

## **Written evidence submitted by Dr David Metz (NPS0001)**

Evidence submitted, in a personal capacity, by Dr David Metz, honorary professor, Centre for Transport Studies, University College London

### **Summary**

- The draft NNNPS continues to require accountability for carbon emissions from road investment scheme by scheme. It fails to require that the impact of programmes of road investment be accounted for, as part of transport sector decarbonisation planning.
- The modelling of carbon emissions from road investment underestimates actual carbon emissions.

### **The new draft**

The Department for Transport's Decarbonisation Plan published in 2021 recognised the need to review the National Networks National Policy Statement (NNNPS) in the light of the government's commitment to Net Zero and related developments. Accordingly, the DfT has issued a new draft for consultation, covering major investments on the road and rail networks in England.

The DfT states that the existing NNNPS published in 2015 shall apply to projects already selected for public examination, so the new NNNPS will apply only to applications accepted after it is implemented, following the consultation. It therefore looks as though the Lower Thames Crossing tunnel, which has been accepted by the Planning Inspectorate for consideration, will be subject to the old guidance, despite construction being deferred by two years as announced in the recent Budget, which seems odd.

The purpose of such National Policy Statements is to provide guidance for decision-makers on the application of government policy when determining development consent for major infrastructure. The intention is to remove the need for consideration of fundamental national policy questions at planning inquiries. Those subject to this guidance are the scheme promoters (National Highways for most road proposals), planning inspectors, and the Secretary of State when granting Development Consent Orders.

The important question is how investment in new road capacity could be reconciled with the government's legal commitments to achieve Net Zero greenhouse gas emissions by 2050, meeting the requirements of the Climate Change Committee's Sixth Carbon Budget, and the intentions of the DfT's Transport Decarbonisation Plan. (Rail, already substantially electrified, is less of a problem.)

The draft NNNPS states that the government sees a compelling need for the development of national networks (para 3.22), such that there is a presumption in favour of granting Development Consent Orders (para 4.2), while at the same time recognising the need to move away from 'predict and provide' (para 3.44). This is very different from the new approach of the Welsh government, which does not see a compelling need to develop its national road network.

Scheme proposals are to be supported by assessments of whole life carbon emissions, to ensure minimisation as far as possible (para 5.29). The draft states that, in reaching a decision, the 'Secretary of State should be content that the applicant has taken all reasonable steps to reduce the total greenhouse gas emissions from a whole life carbon perspective. However, given the important role national network infrastructure plays in supporting the process of economy wide decarbonisation, the Secretary of State accepts that there are likely to be some residual emissions from construction of national network infrastructure' (para 5.36). Moreover, a net increase in operational greenhouse gas emissions [from more traffic] is not, of itself, reason to prohibit the consenting of national network projects or to impose more restrictions on them in the planning policy framework (para 5.37).

Importantly, the application for development consent applies to individual schemes. There appears to be no requirement to estimate the impact on carbon emissions from an investment programme, such as the planned five-year Road Investment Strategy 3 (RIS3) due to start in 2026. Accountability scheme by scheme is not so very different from the present practice whereby National Highways argues that each individual scheme makes only a *de minimis* contribution to national carbon emissions, which can therefore be disregarded.

The DfT's Transport Decarbonisation Plan made broad-brush estimates of carbon reduction from policies and programmes, for instance 1-6 MtCO<sub>2</sub>e from increased active travel over the period 2020 to 2050, and 620-850

MtCO<sub>2</sub>e for electrification of cars and vans over the same period. It is inconsistent not to recognise offsetting carbon increases from investment in new road capacity, likely to fall somewhere between the above ranges, and certainly not *de minimis* for the programme as a whole.

### **Modelling carbon emissions**

There is also a problem of modelling future carbon emissions arising from road investment. Transport models are complex and opaque, with many parameters, the value of which requires expert judgement. In consequence, there are in effect two types of people: insiders who have a good working understanding of transport models because they earn their living from building and running such models; and outsiders, who are interested in the output of models but are not able to understand the assumptions, simplifications and judgements that the insiders must make. Outsiders include decision makers in national and local government who have prior expectations of the economic value of particular road schemes, and whose test of a good model is that it delivers outputs, comparing with- and without-investment cases, consistent with these expectations. Other outsiders are those opposing road schemes at public inquiries, who are faced with modelled outputs as part of the promoter's proposal that are not open to detailed scrutiny. Inspectors at planning inquiries are also outsiders in this sense.

The NNNPS requires projects to be supported by a local transport model, but planning inspectors and the Secretary of State do not need to be concerned with the national methodology and national assumptions around the key drivers of transport demand (para 4.7). In practice, most schemes on the Strategic Road Network employ local versions of a set generic traffic and economic models, typically SATURN for network traffic modelling, the outputs of which are inputs to the TUBA economic model. So, as it appears, consideration of the validity of these models for projecting carbon emissions need not be considered either at a public inquiry or by the Secretary of State. One can understand why a planning inspector should not be burdened with a task for which they are not professionally trained. Nevertheless, the question is where, in the decision-making process, the validity of the supporting modelling might be assessed.

The need to assess the validity of transport models is pointed up by the failure of standard models to project fairly short-run traffic flows in two cases of motorway widening, on the M25 and the M1, as I have recorded previously in

my written evidence to the Transport Committee in connection with its inquiry into Strategic Road Investment (RI0005). This does not increase confidence in the ability of such models to project economic benefits and carbon emissions out to sixty years.

One particular problem of transport models is that they are largely used to justify new investment, in which context the saving of travel time is supposed to be the main economic benefit. Yet average travel time, as estimated by the National Travel Survey, has changed very little over the past fifty years, excepting the period of the coronavirus pandemic. The implication is that people take the benefit of faster travel in the form of enhanced access to desired destinations, people, places and services, for the opportunities and choices on offer. Travelling further, rather than using travel time savings for more productive work or agreeable leisure, means more externalities related to vehicle-miles travelled, carbon emissions in particular.

Modellers who aimed to model such access benefits, and the resulting changes in land use and value, would not be appreciated by the economists who are wedded to travel time saving as the main economic benefit of investment, nor by decision-makers who are well used to conventional economic investment appraisal. So, modellers must fix their assumptions, simplifications and parameters to get outcomes that satisfy a 'realism test' of prior expectations, subject to conformity with unspecified standards of professional respectability.

The upshot is that the modelling of the impact of new road investments will systematically underestimate carbon emissions from the additional (induced) traffic. This makes it easier to appear to comply with the pathway to Net Zero, but means that the outcome is likely to fall short of that pathway.

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