Common Futures Network Response
to
Consultation on a National Infrastructure Assessment (NIA)
Congestion, Capacity, Carbon: Priorities for National Infrastructure
January 2018

Introduction

This response has been prepared by Common Futures Network (CFN). CFN has been established in response to a perceived need for a more explicit understanding of the spatial dimension in setting national priorities for investment, particularly for England, which particularly lacks any form of national development framework.

CFN is independent of political, business or other sectional affiliations and our members include professionals with extensive experience in UK planning practice and consultancy, utility planning, regeneration, transport planning and academia, across the UK and internationally. We submitted a substantial response to the earlier consultation on the National Infrastructure Assessment.

Most of the discussion and proposals in the document carry forward the thinking in the earlier consultation, and many CFN comments submitted to this earlier consultation hold good, and are attached (as a separate document) rather than repeated here. This response focuses on the key issues that still need to be addressed and does not seek to respond in detail on all the questions posed.

We wish to stress that CFN welcomes the initiatives taken in the NIA in promoting a more strategic national approach to investment in infrastructure and relating this to wider goals. The individual proposals in the report are desirable; for example, a 'rebalancing toolkit' is important. But CFN wishes to see these initiatives strengthened by their integration within a wider national framework - and not reliant only on project based assessments. We believe that this consistent with and supportive of the goals of the NIA as expressed by Sir John Armitt in his speech to NIPA (Dec 2017) and which he summarised as follows:

> *"In short we need a plan. At national level strategically setting out how the regions relate to one another and the expected nature of their place with its emphasis on industry, technology, education, tourism, national parks recreation.*

The Missing Context

CFN appreciates the work which has gone into preparing the Assessment and the analysis which underpins it. In addition, many of the individual proposals within it are consider to have merit. There is however an underlying concern that the national infrastructure priorities of the NIA have had to be prepared without the benefit of: a vision for the UK as a whole, with an explicit spatial dimension. This context is a cross government responsibility which currently does not exist. As a result, the relationship to wider national priorities, including social cohesion, is undefined.

The expressed priorities in the report, are reflected in its title are '*Congestion, Capacity and Carbon'* – i.e. tackling current capacity bottlenecks, providing new capacity for the predicted growth in demand and reducing the carbon footprint of the country. We believe that *Cohesion* should be added, making a 4C agenda.

The three Cs are all laudable goals but alone do not provide an integrated basis for an infrastructure strategy which supports a wider strategy for sustainable development of the UK. The report is expressed essentially in terms of 'sustainable *economic* development' which is a narrower approach than required for example requirements by the National Planning Policy Framework.

As stated the 3Cs agenda is too limited because:

(i) *Congestion* and *Capacity* are inextricably linked in their cause and solutions, and need an integrated response;

(ii) *Carbon* reduction is desirable, but is only one of the key needs to secure the nation's environmental capital and vital ecosystems;

(iii) *Social* Co*hesion* is not recognised as a priority in its own right, in terms of the need for equitable treatment in regard to infrastructure. As a result, the special needs of communities, such as smaller and remoter communities, are not recognised. Whilst the priority in terms of resource commitments lies within the major metropolitan regions, a national strategy should not leave any area out.

(iv) Decisions on investment priorities are presumed to be taken on an incremental and fragmented basis, when the scale of change required is to some extent structural; the NIA has to be more than a prioritised listing of schemes if it is to be valued);

(v) Housing delivery (Question 12) is separated out when it is an integral part of any strategy for cities (Question 9-11). This separation of subjects is artificial and in effect duplicates the questions being asked; it also fails to recognise that housing is a derived demand and cannot be planned for separately from industry and jobs. The relationship of housing question to the other key themes should be reflected in the final writing of the strategy.

The over-riding problem for the NIA is that it has had to prepare its priorities without the benefit of any national development framework. The NIC has had to generate its own estimate of 2050 change, which has not been subject to scrutiny although it will have implications across all government departments, local authorities and other agencies. The result is that the priorities and policies set out in the consultation document are limited because:

- Infrastructure provision is not an end in itself.
- There is no reckoning of the spatial implications of the priorities being proposed
- Undue reliance is being placed on project-based cost-benefit determination of priorities.

These three issues are considered in turn below.

Infrastructure investment is not an end in itself

As stated in the CFN initial response (attached seprately), infrastructure investment is a means to an end, and not an end in itself. Investment in infrastructure is required to secure regeneration, service new areas of development, renew time expired assets, to improve efficiency and lift productivity, to reduce harmful environmental effects, or to provide for expressed and forecast demand. 'Predict and provide' has been discredited as the basis for road building in urban areas; there are often very good reasons for not simply responding to expressed demand.

Thus, providing for forecast and expressed demand cannot be regarded as a central objective. Forecasting is difficult and unreliable as the NIC very frankly admits. Levels of uncertainty are considerable and these uncertainties relate to population ('the uncertainty is large'); to technological change ('challenges associated with forecasting'); economic growth ('significant uncertainty about GDP per capita'); and forecasting in general ('no forecast of the future will be right). And this is all true notwithstanding the huge unknowns posed by Brexit, which is one of several initial questions posed by the Commission: 'How does the UK maximise the opportunities for infrastructure and mitigate the risks from Brexit?' Thus decisions on priorities for infrastructure investment cannot and should not be made in isolation. Nor is it a matter of just supporting 'sustainable economic growth'. The NIC needs to integrate the concept of 'equitable infrastructure' within the final framing of its priorities.

As the Report highlights there is also great uncertainty about the appropriate population context within which infrastructure decisions need to be made. For example, the scenarios included in the analysis show that the trend rate of change in London and the North West respectively would be 30% and 10% respectively over the period, but other scenarios use the comparable figures of 20% and 15% for London and the North West respectively. Thus, there is a high level of uncertainty at the regional level, and a risk of sub-optimal investment decisions.

Spatial issues must be addressed

As Professor Philp McCann has observed[1], the UK has some of the most serious regional disparities in the developed world and these are reflected in our housing crisis, productivity failings, social cohesion, the Brexit vote, and demands for new infrastructure investment in transport, water supply and housing, especially in London and its mega region.

The need to address these issues has been recognised in the overarching objectives set for the NIC as follows:

- support sustainable economic growth <u>across all regions</u> of the UK (our emphasis added),
- improve competitiveness, and
- improve quality of life

There is limited reference to this first objective in the report. In effect the report suffers from 'spatial blindness', leaving many things to be decided incrementally.

[1] Philip McCann, The UK Regional-National Economic Problem, Routledge, 2016

Case Study

As pointed out in the CFN initial response, German law on spatial planning stipulates that infrastructure should be available to the population over the whole territory in an equitable way. In addition to cost benefit and environmental impact analyses, all strategic projects are subject to a 'spatial effects' analysis. A significant part of the long term budget for transport investment is reserved for projects which would not feature strongly on cost benefit grounds, but have a positive score on spatial effects: 60% of this budget was allocated to former East German states following reunification[2]. A similar policy should be considered in the UK.

CFN supports the case advanced for a new national infrastructure investment bank. But the infrastructure bank, like the Commission, will need a vision with an explicit spatial dimension to influence and guide its investment and funding decisions. It is therefore recommended that the Commission gives consideration to need for a national spatial framework as a context for a new national infrastructure investment bank, as well as by whom and how this might be prepared

Cost benefit analysis has limitations

Given the lack of strategic planning and policy context, the justification for new investment being proposed by the NIC is through ad hoc cost benefit analyses. It is accepted that cost benefit analysis is a useful tool for assisting in the choice of projects to deliver a specified end – such as the need for a new road link between two places. However, for very long-term planning and policy decisions involving collective time-series programmes of action (i.e. a Strategy) CBA is limited at best. As the Commission has noted, long term forecasts are often highly unreliable. Cost benefit analysis is not well equipped to address long term cumulative effects – such as the long term social, health and environmental consequences brought about by a move towards increased use of road transport.

There is an economists' critique of the use of cost benefit analysis of individual projects as the basis for long term transport policy (in particular the tendency for trend based forecasts to weight investment towards previously successful places, without regard to equity considerations) in the report of the Independent Industrial Strategy Commission, chaired by Dame Kate Barker[3]. CFN agrees with their critique, which they express as follows:

> 'As Professor Winch expressed it: 'A major issue here is that the investment appraisal methods used to select asset development projects at the national level tend to follow rather than stimulate economic activity. That is, the benefit side of the benefit-cost calculus is largely function of the existing level of economic activity in the region, and does not fully take into account the stimulus effects of the investment on the region – either during construction or operation. Thus, investment will always be higher in the faster growing regions thereby reinforcing that growth and exacerbating regional imbalances.'

[2] Ecotec/Faber Maunsell, Surface Infrastructure of National Economic Importance: A Study for England's Regional Development Agencies, January 2004

[3] http://industrialstrategycommission.org.uk/wp-content/uploads/2017/10/The-Final-Report-of-the-Industrial-Strategy-Commission.pdf

In principle, potential public sector investments must be carefully appraised, and the UK has long been at the forefront internationally in applying cost benefit techniques to government projects, the practice set out thoroughly in the Treasury Green Book. The Green Book does in fact give significant leeway for decision makers to incorporate wider benefits and strategic aims.

In practice, the appraisals looking at costs and benefits projected into the future apply in a rather mechanical way a methodology designed for marginal and linear changes to investments that are intended to bring about non-linear or non-incremental change. This is an issue affecting major projects. For example, a big infrastructure project whose aim is to bring about economic development involving changes in commuting patterns or the location of certain supply chains would be under-valued by standard cost-benefit analysis methodologies. Although such future benefits are more uncertain than incremental changes, they have a strongly self-fulfilling character. The errors in appraisals from applying the standard methodology to non-linear contexts can be large, both because relative prices may change and because large projects can have big effects on aggregate economic output'. [4]

Conclusions

CFN's view is therefore that:

1. Strategic decisions on national infrastructure investment need to be integrated into a long term national spatial framework if they are to yield their full benefits; deferring decisions in principle to be based on cost benefit analysis of individual projects is not an effective, or sound, substitute

2. The UK's regional disparities are a fundamental problem and must be fully and explicitly addressed by the Commission, as required by its underlying objectives. The Commission should consider how it can help bring forward the preparation of a national spatial development framework in order to: (

    a. Provide confidence that its planning of national infrastructure is on a common basis with, and responsive to, the other national programmes and policies, including the Industrial Strategy, Housing Policy and Natural Capital Strategy; and
    b. Provide a systematic basis for project evaluation based on delivery of long-term socio-economic outcomes and prudential assessment, as opposed to the essentially short-term fiscal outputs of CBA;

3. It should recognise the need for ring-fenced resources for infrastructure investment, especially transport investment for major projects in areas requiring economic revitalisation. Therefore in taking forward its responsibilities the Commission should give serious consideration to alternative approaches, for example the quota approach used for transport investment by the German government following the reunification of Germany.

4. The implications of the above concerns are reflected in the answer to the relevant specific questions asked in the report (see attachment)

[4] Ibid page 54

ATTACHMENT
CFN Response to NIC Consultation Questions

1) *How does the UK maximise the opportunities for its infrastructure, and mitigate the risks, from Brexit?*
CFN Response: The UK requires an agreed National Planning Framework on the lines set out in CFN July 2017 Prospectus: A New Agenda for the UK and England which is submitted in support of this response.

2) *How might an expert national infrastructure design panel best add value and support good design in UK infrastructure? What other measures could support these aims?*
CFN Response: No comment

3) *How can the set of proposed metrics for infrastructure performance (set out in Annex A) be improved?*
CFN Response: The proposal to use the three goals (*sustainable economic growth across the regions of the UK; improving competitiveness; and improving quality of life*) as the basis of the metrics for measuring the performance of infrastructure is too limited. The metrics need to include measures of equity and the need to rebalance the nation in terms of opportunities and its impact on vital ecosystems.

4) *Cost-benefit analysis too often focuses on producing too much detail about too few alternatives. What sort of tools would best ensure the full range of options are identified to inform the selection of future projects?*
CFN Response: Infrastructure needs arise from the derived demands of the changing pattern of people and jobs. Therefore, key to establishing a sustainable approach to identifying and selection of options is the preparation of a strategic national development framework. At present this does not exist. However, in effect the NIC when finalised will implicitly have to have had one as context (in terms of its assumptions and forecasts). These however are more than technical calculations they embody policy assumptions and choices. This should be made an explicit part of its final strategy and not hidden in its background analysis and scenario evaluation. It is therefore considered that the NIC has a key role in its promotion and production. See also general response and response to Question 1, and earlier response to the NIA consultation

5) *What changes are needed to the regulatory framework or role of Government to ensure the UK invests for the long-term in globally competitive digital infrastructure?*
CFN Response: The issue of regulation and use of financial instruments go much further than the digital infrastructure. The NIC priorities should also consider the need to ensure efficient infrastructure markets, and that the policy of privatised utilities (e.g. water and energy) are better related to national development priorities/

6) *What are the implications for digital infrastructure of increasing fixed and mobile convergence? What are the relative merits of adding more fibre incrementally over time compared to pursuing a comprehensive fibre to the premises strategy?*
CFN Response: No comment

7) *What are the key factors including planning, coordination and funding, which would encourage the commercial deployment of ubiquitous connectivity (including, but not only, in rural areas)? How can Government, Ofcom and the industry ensure this keeps pace with an increasingly digital society?*
CFN Response: No comment

8) *How can the risks of 'system accidents' be mitigated when deploying smart infrastructure?*
CFN Response: No comment

9) *What strategic plans for transport, housing and the urban environment are needed? How can they be developed to reflect the specific needs of different city regions?*
CFN Response: There should be a systematic and comprehensive coverage of strategic spatial strategies for all the major functional urban/city regions

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10) *What sort of funding arrangements are needed for city transport and how far should they be focused on the areas with the greatest pressures from growth?*
CFN Response: This links to the answer to Question 9, in that without strategic plans there is great uncertainty about the delivering investment programmes. The emerging approach through City Growth Funding should be translated into a system for linking plan making to plan delivery through 'contracts' between central and local government.

11) *How can the Section 106 and Community Infrastructure Levy regimes be improved to capture land and property value uplift efficiently and help fund infrastructure? Under what conditions are new mechanisms needed?*
CFN Response: See answers to Questions 9 & 10. S106 and CIL mechanisms however useful locally, they do not provide a sound basis for long term planning of infrastructure because they do not raise sufficient funds and are skewed by land prices and their variations from place to place (disadvantages places in greatest need). The only effective mechanism that has worked in the UK since 1947 has been the New Town Act powers, which captured the uplift in value created through public investment in infrastructure.

12) *What mechanisms are needed to deliver infrastructure on time to facilitate the provision of good quality new housing?*
CFN Response: This is not a separate issue – see answers to Questions 9-11.

13) *What will the critical decision factors be for determining the future of the gas grid? What should the process for deciding its future role be and when do decisions need to be made?*
CFN Response: No comment

14) *What should be the ambition and timeline for greater energy efficiency in buildings? What combination of funding, incentives and regulation will be most effective for delivering this ambition?*
CFN Response: No comment

15) *How could existing mechanisms to ensure low carbon electricity is delivered at the lowest cost be improved through:*
- *Being technology neutral as far as possible*
- *Avoiding the costs of being locked into excessively long contracts*
- *Treating smaller and larger generators equally*
- *Participants paying the costs they impose on the system*

- *Bringing forward the highest value smart grid solutions*

CFN Response: No comment

16) *What are the critical decision factors for determining the role of new nuclear plants in the UK in scenarios where electricity either does, or does not, play a major role in the decarbonisation of heat? What would be the most cost-effective way to bring forward new generation capacity? How important would it be for cost-effectiveness to have a fleet of nuclear plants?*

CFN Response: No comment

17) *What are the critical decision factors for determining the role of carbon capture and storage in the UK in scenarios where electricity either does, or does not, play a major role in the decarbonisation of heat? What would be the most cost-effective way to bring it forward?*

CFN Response: No comment

18) *How should the residual waste stream be separated and sorted amongst anaerobic digestion, energy from waste facilities and alternatives to maximise the benefits to society and minimise the environmental costs?*

CFN Response: No comment

19) *Could the packaging regulations be reformed to sharpen the incentives on producers to reduce packaging, without placing disproportionate costs on businesses or creating significant market distortions?*

CFN Response: No comment

20) *What changes to the design and use of the road would be needed to maximise the opportunities from connected and autonomous vehicles on:*

- *motorways and 'A' roads outside of cities?*
- *roads in the urban environment?*

How should it be established which changes are socially acceptable and how could they be brought about?

CFN Response: No comment

21) *What Government policies are needed to support the take-up of electric vehicles? What is the role of Government in ensuring a rapid rollout of charging infrastructure? What is the most cost-effective way of ensuring the electricity distribution network can cope?*

CFN Response: No comment

22) *How can the Government best replace fuel duty? How can any new system be designed in a way that is fair?*

CFN Response: No comment

23) *What should be done to reduce the demand for water and how quickly can this have effect?*

CFN Response: Amongst other demand management measures the pressure on water resources can be enhanced through better strategic planning

24) *What are the key factors that should be considered in taking decisions on new water supply infrastructure?*

CFN Response: see answer to Q23

25) *How can long-term plans for drainage and sewerage be put in place and what other priorities should be considered?*
CFN Response: See answer to question 1

26) *What investment is needed to manage flood risk effectively over the next 10 to 30 years?*
CFN Response: See answer to Question 1

27) *What would be the most effective institutional means to fulfil the different functions currently undertaken by the European Investment Bank if the UK loses access? Is a new institution needed? Or could an expansion of existing programmes achieve the same objectives?*
CFN Response: See general comments in this response suggesting a national investment bank with the remit to support the implementation of an agreed national development framework

28) *How could a comprehensive analysis of the costs and benefits of private and public financing models for publicly funded infrastructure be undertaken? Where might there be new opportunities for privately financed models to improve delivery?*