**Decarbonising Transport**

**Introduction**

The UK transport sector produced 122 Million tonnes of CO2 equivalent (MtCO2e) in 2019 a figure that has been roughly stable for the past 30 years. In other sectors, notably power generation and industry, there has been a significant decline. But the lack of change in surface transport emissions have led it to become the highest emitting sector (27%), greater than energy supply (22%), business (17%) and residential (15%). East Hampshire has greater dependency on cars and less use of cycling than the average across England. (Data from EH COP briefing pack) There is a pressing national and local need to address carbon emissions from transport.

On 14 July 2021 the Government published its plans to reduce carbon emissions from the transport sector to net zero by 2050. (DfT - Decarbonising Transport: A better greener Britain, 2021). Within that document there are sections which set out the government's plans for different transport sectors, including details of current levels of emissions and potential savings that could be achieved within the period 2020-2050. I have brought these together in a table:

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| --- | --- | --- | --- |
| **MtCO2e** | **Carbon Emissions within UK in 2019** | **Percentage** | **Potential savings over period 2020-2050** |
| **ACTIVE TRAVEL** | nil | nil | 1-6 |
| **BUSES & COACHES** | 3.1 | 3% | 35-37 |
| **RAILWAYS** | 1.7 | 1% | 21-22 |
| **CARS**  **VANS, etc** | 67.7  19.2 | 55%  16% | 620-850 |
| **HGVs** | 19.5 | 16% | 200-220 |
| **MARITIME** | 6.1 | 5% | 180-230\* |
| **AVIATION** | 1.4 | 1% | 250-430\* |
| **TOTAL** | 122 | 100% |  |

\*Includes both UK Domestic and International emissions (UK share)

What this shows clearly is that the most effective interventions to reduce carbon will target cars, vans and HGVs, as well as the aviation and maritime sectors. In particular the carbon reductions that might be achieved through active travel (walking and cycling) are minimal. The estimated range of savings of 1-6 MtCO2e in total over a thirty year period arises from transfers of use from other modes, for example transfer from cars to walking and cycling for access to schools and shops at a local level. This relatively low level of savings from active travel is confirmed by the experience of the Netherlands where, despite much higher use of cycling and decades of creating cycling infrastructure, they still produce as much CO2 per head from transport as we do in this country. So whilst schemes to increase walking and cycling may be desirable in their own right (for reasons of health, social justice, noise, air quality, etc) they will not save the planet. In particular I fear that the focus of the East Hants COP on local actions has the potential to divert attention away from the bigger picture and the imperative to address carbon emissions from aviation and longer distance car travel.

So my strategic policy advice is that we should start our review process by looking at the big picture, first by reducing the need to travel (AVOID), then to look at transferring travel to lower carbon modes (SHIFT), and then to improve the performance of different modes (IMPROVE). Just for avoidance of doubt these are not in order of priority; indeed some urgent actions for improving mode performance are high on everyone's list.

I have asked the EH COP Transport group whether we are considering territorial emissions (from within EHDC area) or consumption emissions (those produced by residents and businesses located in East Hants). The two are very different. The response is that we are considering both, which puts into scope both emissions by residents travelling outside the area (eg when flying or on long distance car trips) and emissions from travellers passing through the area (eg road traffic on the A3).

Finally in this introduction, I stress the importance of timing. Global warming is consequent upon cumulative emissions and action to reduce emissions sooner rather than later are needed if we are to limit average global temperature growth to less than 2 degrees. As take up of electric vehicles will inevitably take some time, we also need to reduce car carbon emissions now if targets are to be met.

**AVOID, SHIFT, IMPROVE**

I set out below in note form some of the ideas that can contribute to decarbonising transport. Many of these have been proposed, debated and expounded in the EH COP Transport sub-groups.

**AVOID: Reducing the need to travel**

Reduce need to travel - internet - working from home - broadband capacity, speeds, reliability, coverage, cost - rural areas - essential element of communications network

Reduce trip lengths - more local facilities - enhance attractiveness of small towns and villages - food miles, etc.

Road user pricing to manage traffic on congested roads (replacing loss of tax revenue from fuel duty)

Carbon cost of flying and longer distance car travel to be reflected in user prices (3% of car trips produce 30% of carbon emissions). See also later comment on fuel taxation.

**SHIFT: transfer trips to less carbon intensive modes**

Road development programme to be reviewed against carbon emissions, both capital carbon and encouraging more traffic; funding re-directed to other modes as below

Rail, buses, community bus, cycle, walk, car sharing - make these modes more attractive choices - but note that even in Netherlands, where cycling facilities and usage are extensive, transport carbon emissions per capita is about the same as in UK (Anable, 2021).

Key issue is regulation - Powers need to be returned to local government to specify and commission services from operators - i.e. the one brand many suppliers model for buses as well as rail - a quality contracts approach for buses (not "quality partnerships")

Given that much of the fares income from buses is already provided by local authorities for concessionary travel, consideration should be given to making bus travel free.

Local focus for bus transport services - networks for Alton, Petersfield rather than Hampshire wide approach

Freight - transfer to rail, consolidation for last mile delivery - apparently there is research underway for a trial scheme in Solent area inc Hants CC - what is this and can East Hants be involved?

**IMPROVE: Emission performance of vehicles**

Continue to improve emission performance of vehicles (in recent years better fuel economy has been counteracted by increasing numbers of larger SUV vehicles).

Reduce vehicle speeds (see below for more detail) by enforcing 70mph limit on motorways and dual carriageways (60 mph on single carriageways). Reducing speed limits by a further 10 mph to 60 and 50 respectively would double the carbon savings. All new cars must by law be fitted with speed regulators, but at present their use is not mandated. Wider social benefits too. Netherlands example (although for air quality reasons).

Incentivise early scrapping of gas guzzlers, removing them from second hand car market.

Electrification of cars, buses, HGVs, vans (essential but need to consider embedded carbon in manufacture of new vehicles)

Biofuels

Hydrogen for rail and HGVs where greater energy intensity is needed, but there is a need to consider the energy required to produce hydrogen, could this energy be better applied elsewhere?

**Tackling Transport Emissions NOW: Two Modest Proposals**

As Transport Group members may have gathered I am particularly interested in the big picture on how we might achieve significant savings in carbon emissions from transport both from within East Hampshire and by the residents and businesses located within East Hants. It is an uncomfortable truth that promotion of active travel modes like walking and cycling and even transfer to public transport will not achieve a great deal in this regard. In quantitative terms the biggest potential for carbon reduction from transport lies firstly with reducing the demand for long distance travel (by air and longer distance car and HGV trips) and then by reducing the emissions from cars, vans and HGVs. Whilst electrification of the existing vehicle fleet will have a gradual and increasing effect, there is still a massive issue with the existing vehicle fleet of mainly petrol and diesel vehicles that will be with us for some time to come. Many experts, nationally and internationally, have stressed that the next decade to 2030 is the most important time to control and limit carbon emissions (UN IPCC Report August 2021). We need to do something NOW.

**Proposal 1: Vehicle Speed Reduction**

One of the most effective ways to reduce emissions from road traffic very quickly would be to reduce speeds on major roads. Petrol and diesel vehicles operate most efficiently at about 50 mph. As speeds increase, air resistance increases and fuel consumption is increased. Anyone who drives on major roads in East Hampshire will be aware that if you travel at 65-70 mph many vehicles will overtake, many breaking the speed limit. It has been estimated (Anable, Mitchell and Laybury 2006; Fergusson 1994) that if all vehicles kept to existing speed limits then the reduction in carbon emissions would be approximately 1MtCO2 per annum. And if speeds for motorways and dual carriageways could be reduced to 60 mph then this would roughly double. Bear in mind that these are savings **per year** and that the government's estimate of savings from improvements in provision for active travel over a **30 year period** 2020-2050 are only between 1 and 6 MtCO2 in total (DfT, Decarbonising Transport, 2021 ).

There are a number of other benefits from reducing vehicle speeds. Clearly drivers would save fuel and hence money. Emissions affecting air quality such as oxides of nitrogen and particulate matter would be reduced. Accidents and their severity would be reduced. There would be some reduction in traffic noise. Public transport would become a more competitive option for travel, especially over longer distances, thereby saving even more carbon emissions.

This is not such a radical policy. Already six sections of Motorway in the UK are limited to 60 mph to improve air quality from existing illegal levels (see Highways England website). The Netherlands adopted an 100 kph (62 mph) blanket daytime speed restriction on its motorway network last year for similar reasons. The use of average speed camera enforcement has been effective in many locations and could be used more widely. There would also be merit in replacing speed "derestriction" signs with signs giving the correct speed limit (60 mph on single carriageways and 70 on dual carriageways) when leaving an area with lower speed limits. I understand that this signage is already the case in Scotland.

There can be no doubt that this would be unpopular. But many UK local authorities have declared a climate "emergency". If it is an emergency then we need to act with urgency and change both attitudes and personal behaviour. Thus far there has been very little requirement for anyone to change anything they do with respect to this declared emergency. I therefore suggest that the introduction of these speed limits should be accompanied by "climate emergency" signs to get over this message and, it is to be hoped, improve compliance.

Now some in our group will say that this is not in scope as powers lie elsewhere. But it is in scope to ask EHDC, together with neighbouring authorities such as Hampshire and Surrey, who have also declared a climate emergency, to request action from Highways England and the Government to reduce the carbon emissions that are being imposed on our residents.

Recent worldwide weather events suggest that there is indeed a climate breakdown with potential disruption to the gulf stream (UN IPCC Report, August 2021). The time for action is now.

**Proposal 2: Reinstate fuel duty escalator**

If the Government wishes us to consume less of something, like the burning of vehicle fuel which causes CO2, then it should increase the price.

Successive Chancellors since 2011 have frozen fuel duty in their budget statements, pegged at 58p per litre. This has had the effect of reducing fuel cost in real terms, whereas public transport fares have increased by some 30% over the same period. Increasing fuel duty in line with inflation over that period would help to send the correct message to consumers and would raise some £8 billion in the current year. This could be used to support public transport and to mitigate adverse impacts on socially deprived individuals and families. For example ways should be found to reduce the impact on poor, car dependent families who are obliged to use cars for work and other purposes in areas with low public transport services (as Paula Langley has eloquently described in Alton).

This increase in duty to approximately 75p per litre would raise the cost of fuel to around £1.50 per litre and should be labelled and advertised as a "climate emergency" charge. It would also help incentivise the transfer to electric cars.

**Summary of Strategic Action Agenda**

1 Request that EHDC, together with neighbouring authorities that have declared a climate emergency and like-minded authorities elsewhere, encourage DfT and Highways England to enforce existing speed limits and consider further reductions. These changes to be labelled as "climate emergency" measures.

2 Request Government to review its carbon pricing strategy and in particular to re-establish the fuel duty escalator in line with inflation. Pump prices to be advertised as inclusive of the "climate emergency" levy.

Steve Atkins

August 2021

for PeCAN

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