

**Response to the Decarbonising Transport Plan**

**‘Setting the Challenge’**

**Introduction**

The Surrey Climate Commission was officially launched in June 2019, formed from a collaboration of organisations in Surrey including Surrey University, Surrey Chambers of Commerce, Siemens, World Wildlife Fund and Surrey Wildlife Trust.

Our aim is to provide an independent and authoritative voice to all organisations in Surrey, whether they be private, or public sector or other, helping them contribute to the County reaching its necessary climate target, to avoid the damaging effects of runaway climate change.

Finally, we are part of a wider network of Commissions that are emerging around the UK.

In response to the recently published report we wish to make the following summary comments.

(Individual contributions from some of our members are attached as an appendix to this Summary)

Many Thanks

Richard Essex

Chair of Surrey Climate Commission

**29/08/30**

**Summary of Points**

**General**

* It’s essential there is joined up thinking when considering how we decarbonise transport. In particular we should be approaching this from a hierarchical stance, whereby active travel is encouraged as a first stance (critical as so many journeys are short), complimented by public transport, where this is required, then moving to electrification of private cars where these two modes will not suffice.
* As part of this process there should be more interventions to promote modal shifts, and much more around behavioural change.  For example, ‘Mobility as a Service’ seeks to understand where friction exists between different modes and removing them (integrated ticketing, synchronised timetabling, on-demand services, route-planning, etc.) and car sharing can help reduce a reliance on private car ownership.
* DC was published 3 months before the CCC published its progress report to Parliament on reducing UK emissions.  The next stages of the DC should take account of the findings of the CCC progress report, including its recommendation that infrastructure for people to walk, cycle and work remotely should be a priority.  The CCC progress report also recommends bringing forward the date for phasing out petrol and diesel cars and vans (including hybrids) from 2040 to 2032 at the latest.

**Cars**

* Section 2.15 refers to current projection of GHG’s reducing by 52%. This however is set against an assumption that expected car use will increase in car km by 35%. Although this may not consider some new initiatives this shows nowhere near enough ambition to reduce car-use.
* There is quite a lot of information on incentives **for electrification of cars**, such as Plug in grants, pick up in delivery of charging points, but not much on joined up thinking i.e. on how electrification of cars can link with active or public transport. E.g. reducing traffic in centre of towns by having charging points at Park and Rides, linking up with public transport or cycle routes and reducing car usage for short journeys.
* The £2.5b for EV grant funding seems disproportionate compared to the £2b for cycling and walking when 58% of (2018) car journeys were under 5 miles. Reducing car use through active travel (plus the other co-benefits) is higher on the hierarchy of measures then why is the funding lower? However, both figures for transport decarbonisation need to be put into the perspective of the £27.4b promised for the Road Investment Strategy fund, principally for business as usual improvements for motor vehicle use.
* Whilst there is significant benefit in kind for company vehicles, there is little incentive for the private motorist to change, particularly if they park on the streets.   The fear is that the taxation of fossil fuels will have to be transferred to alternatives, to make up for the £40billion, the government presently receives across motoring taxes.  That could be best achieved by road pricing, with **a reduced rate for zero emission** vehicles or more likely an increasing rate for fossil fuel vehicles.   A charge for parking on the road, could also be included within the technology, to help provide roadside charging infrastructure and as an incentive to use available off- road spaces, many of which are not used, therefore causing more congestion through parking. This could be a win -win situation and possibly see cars that are little used, replaced by more use of public transport.
* Covid 19 has highlighted how emissions are reduced if people work from home. However, this trend seems at odds with a planning system that appears to promote

housing sites and employment sites in different places far apart, generating demand for transport

* There is no mention of road maintenance and quality which are big factors in road safety, noise, particulate from breaking, local air pollution due to congestion, the uptake of cycling and electric vehicles (which are generally heavier), and proper drainage with management of contaminated run-off to name a few benefits. Road users should not feel they need an SUV to navigate potholes. A rising tide lifts all boats, in this case cars, cyclists, pedestrians, electric vehicles and buses too.
* There should be an increased focus on van usage, particularly in the reduction of last mile deliveries.  This could be achieved through a combination of policy levers and incentives.
* The business case for LCV fleets to electrify is already quite compelling but is being held-back by the lack of supply of vehicles.  In a supply-constrained environment, what role could Government play to incentivise supply of RHD vehicles into the UK.

**Cycling and Walking /Active Travel**

* There seems to be focus on cities when it comes to funding cycling infrastructure. Not the same focus when it comes to populated Counties like Surrey. The balance needs to be shifted here.
* Based on current projections cycling is unlikely to reach its full potential until 2065, 25 years later than the 2040 ambition for cycling and walking to be the natural choice for short journeys (para. 2.60). Even the aspiration to double cycling is well off track as Figure 13 projects the government will be at least 60% below target for cycling.
* The research related to the cycling and walking investment strategy referred to in paragraph 2.67 is welcome, though the full scope of this research is unclear.  The research should clarify what is needed to deliver a radical shift from car use to active travel and use best practice from places where increases in the mode share and use of active travel has been achieved.  For example, this should address the role of the perceived and real risk of collisions with motorised traffic on cycling levels and identify what measures would reduce those perceptions and risks.
* Modal shift to Active Transport as the first choice is a correct ambition. But as noted in 6.23 other Govt policies need to work in tandem, not least those of Highways England who aren't engaged it seems.
* Covid has caused us all to travel less. Active Transport then starts to become more dominant. The amount of cycling when lockdown first arose was impressive, though it fell back once the vehicles were back competing for space. Not that people can't cycle, they won't under the wrong conditions. A perception of safety, convenience and enjoyment are required.
* The health advantages of active travel over car use mustn’t be underestimated. The NHS have made it clear how important regular exercise is. Encouraging the public not to over-indulge in short regular car journeys from a health perspective could be another useful angle of approach.
* There needs to be more focus on eBikes and eScooters, which if executed well, can provide an efficient, enjoyable and low-carbon approach to efficient travel for commuting and leisure, reducing congestion and enhancing air pollution. On a similar vein, eCargobikes have the potential to transform last-mile deliveries in urban centres.  The document references a trial with Sainsbury’s (which was very successful), but perhaps this mode warrants much more focus?

**BUSES**

* Whilst 4,000 non emission buses are planned for the next 5 years, this represents only around 10% of the UK bus fleet.  The scheme does not fully fund the bus, only the extra cost over and above that of a conventional bus. Talks are underway to accelerate that funding, to ensure the UK manufacturers get continuous production, at a time when bus operators are unlikely to be able to fund new vehicles of any type.
* More recently, bus lanes have been taken out to accommodate cycle lanes. This is likely to be a permanent policy and goes completely against the pro bus message.  Ewell Road in Surbiton is a good example of this.  Working from home might become the reality for many people, therefore putting even more pressure on public transport finances, as the numbers will not be there to sustain the present network, never mind the future intention.  Hence, at present the government are paying £28 million a week (£250 million for the railways), to prop up the bus network, with operators losing money even with that assistance. That can only lead to reduction rather than enhancement of the UK bus network**.**
* We need to make Buses more appealing for people to travel on. They can be fun. They are often not. The sense of occasion when using needs to be enhanced.

**AVIATION**

* We have real concern about the failure of ambition in the plan to create ‘low carbon’ aviation. Aviation gets only a tiny mention.  If growth in air travel was permitted to grow along its pre-Covid trajectory, it would become a huge component of the UK's carbon emissions within 20 or 30 years, perhaps 30% or more.
* Various initiatives to get investment for the development of much lower carbon aviation would be welcome, provided it is realised that these technologies will not become successful or widespread soon.  Emissions from the sector need to start reducing now, not in 20 or 30 years’ time.
* Electric flight is not going to be a reality for transport of large numbers of people, over long distances.  Small electric aircraft might be a possibility for short journeys, transporting small numbers of people.  Hybrid planes will also only make a negligible difference to aviation's carbon emissions, if the overall number of flights and air passengers increase.
* Specificity is very important when referring to “Sustainable Aviation Fuels” (SAF) and “biofuel”, as they can refer to a multitude of approaches and technologies, some better than others. For example, biofuels derived from crops lead to deforestation, which only leads to higher carbon emissions for the whole lifecycle of the fuel.  These Biofuels will also compete for land used for producing human food.
* Allowing unreasonable, unrealistic optimism by the aviation industry that it will be able to produce low carbon planes, and low carbon air travel in the next decade are dangerous. They encourage the view that continuing with "business as usual" can continue, as an amazing technology to solve the carbon problems is just around the corner.  They discourage the other measures needed now, to reduce demand for air travel.
* Electro fuels (using renewably generated surplus electricity to combine carbon dioxide and water to produce fuels) would only be possible if there is surplus renewably generated, low carbon electricity.  (Electricity generated from burning biomass is not a low carbon form of electricity).  There needs to be enough electricity generated from solar, wind, wave etc for all domestic heating and lighting, all domestic cars, all commercial use, and all buses and trains - before it should be used to create fuels for aircraft.  That is likely to be a long time into the future.  These fuels will be expensive, so will cut demand for air travel.
* The carbon emissions from international aviation must be fully included in the UK's 5-year carbon budgets, starting immediately. Merely "taking account" of these emissions is not good enough. Full inclusion has been the recommendation of the Committee on Climate Change for some time.
* In the absence of any international agreement on how to assign international aviation emissions to individual states an approach in line with the precautionary principle would be to pursue action at an international level, and a national, and a local level concurrently – of course this is what the author meant to say. Expressing a “Preference” does not seem appropriate in the context of a report such as this and could be construed as an indication of no clear direction in this area, which is obviously not the case.
* In order to limit growth in aviation demand, there should be no expansion of airports.  Not adding more capacity is the best, most effective and least unpopular way to limit an expansion of the sector.
* It must always be remembered that the emissions of planes at altitude not only produces CO2, but also has non-CO2 impacts. The science is unclear, but it is likely that the overall climate of plane emissions is around double that of the CO2 alone.  So, this must be taken into account, in considering the impact of aviation. This has been a recommendation of the Committee on Climate Change.
* If the government is serious about reducing the environmental impact of aviation in future, it should fully include climate and environmental experts in its new initiatives, such as the Jet Zero Committee. So far, the NGOs, such as the Aviation Environment Federation, do not appear to have been invited.  Their expertise would be valuable, so the initiatives do not only have the perspective of the industry itself.
* There are challenges to the aviation sector that as a hub the UK is particularly exposed to such as bunkering and ghost flights. These and many other challenges faced by the sector are regulatory in nature, as alluded to in the report the UK has always been a leading player in the area of law and governance, this position could be further leveraged.

* Thought should be given now to how employees in the airline industry could transfer skills or be re-skilled in low carbon areas. This could help avoid a sudden large drop in employment if air travel has to reduce. As Covid has proved companies have adapted and shown that skills are transferable to other sectors.

**Appendix – Individual Contributions**

 **From Steve Whiteway**

***Passenger Transport Specialist, Fellow of the Chartered Institute of Logistics and Transport,***

***Previously Managing Director of Epsom Coaches, and twice President of the passenger transport industry trade body, the Confederation of Passenger Transport.***

Interesting to see the governments decarbonisation plan, with many laudable aims, but relatively little funding.  A few observations:

* Whilst 4,000 non emission buses are planned for the next 5 years, this represents only around 10% of the UK bus fleet.  The scheme does not fully fund the bus, only the extra cost over and above that of a conventional bus. Talks are underway to accelerate that funding, to ensure the UK manufacturers get continuous production, at a time when bus operators are unlikely to be able to fund new vehicles of any type.  Otherwise,
* The conversion to zero emission cars is in my view a much larger part of decarbonisation. However, the present incentives to change are not attractive and have recently been
* reduced by the government.  Whilst there is significant benefit in kind if a company vehicle, there is little incentive for the private motorist, particularly if they park on the streets.   The fear is that the taxation of fossil fuels will have to be transferred to alternatives, to make up for the £40billion, the government presently receives across motoring taxes.  That is likely to be best achieved by road pricing, with a reduced rate for zero emission vehicles or more likely an increasing rate for fossil fuel vehicles.   A charge for parking on the road, could also be included within the technology, to help provide roadside charging infrastructure and as an incentive to use available off-road spaces, many of which are not used, causing more congestion through parking. This could be a win win situation and possibly see cars that are little used, replaced by more use of public transport.
* The papers claim that public transport will be plentiful and therefore a real alternative to car use is fanciful, as there is no evidence of the funding required for this. Certainly, through Covid and likely post Covid, the use of public transport has and will continue to reduce below pre pandemic levels. Unless there is major investment in providing London style bus networks in every town, village and city in the UK, this will never work.  Even then, especially in the south, the use of the car is considered paramount and many people would never consider using a bus, whatever the incentive.   The other way to do this, is to make owning and running a car, more expensive therefore dissuading ownership and forcing people onto public transport. Effectively, going back to immediate post war days, when owning and running a car was only for a privileged few. The trouble with that is, people have had a car and therefore know what they will miss! It has evidently worked in London, with just 27% car usage, but at what cost?
* More recently, bus lanes have been taken out to accommodate cycle lanes. This is likely to be a permanent policy and goes completely against the pro bus message.  Ewell Road in Surbiton is a good example of this.  Working from home might become the reality for many people, therefore putting even more pressure on public transport finances, as the numbers will not be there to sustain the present network, never mind the future intention.  Hence, at present the government are paying £28 million a week (£250 million for the railways), to prop up the bus network, with operators losing money even with that assistance. That can only lead to reduction rather than enhancement of the UK bus network.
* The government paper is big on theory, but very short on practical measures that are to be at least, pump primed, if the UK is to achieve its ambitious targets and not disadvantage itself in the world economy. It is difficult to see how they (we) can fund such an ambitious plan, especially post Covid and the dire state of the nation’s finances.  In truth, the climate will take second place, whatever the government stated, and good intentions are. That said, a thriving economy could provide the investment required from the private sector, through changes in legislation to force a greener world.  That, however, will be delayed by Covid and this certainly isn’t the time to put more pressure and cost onto the business and residential community.

**From Sarah Clayton**

***Co-Ordinator at Airport Watch***

* We have real concern about the failure of ambition in the plan to create ‘low carbon’ aviation. Aviation gets only a tiny mention.  If growth in air travel was permitted to grow along its pre-Covid trajectory, it would become a huge component of the UK's carbon emissions within 20 or 30 years, perhaps 30% or more.
* Various initiatives to get investment for the development of much lower carbon aviation would be welcome, provided it is realised that these technologies will not become successful or widespread soon.  Emissions from the sector need to start reducing now, not in 20 or 30 years’ time.
* Electric flight is not going to be a reality for transport of large numbers of people, over long distances.  Small electric aircraft might be a possibility for short journeys, transporting small numbers of people.  Hybrid planes will also only make a negligible difference to aviation's carbon emissions, if the overall number of flights and air passengers increase.
* “Sustainable Aviation Fuels” (SAF) and “biofuel”, are often referred to but they could include a multitude of approaches and technologies, some better than others. Therefore, we feel it’s vital to be specific on what is being referred to here. For example, biofuels derived from crops are unsuitable as they are known to cause considerable environmental problems. For example, deforestation, will only end in creating higher carbon emissions, and Biofuels will compete for land that is producing human food.
* Fuels produced from domestic waste may be possible, in small amounts, for use in the aviation sector. They will be expensive.  So, the cost of air travel will need to rise.
* Allowing unreasonable, unrealistic optimism by the aviation industry that it will be able to produce low carbon planes, and low carbon air travel in the next decade are dangerous. They encourage the view that continuing with "business as usual" can continue, as an amazing technology to solve the carbon problems is just around the corner.  They discourage the other measures needed now, to reduce demand for air travel.
* Electro fuels (using renewably generated surplus electricity to combine carbon dioxide and water to produce fuels) would only be possible if there is surplus renewably generated, low carbon electricity.  (Electricity generated from burning biomass is not a low carbon form of electricity).  There needs to be enough electricity generated from solar, wind, wave etc for all domestic heating and lighting, all domestic cars, all commercial use, and all buses and trains - before it should be used to create fuels for aircraft.  That is likely to be a long time into the future.  These fuels will be expensive, so will cut demand for air travel.
* The carbon emissions from international aviation must be fully included in the UK's 5-year carbon budgets, starting immediately. Merely "taking account" of these emissions is not good enough. Full inclusion has been the recommendation of the Committee on Climate Change for some time.
* In order to limit growth in aviation demand, there should be no expansion of airports.  Not adding more capacity is the best, most effective and least unpopular way to limit an expansion of the sector.
* It must always be remembered that the emissions of planes at altitude not only produces CO2, but also has non-CO2 impacts. The science is unclear, but it is likely that the overall climate of plane emissions is around double that of the CO2 alone.  So, this must be considered, in considering the impact of aviation. This has been a recommendation of the Committee on Climate Change.
* If the government is serious about reducing the environmental impact of aviation in future, it should fully include climate and environmental experts in its new initiatives. So far, the NGOs, such as the Aviation Environment Federation, do not appear to have been invited.  Their expertise would be valuable, so the initiatives do not only have the perspective of the industry itself.

**From Thomas Lankester**

***EO Technical Architect at CGI IT UK Ltd, member of Farnham Cycle Campaign***

**General comments:**

* The context has shifted as this report was released pre Covid-19. For example, page 18, para. 2.2 refers to the pre-CV19 £350m Cycle Infrastructure Fund which was superseded in May by the announcement of a £2b fund for cycling and walking.
* The projections for transport CO2e emissions based up to 2050 (para.s 2.15, 2.26, 2.41, 2.55, 3.8, 3.18, 3.38 and 4.7) are a stark admission that current government policies are completely incompatible with their aspirations transport decarbonisation (as noted in 5.1). Worse, the effects are too slow, increasing the pressure to act on society in the future and delaying co-benefits in terms of cutting congestion, reducing air pollution and increasing physical activity in the UK population.

**Specific observations**

Page 20, para. 2.7: the phase out of new ICE cars and vans should be accelerated to 2030.

Page 20, para. 2.8: the £2.5b for EV grant funding seems disproportionate compared to the £2b for cycling and walking when 58% of (2018) car journeys were under 5 miles. Reducing car use through active travel (plus the other co-benefits) is higher on the hierarchy of measures then why is the funding lower?

 However, both figures for transport decarbonisation need to be put into the perspective of the £27.4b promised for the Road Investment Strategy fund, principally for business as usual improvements for motor vehicle use.

Page 22, para. 2.15: the 35% projected increase in car miles is incompatible with the aspiration for modal shift to active travel and public transport.

Page 26, para. 2.34: with ongoing procurement of diesel rolling stock for non-electrified rail lines, the government needs to give a clear timescale for removal of *all* diesel from the network. A challenge for industry to provide a vision of removing just diesel-only trains is inadequate. Industry already has a portfolio of solutions at its disposal (full line electrification, partial electrification / battery hybrids, hydrogen / battery hybrids).

Page 31, para. 2.49: airport expansion is incompatible with transport decarbonisation. CV-19 provides an opportunity to limit increases in aviation passenger miles.

Page 31, para. 2.54: the CORSIA agreement has altered its commitment to offsetting emissions above 2019-202 average levels.

Page 33, para. 2.58: The Government’s consideration of including aviation and shipping in the national carbon budget is welcome.

Page 34, para. 2.61: aiming to double cycling by 2025 is a very poor aspiration. Surrey has a baseline (2011 Census) for commuting of just 2% by cycle yet the propensity (using DfT Propensity to Cycle Tool modelling) is an order of magnitude higher. At the current rate, cycling will not reach its potential until 2065, 25 years later than the 2040 ambition for cycling and walking to be the natural choice for short journeys (para. 2.60). Even the aspiration to double cycling is well off track as Figure 13 projects the government will be at least 60% below target for cycling.

Page 34, para. 2.64: the funding provided so far for the development of LCWIPs is wholly inadequate. Surrey, for instance, has only had funding for 1, borough scale, LCWIP.

Page 40, para. 3.10: planned future work (to 2030) does not set out a ‘Road to Zero’ path to decarbonise HGVs.

Page 42, para. 3.18: there appears to be no government policy to address the rapid rise in van usage. Only electrification is proposed as a mitigation strategy to offset CO2 emissions with hardly any projected decrease in emissions. As noted in para. 5.14, a ‘last mile’ delivery transformation is needed.

**From Geoff Duck**

***Councillor for Tandridge Borough Council***

1. Modal shift to Active Transport as the first choice is a correct ambition. But as noted in 6.23 other Govt policies need to be borne in mind, not least those of Highways England who aren't engaged it seems.

There is other documentary evidence supporting this point.

2. Affording climate change beyond the 1.5C warming is going to be difficult ([www.ipcc.ch](http://www.ipcc.ch)). The Grantham Institute a couple of years ago were expecting only an overshoot, but we must have the possibility to come in at 1.5C. We need to be able to surprise ourselves.

3. Motor car usage is a separate subject behaviourally. Even with the entire car parc at net zero at the tailpipe there are still other societal costs to address. Handy to run this matter at the same time as net zero, but don't confuse the two. In 1.11 London car usage is lower, they're inconvenient. Generally, the planning system appears to promote housing sites and employment sites in different places far enough apart, generating demand for transport. C19 is depressing this, frustrating previous ambitions.

4. 1.14 is all very well. But people still buy from Amazon Prime, with its rapid delivery of increasingly small volumes per drop. At least the Range Rover was still sat on the drive.

5. 2.2 - social trips are enjoyable especially if shared with passengers. Cars are aspirational. They are pleasant to use and convenient. Provided you can park at the destination. You can own cars easily, but you don't have to have a bad habit of overusing it. Like other behaviours and Determinants of Health don't over-indulge. The attached slide is from an NHS presentation. Each of the aspects matter every day to every individual.

6. 2.5 - having a car with one tonne of battery allocated to shifting around one person cannot be wisdom. Products will evolve rapidly.

7. Buses can be fun. They are often not. The sense of occasion needs to be enhanced.

8. If Covid is causing us all to travel less, dramatically quickly, then I refer you to para 2. above.

9. Active Transport then starts to become more dominant. The amount of cycling when lockdown first arose was impressive, though it fell back once the vehicles were back competing for space. Not that people can't cycle, they won't under the wrong conditions. Convenience and enjoyment.

10. Page 53 and Future Transport Zones, these need to evolve for every place in Surrey.

11. 4.5 is there and having data across Surrey will be key to progress.

12. 5.4 - back to the planning system and Determinants of Health.

13. 5.6 - there is no doubt that people are looking for better choices.

For example, provided they can get back simply from Gatwick at 0300h in the morning they'll give up their car. All night 400 bus then.

14. 5.12 and 5.14 - again correct, understand what individuals are looking for, and it is not to be always faced with defective outcomes from national policy. After all youngsters, even if they have a driving licence are happy to abandon car ownership, it is costly and often not convenient. In addressing their requirements more people will happily become part of that group.

15. In conclusion the work of this group will also do much to enable the delivery of others and in a beneficial way to all. Getting a grip on Highways England is going to have to be done, perhaps via Transport for the South East.

**Chris Hyde**

***Independent Transport Planner***

My view remains that, with regard to reducing the environmental impacts of road-based personal travel, the following sequence of priorities should apply:

1. Reduce the demand for travel
2. Active travel should be the first choice for travel.  As noted in Decarbonising Transport, 58% of car trips are less than 5 miles in length, well within the range of cycling and about 10% of car trips are less than 1 mile.
3. Electric bikes can complement walking and pedal cycling and retain many of the benefits.
4. Use public transport, preferably ultra-low or zero-emission, if walking or cycling are infeasible or impossible.  Measures to make public transport more attractive should also include consideration of pricing.
5. Cars should be the last choice if other means are not possible, and preferably ‘zero’ emission cars.  However, zero-emission cars and goods vehicles are not a panacea as, whilst preferable to internal combustion engines vehicles, they are also resource-intensive to manufacture and must be eventually disposed of.

The above sequence should be reflected in the DfT document.  Reducing the demand for travel gets insufficient attention in DC.  It should be noted that action to make it easy for people to work from home is one of the priorities listed by the Committee on Climate Change (CCC) in their June 2020 progress report to Parliament.  Action to make it easy for people to walk and cycle is another priority recommended by the CCC.

Hopefully, the Surrey Climate Commission will have a role in the proposed workshops to develop the policy proposals.  In our response, should we make clear we would be pleased to participate?

DC refers to charging infrastructure for EVs but should also recognise the need for provision for charging for electric bikes.  There is welcome reference to e-cargobikes following paragraph 3.20 but the potential role of electric bikes, and the infrastructure needed to encourage their use, deserves more attention.

The chapter on cross-modal decarbonisation is welcome but the report should say more on integration between modes, for example between active travel and public transport and deterrence of short-distance car trip to station car parks.  Also, the role of HGVs in cycling accidents should be recognised (which should be addressed in the research referred to in paragraph 2.67).

A target to double the number of cycle trips is too low and reflects a low ambition for mode shift from car trips.

The research related to the cycling and walking investment strategy referred to in paragraph 2.67 is welcome, though the full scope of this research is unclear.  The research should clarify what is needed to deliver a radical shift from car use to active travel and use best practice from places where increases in the mode share and use of active travel has been achieved.  For example, this should address the role of the perceived and real risk of collisions with motorised traffic on cycling levels and identify what measures would reduce those perceptions and risks.

DC was published 3 months before the CCC published its progress report to Parliament on reducing UK emissions.  The next stages of the DC should take account of the findings of the CCC progress report, including its recommendation that infrastructure for people to walk, cycle and work remotely should be a priority.  The CCC progress report also recommends bringing forward the date for phasing out petrol and diesel cars and vans (including hybrids) from 2040 to 2032 at the latest.

**Richard Waters**

 ***Chair of Guildford Environmental Forum (GEF), Climate Crisis Group***

* ‘The document largely focuses on each transport sector individually, which is a traditional and understandable segmentation, with experience, manufacturers and policies generally focusing on a particular segment.  However, in recognising that we need significant step-changes to hit Net Zero, this will only be achieved in parallel with more interventions to promote modal shifts, and much more around behavioural change.  For example, ‘Mobility as a Service’ seeks to understand where friction exists between different modes and removing them (integrated ticketing, synchronised timetabling, on-demand services, route-planning, etc.) and car sharing can help reduce a reliance on private car ownership
* I didn’t see much referencing eBikes and eScooters, which if executed well, can provide an efficient, enjoyable and low-carbon approach to efficient travel for commuting and leisure, reducing congestion and enhancing air pollution
* On a similar vein, eCargobikes have the potential to transform last-mile deliveries in urban centres.  The document references a trial with Sainsbury’s (which was very successful), but perhaps this mode warrants much more focus?
* CO2 emission reductions for cars and vans (2.14 and 3.16) reference that the “…in the Road to Zero strategy that as the UK leaves the EU it will pursue a future approach that is at least as ambitious as the current arrangements for vehicle emissions regulation”.  Although this sounds a reasonable approach, In my interpretation of <https://www.gov.uk/government/consultations/regulating-co2-emission-standards-for-new-cars-and-vans-after-transition/co2-emission-performance-standards-for-new-passenger-cars-and-light-commercial-vehicles#mainchanges>, it appears that as the weight of cars sold in the UK is higher than in  Europe, this will effectively lead to slightly less ambitious targets for vehicles sold in the UK?  We should of course be looking to disincentivise the purchase of heavier/larger cars for personal use.  Additionally, using a future date as a baseline (2021) may reduce incentives to make reductions until after that date?
* I expect since the report was written, there’s been an increasing use of van usage, especially for last mile deliveries.  I wonder if an increased focus on policy levers and incentives for this sector will help ensure emissions don’t continue in an upward trajectory?
* The business case for LCV fleets to electrify is already quite compelling but is being held-back by the lack of supply of vehicles.  In a supply-constrained environment, what role could Government play to incentivise supply of RHD vehicles into the UK?
* Clean Air Zones are referenced and have the potential to transform incentives at a local level, helping reduce urban air pollution.  However, without a consistent approach between zones, it may be difficult for OEMs to provide the supply of vehicles to meet the various requirements
* The embodied carbon of any vehicle (electric or otherwise) is significant, and although EV batteries may have a second life in static storage, more may need to be done to disincentive the purchase of vehicles in the first place