Strategic road investment: Transport Select Committee Call for evidence

Transport Planning Society response

About the Transport Planning Society

The Transport Planning Society (TPS) is the only professional body focusing entirely on transport planning in the UK. The aim of the Society is to raise the profile of transport planning and chart a course for the profession.

Introduction

The Transport Planning Society (TPS) is pleased to submit our response to the House of Commons Transport Committee on the Strategic Road Investment inquiry. Our response follows the format of eight questions you would like addressed, although we do not provide evidence for each.

The Transport Planning Society is the only professional body focusing entirely on Transport Planning in the UK. With almost 1500 members, we aim to facilitate, develop and promote best practice in transport planning and provide a focus for dialogue between all those engaged in it, whatever their background or other professional affiliation.

As an overall observation, we feel that the order of questions is not correct. The foundational questions are number six (whether the Road Investment Strategy (RIS) programme is meeting the current and future needs of consumers and business) and in particular number seven (whether the RIS programme aligns with policy priorities such as decarbonisation). The answer to these questions (is the RIS programme the right thing to be doing in principle?) should determine the assessment of the effectiveness of RIS2 delivery (time, cost, scope etc).

TPS published a response to the RIS3 research phase which may be of use to the committee.[1] We outline some of the key points in our answer to question four.

What the impacts of delays and cost overruns are on the overall programme, and whether the revised programme can be delivered to schedule and on budget;

First, National Highways (NH) should investigate what the main reasons are for the delays and cost overruns experienced. It is our understanding that much effort goes into legal challenges to schemes, and the company must have a more robust and clear approach to how it prepares for and responds to these. That means clarity and supporting evidence for the actual need for these road schemes, alignment with wider Government policy or the impact on the decarbonisation agenda. In doing so it should take comprehensive account of the changing approach to transport appraisal

[1] Transport Planning Society. (2022) *The Road Investment Strategy 3: Research Response*. Transport Planning Society. [https://tps.org.uk/public/downloads/jqgPY/TPS%20RIS3%20response.pdf]

methodology which is increasingly vision-led (rather than predict and provide). A good example is the changing way in which transport assessments are approached in Oxfordshire County Council,[2] or the up-coming requirement for quantitative carbon reporting).

The combined effect of delays in delivery and high inflation is an increase in the cost side of any pre-construction cost-benefit analysis carried out before a project was entered into the RIS2 programme. We suggest that all schemes for which construction has not yet started be reassessed on value for money (VfM). This VfM assessment should also include lessons from current overruns in the RIS2 budgets for future roads schemes in RIS3, with an upward adjustment to optimism bias assumptions.

In the National Audit Office (NAO) report the RIS2 budget has been reduced by 25%.[3] This should not be added to the RIS3 commitments, unless it can be shown that NH has the capacity to deliver, and that these delayed projects still provide good value for money. Ideally, (at least some of) the money no longer being spent on strategic road improvements should be redirected to other transport projects supporting alternatives to car travel that can address many of the problems on NHs' network. These projects are more aligned with the Government's policies of levelling up and decarbonisation etc. A good example is given in the 2016 Department for Transport (DfT) / Highways England M25 South West Quadrant Strategic Study Stage 3 Report.[4]

"… to join up local partners and transport providers to understand in detail the viable options on the local road network and railways. This means understanding the feasibility and scale of impact options on the local road network and public transport would have …. These should reduce the need to travel, improve public transport and enhance local roads to reduce pressure on the M25".

A review of RIS2 and proposed RIS3 capacity schemes would help to identify which options have a significant amount of traffic that has its origins and destinations in towns and cities. It will also identify the funding made available for supporting local measures in those areas, or alternative solutions that don't increase overall traffic levels.

It's important the impact of delays in delivery of the RIS2 programme for NH customers are considered. As NH states in its 2021 report "Managing the delays on the strategic road network",[5] annual costs of delays on the Strategic Road Network (SRN) amount to £3 billion, of which it is estimated that 15% are due to roadworks. In addition, less than three quarters of road users/customers in the South East and South West are satisfied with their SRN journey times.

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[2] Oxfordshire County Council. (2022) *Implementing 'Decide & Provide': Requirements for Transport Assessments.* Oxfordshire County Council. [https://mycouncil.oxfordshire.gov.uk/documents/s62102/CA_SEP2022R12%20Annex%201_Implementing%20Decide%20and%20Provide%20-%20TA%20Requirements.pdf]

[3] National Audit Office. 2022. Road enhancements: progress with the second road investment strategy (2020 to 2025). National Audit Office. [https://www.nao.org.uk/reports/progress-with-the-second-road-investment-strategy/]

[4] National Highways. (2016) *M25 South West Quadrant Strategic Study Stage 3 Report*. Department for Transport. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600047/m25-south-west-quadrant-strategic-study-stage-3.pdf]

[5] National Highways. (2021) *Managing delay on the strategic road network.* National Highways. [https://nationalhighways.co.uk/media/wdopybqy/managing-delay-on-the-strategic-road-network.pdf]

What progress is being made on planning for the next Road Investment Strategy;

TPS published a response to the RIS3 research phase. Key points we made that are worth reiterating are:

- The highway network must support all modes of travel, and not just mechanised modes, or private vehicles.
- RIS3 should not just be about expansion of the SRN – greater value could be achieved by maintaining and improving the existing road assets. RIS3 must also consider NHs' responsibility to ensure resilience of the strategic road network in the face of climate events.
- Working in closer cooperation with local transport and planning authorities could mean a break from capacity increases to demand management, mode and destination switching, in support of different ways of making local journeys off the SRN.
- The reappraisal of RIS2 and RIS3 schemes must reflect the now well-recognised uncertainty around future travel demand growth. Be that because of a continuation of the trends emerging from Covid 19 lockdowns, or as exemplified by the two climate change scenarios presented by Jillian Anable and Phil Goodwin, in addition to the current DfT traffic growth projections.[6] The Society finds it inconceivable that all DfT's six Common Analytical Scenarios calculate future traffic growth as the basis for appraisal.
- RIS3 needs to embrace increasing car occupancy and encouraging of active and public transport use as Government targets in, for example, the Transport Decarbonisation Plan,[7] and facilitate this where possible. We would like to see a percentage of the overall RIS3 spend committed to active mode improvements; and a mandate that every RIS scheme has an explicit walking and cycling component, scrutinised by Active Travel England.
- A more effective rail freight offering may be preferable over expansion of the strategic road network in RIS3.
- The trial and rollout of new digital technologies is expected to improve safety and create efficiencies on the SRN. However, they must not exclude nor prohibit users that cannot adopt them.

What lessons from RIS2 need to be incorporated into RIS3 to ensure it is achievable and delivers on policy objectives

The capacity problems that NH has experienced in delivering RIS2, the structural labour shortage that has occurred since Brexit (and exacerbated by post-COVID reductions in the UK residents workforce),[8] inflation and the Government's budgetary problems all point towards RIS3 needing to be re-assessed on affordability and deliverability.

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[6] Phil Goodwin (2021) *We are now facing two alternative futures (plus an untenable one).* EVolution. [https://www.transportxtra.com/publications/evolution/news/69570/we-are-now-facing-two-alternative-futures-plus-an-untenable-one]

[7] Department for Transport. (2021) *Decarbonising Transport A Better, Greener Britain*. Department for Transport. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf]

[8] Census 2021. (2021) *Half a million more people are out of the labour force because of long-term* sickness. ONS. [https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity/articles/halfamillionmorepeopleareoutofthelabourforcebecauseoflongtermsickness/2022-11-10]

The lessons learnt from RIS2 should be reflected in higher values for optimism bias and taken into account in a recalculation of the cost-benefit ratio of individual RIS schemes.

The NAO report identifies in-house capacity problems as a factor. To remedy this, there needs to be a skills improvement programme to create a capability within NH to:

- Generate a realistically broad range of solutions to transport problems on the strategic network.
- Undertake public and stakeholder engagement to the minimum standards laid down by the Gunning Principles, and aim to do better.[9]
- Review the current practice of procuring and managing external expertise where required for optioneering, modelling and forecasting.

We elaborated on some of these points in our response to the DfT's Labour, Market and Skills Consultation.[10]

Another way to achieve this is by ensuring that National Highways is defined and operates as an implementation organisation, with the more policy-oriented elements of strategic roads investment retained within the wider DfT or handed to a separate body with those skills.

A final lesson to learn from current delivery of RIS2 is the need for consistency of the Roads Investment Strategy with wider Government policy. Three particular areas of importance are:

- Levelling up:[11] ensuring that roads schemes in RIS3, in the Government's own words: "improve productivity, boost economic growth, encourage innovation, create good jobs, enhance educational attainment and renovate the social and cultural fabric of those parts of the UK that have not shared equally in the country's success".
- Decarbonisation: carefully reassessing if any road scheme strengthens and certainly does not counteract any other measures that are being taken to reduce the country's impact on climate change.[12]
- Resilience and climate adaptation: reviewing each scheme in the context of climate events as were already experienced in the UK in 2022, but also wider Europe, as the shape of things to come – particularly with respect to flooding and extreme temperatures. The Transport Resilience Review requires revisiting and strengthening since its last update in 2015.[13]

Whether the Government's current and forthcoming roads investment programme is meeting the current and future needs of consumers and business;

[9] Local Government Association. (2019) *Rules: The Gunning Principles.* Local Government Association. [https://www.local.gov.uk/sites/default/files/documents/The%20Gunning%20Principles.pdf]
[10] Transport Planning Society. (2022) *Transport labour market and skills: call for views and ideas.* Transport Planning Society. [https://tps.org.uk/public/downloads/8hwl7/TPS%20-%20Transport%20Labour%20Market%20and%20skills%20concsultation%20response.pdf]

[11] Department for Levelling Up, Housing and Communities. (2022). *Levelling Up the United Kingdom.* Department for Levelling Up, Housing and Communities. [https://www.gov.uk/government/publications/levelling-up-the-united-kingdom]
[12] Department for Transport. (2021) *Decarbonising Transport A Better, Greener Britain*.
[13] Department for Transport. (2015) *Transport Resilience Review: Update Report.* Department for Transport. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/417406/transport-resilience-review.pdf]

Roads are only a part of the overall transport system, and problems currently encountered on roads, or predicted to occur in future, can be resolved in many ways that don't involve road expansion. The Transport Planning Society has long argued that a National Transport Strategy (NTS) feeding into a Transport Investment Strategy would be more versatile than a stand-alone Road Investment Strategy. An NTS could reflect the needs of all travellers better (including those without access to a car) and should offer greater flexibility in finding solutions.

In our recent State of the Nations update we say: "The UK Government should develop a national transport strategy, drawing together its various strategies and policies, and including quantified targets to support the ambitions in its plans and policies such as the Decarbonisation Plan, including reductions in vehicle mileage in England. The overarching goal of this strategy should be to increase equitable and sustainable access to goods, services, opportunities and other people; it should be linked to spatial planning, including a revised National Planning Policy Framework and should support the new generation of Local Transport Plans."[14]

Some promising suggestions on improving cost-benefit analysis are given in the 2022 report by the International Transport Forum (ITF): "Broadening Transport Appraisal" and particularly the section on addressing equity, sustainability and other strategic objectives: "The impact of investments on the resilience of the transport system in the face of climate and other threats is increasingly critical. The transport investment programme as a whole must also contribute to strategic objectives such as modal shift that support decarbonisation and urban liveability goals".[15]

Lessons can be learnt from the Welsh Government, and their Well-being of Future Generations Act (2015). The Act gives a legally-binding common purpose – the seven wellbeing goals – for local and national Government. This means government consider long-term impact in all decisions, they involve communities better, constantly aim to prevent future problems and take a more joined-up approach between layers of Government. The Climate Change Committee (CCC) 6th carbon budget should govern RIS3, similarly to the process in Wales, overall and for each individual project. We provide further detail of our concerns and suggestions in the next section.

The DfT published Decarbonising Transport on 14th July 2021, but in the assessment of RIS2 and RIS3 schemes, little or no attempt has been made to consider these fundamental aspects of national policy and legislation on road projects. As a result, NHs' approach to the assessment of carbon impacts on road schemes is inadequate, incomplete and inconsistent.

- It uses out of date economic and policy assumptions. The analysis of traffic growth and vehicle fleet composition are inconsistent with the assessment of carbon in other Government publications, and the assessment of carbon impacts of the scheme are incomplete;
- It fails to consider the cumulative aggregation of carbon impacts across its own programme, which we consider to be in conflict with The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and Institute for Environmental Management and Assessment (IEMA) Impact Assessment Guidance. NH's carbon assessments also ignore the effects on adjacent local authority areas which will become more car dependent as a result of the capacity increasing SRN scheme, (an important

[14] Transport Planning Society. (2022) *State of the Nations Update: Transport Planning for a Sustainable Future.* Transport Planning Society. [https://tps.org.uk/tps-policy/state-of-the-nations-update-2022]
[15] International Transport Forum. (2022) *Broadening Transport Appraisal*. International Transport Forum. [https://www.itf-oecd.org/broadening-transport-appraisal]

omission given the soon to be required Quantitative Carbon Reduction reporting to be imposed by DfT on Local Transport Plan production); and

- It also fails to show how mitigation and removal pathways are provided for residual emissions which are already baked into our current carbon trajectory, which itself is unsustainable.

Without taxation changes, the transition to EVs is lowering the per km costs of motoring. The National Road Traffic Projects 2022 (NRTP22) scenarios, which allow for significant technology change, but do not hold motoring costs constant, lead to a large projected increase in vehicle miles travelled. It is well understood that negative externalities are very significant in the total social cost of motoring for EVs as well as Internal Combustion Engines (ICEs) and these will further contribute to the burden of carbon emissions. These challenges extend beyond our borders and are not unique to the United Kingdom: it is estimated that electrifying the US vehicle fleet will require three times as much lithium as is currently produced for the entire global market, and (although the UK market is obviously smaller) this same environmental challenge exists.[16] This will be a constraint on EV take up, and again add to the carbon reduction challenge.

A more accurate, complete and consistent approach to assessment would first address the issue of consistency between EV transition assumptions and traffic growth. It would also consider the cumulative assessment requirements of projects and, for alternatives that don't meet the required CCC 6th carbon budget requirements, the issue of residual emissions would be addressed.

At the local level, the planning and transport assessment processes turn towards vision and validate methods of assessment,[17] and quantified carbon reductions become a central part of the development of Local Transport Plans.[18] It is therefore irrational for the policy for the identification and appraisal of new SRN schemes to take place in the absence of consideration of the impacts on the decarbonisation policies of affected local areas.

Therefore, we believe that the level of traffic reduction needed to deliver net-zero should form the basis of the core scenario for assessment. This being the state required of Government by legislation. If this approach were to be adopted for the planning of our road network, there would be limited reason to justify the construction of new strategic road capacity, as the time savings or reliability benefits would not be sufficient to justify this. The costs of mitigation or removal would most likely make the scheme poor value for money. In our view, NH must give full consideration to the role of the SRN in a future net zero transport environment, and look to develop schemes that enable that transition more rapidly:

- Providing the scale and quantity of EV charging points necessary to address range anxiety across EV drivers, while not encouraging a wholesale shift to EVs;
- Using the SRN to facilitate the generation and distribution of renewable power necessary to support rapid transition to EVs;
- Reallocating road space on the SRN for shared passenger vehicles or HGV platoons;
- Developing last mile connections for interchange between the SRN and urban areas, for both passenger and freight.

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[16] Nina Lakahani. (2023). *Revealed: how US transition to electric cars threatens environmental havoc. The Guardian.* [https://www.theguardian.com/us-news/2023/jan/24/us-electric-vehicles-lithium-consequences-research?CMP=Share_iOSApp_Other]

[17] Department for Transport. (2021) *Decarbonising Transport A Better, Greener Britain*. p. 158.

[18] Ibid., p. 152.

This is what consumers and the world of business and manufacturing need. A clear approach and steer towards the redevelopment of the SRN to meet the future needs of society. A future strategy that reduces the long-term maintenance but also wider societal costs that will result from climate change. There is an exciting future for the SRN, but it needs a determined steer away from traditional thinking and methods.

Whether the Government's roads investment programme aligns with other policy priorities, such as decarbonisation, levelling up, productivity and growth;

It is difficult to reconcile the principle of road building with the Government's decarbonisation policy priority, as any improvement in travel time by car increases the attraction of car as a modal alternative, and also enables longer trips to be made. Both increase carbon emissions. Although electrification of the vehicle fleet should, as an end state, eliminate tailpipe emissions and associated carbon, the production of such vehicles, their batteries and tyres, their disposal and (potentially) electricity generation may require carbon. Even the Government's own forecasts in the TAG Databook suggest that by 2050, only two-thirds of cars will be electric and even fewer goods and public service vehicles.[19] On top of this, construction is not carbon neutral, either. And finally, although net zero by 2050 is the end goal, the pathway to this position is also important. It is preferable to delay road building till a substantial part of the vehicle fleet is decarbonised.

The main pathway proposed for reduction in operational carbon emissions on the SRN, (without implementation of additional policy instruments promised by Government but not yet implemented), is the uptake of electric vehicles (EVs). However, analysis of the assumptions used to underpin the CCC 6th carbon budget and Decarbonising Transport leads to a conclusion that there are no scenarios that deliver net zero transport without also reducing vehicle kilometres (vkms).

A 100% transition to EVs by 2050 (as assumed by the CCC), is not sufficient on its own to meet their projections. This requires 17% of mitigation effort out to 2050 to be from 'demand reduction' measures in road transport, with this being particularly prominent in the decade to 2029. The CCC 6th carbon budget, 'Surface Transport Sector Summary, December 2020',[20] identifies the demand reduction requirements for the balanced pathway as being a 9% reduction in vkms by 2035 and 17% by 2050.

However, NHs' appraisals for recent new road projects assume only a 44% proportion of vkms being electric by 2050, based on a previous version of WebTAG. The latest revision of WebTAG (Nov 2022) assumes this proportion increases to 67% by 2050. Neither of these assumptions are consistent with the CCC EV uptake projections.

It is therefore rational and appropriate to consider whether or not the CCC targets for 100% transition to EV by 2050 are achievable when considering the development of new road schemes. As set out in the CCC briefing document 'The UK's transition to electric vehicles, 2021',[21] there are many

[19] Department for Transport. (2018) *TAG data book.* Department for Transport. [https://www.gov.uk/government/publications/tag-data-book]
[20] The Climate Change Committee. (2020). *The Sixth Carbon Budget Surface Transport.* The Climate Change Committee. [https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Surface-transport.pdf]
[21] The Climate Change Committee. (2020). *The UK's transition to electric vehicles*. The Climate Change Committee. [https://www.theccc.org.uk/wp-content/uploads/2020/12/The-UKs-transition-to-electric-vehicles.pdf]

challenges to the achievement of this ambition. The increase in EV charging capability, and the increase in electricity generation and distribution to meet the requirement to more than double energy supply by 2050, (driven by the electrification of surface transport and the fuel supply sector, 6th Carbon Budget dataset, February 2021), are just two of the more taxing prospects.

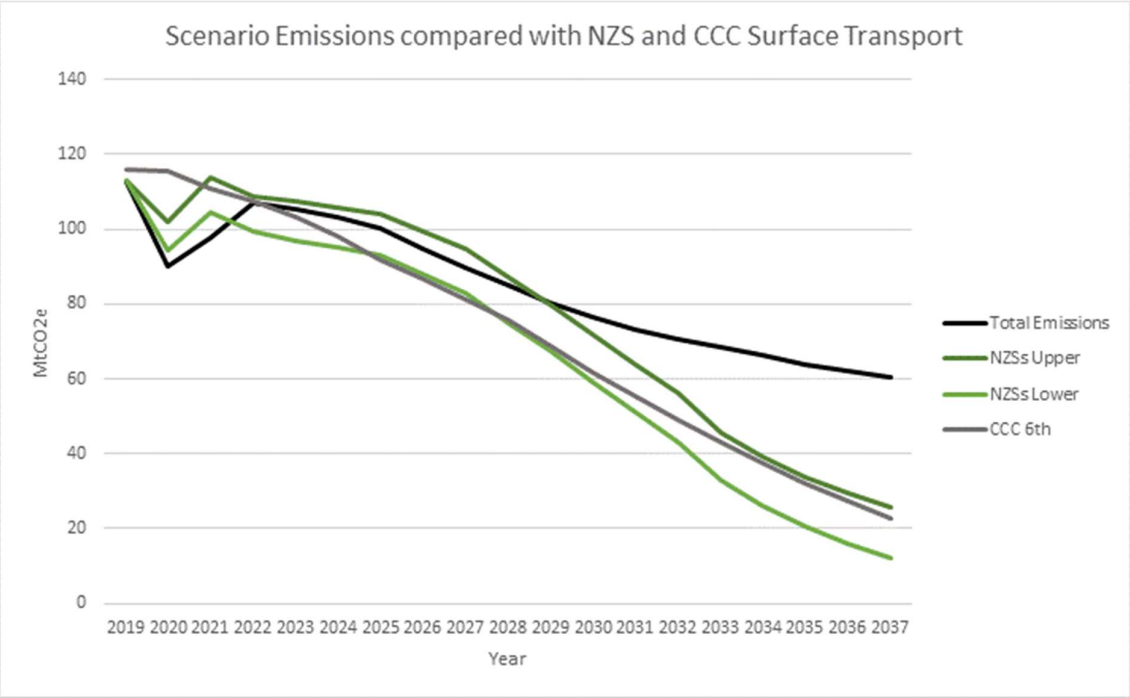
It is less than comforting to see that the methodology developed by National Grid for its Future Energy Scenarios does not appear to align to the increased use of EVs over the next 30 years or the decarbonisation pathways required for all other sectors.[22] Nor is it at all clear how the Network Price Controls 21-28 (RIIO 2/ 3) guarantee from OFGEM will be delivered to ensure that investment is made upfront by the Distribution Network Operators to deliver the critical infrastructure needed locally for all of the transition pathways.[23]

Without clarity about this and other cross sector integration, 100% EV transition by 2050 is no more than a pipe dream. So, our appraisal framework does need to consider something lower than the CCC projections, with the consequential conclusion that greater demand reduction than envisaged in the CCC Balanced Pathway will be necessary. The continued pursuit of a road building programme will not help in delivering such a reduction in demand, and a new approach is needed.

A model has been built by the University of Leeds to estimate the extent to which different assumptions about traffic flows and technology change are consistent with the 6th carbon budget. This work has been based on publicly available DfT and CCC information, but the findings are yet to be published by its authors. The model has been calibrated to ensure a fit against the NRTP22 core scenario for cars, LGVs and HGVs separately. All values over the period to 2035 are within a tolerance of 1%. The findings are illustrative and relevant, so we have secured permission to use them here.

[22] National Grid ESO. (2022). *Call for Evidence FES 2023: A summary of responses from stakeholders.* National Grid ESO. [https://www.nationalgrideso.com/future-energy/future-energy-scenarios]
[23] Ofgem. (2021). *Network price controls 2021-2028 (RIIO-2).* Ofgem. [https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/network-price-controls-2021-2028-riio-2]

Assuming that: traffic growth starts in line with the NRTP22 Core Scenario for 2022, followed by the lowest traffic growth envisaged in the TDP superimposed to 2037; and that the November TAG EV trajectory of committed policies is adopted (leading to the following percentages of miles travelled in electric or other zero emission modes 55% cars, 16% LGVs and 0% HGV by 2035), the model estimates conclude that:



- There would be around a 40% reduction in CO2 emissions by 2037 compared with a CCC requirement for 66% to 77%; and
- The cumulative emissions budget implied by the CCC 6th carbon budget would be exceeded in 2029
- Overall, there would be a gap of 221 Metric tons of CO2 (MtC) by 2037 (16%)
- There would be an annual 37 MtC gap between the pathway described by NRTP and TAG, and the CCC trajectory in 2037 and widening

In the graph,

- Total Emissions = MtC predicted by the model taking account of the above assumptions
- NZSs Upper = Net Zero Strategy upper band for its carbon trajectory
- NZSs Lower = as above but relating to the lower band
  CCC 6th = Climate Change Committee, balanced pathway estimates for CO2

This means something else would need to happen if the 6th carbon budget is to be met, and even a trajectory consistent with a 20% reduction in kilometres as set out in Scotland by 2030 will not be sufficient to plug the current gap. A much greater reduction in vkms is inevitable, and RIS3 just doesn't align with the government's wider policy priorities.

Our final piece of evidence under this header relates to the claim that, despite the above climate change concerns, road building supports economic growth. Although often claimed and despite

theoretical arguments, empirically the link between road building and economic growth is not strong. It is recognised that good accessibility is faciliatory – and this of course does not need to be road based.[24]

How RIS3 should take account of technological developments, and evidence on ways of increasing capacity on the Strategic Road Network (such as smart motorways and potential alternatives to them).

Technological developments offer both opportunity and risk. The DfT National Road Traffic Projections 2022 illustrate that the highest growth in both vehicle kilometres (54%) and delay (86%) is anticipated in the technology scenario.[25] Whereas this growth is assumed to be fuelled by increased accessibility for those that currently can't drive (the elderly and those without a driver's licence), many other technological developments are less equitable and potentially regressive. It has been found that Smart Motorways are poorly understood and the additional lane on the hard shoulder tends to be poorly used.[26]

To conclude, too much reliance is placed on technology as a solution, without considering the benefits of alternative approaches such as engendering behavioural change. Whether achieved via road building or via technological interventions, any capacity increase will result in induced demand and generate traffic which will both counter the immediate scheme objectives and wider government policy.

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[24] Steve Melia. (2017). *Does transport investment really boost economic growth?* World Transport Policy and Practice. [https://uwe-repository.worktribe.com/output/875133/does-transport-investment-really-boost-economic-growth]
[25] Department for Transport. (2022). *National Road Traffic Projections 2022*. Department for Transport. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1123542/national-road-traffic-projections-2022.pdf]
[26] The Telegraph. (2022). *Smart motorways avoided by half of drivers.* The Telegraph. [https://www.telegraph.co.uk/news/2022/12/01/smart-motorways-avoided-half-drivers]

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22. Department for Transport. (2022). *National Road Traffic Projections 2022*. Department for Transport.

23. The Telegraph. (2022). *Smart motorways avoided by half of drivers.* The Telegraph.