



Consultation Response: Revised Second National Infrastructure Assessment Baseline Report February 2022

ADEPT Revised Second National Infrastructure Assessment Baseline Report Response

Are you providing your own response or responding on behalf of an organisation/group?

- Responding on behalf of organisation/group

If you are responding as an individual, please provide your name and postcode below and then continue to Question 5.

- n/a

If you are responding on behalf of an organisation or group, please provide the following details:

- Organisation Name: Association of Directors of Environment, Economy, Planning & Transport (ADEPT)
- Your name: Mark Kemp
- Your Role: 1st Vice President and Chair of ADEPT Transport & Connectivity Board

Which category of organisation or group are you representing?

- Professional body/representative group

Summary of Call for Evidence Questions

Introduction

- 1. Do the nine challenges identified by the Commission cover the most pressing issues that economic infrastructure will face over the next 30 years? If not, what other challenges should the Commission consider?**

We agree that the nine challenges identified by the Commission cover the most pressing issues that economic infrastructure will face over the next 30 years. However, it is important that the challenges associated with reaching net zero incorporate the decarbonisation of the transport network across all modes (cars, HGVs, aviation, and shipping) and reduction in embodied emissions (both associated with the construction of new vehicles as well as the construction of new transport infrastructure). This is critical for the UK to meet its legally binding targets of achieving net zero emissions by 2050.

- 2. What changes to funding policy help address the Commission's nine challenges and what evidence is there to support this? Your response can cover any number of the Commission's challenges.**

To address the supporting levelling up challenges in a strategic and coherent way, Local Highway Authorities (LHAs) require multi-year revenue funding settlements (and there be less reliance on competitive bidding) to support behavioural change programmes and deliver sustainable transport infrastructure that can achieve meaningful mode shift (e.g. new inter-urban cycle corridors, or new public transport corridors).

To further address the challenges associated with net zero, LHAs must also be provided with funding to support the delivery of electric charge points and technologies associated with other zero emission vehicles (e.g. hydrogen fuelling stations).

Funding policy must also focus on digital connectivity. LHA's must be provided with funding to support the delivery of internationally competitive digital infrastructure. This will help support economic growth in areas with poor digital connectivity, but also create a more flexible workforce that can fully embrace remote and hybrid working.

3. How can better design, in line with the design principles for national infrastructure, help solve any of the Commission's nine challenges for the next Assessment and what evidence is there to support this? Your response can cover any number of the Commission's challenges.

ADEPT agrees with the design principles for national infrastructure. In the context of surface transport, the design principles will help address the levelling up and net zero challenges in the following ways:

- **Climate** – This design principle will support the decarbonisation of the transport network and a reduction of embodied emissions (both in new vehicles and new transport infrastructure). This design principle will also ensure new and existing infrastructure can cope with the impacts of climate change (e.g., more extreme weather phenomenon's).
- **People** – This design principle will support the delivery of new transport infrastructure and services that meets the needs of local communities and business.
- **Places** – This design principle will help ensure that new transport infrastructure supports the creation of attractive spaces that have movement and place-based functions (e.g. new cycle corridors that support the movement of people by bicycle, but also offer the opportunities for recreational cycle trips and provide areas for people to stop and socialise).
- **Value** – This design principle will ensure that new transport infrastructure creates a better transport system for all, where users feel safe and a greater sense of belonging.

4. What interactions exist between addressing the Commission's nine challenges for the next Assessment and the government's target to halt biodiversity loss by 2030 and implement biodiversity net gain? Your response can cover any number of the Commission's challenges.

ADEPT does not have a specific view on the existing interactions between the government's target to halt biodiversity loss by 2030 and the commission's nine challenges. However, in the context of surface transport infrastructure, focus should be placed on making existing transport infrastructure work more efficiently, in the first instance, (e.g. through the reallocation of road spaces) and deliver more for nature (e.g. management of roadside verges for the benefit of flora and fauna along with water retention and carbon sequestration; this can also save money).

Furthermore, assessments that form the basis of funding decisions must better reflect the wider economic and environmental impacts of transport Infrastructure. For example, the current approach makes it difficult for Mass Rapid Transit schemes to achieve an appropriate cost benefit ratio.

5. What are the main opportunities in terms of governance, policy, regulation and market mechanisms that may help solve any of the Commission's nine challenges for the Next

Assessment? What are the main barriers? Your response can cover any number of the Commission's challenges.

In the context of surface transport, policy change is likely to have the biggest impact in addressing the Commission's challenges related to net zero and levelling up.

In relation to the challenges associated with net zero, this is already evident. For example, the ban of the sale of new petrol and diesel cars by 2030 has led to a significant increase in the uptake of electric vehicles with associated demand for electric vehicle chargepoints.

In relation to the challenges associated with levelling up, new policies that discourage the use of private cars (e.g. road user charging) could help reduce congestion and improve air quality in urban areas and encourage improvement and investment in sustainable transport infrastructure and services.

Challenge 1: The digital transformation of infrastructure – the Commission will consider how the digital transformation of infrastructure could deliver higher quality, lower cost, infrastructure services.

6. In which of the Commission's sectors (outside of digital) can digital services and technologies enabled by fixed and wireless communications networks deliver the biggest benefits and how much would this cost?

The transport sector will benefit greatly from improved digital services and technologies.

Examples of digital services and technologies that can be used to improve the transport sector include:

- **Asset Management** – Technology to monitor the condition of infrastructure assets to allow for more timely and efficient maintenance interventions. This could include monitoring the real time performance of the road network to facilitate better traffic management and alleviate congestion.
- **Mobility as a Service** – These are services that enable people to plan, book and pay for mobility services through a digital interface (e.g. smartphone app). The availability of these digital services has the potential to make it easier for users to interchange between modes and make use of non-car modes of transport (e.g. it can help users interchange between public transport and e-scooter).
- **Open Data** – Making transport infrastructure and service data publicly available can help with the creation of new digital services that provide users with a more reliable and enjoyable experience (e.g. real time information on public transport services) as well as help asset managers (e.g. Local Highway Authorities) make informed decisions on where new infrastructure should be provided (e.g. electric vehicle charge points).

ADEPT does not currently have any information on the cost of these digital services and technologies. However, the DfT funded ADEPT's Live Labs Programme, which focused on testing digital innovation on local roads. The results of these business cases will be published soon.

7. What barriers exist that are preventing the widescale adoption and application of these new digital services and technologies to deliver better infrastructure services? And how might they be addressed? Your response can cover any number of the Commission's sectors outside digital (energy, water, flood resilience, waste, transport).

In the context of surface transport, funding (risk and appetite) is the main limitation that prevent the widespread adoption of new digital services and technologies by LHAs. This means that digital mobility services led by LHAs often have limited success (e.g. lift sharing services). The widespread adoption of new forms of mobility that are accessed through digital services is generally reliant upon private sector investment (e.g. e-scooters, e-bikes, ride sharing apps).

Reaching Net Zero

Challenge 2: Decarbonising electricity generation – the Commission will consider how a decarbonised, secure and flexible electricity system can be achieved by 2035 at low cost.

8. What are the greatest risks to security of supply in a decarbonised power system that meets government ambition for 2035 and what solutions exist to mitigate these risks?

ADEPT does not have a view on the greatest risks to security of supply in a decarbonised power system. However, the government must ensure that there is sufficient supply of electricity / other alternative fuels (e.g. Hydrogen) to facilitate the uptake of zero emission vehicles.

Challenge 3: Heat transition and energy efficiency – the Commission will identify a viable pathway for heat decarbonisation and set out recommendations for policies and funding to deliver net zero heat to all homes and businesses.

9. What evidence do you have on the barriers to converting the existing gas grid to hydrogen, installing heat pumps in different types of properties, or rolling out low carbon heat networks? What are the potential solutions to these barriers?

ADEPT does not have any evidence on the barriers to converting the existing gas grid to hydrogen, installing heat pumps in different types of properties, or rolling out low carbon heat networks. However, there is a need to ensure that Government Policy and Regulation matches the actions needed to achieve net zero emissions by 2050. This must be supported through updates to building regulations, for example, to ensure new housing developments are fully sustainable and no longer reliant on non-renewable energy sources.

10. What evidence do you have of the barriers and potential solutions to deploying energy efficiency in the English building stock?

ADEPT does not have any evidence on the barriers and potential solutions to deploying energy efficiency in the English building stock.

Challenge 4: Networks for hydrogen and carbon capture and storage – the Commission will assess the hydrogen and carbon capture and storage required across the economy, and the policy and funding frameworks needed to deliver it over the next 10-30 years.

11. What barriers exist to the long-term growth of the hydrogen sector beyond 2030 and how can they be overcome? Are any parts of the value chain (production, storage, transportation) more challenging than others and if so why?

ADEPT does not have any information on the barriers to the long-term growth of the hydrogen sector beyond 2030 and how can they be overcome.

12. What are the main barriers to delivering the carbon capture and storage networks required to support the transition to a net zero economy? What are the solutions to overcoming these barriers?

ADEPT does not have any information on the main barriers to delivering the carbon capture and storage networks required to support the transition to a net zero economy.

Climate resilience and the environment

Challenge 5: Asset management and resilience – the Commission will consider how asset management can support resilience, barriers to investment, and the use of data and technology to improve the way assets are maintained.

13. In what ways will current asset management practice need to improve to support better infrastructure resilience? Your response can cover any number of the Commission's sectors.

Asset management needs to ensure that it balances the economic and environmental costs of ongoing maintenance and fully considers all available solutions. It is important any maintenance solution chosen on economic merit does not have a severe environmental cost. In the future it is likely that there will be ever increasing pressures on the resource and financial cost of asset management. This is likely to require increased reliance upon new technologies and digital services.

Challenge 6: Surface water management – the Commission will consider actions to maximise short-term opportunities and improve long term planning, funding and governance arrangements for surface water management, while protecting water from pollution from drainage.

The Commission will carry out a separate call for evidence on this challenge, as the Commission will deliver this as a separate study and report to government by November 2022, in advance of its other recommendations.

Challenge 7: Waste and the circular economy – the Commission will examine the role of the waste sector in enabling the move towards a more circular economy.

14. What are the barriers to and solutions for expanding recycling capacity, both now and in the future to deliver environmental and net zero targets?

The Government's 'Resources and Waste Strategy' and associated sections of the Environment Act 2021 contain key measures intended to work together to significantly increase recycling. In determining the detailed implementation of this strategy, ADEPT can see 4 key barriers that Government must overcome:

A] End markets: For waste materials to be recycled there must be sustainable end markets that use these resources to create new products. The UK does not currently have sufficient domestic reprocessing capacity, and relies upon overseas markets, which contributes negatively to resource insecurity, increased carbon emissions, lost UK productivity and a missed opportunity for green jobs. Furthermore, by exporting our waste to countries with lower environmental standards and less stringent controls the UK contributes to pollution and waste crime that is well documented in the media. Signalling a future date by which exports of key materials will be banned would provide the clarity and certainty for industry to invest in the necessary UK reprocessing infrastructure. The planned EPR (Extended Producer Responsibility) regime has the potential to drive improved design for recycling and increased recycled content in packaging if the EPR fees are set in a way that rewards the

right outcomes through reduced compliance costs, and penalises undesirable outcomes. Brands need to 'own' the outcomes of the waste from their products in order to be invested in ensuring positive outcomes. The forthcoming plastics tax will also drive recycled content, and should be refined over time to provide a more graduated incentive to innovate and maximise recycled content in line with circular economy ambitions. A similar approach to taxation should also be considered for other key material streams.

B] Collection and sorting of recyclable materials: Government's plans for consistency of materials collection across the country and a simplified labelling regime for recyclability should increase the capture of recyclable materials. Increased funding through the EPR regime is essential in order to meet the costs of these improved public services, but a major barrier to achieving consistency will be the one-off costs of transitioning from the current recycling services, contracts and infrastructure to those required to meet future requirements. One-off costs will be very significant, including new/refitted sorting facilities (MRFs); new trucks and containers; expanded/replacement depots and transfer stations to accommodate the expanded fleet and greater material separation. Current contractual arrangements will need to be renegotiated or terminated. And the supply chains for all of the above will be under immense pressure to deliver at scale over a condensed time period, which will drive up costs. Support to councils for the up-front/one-off costs, and a thoughtful funding regime through EPR and New Burdens should incentivise early compliance whilst allowing time for bigger cost barriers (e.g. long term contracts which have involved large capital investment) to be reduced through delay, or met centrally to avoid punishing a particular locality for decisions that pre-date Government's new policy direction.

C] Public behaviour: The success of the whole recycling system relies upon public participation. Improved consistency, labelling and product design should all help consumers to recycle more effectively. These need to be backed with a sustained, well-funded (through EPR) communication campaign. Local authorities should retain/be given the tools to maximise participation, including the ability to determine recycling system design and residual waste collection frequency in their areas; and appropriate enforcement powers. The impact of consistency and EPR should be given time to take effect and be evaluated. The proposed Deposit Return Scheme (DRS) could then be targeted at material types where the main recycling system is failing (e.g. commonly littered items/less recycled). Introducing a DRS sooner will divert funding away from the primary recycling system, and involve duplication of infrastructure on a massive scale all to target the same materials.

D] Recycling is only part of the circular economy and net zero: Waste strategy risks focussing too heavily on recycling, and performance is still primarily measured through weight-based recycling targets. This ignores overall consumption / one planet living. Waste reduction through improved design and changing consumer behaviours is far more important in carbon and circular economy terms. Re-use has massively higher social value than recycling. And a singular focus on recycling can drive perverse policies (e.g. mandatory 'free' garden waste collection would increase public expenditure; increase infrastructure needs, vehicle requirements and waste miles, in order to mostly collect material that residents can home compost/leave in their gardens to support nature).

15. What is the likely environmental impact of waste streams from construction across economic infrastructure sectors, over the next 30 years, and what are the appropriate measures for addressing it?

Construction continues to generate massive quantities of waste. Policy and financial measures need to incentivise sustainable design; on-site reuse of demolition materials, soils etc; incentivise the use of secondary/recycled construction materials; and target the most polluting construction wastes to ensure there is an incentive to avoid these and/or deal with them responsibly.

Levelling up

Challenge 8: Urban mobility and congestion – the Commission will examine how the development of at scale mass transit systems can support productivity in cities and city regions and consider the role of congestion charging and other demand management measures.

16. What evidence is there of the effectiveness in reducing congestion of different approaches to demand management used in cities around the world, including, but not limited to, congestion charging, and what are the different approaches used to build public consensus for such measures?

Large-scale approaches to demand management (such as road user charging) are often perceived in a negative light by the general public, being viewed as another form of tax or a loss of freedoms. However, demand management has often proved to be an effective solution to reduce congestion (and improve air quality issues) caused by private cars and vans.

Demand management can take many forms, including congestion charging, highway restrictions, parking charges and new infrastructure (e.g., the reallocation of carriageway space or pedestrianisation of a high street). One of the best of example of successful demand management is the London Congestion Charge, which, since implementation, has resulted in a significant transport mode shift, relieving congestion, and creating over £2 billion in revenue. In the first year of the congestion charging, London experienced a 30% reduction in traffic congestion and a 30% increase in average speeds. Since its introduction in 2003, the percentage of trips made by private car in London has reduced from 46% to 36%, while public transport has increased from 29% to 37%, and a further 27% of journeys in London are made by walking or cycling.

The success of congestion charging in London is encouraging other cities to consider other demand-based solutions to combat both congestion and air pollution through the introduction of Clear Air Zones (CAZ). Bath was the first city to launch a charging CAZ. A case study on the challenges of introducing a of a CAZ in bath can be found at:

<https://www.adeptnet.org.uk/documents/3rd-ntm-conference-slide-pack-session-1>

In the city of Cambridge, a potential pollution charge is being considered as a part of a CAZ. If brought forward, a one-off charge would help reduce pollution and congestion within the city centre and help fund a series of public transport infrastructure improvements within the city. The proposed charge is currently unknown, but it's projected to be in the range of £5-15 per day.

Challenge 9: Interurban transport across modes – the Commission will consider relative priorities and long-term investment needs, including the role of new technologies, as part of a strategic multimodal transport plan.

17. What are the barriers to a decision-making framework on interurban transport that reflects a balanced approach across different transport modes?

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A decision-making framework on interurban transport must balance the needs of multiple stakeholders including residents, businesses, service providers and the local authority. However, because of the differing views and opinions of each stakeholder, it is likely that a compromise will need to be agreed. This could result in the benefits of a new infrastructure scheme being reduced, or significantly scaled back (e.g., a new cycle corridor might have gaps so that highway capacity is not reduced).