

NIC Infrastructure Assessment2 Call for Evidence

Submission by Greater Lincolnshire Local Enterprise Partnership

The Greater Lincolnshire LEP is situated in the Midlands and is supported by both the Midlands Engine and Transport for the North on regional basis given its geography. We have decided to submit on an individual basis as we just missed the deadline for the Midlands Engine Submission and would welcome our views being considered as part of the overall Midlands feedback.

Greater Lincolnshire Background

Greater Lincolnshire is a £20.7bn economy, with ambitions to add £3.2bn to GVA by 2030. It boasts a mix of manufacturing and engineering, a comprehensive agri-food sector, energy and services, and has large health and care and visitor economy sectors. The area benefits from a large number of small businesses – a distinctive feature of the economy. This is a place with strong identities and significant assets including strategically important industries. Covering an area more than 4.5 times larger than Greater London, Greater Lincolnshire is a large and polycentric place, with over 50 miles of coastline and one of the lowest population densities of any LEP. Greater Lincolnshire has room to grow.

Greater Lincolnshire's dispersed economy is made up of distinctive market towns interspersed between rural, coastal and urban areas, as well as concentrations of industrial activity clustered around the ports of Grimsby and Immingham in the Humber Estuary. It has a varied economy with challenges and opportunities often concentrated by sector or place. This difference is reflected in (and drives) the priorities which capitalise on the distinctive natural and dispersed nature of the place.

As for the rest of the East Midlands transport in our area remains predominantly road based however freight plays a key role when it comes to our major highway routes (M1, A1, A46, M180) and core arterial routes A15, A16, A17, A52. We are currently not part of a Combined Mayoral Authority, County Deal or an Integrated Transport Authority and are made up of 4 County Councils and 7 District Authorities.

As highlighted in the East Midlands Councils response the East Midlands does not have an extensive rail network compared to London or the main provincial metropolitan areas and there has been historic under-investment in both rolling stock and services. If the region was funded at a level equivalent to the UK average, the East Midlands would have an extra £1billion a year to spend on transport.

Question 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?

- Social Aspects, such as health and green spaces, are not included. Infrastructure is essential, but social barriers to access also need to be considered. For example, HGV drivers are less likely to use bespoke rest facilities if additional cost is applied to using them and laybys remain available free of charge.
- More support for Modern Methods of Construction initiatives will be important – working in partnership with Homes England and private sector

- The current 9 Challenges fail to adequately identify two critical issues facing us over the next 30 years:

The first is rural connectivity and mobility. The nature of a sparsely populated large rural area means that younger people in particular are faced with difficult choices in being able to access both education and skills training as well as jobs. Even local jobs are difficult to access as they are often at low pay rates and on the coast in particular are both seasonal and often include unsocialable hours. Accessing these roles becomes problematic as public transport is patchy or non-existent on weekends or in the evenings. Accessing education and training will require long journeys often over 60 minutes each way adding two hours to already long days. For the wider workforce job opportunities become challenging as again accessing wider jobs markets is problematic with poor public transport connectivity and limited choice.

The other challenge is one of the lack of ongoing maintenance investment, there seems little point keep building new infrastructure and neglecting to maintain what we already have. Cyclical and routine maintenance delivered at the appropriate time can prevent longer term cost implications as the value of the asset is maintained. The continued drive of short termism and cost cutting risks much higher costs in the longer term where an invest to save approach would provide a more sustainable solution.

Suggested changes/additions to the nine challenges from a Greater Lincolnshire perspective would be:

- all sectors will need to **take the opportunities of new digital technologies**
- the **electricity system must decarbonise fast** to meet the sixth Carbon Budget
- **decarbonising heat** will require major changes to the way people heat their homes
- **new networks** will be needed for **alternative fuels for the transport network i.e.** hydrogen and carbon capture and storage **and EV related infrastructure**
- **good asset management** will be crucial as the effects of climate change increase
- action is needed to improve **surface water management** as flood risk increases **in particular coastal flood risk challenges**
- the waste sector must support the move to **a circular economy**
- **improved urban and rural mobility and reduced congestion** can boost ~~urban~~ **productivity and provide access to employment and skills**
- **a multimodal interurban transport strategy** can support regional growth.

(One could argue there is a further challenge – under-resourcing)

Question 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.

- Devolution and distributed funding – moving away from short term funding opportunities and competitive approaches, policy should focus on need and evidence
- The UK's rise as a leading developer in offshore wind demonstrates that the right balance of government policy support and private sector investment can make a big difference.

- The government should create a stable environment. The technology is relatively immature with a limited track record and unproven over the life of the asset – business model and policy risk
- Maximise the roll of private finance

Question 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.

- Design to support resilience, flood protection will be important
- Need to embed carbon principles in design
- Reintroduce local or regional design panels to give advice and support to the construction sector and investors
- Work with Homes England and regional partners to demonstrate positive impact of modern methods of construction (MMC). Need to consider skills required and subsequent training provision in this space too.
- **Reducing Energy Consumption - Residential Development**
It is clear that in order to achieve a zero-carbon Central Lincolnshire, reducing energy consumption from future development must be prioritised and this is an area where the Local Plan can have significant impact. Evidence commissioned has shown that existing buildings currently account for 43% of greenhouse gas emissions in Central Lincolnshire and without dramatically reducing the energy requirements of new development it will be impossible to reduce Central Lincolnshire’s carbon budget within the timeframes required.
- New development needs to be built with ‘ultra-low’ levels of forecast energy use and for residential development this means setting stringent standards for space heating demands, energy use intensity and installation of renewable energy technology such as solar photovoltaics (PV).
- Government is committed to improving the energy efficiency of new homes through the Building Regulations system, under what it is describing as Future Homes Standard (FHS). The introduction of the FHS will ensure, it is proposed, that an average home will produce at least 75% lower CO₂ emissions than one built to current (early 2021) energy efficiency requirements. Homes built under the FHS will be ‘zero carbon ready’, which means that in the longer term, no further retrofit work for energy efficiency will be necessary to enable them to become zero-carbon homes as the electricity grid continues to decarbonise. However, the FHS is only proposed to take effect from 2025 (with an uplift in Building Regulations as a step towards FHS proposed for 2022), and there is no legal guarantee of even that date being met. In Central Lincolnshire, we want to go further, and faster, and have prepared the evidence (available on our website) to demonstrate both why that is necessary and how it is achievable.

Question 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.

- Central Lincolnshire Local Plan (Reg 19 consultation draft) Policy S14 Renewable Energy includes the following:
"Proposals for ground based photovoltaics should be accompanied by evidence demonstrating how opportunities for delivering biodiversity net gain will be maximised in the scheme taking account of soil, natural features, existing habitats, and planting proposals accompanying the scheme to create new habitats linking into the nature recovery strategy."
- Some schemes in Greater Lincolnshire have invested directly in ecological mitigation measures to counterbalance industrial investment i.e. Humber Link Road was built once a major mitigation site had been completed in the same area, recognising the value and importance of biodiversity and environment to our places despite economic growth; the emerging Able Marine Energy Park within the Humber Freeport also created a mitigation space directly adjacent to it.

Question 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

- Freeports policy – decarbonisation focus, links to hydrogen and carbon capture and storage via scheme in the Humber – what we want to drive it forward add in more in terms of asks - FREN
- Barriers – lack of LA staff headspace and training
- Governance/Policy - Power to create a **spatial framework**, which will act as the framework for managing strategic planning across the Greater Lincolnshire area, and with which all Local Development Plans will be in general conformity. This would provide a high-level investment (vision-led) framework aimed primarily at integrating strategic infrastructure investment and spatial priorities across a large spatial geography such as Greater Lincolnshire (GL). This would improve the Greater Lincolnshire Strategic Infrastructure Delivery Plan work already in place into a more formalised decision-making structure.

Question 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 what how much would this cost?

- To fully integrate and manage even greater levels of renewable and flexible energy sources, the power grids (at both transmission and distribution levels) *will require further innovation to deliver a smarter grid infrastructure*
- Future rural mobility - how digital could support

Question 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).

- Significant additional investment is required in the 2020s for roll out of next generation networks
- Assuring risk factors are addressed accordingly
- Some of the largest opportunities for the future sit within rural locations which currently have extremely poor connectivity in many parts of the UK – impact on environment from investment in strengthened connectivity would be substantial

Question 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?

Not enough diversity or investment to ensure capacity:

- Inability to address behavioural change is a significant risk – need to reduce overall demand

Question 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?

- Infrastructure – scalability of business models
- Lack of standards/motivation to make improvements as payback too long on initial investment
- Market awareness and expertise

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

- Cost versus viability – need to consider running costs of a home not just carbon impact
- Developers routinely object to Local Plans requiring building standards that dramatically reduce carbon emissions through improved insulation and installation of renewable energy technology based on the threat to viability. A different approach to establishing an accurate cost benefit ratio would emphasize the savings in running costs over the lifetime of the dwelling offsetting any initial additional capital costs in construction. This is becoming recognised by mortgage lenders who are more willing to lend higher amounts at lower interest rates in acknowledgement of reduced running costs.
- Financial returns for heat source changes are very poor with subsidies of around 80% needed to cover financing costs

- Current building regulations do not support low carbon home development. Workers also often lack the skills to identify and implement new low carbon solutions.

Question 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?

- Many new and emerging technologies such as hydrogen and carbon capture require novel frameworks and incentives to enable low cost, patient capital to bring large scale investment.
- Hydrogen seen as too early stage and too much regulatory uncertainty
- Investment and green versus blue hydrogen consideration
- Need to consider storage facilities and where these might best be located

Question 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?

- Investors need greater clarity about revenue models and more certainty about ROI. Also currently uncertain whether hydrogen has a long-term role to play in Net Zero.

Question 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.

- Although much asset management is undertaken on digital platforms, in reality it is largely a replication of traditional analogue processes and records. To build real infrastructure resilience, digital engineering needs to be fully embraced, not just with new assets, but also retrospectively with existing ones. This is where efficiencies on all fronts will be maximised – reduced maintenance, removing unnecessary site visits, sweating the asset etc. Whilst BIM is driving the change with new assets, there is little or nothing driving the change with existing assets. This leaves a significant hole, with the huge majority of actual asset management lagging behind the digital best-in-class. The significant issue here is the sheer volume of existing assets and the enormous resource pressure (financial and human) there would be associated with moving to a truly digitally engineered asset management.

Question 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?

- Regulation changes to public and private funding models

- Raising and enforcing statutory recycling targets with deadlines for achieving targeted levels of recycling
- There is a lack of a strong national policy and legislative framework to drive action
- Recycling capacity is driven by the availability of private sector businesses who are best placed to invest in developing recycling technology and facilities. They can then harness the same capacity for municipal and commercial waste which the public sector cannot provide. To improve this a clear long term government strategy is required to provide stability in infrastructure requirements as such facilities need long term planning and investment. Greater funding needs to be available for projects which deliver long term infrastructure improvements with a more strategic and environmental benefit.

Question 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?

- As natural resources become rarer the material value will increase which will increase costs and potentially hinder development. An appropriate mitigation would be a wider scope of what construction materials can be recycled and reused, with a review and update of what construction material specification can be utilised. More research and development needs to take place to establish the value/viability of recycling construction materials. Greater analysis needs to be carried out to establish the whole life carbon cost associated with construction.

Question 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?

- We defer to answers provided by Midlands Engine and East Midlands councils on this question.

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

- Unclear priority of Hydrogen vehicles vs. Electric vehicles
- EV charging has a very immature and uncertain business model
- Electric Vehicles offer good financial benefits over Total Cost of Ownership, though still issues with installing sufficient charging infrastructure.
- Need to consider how facilities to support freight can be future proofed to enabled hydrogen/electric fuelling
- Level at which decisions should be made – need national network for some things and a local one for others