

**NATIONAL
INFRASTRUCTURE
COMMISSION**

Assessing the performance of infrastructure across space

Emerging Connections Workshop

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Who we are

There is consensus around infrastructure challenges



“There is growing evidence that the UK’s infrastructure has **not been renewed or enhanced** when needed... successive Governments have **failed to set strategic priorities for infrastructure** based on clear projections of future needs.”



“After years of **inadequate investment** in skills, infrastructure and innovation, there are longstanding structural weaknesses in the economy, all rooted in a **failure to achieve stable planning**, strategic vision and a political consensus on the right policy framework to support growth.”



“The UK will **invest efficiently, affordably and sustainably** in infrastructure assets and services that will drive the economic growth necessary to enhance the UK’s position in the global economy, support a high quality of life and realise a low carbon future.”

Who we are

The NIC is a catalyst for a **new** approach

From...

Overly cautious
Piecemeal
Slow
Expensive
Disruption
Opaque
Unpredictable

Siloed
Stop-start
Contentious
Unreliable
Delayed
Unplanned



To...

- ✓ Long term
- ✓ Independent
- ✓ Cross-sectoral
- ✓ Transparent & consultative
- ✓ Strategic

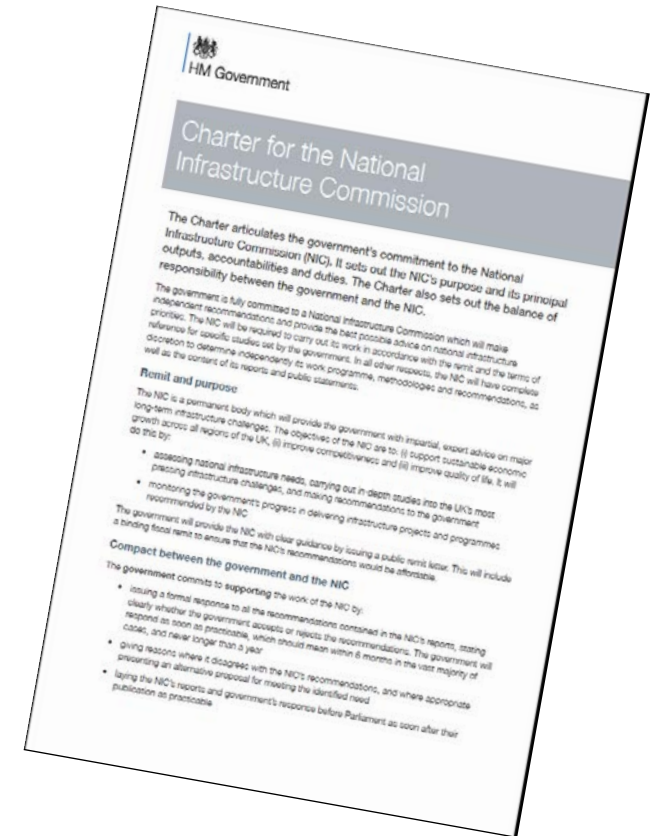
Who we are

Charter for the National Infrastructure Commission

The NIC is a permanent body which will provide the government with impartial, expert advice on major long-term infrastructure challenges.

The objectives of the NIC are to:

- (i) support sustainable economic growth across all regions of the UK
- (ii) improve competitiveness
- (iii) improve quality of life



What we do

- Assessing national infrastructure needs, carrying out in-depth studies into the UK's most pressing infrastructure challenges, and making recommendations to the government
- Monitoring the government's progress in delivering infrastructure projects and programmes recommended by the NIC

The National Infrastructure Assessment (NIA)

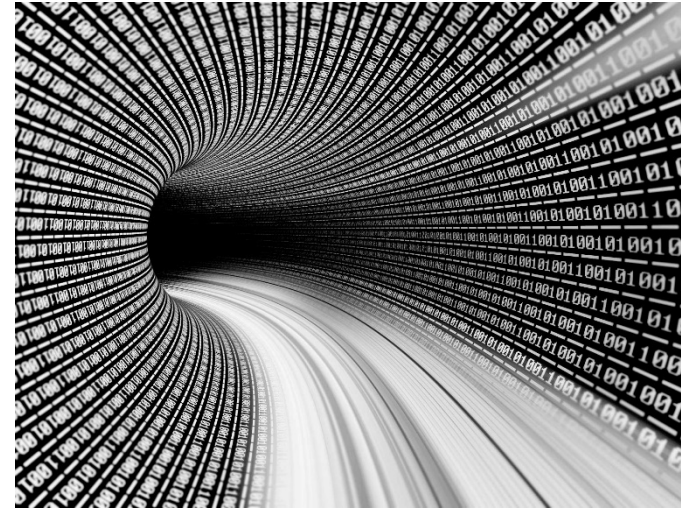
- Once a parliament
- Covers key sectors of economic infrastructure
- Identify infrastructure needs over a 10 to 30 year horizon
- Make recommendations to the Government on key projects and priorities
- Government required to respond
- The Commission will publish an interim consultative report this summer

What we do

Sectors

- Transport
- Digital communications
- Energy
- Water, waste water & sewerage
- Flood risk management
- Solid waste

and their interdependencies



Cross-cutting issues

- Geography and local growth
- Funding and financing
- Resilience
- Sustainability and the environment
- Governance and decision making
- Evaluation and appraisal methodology
- Performance measures



What we do

Recommendations will reflect Commissioners' judgement underpinned by a robust evidence-base

1	Scenarios	<ul style="list-style-type: none">• Address inherent uncertainty of the future• Based on past trends and forecasts of key drivers: population, economy, technology, climate change
2	Modelling	<ul style="list-style-type: none">• Quantitative modelling, using Government and independent models, of different scenarios• Baseline outcomes and packages of policy proposals
3	Stakeholder engagement	<ul style="list-style-type: none">• Capturing expertise and opinions of a wide range of stakeholders• Formal call for evidence; face-to-face engagement events
4	Social research	<ul style="list-style-type: none">• To understand the views of the public• Deliberative research and polling
5	Expert engagement	<ul style="list-style-type: none">• In-depth analysis of key issues through roundtables• Identifying and learning from international best practice
6	New analysis	<ul style="list-style-type: none">• Commission new research or literature reviews
7	Cost-benefit analysis	<ul style="list-style-type: none">• Individual projects and programmes• Commission recognises limits of CBA and will be exploring improvements to current methodologies

Assessing infrastructure performance

How do we measure progress?

The Commission's response to the consultation on Process and Methodology noted:

“Given the complex and multi-faceted nature of [the Commission's] objectives, it will be extremely difficult to directly measure the Commission's impact and progress against each of them. However, the Commission will take robust evidence into account and, as part of its planned work, will look to measure the performance of the UK's infrastructure. Progress against these performance measures will provide a proxy for progress against the objectives.”



- Providing an assessment of the **current performance and shortcomings** of the UK's existing infrastructure, as well as planning for future performance, requires establishment of **relevant, accurate and informative** performance measures that can be used to report on how infrastructure is meeting objective levels over time.
- Often outcomes cannot be directly measured. In this case, it is appropriate to specify outputs, which relate to the outcomes desired and can be **clearly stated and measured**.
- Suitable performance metrics will take on a different value to indicate a change in an observed outcome and help assess whether **external pressures** on infrastructure services, relating to supply and demand, are being addressed.
- The following three slides discuss the **key drivers** through which infrastructure services contribute to the Commission's objectives.

Sustainable growth across all regions

1 Resilience to major shocks	<ul style="list-style-type: none">• Maintaining service levels across infrastructure sectors is essential in an advanced economy
2 Direct productivity effects	<ul style="list-style-type: none">• Infrastructure services are inputs into all other production. So increased efficiency of infrastructure will support productivity across the economy
3 Connectivity and agglomeration	<ul style="list-style-type: none">• Transport and digital infrastructure can promote economic growth by directly increasing productivity, lowering costs for firms, improving access to supply chains and enabling agglomeration economies
4 Sustainability	<ul style="list-style-type: none">• Environmentally sustainable requires that greenhouse gas emissions are consistent with the 2050 legal target• Economically sustainable growth requires avoiding damaging imbalances within the economy and fiscally sustainable growth requires sustainable public debt
5 Across all regions	<ul style="list-style-type: none">• Measures of performance that can be disaggregated by region and allow 'place' to be taken into account when looking at infrastructure assets and service delivery

Improve competitiveness

Competitiveness implies the ability to sell goods and services into particular markets, in this case abroad

1 Cost	<ul style="list-style-type: none">• Cost is a direct contributor to the competitiveness of UK produced goods and services in world markets
2 International gateways	<ul style="list-style-type: none">• International gateways are a particularly relevant component of transport costs for competitiveness
3 Digital connectivity	<ul style="list-style-type: none">• Digital connectivity can enable exports, either directly over the internet or by lowering costs of marketing in other countries
4 FDI	<ul style="list-style-type: none">• Potential investors may consider the quality of infrastructure in making decisions on where to locate. For the same reasons as for sustainable growth, it is likely to be transport and digital connectivity that matter most

Improve quality of life

There is no single definition: human relations, health, happiness and environment all seem to matter

1 Cost	<ul style="list-style-type: none">• Infrastructure services are a significant proportion of household expenditure. Since they are hard to substitute out of, this affects the consumption of all other goods and services
2 Environment and health	<ul style="list-style-type: none">• The quality of the environment is in most measures of the quality of life, including through health effects. Infrastructure affects air and water quality and noise• The quality of design of the built environment is also a factor
3 Everyday resilience	<ul style="list-style-type: none">• Failures of infrastructure systems (drought, flood, poor water quality, blackouts etc) have potential adverse impacts on people's physical safety and psychological well-being
4 Connectivity	<ul style="list-style-type: none">• Transport and digital connectivity allow people to access work, education and health services, leisure, family and community
4 Consumer experience	<ul style="list-style-type: none">• The experience of using infrastructure can have a direct impact on quality of life, eg congestion can be a significant source of stress

Challenges in identifying measures

- **Consistency and comparability** of definitions and data; concepts may be interpreted in different ways across sectors
 - Different types of measures may be appropriate to measure a particular desired outcomes across sectors
 - Defining measures of resilience to large shocks - what constitutes a 'large' shock?
- **Data availability**
 - Some sectors have well-defined measures, others require a more fundamental reassessment
 - It may not always be possible to construct the 'ideal' measure
 - Data limitations may restrict the ability to carry out regional or international comparisons
- Existing indicators tend to measure the quantity of **infrastructure assets**, but are not reflective of the performance of **infrastructure services**
- Measuring performance in a rapidly evolving world and avoiding measures that fail to **incentivise innovation**

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