'charging to use the roads' and 'car clubs'. Assembly members' rationale included whether or not they thought policies would benefit local areas including local high streets, and their potential impacts on people with low incomes, who live in rural areas and/or who have a disability.

D. Anything else to tell government or Parliament

At the end of weekend three, assembly members had the opportunity to add any further thoughts on surface transport and the path to net zero. A small number of assembly members chose to add additional points.

Some assembly members talked about the need for **education and information**:

- “ Generic education in schools about carbon neutrality – kids now [are the] adults of 2030”
- “ Public information booklet – why important to take action and what”
- “ Focus on the provenance of information”

Others focussed on **synthetic fuels**:

- “ Consider other power sources apart from electricity (e.g. synthetic fuels)”
- “ Think long-term i.e. is electricity really the best? Should we go hydrogen/synthetic now? If freight going that way – don't have 2 tier system – go for least disruptive tech”
- “ We have been demonising the wrong thing, it is fossil fuels that are the demon and yet we didn't spent much time discussing alternative fuels. People like me love their cars.... Some of my grandchildren are learning to drive and love the experience. [...] There is no need to take this away from people.”

Others suggested a need to **“consider implications for electricity generation/stability and power cuts”**, provide **“incentives to buy 2nd hand electric vehicles”** and **“address Amazon deliveries.”**

Conclusions

Assembly members expressed clear and consistent views about surface transport and the path to net zero.

Assembly members' aimed to **minimise restrictions on travel and lifestyles**, placing the emphasis on shifting to electric vehicles and improving public transport, rather than on large reductions in car use.

In terms of what the future of surface transport should look like in the UK, assembly members recommended:

- **A ban on the sale of new petrol, diesel and hybrid cars by 2030–2035;**
- **A reduction in the amount we use cars by an average of 2–5% per decade;**
- **Improved public transport.**

In terms of how the UK should make these changes, assembly members considered policies aimed at moving quickly to low carbon vehicles, increasing public and active transport, and discouraging car ownership and use. A majority of assembly members backed¹² fifteen policies:

- **Government investment in low carbon buses and trains (91%)**
- **Quickly stop selling the most polluting vehicles (86%)**
- **Adding new bus routes and more frequent services (86%)**
- **Making public transport cheaper (83%)**
- **Bringing public transport back under government control (75%)**
- **Grants for businesses and people to buy low carbon cars (74%)**
- **Localisation¹³ (72%)**
- **Investing in cycling and scooting facilities (70%)**
- **Increasing investment to make buses faster and more reliable (66%)**
- **Car scrappage scheme (66%)**
- **On-demand buses (59%)**
- **Car clubs (59%)**
- **Advertising restrictions on the most polluting cars (58%)**
- **Charging to use the roads (56%)**
- **Closing roads to cars¹⁴ (53%)**

¹² Figures given are for the % of assembly members who 'strongly agreed' or 'agreed' that a policy should be part of how the UK gets to net zero.

¹³ The Expert Leads described 'localisation' as involving (1) changing regulations to ensure that new houses can only be built with good public transport links, and (2) including or putting back into local areas services such as post offices, local shops, health centres and schools.

¹⁴ The Expert Leads described this as involving restricting cars in certain lanes, roads or zones. They said it could eventually mean that cars are not allowed in most town centres. There could also be temporary closures, such as regular car free days.

Overall assembly members were less supportive of policies to discourage car ownership and use, in-line with their vision for the future of surface transport in the UK.

As well as the wish to minimise restrictions on lifestyles, assembly members' rationale for their policy decisions included points around the **speed of change, feasibility, practicalities, cost** (both personal and overall), and **co-benefits**. They saw potential co-benefits as including improved air quality, reduced congestion and positive impacts for local areas and their high streets.

Assembly members also consistently raised the importance of **accessibility** and **affordability**, stressing the need to avoid negative consequences for rural areas, people with a disability, and those on low incomes, as well as for mental health and isolation.

Assembly members' list of key considerations for government and Parliament to bear in mind when looking at surface transport (see Section A) provides an overarching framework within which to view the assembly's decisions. It also includes a number of additional recommendations – for example, around **information and education, who should pay** for the changes needed, and **avoiding potential side effects**.