

Transport Planning Society

Response to the RIS3 consultation

July 2023

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 at a time of unprecedented change and challenge.

1 Introduction

We would like this submission to be seen in the context of our two recent pieces of work: the RIS3 research consultation and the National Network National Policy Statement (3NPS).

For this submission we focus on the immediate steps that should be taken in relation to RIS3 and any RIS2 legacy schemes. To do this we define three key objectives which we consider to be in line with established Government policy, relevant and have general support among professionals and public.

TPS considers that RIS3 schemes should contribute in 3 key areas:

- 1 Carbon reduction and progress to Net Zero
- 2 Congestion reduction
- 3 Levelling up and economic growth

To date the best evidence is that, while individual road schemes may reduce congestion for a short period in the area local to the scheme, none of these three strategic objectives are being met.

Summary of conclusions

1) **Carbon.** Our best estimate is that Climate Change Committee (CCC) transport sector targets will not be achieved by current policies in Carbon Budget (CB) periods 5 and 6, covering the years 2028 to 2037. The National Road Traffic Projections (NRTP) for England and Wales¹ confirm this view, the Core Scenario² does not appear to meet the carbon target and in any case has a dramatic fall in car CO₂ emissions which we find hard to reconcile with real world data (Table 18).

2) **Congestion.** Congestion overall will worsen on the SRN in future years due to traffic growth. This amounts to 27% by 2060 in NRTP, but much of this occurs in the first decade (2025-35) which is the same time scale as the CCC carbon budgets 4 and 5. On the road

¹ <https://www.gov.uk/government/publications/national-road-traffic-projections>

² We discuss the scenario forecasts (projections) later in this document

network as a whole, the NRTP predicts a 22% increase in traffic (2025-2060) with a 27% increase in congestion. As might be expected from the estimated traffic growth between 2025 and 2035, much of this increase in congestion occurs in the first decade of the forecast.

3) **Levelling up and the economy.** TPS considers that the evidence linking specific local road capacity increases, or an overall national programme, to economic growth is weak at best³. However this is also predicated on the assumption that new capacity has a very limited impact on traffic growth. We raised this issue in our 3NPS submission and in essence there is clear evidence that road capacity does feed traffic growth and in particular that building more capacity in congested conditions generates the most⁴. This is a major problem for RIS3 since the standard methods of cost benefit analysis rely on congestion relief to generate benefits. The implication is that the counting of these benefits is deeply flawed. This has been known for some considerable time and been the subject of a number of Government Advisory Body reports⁵. NH major schemes are poorly integrated with local transport plans, apart from the NH “Designated Funds”.

Summary of recommendations

To achieve any of its objectives NH has to:

- Achieve traffic reductions on the SRN from passengers and freight
- Integrate with local and sub-regional transport policies

This requires restructuring of its approach and funding. Some of this is already flagged up in the consultation – for example NH places greater emphasis on Designated Funds and is aware of the technological challenges in rebuilding the SRN for the purposes of autonomous vehicles. Our outline programme is for:

- **A review of major schemes**
An immediate review of all RIS schemes, in particular those from RIS2 which have been delayed or not started, on a similar basis to that for the Welsh Roads Review.
- **A transfer funds to demand management**
About 50% of the NH budget is for road capacity increases. The vast majority of funds in RIS3 for this purpose should be transferred to demand management through a ramping up of the Designated Funds programme.
- **An expansion of innovation and action research**
Some funding has gone to technological development (for example supplying electric power to HGVs) and this needs to be expanded, for example to research the ability to better control speed and capacity through autonomous vehicles. This has major implications for congestion.
- **Integration with local and regional plans**
Working co-operatively with local Government at all levels. This relationship would be transformed if NH came to the table with funding for schemes which would

³ See CEPA, Transformational Impacts of Transport Investments, April 2023

⁴ See Latest evidence on induced travel demand: an evidence review, WSP and RAND Europe, May 2018

⁵ See Standing Advisory Committee on Trunk Road Assessment (SACTRA) from 1994 onwards

reduce SRN traffic demand with associated local benefits. In a sense it is the missing part of the jigsaw for local and sub-regional transport plans and their environmental and economic aims. Doing this would give a practical reality to some of the aspirations in the RIS3 document.

2 Carbon Context

Our best estimate is that Climate Change Committee (CCC) transport sector targets will not be achieved by current policies in Carbon Budget (CB) periods 5 and 6, covering the years 2028 to 2037. The National Road Traffic Projections (NRTTP) for England and Wales⁶ confirm this view, the Core Scenario does not appear to meet the target and in any case has a dramatic fall in car CO₂ emissions which we find hard to reconcile with real world data (Table 18). The NRTTP Core Scenario does not give an SRN figure, but motorways show much faster traffic growth than other road types (NRTTP Figure 16).

A more detailed investigation by Professor Greg Marsden using the underlying data from DfT concluded that around a 20% reduction in traffic is required to meet the CCC targets⁷. This is in line with our own analysis of the NRTTP and Carbon Reduction Plan. The CCC is also clearly concerned about this but not yet as definitive in its conclusions. It does however suggest a review of the NH roads programme as follows:

At a UK level, various road-building projects have recently been pushed back due to fiscal headwinds. The Government should launch a more strategic review (similar to the Welsh Roads Review) to assess whether these projects are consistent with its environmental goals (Page 128)

From their Recommendations the Government should: Conduct a systematic review of current and future road-building projects to assess their consistency with the Government's environmental goals. This should ensure that decisions do not lock in unsustainable levels of traffic growth and develop conditions (which can be included in the Roads Investment Strategy 3 process and beyond) that permit schemes to be taken forward only if they meaningfully support cost-effective delivery of Net Zero and climate adaptation. (Page 420).

Carbon and the SRN

About a third of road traffic⁸, but about two thirds of HGV traffic is on the SRN⁹. It is difficult to say how much carbon this represents: the traditional consumption curves have been affected by new means of powering vehicles. For example hybrid cars do not provide the carbon benefits on motorways that they do in urban conditions. Assuming a direct relationship between carbon emissions and traffic would suggest between 30 and 40% of domestic transport emissions¹⁰ are generated by the strategic network. At the present time this would be in excess of 40 million tonnes CO₂ equivalent (MtCO₂e). This is very

⁶ <https://www.gov.uk/government/publications/national-road-traffic-projections>

⁷ Marsden, G. 2023. Reverse Gear: The reality and implications of national transport emission reduction policies. Centre for Research into Energy Demand Solutions. Oxford, UK. ISBN: 978-1-913299-17-0),

⁸ <https://www.gov.uk/government/statistical-data-sets/tra25-quarterly-estimates#table-tra2511>

⁹ <https://www.gov.uk/government/statistics/strategic-road-network-statistics>

¹⁰ <https://www.gov.uk/government/statistics/transport-and-environment-statistics-2022/transport-and-environment-statistics-2022>

significant and is downplayed by omission in Government documents, for example the draft national guidance on major infrastructure projects (3NPS).

The current Carbon Budget Delivery Plan¹¹ does not deal with this issue but is clear on the Climate Change Committee (CCC) targets for carbon reduction from domestic transport. The CCC works in 5 yearly Carbon Budgets (CB) and RIS3 (2025-2030) crosses CB4 and CB5. The average CO2e emissions for the period 2023 to 2027 (CB4) are 109 MtCO2e. The table below is drawn from the Plan, Tables 1 and 2.

It is important to note that any exceeding of carbon emissions in a single year has to be compensated for by stronger action in the others. The Plan estimates that for 2021 transport emissions were at the 109 level.

Years covered	2023 - 2027 (CB4)	2028 - 2032 (CB5)	2033 - 2037 (CB [^])
Annual Average MtCO2e			
Domestic transport	109	84	51

While the impact of Covid is still playing out it is not unreasonable to expect that traffic may grow in a Business As Usual (BAU) case and be mitigated by some improvement in car efficiency. In pre-Covid years significant improvements in new car efficiency meant that total emissions were fairly steady but not declining as hoped.

This is partly because headline improvements in new car efficiency exaggerates the real world impact on the rate of change of the overall vehicle fleet. Last year about 5% of the existing cars owned in the UK were new. Despite a high proportion of electric vehicles, the new car CO2 emissions only fell by 6.9% overall¹². The draft annual targets for Zero Emission Vehicles (ZEV) show how slow the movement in the total vehicle fleet will be, see Table 1.

Table 1. Draft annual targets for ZEV sales shares from 2024-2035 for cars Year¹³

	2024	2025	2026	2027	2028	2029
Target	22%	28%	33%	38%	52%	66%
Year	2030	2031	2032	2033	2034	2035
Target	80%	84%*	88%*	92%*	96%*	100%*

Other commentators¹⁴ have examined this in some detail, as have the Climate Change Committee itself. It is clear to all, as it is to TPS, that there is a need for traffic demand management to achieve the carbon reductions.

Of course the sectoral targets are not binding – other sectors may reduce faster than target but this seems incredibly unlikely. Would agriculture, industry or personal diets have to

¹¹ <https://www.gov.uk/government/publications/carbon-budget-delivery-plan>

¹² SMMT Motor Industry facts 2023

¹³ Consultation on a zero emission vehicle (ZEV) mandate and CO2 emissions regulation for new cars and vans in the UK, DfT March 2023

¹⁴ See Anable, J, TPS Annual Lecture 2023

accelerate change to keep traffic growing on the SRN? We consider a sensible approach is to look at the sectoral targets and at least aim to achieve them. This should apply to the SRN.

For this reason we suggest an SRN target reduction for operational use (i.e. separate from and additional to construction) to be delivered within RIS3, which would be in line with the overall target. This means that by 2028 (the middle of RIS3) there would need to have been a significant move towards the 84 MtCO₂e target and a reasonable expectation the overall budget would not be exceeded¹⁵.

We see no evidence of understanding of the scale of change in traffic demand required on the SRN. It requires several key changes:

- 1 the implementation of local, regional and sub-regional schemes to reduce car traffic on the SRN, without transferring to the more local road networks
- 2 national and regional actions to improve road freight efficiency – HGVs are still part loaded or empty much of their time – there is a balance between efficiency and other factors (e.g. “Just In Time” delivery reducing stockholding)
- 3 national actions to encourage freight mode shift – work has been undertaken on this for some years¹⁶ and would benefit from an NH involvement
- 4 work with the logistics industry to evolve more efficient patterns of distribution (e.g. stock holding levels and locations), again this would benefit from an SRN perspective¹⁷.

TPS considers that there are mechanisms in place which could be extended to include such work: the “Designated Funds” approach. This has for some time allowed NH to invest in projects which do not increase the capacity of the SRN but achieve other improvements. At present this focusses on safety and mitigating environmental impact (such as noise barriers). There is thus already a pattern of working with local and sub-regional bodies on such projects. RIS3 proposes extending this to

- Safety and congestion;
- Environment and wellbeing;
- Users and communities; and
- Innovation and modernisation

TPS considers that, in co-ordination with these bodies, NH should expand its budget and remit to include schemes which would reduce demand on the SRN. This would be funded by a transfer from major schemes which would increase road capacity.

3 Congestion context

Congestion overall will worsen on the SRN in future years due to traffic growth. This amounts to 27% by 2060 in the NRTP, but much of this occurs in the first decade (2025-35)

¹⁵ This should also take account of the fact that carbon does not have an instant one-off effect. It has a warming impact every year in broad terms for around a century.

¹⁶ For example rail freight grants and “Lorry Mile” costs, the support for SRFIs in the NNNPS 1 and 2.

¹⁷ The logistics industry is well aware of the issues, for example see Decarbonising Logistics and Transport Route to Net Zero - COP26 Discussion Papers, CILT 2021 <https://ciltuk.org.uk/routetozero>

which is the same time scale as the CCC carbon budgets 4 and 5. On the road network as a whole, the NRTTP predicts a 22% increase in traffic (2025-2060) with a 27% increase in congestion. As might be expected from the traffic growth between 2025 and 2035, much of this increase in congestion occurs in the first decade of the forecast.

There are a range of projections in the NRTTP and this approach, started in 2015 has been developed and is widely supported in the profession. However there are three important caveats. The first is that there is no true low projection – for example combining lower economic growth with behavioural change. Secondly the projections only assume firm and funded interventions which impact on the road network: they therefore restrict the range of scenarios that are currently tested.

“3.1 The Core Scenario is based on the latest government projections of the main drivers of road traffic demand, for example population, GDP, employment, households, fuel prices and fuel efficiency. The core also includes 'firm and funded' government policy, for example, where ambitions are supported by published plans or funded policies. Relationships between the key drivers of demand and road traffic are broadly assumed to continue in line with historical trends and evidence, for example, how drivers respond changes in fuel costs or how changes in GDP influence people's travel choices.”

The third and perhaps the most important issue leads directly on from this and is that “Behavioural Change” is defined as the continuation of the trend of falling trip rates. This is clearly not the same as the impact of a potential programme to manage demand. TPS considers that the production of true Behaviour Change scenario, even if outside the NRTTP document, would be hugely beneficial, both on a technical level but also in relation to public understanding. We propose this is taken forward and would be happy to support it with technical input. This is an area where new research and development is needed but should not delay the implementation of what is known to work.

4 Levelling up and the economy

TPS considers that the evidence linking specific local road capacity increases, or an overall national programme, is weak at best. However this is also predicated on the assumption that new capacity has a very limited impact on traffic growth. This is a major problem for RIS3 since the standard methods of cost benefit rely on congestion relief to generate benefits. The implication is that this assumption is deeply flawed. This has been known for some considerable time and been the subject of a number of Government Advisory Body reports¹⁸. NH major schemes are poorly integrated with local transport plans, apart from the NH “Designated Funds”.

We raised this issue in our 3NPS submission and in essence there is clear evidence that road capacity does feed traffic growth and in particular that building more capacity in congested conditions generates the most. This has major implications: if induced traffic is highest in areas of highest congestion, increasing capacity for this reason is bound to have serious negative consequences. Active management of use and demand is an essential complement to capacity, whether that capacity is existing or newly proposed. All efforts to

¹⁸ See Standing Advisory Committee on Trunk Road Assessment (SACTRA) from 1994 onwards

optimise existing infrastructure should therefore be exhausted before expensive capacity enhancements are considered, and whether such capacity enhancements will be able to deliver improved outcomes given the likelihood of induced demand should be explored in detail through the decision-making process.

Linked to this issue, the importance of land use is under-estimated in RIS3 as elsewhere. It is the prime source for trip making on the strategic as well local networks. A key result of major road schemes is to encourage car dependent development and therefore to lengthen journeys due to the new choices of destinations for passengers, and depots for freight. Land use policy need to be stronger in promoting locations and land use policy linked to sustainable transport. This requires improved links and a broader remit for NH to interact with local authorities and support a multi-modal approach.

In terms of expanding labour markets from the current position, there is a marked difference between public transport modes which have dedicated tracks (not just rail but bus based) and car based travel. The latter is predicted to become slower even with road capacity increases and thus the access to car based labour is reduced. The former can achieve a time saving which is not subject to erosion by traffic generation (although overcrowding is an issue). This creates a genuine increase in access compared to today.

The interaction both between modes and between non-transport substitutes for travel is not reflected in the RIS, for example broadband provision can influence substitution of travel with opportunities to remote work, shop over the internet or complete other trip generating tasks virtually. Again the consideration of the complex underlying factors affecting travel and its impact on daily life will be fostered by the bringing together of the SRN management with local and sub-regional transport networks.

This is where the benefits of closer working with local government and sub-regional bodies will be felt most. Cross funding and supportive programming will achieve greater cost effectiveness in terms of all of the outcomes. In this sense there is not a conflict between carbon reductions, environmental improvement and a sustainable economy.

5 Recommendations

To achieve its objectives NH has to:

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This requires restructuring of its approach and funding. Some of this is already flagged up in the consultation – for example NH places greater emphasis on Designated Funds and is aware of the technological challenges in rebuilding the SRN for the purposes of autonomous vehicles. Our outline programme is for:

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- **An expansion of innovation and action research**

Some funding has gone to technological development (for example supplying electric power to HGVs) and this needs to be expanded, for example to research the ability to better control speed and capacity through autonomous vehicles. This has major implications for congestion.

- **Integration with local and regional plans**

Working co-operatively with local Government at all levels. This relationship would be transformed if NH came to the table with funding for schemes which would reduce SRN traffic. In a sense it is the missing part of the jigsaw for local and sub-regional transport plans and their environmental and economic aims. Doing this would give a practical reality to some of the aspirations in the RIS3 document.