

Strategic Transport Forum

11th September 2020

Agenda Item 7: Transport Decarbonisation Plan

Recommendation:

It is recommend that the Forum endorse the response to the Transport Decarbonisation Plan

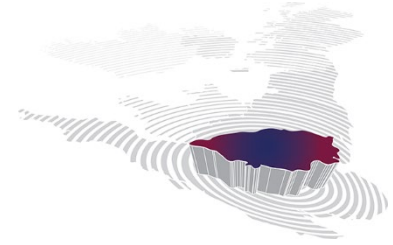
1. Context

- 1.1. The Strategic Transport Forum has been consistent in its ambitions for the draft Transport Strategy to be bold in its approach to environmental priorities. In July 2020, the Forum set its preferred direction for transport decarbonisation at a regional scale in the Heartland. The direction set by the Forum formed the decarbonisation policies included in the draft Transport Strategy.
- 1.2. Following the outputs of the EEH Pathways to Decarbonisation study, the Forum agreed to pursue a combination of 'pathways' that together would have the greatest environmental and economic benefits for the region. Pathway 2, a 'highly connected' pathway (deployment of super-fast digital connectivity, better traffic management information and rapid deployment of CAVs) and Pathway 4, a 'behaviour shift/ policy led pathway' (encouraging people to use public transport and active travel) will together support EEH to achieve its decarbonisation ambitions.
- 1.3. Following the direction set by the Forum, EEH Business Unit has commenced work to take forward these two pathways, including the creation of a Decarbonisation Working Group with representation from partners across the region.
- 1.4. In parallel, in April 2020 the Department for Transport published a consultation on the imperative to decarbonise the transport system. The document, "*Decarbonising Transport: Setting the Challenge*" (TDP) is the first step in developing a coordinated plan for the transport sector to drastically reduce its carbon intensity.
- 1.5. The DfT has, during the summer, invited responses to the TDP and convened working group discussions to feedback on key themes within the plan. The EEH Business Unit has ensured representation at all of these sessions and provided regionally focused input. Materials provided in support of these sessions have been shared with the EEH Decarbonisation Working Group.
- 1.6. In addition to workshops, DfT has invited written responses to the Transport Decarbonisation Plan. EEH Business Unit has prepared a written response that sets out what actions are required as the national level in order to deliver the Forum's ambitions for decarbonisation. As such, the EEH response does not include any further policy decisions for the Strategic Transport Forum.

- 1.7. EEH's draft response is attached at Annex 1 – this takes the form of a covering letter and detailed commentary. Building on the "Pathways to Decarbonisation" report commissioned by EEH, the response highlights the focus on the role of connectivity and demand management in achieving net-zero carbon targets - as championed by the policies and principals set out in the draft Transport Strategy.
- 1.8. It is essential that Government sets out a clear action plan for decarbonisation, with clearly defined roles and responsibilities for all local authorities, STB's, and other regional bodies. It is also essential that Government identifies the funding required for all partners to take forward the actions required to deliver the net zero requirement.
- 1.9. The draft response highlights the need for Government to develop a cross departmental risk assessment on existing and emerging policy in respect of the CCC's carbon budget(s). There are several Judicial Reviews underway that are challenging the governments' approach to delivering new infrastructure – the outcome of which may shape the delivery of infrastructure in our region.
- 1.10. It is the Government's aim to publish a Transport Decarbonisation Action Plan that at the end of this calendar year. The Action Plan will set out a clear, actionable pathway to sectoral decarbonisation.

James Golding Graham
Innovation Manager
September 2020





Annex 1

Covering Letter

England's Economic Heartland (EEH) is the Sub-national Transport Body (STB) for the region stretching from Swindon to Cambridgeshire and from Northamptonshire to Hertfordshire, incorporating the area identified by Government as the Oxford to Cambridge Arc Initiative. We provide the voice on the region's strategic infrastructure and services and lead the work on connectivity for the Arc.

In July, EEH published its draft Transport Strategy setting out the need for a new approach to the planning, development and delivery of infrastructure priorities. The strategy places the user at the heart of the transport system and sets the ambition to harness the region's strength as a centre for innovation in a way that will encourage the new business models necessary to meet the requirement to deliver net-zero carbon targets.

The vision for the Transport Strategy is supported by four key principles, these are:

- Achieving net-zero carbon emissions from transport no later than 2050
- Improving quality of life and wellbeing through an inclusive transport system accessible to all which emphasises sustainable and active travel
- Supporting the regional economy by connecting people and businesses to markets and opportunities
- Ensuring the Heartland works for the UK by enabling the efficient movement of people and goods through the region and to/from international gateways.

As defined by the Committee on Climate Change (2019), the net-zero carbon target applies to the UK economy, and "requires deep reductions in emissions, with any remaining sources offset by removals of CO₂ from the atmosphere (e.g. by afforestation)".

It is a challenging target for the transport sector, the largest carbon-emitting sector of the UK economy (accounting for 28% of greenhouse gas emissions, and 33% of carbon emissions in the UK in 2018), and still heavily dependent on fossil fuels.

Transport-related emissions are a particular challenge for the EEH region, growing by 10% between 2012-2017, this compares with 5% nationally. In 2017 the Heartland's transport emissions stood at 13,507kt, equating to 47% of the Heartland's total carbon dioxide emissions, compared with 37% nationally. Emissions per capita across the region are higher in areas where there are significant sections of the Strategic Road Network, although there is also a correlation between high emissions and high car usage and/or poor access to public transport.



As a consequence and to better understand and frame the challenge for our region our draft Transport Strategy was supported by the publication of our [Pathways to Decarbonisation report](#). This was commissioned from Oxford University in collaboration with the NISMOD consortium. The report sets out a number of possible Pathways, highlighting the opportunities and challenges in meeting net zero and has been used to shape the policy framework within the draft Transport Strategy.

The Strategy sets out that if we are to meet these ever more pressing targets, we need a step change in the way we plan, develop and deliver infrastructure in support of planned growth, and do so in a way that maximises the potential for decarbonisation, through the widespread adoption of new mobility solutions and digital connectivity.

A focus on connectivity within the Strategy – both physical and virtual - serves to emphasise the importance of a co-ordinated approach to shaping the future of our places, one that aligns decision making across policy areas to achieve a common vision of the future. As a centre for science and technology-based innovation, and with more than one in 10 of the UK's knowledge sector jobs are located in the region, England's Economic Heartland is well placed to deliver and demonstrate new and emerging low carbon technologies, as well providing the opportunity to better understand the interplay between energy, transport and data. In this we are helped by the commitment of the Universities in our region to work collaboratively in support of the ambition for the Oxford to Cambridge Arc initiative.

We see the challenge of decarbonising our transport system as an economic opportunity as well as an environmental imperative. It has perhaps been made tangible by the change in behaviours (by both businesses and individuals) during the COVID-19 pandemic. Over the last 6 months it has been possible to see the potential of reducing the need for people to travel to access services, goods and opportunities. Demand reduction, albeit on a lesser scale than seen during the COVID-19 pandemic, is an important part of EEH's strategy: One that will need to be replicated and specifically recognised by the DfT, given its potential role in enabling carbon reduction in the transport system.

EEH welcomes the opportunity to support and work with the DfT in ensuring we decarbonise our transport system. The strategic leadership provided by the Political and Business Leaders at the heart of the EEH partnership brings the experience and accountability that enables the region to deliver an efficient, effective and aligned approach to investment across policy areas.



Detailed Response

Response to Decarbonising Transport - Setting the Challenge

The six themes as set out in "Decarbonising Transport - Setting the Challenge" serve as strong thematic catalysts for change to the transport system. We have where possible, responded to the document under these themes – however some comments are standalone in nature.

Governance

The transport decarbonisation challenge in context of the scale of growth in the region is significant, requiring a co-ordinated response at pace and scale.

The EEH Regional Evidence Base (which collates local plan data, housing, employment, population growth, transport and environmental data) shows a projected Local Plan housing growth average of 27,822 new houses per year across the region. If that rate were maintained beyond current Local Plan periods this would result in approximately 862,000 new houses by 2050. According to ONS data the population will grow by 600,000 by 2041 on a rising trajectory to 2050. Mitigating the impacts of this growth, facilitating a doubling of economic output and delivering meaningful, targeted interventions to decarbonise transport requires co-ordinated leadership to join up the approach to delivering strategic infrastructure and services.

As the strategic partnership providing leadership on strategic infrastructure EEH is focused on addressing this issue. Politically-led and democratically accountable, EEH has built a strategic, collaborative partnership that facilitates co-ordination, cooperation and an overview of actions taken individually and collectively by our partners.

Realising the opportunity that exists to effect change needs to be accelerated. Devolution of appropriate responsibilities, outcomes and resource to sub-national bodies such as EEH offers the opportunity to achieve, strengthening the ability of individual partners to then deliver locally. Decarbonisation must be embedded as a first principal in the 'DNA' of how we manage and develop the transport eco system going forward.

To begin this Government must address issues with the appraisal process if it is to be fit for purpose. The appraisal process must reflect the added value and desirability of improved digital connectivity as a way of reducing the need to travel. It must also take into account explicitly the implications for carbon consumption of the options under consideration.

EEH welcomes the positive steps that have been made by the department to date in respect of decarbonisation. However, there is a need for the level of investment – both in terms of resource and capital investment – to better reflect the scale of the challenge and the urgency with which it needs to be addressed. The resulting program of investment has to be inter-generational and, on a scale not previously seen: It requires a new way of thinking, and strategic leadership, nationally and regionally, will be crucial.

If we are to collectively affect the scale of change required it is important that both Sub-national Transport Bodies and their partners are properly resourced. Our local authority partners are operating under considerable financial pressure whilst dealing with ever growing demand for statutory services: additional funding is essential if they are to be able to deliver change.

The added value of STBs, such as EEH, is our ability to focus on strategic issues of common interest at scale and in a way that is efficient and cost effective. The policy framework set out within our draft Transport Strategy applies national policy requirements to the circumstances within our region. It therefore provides an effective way of ensuring those requirements are taken forward into implementation quickly, efficiently and effectively. Such a role should form part of the core responsibilities for STBs and should be funded accordingly by DfT.



At the same time it is important to have clarity on where responsibility for the need to decarbonise our transport system rests. Whilst ultimately a matter set by Government, in practical terms we support the development of local and regional carbon targets and associated carbon budgets. The identification of regional targets and budgets in particular would ensure that the development and prioritisation of infrastructure pipelines do indeed deliver on the requirement to decarbonise our transport system.

Acceleration of Modal Shift

There's a need to ensure our investment decisions support rapid decarbonisation of public transport, and that the good (benefit) derived from these infrastructure interventions is realised. The Government needs to find new ways to account for this in the appraisal process. If such benefits are to be realised (e.g. the health benefits of cycling having a positive benefit on regional economic performance through reduced sickness) then it will be necessary to identify a sustainable revenue stream that enables continued investment. The cross cutting nature of such considerations reinforces the need for a cross-departmental approach, not just in terms of policy but investment. We support this implicit approach to future funding for active travel as outlined in the Gear Change vision.

To deliver modal shift, low carbon transport choices (active travel and public transport) must offer an attractive and safe choice. Providing quality infrastructure and services, robust reliable journey times and high-speed digital connectivity are supported in the draft Transport Strategy on that basis. Our approach needs to be focused on improving connectivity, not just for the benefit of residents and businesses, but as a facilitator of decarbonisation.

This is only part of the solution: Demand management must play a part and be addressed at a national level (see below). Our Pathways to Decarbonisation report (pathway 4) assumes a general increase in the cost of car travel over time, achieved by applying demand management mechanisms in larger built-up areas. It is highly likely that changes in the relative cost of travel options will be a key determinant of modal shift. Without Demand Management of some type, it's difficult to see how targets will be achieved.

We welcome and strongly support the importance of place-making as an integral element of the approach to decarbonisation. This requires further research and funding at a local level. For example, investigation of the opportunities offered by the creation of local interchange hubs with the capability to provide multiple and complimentary community functions. Such facilities could act as interchange between modes, facilitating First/Last mile solutions, providing localised freight consolidation and co-working spaces as well as retail and residential facilities.

Whilst technical advances and electrification will accelerate decarbonisation of the sector, significant behaviour change is required. It will require co-ordinate effort in developing/enacting the "social contract" between government and the people required to deliver this change – which will ultimately lead to fewer private journeys than we currently make. A national approach to starting a long-term conversation with the public about driving less is needed.

Work carried out by the Tyndall Centre has suggests that even if all new cars were ultra-low emission vehicles by 2035, a 58% reduction in car mileage between 2016 and 2035 would be needed for car CO2 emissions to be in line with the Paris Agreement.

UK as a Hub for Technology and innovation

We welcome the recognition that innovation, data and digital connectivity will play a significant part in the decarbonisation of transport. As a centre for the UK's science and technological based innovation, this is an aspect that it is at the heart of our strategy.

Our region is an area of significant economic strength and opportunity. Through the policies set out in our Strategy we can bring further benefits for our businesses and our citizens. And through our work with adjoining STBs we can look to ensure that this contributes to the UK's "Levelling Up" agenda by strengthening inter-regional connections.

In 2015, Oxford and Cambridge generated 4 and 19 times (respectively) the national average number of patent applications. In a recent Centre for Cities report, Oxford and Cambridge were the only two UK cities in the European top 20 for innovation. All the key attributes of Innovation growth are here. We have "high value" employment and a disproportionately high number of 'knowledge' jobs; South Cambridgeshire to 30%, South Oxfordshire (22%).

The region is home to "Motorsport Valley" delivering Low carbon solutions for the transport sector and driving future innovation and export opportunities. Several "Unicorn Start-ups" (e.g. Arrival) have made their UK base here and the region has the highest concentration of CAV related business in the UK.

To leverage this opportunity there needs to be further investment to improve digital connectivity within the region. To facilitate good monitoring, live data collection, network management, the deployment of Connected Vehicles, robust digital connectivity will be a prerequisite.

Local and regional data platforms containing robust, reliable and good quality data need to underpin the mobility innovation ecosystem. In many cases, public sector data is held in silos and can be costly to the Transport Authority to publish (or open up) in a useful way to innovators in academia and the private sector. We support the development and funding of regional and National Transport Access points. Proving access to APIs in standardised formats would rapidly accelerate the development of new digital services; integrated ticketing and Mobility as a Service etc.

We applaud the work that the DfT is undertaking in C-ITS, CAV and Digital Roads with UKRI, however efforts need to be redoubled to ensure that the UK remains "world beating" in this sector. EEH has world class Universities sector, an innovative start-up culture and established R&D capability in Mobility and energy sectors. Our region has excellent credentials as a living lab with a blend of urban, peri-urban and rural localities. The Department should utilise this and work with EEH and our partners in the development/deployment of the demonstrator "Zero Emission City" as presented in "Gear Change. A bold vision for cycling and walking".

Further investment/support of new modes such as Autonomous Very Rapid Transit (AVRT/micro-metro) underground logistics systems and drones are not explicitly mentioned in the document but will have a role to play in decarbonisation.

Place based solutions/challenges

Transport is a derived demand and as such reducing the need for people to travel to access services, goods and opportunities needs to be holistically addressed through better planning and provision.

Demand reduction is not explicitly noted as an area of focus in the document. Any future action plans should have a seventh strategic priority for 'reducing demand for travel'.

Due to the spatial disparity between jobs and affordable housing, and poor provision of high-quality East/West public transport, our residents use their cars more and to travel further than the UK national average. As explicitly outlined in the draft Transport Strategy, this needs to be addressed though both the provision of new digital infrastructure (reducing the need to travel to access jobs, goods and services) and Demand Reduction. This will be central to achieving emissions targets: Potentially important solutions and policies such as better land use planning, home working, distance learning, vehicle ownership models and as pay as you go for road use are not currently highlighted as an area for consideration.



Several of the scenarios emerging from the Pathways to Decarbonisation report point to the need to deliver a 20% reduction in the total number of car trips (taking in to account the growth in population) as requirement to meet the 2050 targets.

It's challenging to see how such significant mode shift will be achieved with just the deployment of "supply side" sustainable modes alone to influence behaviour. We recognise that mechanisms are in place for city/town centre demand management/road pricing, however we must (as a nation) look again at the generalised cost of car-based transport. This is not directly outlined as a consideration in the document.

There is a significant urban focus to many of the walking, cycling and bus modal assumptions. Any action plan must consider how the millions of trips in rural areas are decarbonised and clearly articulate the rural vision for decarbonised transport. Whilst the challenges associated with connectivity apply equally to both urban and rural areas, the nature of the rural economy often accentuates the impact on individuals suffering from poor connectivity. The approach therefore needs to explicitly recognise the additional challenges of decarbonising our transport system in rural areas.

With the growth of EVs and the commitment to ban new petrol, diesel and hybrid vehicles from 2035, there will be a need for change to Vehicle Excise Duty fuel duty regime. There now exists the opportunity to align thinking on how we pay for our travel, with our policy objectives, and the need to decarbonise.

That discussion should include consideration of how individuals in all place types will access or pay for their travel in the future in an equitable way.

Cross sectoral, regional carbon budgets should be explored as a mechanism to deliver and monitor decarbonisation. This is challenging; delivering rapid emissions reductions, value for money and the prevailing spatial and socioeconomic conditions of a "place" will need to be considered in this process of budget allocation. CIHT's publication "Better Planning Better Transport Better Places" highlight the opportunities inherent in this joined up approach.

Decarbonising road transport

The scale of electrification required to support decarbonisation is significant - more than doubling current domestic energy consumption. Interdepartmental planning covering "upstream/downstream" with ESOs/ESCO/DNOs needs to be accelerated. Assurances are needed that the strategic infrastructure required to deliver decarbonisation in the transport system (and beyond) can and will be delivered in a timely manner and the regulatory framework to achieve that is in place.

This will provide assurance to the public and private sector and encourage further investment in Low carbon technologies and systems.

There also emerges a need to address wider energy policy and national security issues that may arise from additional demand from transport in conjunction with the wider systemic electrification of the economy.

There is an opportunity to use the National Infrastructure Planning Act legislative framework to align investment decisions in different policy areas to a common outcome that is expressed in terms of place.

If local authority partners are to take a leading role in the deployment of enabling infrastructure, they need to be resourced accordingly. Government funding is heavily weighted to capital expenditure. The process of installing and delivering public charging infrastructure (and more generally, low carbon journey enablement) requires significant officer time; the multi-agency approach required to deploy infrastructure is labour-intensive. Revenue funding must therefore be allocated to assure successful local delivery.



Ensuring continuity of supply chain in post Brexit needs to be addressed. Whilst UK manufacturing will need support to respond to J.I.T challenges (see certification of origin etc.) there remains a very real possibility that this will be a point of failure. Demand for EVs (Cars/LGV) currently outstrips supply and there are significant waiting times. This will inevitably reduce demand.

If the trend for larger, heavy SUV EVs continues, efficiency will remain an issue for the private vehicle fleet. The power and infrastructure requirements for road transport electrification would be significantly reduced if product specification standards on weight and size of vehicle are introduced.

The hydrogen economy and infrastructure may have a significant part to play in road transport decarbonisation. The extent of that needs to be determined early to reduce risk of stranded assets. If placed at the centre of the transport decarbonisation programme, the investment required runs to <£100BN over the next 20 years. Significant further work is required to understand if this is the correct pathway for the UK to take. Hydrogen's role in heating and energy storage will have a large impact on cost and availability.

Freight – decarbonising how we get our goods and services

Decarbonising the freight and logistics sector is appropriately a strategic priority in its own right. The response to the Covid-19 pandemic has sharpened the focus we now afford the sector and the need for policy to enable it to continue to evolve and adapt to reflect the new economic situation.

The freight and logistics sector is privately owned but utilises publicly owned infrastructure. Accordingly, it will require a partnership approach involving freight operators, infrastructure owners/operators and the Government if we are to decarbonise the sector. The critical importance of a partnership approach is emphasised by the continued evolution of the sector in response to changes in consumer behaviour and the continued growth in e-commerce in the retail sector.

It is unclear how the UK will change post CV-19 and the transition period following Brexit: One constant though is the need to produce, trade and supply goods. A possible outcome will be an increase in the domestic movement of goods and services, potentially spurred on by a shift to nearshoring/reshoring manufacture and a rise in e-commerce.

The EEH draft Transport Strategy has identified the need for some fundamental changes to our transport system (including freight) if we are to achieve the 2050 targets. It highlights the opportunity to use investment in strategic infrastructure as an opportunity for encouraging business models that are consistent with a green economic recovery. Our investment in strategic infrastructure must be complemented by investment in digital infrastructure and local connectivity measures; in this way we can improve travel choice, encourage modal shift and reduce the need to travel.

Irrespective of any short-term change in attitude towards living in built-up urban areas, planned development and our spatial geography will continue to drive densification of development. This creates opportunities to target investment that encourages a low carbon lifestyle. In particular densification of activity will encourage investment in supply chains that are more efficient and cost effective. The growth in e-commerce will further emphasise the importance of focusing on solutions for the freight and logistics sector.

The challenge for the sector is exacerbated by virtue of it being one of the most polluting elements of our transport system; one where solutions are hardest to implement. This is most acute for long-haul lorry movements by HGV where the pathway to full electric is less certain. Despite research into alternative fuels and battery technology the current prognosis for a zero-carbon replacement for a 44-tonne lorry is discouraging.



Accordingly our draft Transport Strategy sets out the need for stronger recognition of the role of rail freight in the 'movement of goods' and the policy framework sets out the measures that are required to achieve this. Our work on freight and logistics has identified that a high proportion of road-based movements involve trips over 200/300 km and are subsequently prime candidates for a shift to rail, with the final stage being by delivered by battery/low carbon fuels.

Rail freight is a tried-and-tested zero carbon option. There is a need for Government to commit to a long term rolling programme of electrification of the network. Network Rail's Traction Decarbonisation Network Strategy provides the evidential base for such a programme. Committing to a rolling programme will enable efficiencies to be realised, whereas delaying investment risks running down the clock.

With regards to shorter distance local urban deliveries there are already a number of viable technological solutions available and Government should double down on the supply, regulation and incentives that encourage the uptake of electric vans, including prototyping light trucks (7.5 tonnes).



Reducing carbon in a global economy

Airports will continue to have a key role to play in enabling the UK to remain competitive, acting as a gateway and providing access to global markets. Where these are subject to expansion by way of Nationally Significant Infrastructure Projects, it will be essential that promoters use the disruption to the transport system during construction as an opportunity to implement measures that encourage fundamental and lasting change in travel behaviour.

The EEH draft Transport Strategy is committed to working with infrastructure owners/operators, Network Rail, Highways England and the Government to improve surface access by public transport to international airports in order to reduce the environmental footprint of their operations.

Support for these expansions should be conditional on the delivery of a comprehensive programme of investment in measures that result in a step-change in connectivity to/from the airport by non-car modes. In addition, any surcharge on vehicles should be ring-fenced for the purposes of reinvestment into the public transport network serving the airport.

Broader policy challenges

Nowhere in the document is the risk inherent in the delivery of current policy(s) to transport decarbonisation identified - e.g. RIS2. Given the extent to which such investments serve to shape future travel choices it is appropriate for the implications of current programmes to be assessed for their consistency with the requirement to decarbonise the transport system.

Analysis of the relative contribution of policy(s) to the overall carbon reduction trajectories should be set out with associated costs. Once an understanding the contributions of the different policy-levers to achieving decarbonisation is established there should be a requirement on the part of Government, the STBs and local partners to determine the gap between the current trajectory and the 2050 net zero requirement. In so doing there is a need to review the CCC carbon budgets (2023-2027) and (2028-2032) and a need to set out the policies and measures required to achieve them.

In this way it will be possible to identify the requirements for carbon budget 6 and beyond. In this regard the Transport Decarbonisation Plan must reflect recommendations set out in the CCC report with a clear action for delivery.

Conclusion

EEH welcomes the Transport Decarbonisation Plan. It is timely in so far that there is an pressing need for to set out the policy requirements and associated interventions that are required in order to meet the legal requirement to achieve net zero no later than 2050.

The policy framework set out in our draft Transport Strategy draws on the assembled Regional Evidence Base and sets out the measures required to achieve the legal requirements in so far as the apply to our region. It sets out how we seek to harness our region's inherent strengths in terms of science and technological innovation provides the opportunities for the development of new business models and solutions that will enable us deliver on our ambition. In this way it will be possible to realise economic growth whilst delivering net environmental gain.

Our work on Pathways to Decarbonisation has been instrumental in shaping the policy framework. The ambition across the region remains to accelerate delivery of our adopted pathway. However, that will require co-ordinated and aligned interventions at national, regional and local level.

We are committed to working closely with the Department to ensure that we continue to provide the strategic leadership that is required to support the delivery of these programmes.

Please do not hesitate to contact me if you have any questions or require additional information.



