

Monitoring infrastructure performance

Infrastructure is a vital part of UK economic growth and competitiveness, supporting business and underpinning regional development. The Government's National Infrastructure Plan (NIP) 2014 highlights the importance of effective delivery and performance of infrastructure.

Despite having the world's fifth largest economy, and exceptionally high levels of infrastructure provision and reliability, international surveys of infrastructure performance have on occasion rated the UK as low as 24th in the world. Current indicators do not appear to either tell the whole story of infrastructure performance, or adequately support infrastructure development.

In total the NIP currently measures 65 indicators across eight sectors - major roads, passenger rail, airports, electricity, gas, communications, waste and flood risk management.

The raw data is combined to assess infrastructure performance using indicators such as 'Proportion of trains arriving on time', measured against the baseline year of 2005. The indicators are categorised into six key areas:

- Capacity, access and availability
- Asset or capacity utilisation
- Service quality and reliability
- Asset condition
- Safety
- Efficiency.

Current performance indicators for UK infrastructure are not effective in terms of wider

societal needs and strategic planning, according to a recent report prepared jointly by the iBUILD Infrastructure Research Centre and the International Centre for Infrastructure Futures.

The report concludes that a new approach to assessing the performance of the UK's infrastructure is required, using a broader and more sophisticated set of indicators.

Key findings

- The current performance indicators are backwards-looking to the baseline year of 2005 for historical comparison, and are not helpful in informing strategic decision-making for the future.
- There is currently only a limited understanding of the performance of UK infrastructure, providing a poor basis to retrospectively assess the change in performance from the planned £320 billion infrastructure investment by 2020/21.
- The purpose of the performance indicators is unclear, stemming from a lack of shared vision for national infrastructure.
- The performance indicators are largely disconnected from the wider societal needs served by infrastructure, and do not provide information on delivering valued societal outcomes.
- Comparisons in performance between different infrastructure systems are difficult to make using the current indicators.

Key findings - continued

- Indicators are only reported at national level, so local authorities and regions with underperforming infrastructure that requires investment could be masked by those performing well.
- Methods of aggregating data are focused on specific, narrow measurements, so variations in other areas can be missed.
- The indicators are measured within single infrastructure systems, but do not take account of the interactions and knock-on effects between different systems.

Current performance indicators are not effective in terms of wider societal needs and strategic planning. A new approach to assessing the performance of the UK's infrastructure is required, using a broader and more sophisticated set of indicators.

Policy relevance and implications

- Infrastructure performance monitoring is crucial to track effectiveness improvements following the substantial public and private investments in UK infrastructure.
- A long-term strategic vision for the UK's infrastructure, based on stakeholder needs, should be formulated, including clear articulation of outcomes to be achieved.
- Performance monitoring should be explicitly aligned with this long-term strategic vision.
- Local and regional infrastructure plans consistent with, and informing, the national infrastructure plan should be developed as a matter of course.
- Information on infrastructure performance of all sectors should be collated as part of local and national infrastructure planning.
- There is a need to review infrastructure systems and their interdependencies, to clarify the drivers of any given performance indicator and ensure unintended effects and perverse incentives are avoided.
- Performance indicators should be regularly reviewed to ensure they remain aligned with infrastructure strategies and outcomes, and retain relevance in a changing societal context.

BRIEF DESCRIPTION OF THE PROJECT

The report *A Critique of Current Infrastructure Performance Indicators: Towards Best Practice* is an interim summary of research findings from the International Centre for Infrastructure Futures (ICIF) and the iBUILD Infrastructure Research Centre, both funded by the Engineering and Physical Sciences Research Council (EPSRC) and the ESRC. It provides an overview of current findings and outlines a strategy for designing and implementing a new approach to infrastructure performance indicators.

Web: research.ncl.ac.uk/ibuild/outputs

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