



8th July 2022

A47 North Tuddenham to Easton Examination,
National Infrastructure Planning,
Temple Quay House,
2 The Square Bristol,
BS1 6PN

For the attention of Rachel Dominey, Senior Planning Officer DfT

By email only to: A47NorthTuddenhamtoEaston@planninginspectorate.gov.uk .

A47NTE – Traffic Forecasts and Carbon emissions.

I refer to the letter dated 27 June 2022 from the Department for Transport (DfT) requesting at item 5 assessments from the Applicant on this scheme against the carbon emissions targets in the Norfolk County Council (NCC) Local Transport Plan 4 (LTP4), following my letter of 11 June 2022.

I welcome this call as to date overall carbon reductions to achieve net zero by 2050 for roads have been ignored in both applications and approvals for other infrastructure schemes in the country, relying on the unsupported premise that whatever the implications of future emissions both from construction and operation of any single scheme, it will not affect ability to achieve the legislated commitments.

Further the methodology of relying on comparisons between Do-Minimum (DM) and Do-Something (DS) scenarios only represents a small fraction of the emissions associated with a scheme, solely those associated with the presence of the particular scheme in question in the traffic model; they therefore only provide a measure, and not necessarily even the correct one, of the scheme in isolation, and not its impact in accumulation with other developments as required for compliance with the EIA Regulations.

According to the IEMA best practice EIA guidance comparisons between Do-Minimum (DM) and Do-Something (DS) scenarios are of limited value in evaluating national carbon budgets.

There seems to be an assumption that the change to electric cars will solve the emission problem from domestic road transport but this ignores the conclusion in the Transport Decarbonisation Plan (TDP) that there also needs to be a reduction in vehicle mileage, and also the report from the Green Alliance “Not going the extra mile” which finds a 27% reduction in traffic is required to meet the Government’s climate targets for 2030.

The Report to Parliament by the Climate Change Committee (CCC) dated 29 June 2022 advises the Government that it develop clearer delivery policies on traffic reduction, demand reduction and modal shift, to meet the carbon budgets, on which I expand later in this letter.

Review of Carbon emissions in the A47NTE Application

I believe the key question for the Secretary of State to consider is whether the carbon emissions as outlined in the A47NTE application are sufficient to satisfy meeting all the Government's up-to-date carbon reduction targets by contextualisation of the carbon emissions from the scheme with an emerging statutory local carbon budget. Again I reference IEMA guidance which strongly recommends contextualisation of the GHG impacts on climate change targets: Table 1 and Figure 6 of the guidance sets out further sources of contextual information against which the GHG emissions of a project can be evaluated and assessed including sector-based and local targets.

The National Policy Statement for National Networks (NNNPS) gives directions regarding impacts of carbon emissions as part of environment considerations at section 4.4 stating;

"In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels." [Emphasis added]

The relevant 'impacts' of carbon emissions are, in the above extract, the effect on achieving climate change targets, which can be assessed at national, regional or local level, and, in line with IEMA best guidance, the NNNPS specifically requires a comparison with local targets or budgets to provide relevant information of whether national carbon budgets may be achieved.

Paragraph 5.18 of the NNNPS which forms the overarching methodology for assessment of such road schemes states;

*"The Government has an overarching national carbon reduction strategy (as set out in the Carbon Plan 2011) which is a credible plan for meeting carbon budgets. It includes a range of non-planning policies which will, subject to the occurrence of the very unlikely event described above, ensure that any carbon increases from road development do not compromise its overall carbon reduction commitments. The Government is legally required to meet this plan. Therefore, any increase in carbon emissions is not a reason to refuse development consent, **unless** the increase in carbon emissions resulting from the proposed scheme are **so significant** that it **would have a material impact on the ability of Government to meet its carbon reduction targets.**"* {Emphasis Added}

Since the drafting of NNNPS, further carbon reduction targets have been introduced with the Fifth and Sixth Carbon Budgets, the Transport Decarbonisation Plan (TDP) and Net Zero Strategy (NZS) as well as specific targets formulated within these national policies and plans.

The Government has set the trajectory for all roads without distinguishing between those which are managed by National Highways (NH) on behalf of the government and those in the control of Transport Authorities (TAs).

The data on Carbon emissions in the A47NTE Application

The Do-Minimum (DM) scenario for emissions from the traffic model study area for the A47NTE application is given in Table 14-6 of Chapter 14 of the Environmental Statement (APP-053 and REP3- 015) for years 2025 and 2040 as 954,647tCO_{2e} and 875,102tCO_{2e} respectively, equating to annual reductions of 5,303tCO_{2e}.

The DM percentage reduction over the 15 years is therefore 8.33%, which is confirmed as resulting from “the effect of a predicted increase in electric vehicles.”

The annual figures in the A47NTE DS scenario for comparison have to be interpreted from the emissions against relevant carbon budgets in table 14-10 (REP3-014) as the following reverse mathematical calculations;

Fourth Carbon Budget (2023 – 2027)						
Year	2025	2026	2027			Totals
DM (tCO _{2e})	954,647 ¹	949,344	944,041			2,848,032
DS (tCO _{2e})	962,571	957,310	952,050			2,871,931

Fifth Carbon Budget (2028 – 2032)						
	2028	2029	2030	2031	2032	
DM (tCO _{2e})	938,738	933,435	928,132	922,829	917,525	4,640,659
DS (tCO _{2e})	946,790	941,532	936,271	931,012	925,750	4,681,354

Sixth Carbon Budget (2033 – 2037)						
	2033	2034	2035	2036	2037	
DM (tCO _{2e})	912,223	906,920	901,617	896,314	891,010	4,508,804
DS (tCO _{2e})	920,491	915,232	909,971	904,712	899,451	4,549,858

Beyond Sixth Carbon Budget						
	2038	2039	2040			
DM (tCO _{2e})	885,708	880,405	875,102			
DS (tCO _{2e})	894,190	888,931	883,669			

From the above tables, DS operational emissions for Year 2040 are 883,669tCO_{2e}, which equates to a reduction of 7.43% [(883,669-954,647)/954,647] from the baseline DM 2025 levels.

As reported in my 14 June 2022 letter, LTP4 (IP) sets targets of 1,591.3ktCO_{2e} in 2025 and 477.53ktCO_{2e} in 2037 which is a reduction of 70% [(1,591.3-477.53)/1,591.3].

The carbon reduction percentages at 6.67% [(891,010-954,647)/954,647] for DM and 5.79% [899,451-962,571)/962,571] for DS, fall well short of this 70% target in LTP4 (IP) over the period 2025 to 2037.

¹ Yellow highlights are those given by NH in the application.

The conclusion from this assessment of the Environmental Statement against the LTP4 IP must be that the A47NTE scheme is not consistent with the LTP4 IP, and that should National Highways construct the scheme, then the LTP4 IP carbon targets for Norfolk are undeliverable.

The LTP4 IP targets have been aligned with the lowest ambition of the TDP itself, and if Norfolk is unable to deliver its LTP4 IP targets, then this in turn mean that the Government will be unable to deliver the TDP and the NZS. The emissions associated with the A47NTE scheme are therefore **so significant** as to have a material impact on the ability of Government to meet its carbon reduction targets, and the scheme is not compliant with NPS NN 5.18. **The Secretary of State therefore must not consent the A47NTE scheme – to do so would be to undermine his own TDP.**

Consideration of other 'national' targets

To put the LTP4 targets in context, I draw attention to other targets in the 'Net Zero Highways 2030/2040/2050 Plan' published July 2021 on the NH website which sets out a trajectory for end-user emissions at 5 yearly intervals for the Strategic Road Network (SRN).

These NH targets for the SRN are:

Year	2020	2025	2030	2035	2040	2045	2050
Emissions (MtCO ₂ e)	33	31 - 26	25 - 15	20 - 7	8 - 3	5 - 1	0
Percentage reduction from 2020		6 - 21	24 - 55	39 - 79	76 - 91	85 - 97	100

The reduction ranges for the NH target trajectory between 2025 (Opening Year of A47NTE) and 2040 (Design Year of A47NTE) is between 74% and 88%, of which it is assumed that the majority will be achieved through the change to Electric Vehicles (EVs).

Both the DM and DS scenarios between 2025 and 2040 at 8.33% and 7.46% reductions in emissions on the affected road network area (which include parts of the SRN) do not meet the NH target reduction range for the SRN of 74% to 88% between 2025 and 2040.

The Secretary of State is required to reach a reasoned conclusion on the significant effects of the proposed development on the environment and whilst I appreciate that the examination has concluded, it is clear from the document record that several issues were not fully resolved satisfactorily. I now present these which the Secretary of State must consider.

What is included in the **carbon figures** for cumulative effects of other schemes?

The requirement for cumulative carbon assessment by the Applicant under the EIA Regulations is very confused in the Applicant's Environmental Statement and subsequent documents at the Examination.

The DM is defined as the core reference highway network scenario without the A47 North Tuddenham to Easton Scheme intervention, against which the Scheme's impacts changes compared. It is clear from APP-140, "7.1 Case for the Scheme", section 4.4.8 that this reference highway network contains the A47BNB, the A47THI and the NWL. For the DS scenario, only the A47NTE is added in.

The estimate for carbon emissions made the calculation DS-DM is therefore only considering the scheme in isolation. This is not a cumulative estimate and the assessment based on it, which is the only assessment made in the Environmental Statement, is not compliant with the requirements of the 2017 regulations.

Despite this conclusion, the Applicant continues to argue that the DS-DM methodology is intrinsically cumulative and has not therefore provided a cumulative carbon assessment. The Secretary of State will not be able to carry out his duty under reg. 21(1)(b) of the 2017 Regulations to reach a reasoned conclusion on the significant effects (including cumulative effects) of the A47NTE until the Applicant rectifies this situation.

Other issues with the cumulative effects with other schemes

As defined in the uncertainty log, in the wider area network the **Norwich Western Link, Thickthorn and Blofield Schemes improvements are classified as "near certain" and are therefore included.**² [Emphasis added]

The Cumulative Effects Assessment under the reference to the NWL states;

*"An assessment of inter-project cumulative effects has been undertaken for noise and vibration and air quality, considering the impact from both the Proposed Scheme and the proposed NWL. The conclusions of these assessments are outlined in the sections below."*³

*An assessment of inter-project cumulative effects has not been undertaken for other environmental topics as no scoping report has been submitted for the proposed NWL development. **This is considered a Tier 3 development under Advice Note Seventeen guidance and it is assumed that the NWL will assess the Proposed Scheme in their coming EIA.**"*⁴ [Emphasis added]

The second statement referencing tier 3 (least certainty) seems to conflict with the near certainty of TR010038/APP/7.1 para. 4.4.7, as quoted above, but can only mean that the cumulative implications of the NWL have not been considered for the majority of environmental issues other than noise and vibration and air quality.

Flawed traffic modelling data between the A47 schemes

There are three concurrent schemes on the A47 for which NH has made applications, namely Blofield to North Burlingham (A47BNB); Thickthorn Roundabout (A47THI) and this scheme (A47NTE).

² TR010038/APP/7.1 para. 4.4.7

³ TR010038/APP/6.1 Chapter 15 para. 15.5.31

⁴ TR010038/APP/6.1 Chapter 15 para. 15.5.32

I set out the DM figures from the three schemes for comparison.

		A47BNB	A47THI	A47NTE
Baseline (2015)	tCO _{2e}	1,072,458	1,092,213	1,095,563
Opening Year (2025)	tCO _{2e}	1,065,487	961,430	954,647
Design Year (2040)	tCO _{2e}	978,328	881,015	875,102
Whole Appraisal Period (60 years cumulative)	tCO _{2e}	59,396,960	53,504,200	53,142,467

The baseline 2015 year is provided so that the traffic model can be calibrated. The differences in the data here suggest that traffic model has been calibrated differently between schemes. It would be expected that the same environmental baseline, and traffic network, was modelled for calibration on each scheme. The Applicant must be required to explain this calibration flaw.

It should be noted that the change from the baseline year (2015) to Opening year (2025) for the A47BNB is out of kilter which the A47NTE and A47THI. Ignoring the 2015 Baseline difference, A47NTE shows a forecast of 12.86% $[(1,095,563-954,647)/1,095,563]$ reduction between 2015 and 2025 compared to the 0.65% $[(1,072,458-1,065,487)/1,072,458]$ for A47BNB.

I see no logical explanation why such a significant DM reduction between 2015 and 2025 for A47NTE is predicted, particularly noting forecasts of annual growth in traffic between 0.5% and 2.4% between 2015 and 2050⁵; minimum electric vehicles in Norfolk rising from 0.3% in 2019 to 4.9% in 2025 as a percentage of cars⁶; and further increases of circa 64,500tCO_{2e} in the wider network in 2025 after the Northern Distributor Road (NDR) opening⁷.

Further, the 60-year cumulative figures are different in each case. The traffic model is run over the same 60-year period, 2025-2084, in the same model NATS 2015, and over the same study area (eg: A47NTE/APP-140/Figure 4.1 "The extent of the 2015 NATS model"). If the traffic model was configured identically, then it would be reasonable to expect that the DS Total 60 Years Cumulative figures would be identical.

I have therefore added the 60 year end user DS carbon emissions for each scheme as;

		A47BNB	A47THI	A47NTE
Whole Appraisal Period (60 years cumulative)	tCO _{2e}	59,396,960	53,504,200	53,142,467
Increase as reported for each DS scheme ⁸	tCO _{2e}	132,017	136,725	508,283
DS Total 60 Years Cumulative	tCO _{2e}	59,528,977	53,640,925	53,650,750

There is a very significant difference in both DM and DS 60 year totals between A47BNB and the other two schemes which cannot result from increased traffic from different non-road developments within each uncertainty log as collectively they should be reflected in the modelled area.

⁵ UK Government Road Traffic Forecasts 2018

⁶ Electric Vehicle Strategy Report to NCC by WSP dated July 2021

⁷ Document reference 6.2 table 1.7 to the NDR Planning Inquiry

⁸ End user traffic emissions only excluding emissions from lighting particular to each scheme.

Further pertinent issues since my letter of 16 June 2022

The A47NTE assessed carbon reductions should also be viewed against the Report to Parliament by the Climate Change Committee (CCC) dated 29 June 2022.

Whilst praising some of the policies and progress for surface transport, such as the change to EVs, the report outlined other areas of concern as the following example extracts;

*“Substantial investment in roadbuilding should only proceed if it can be justified how it fits within a broader suite of policies that are compatible with the UK’s Net Zero trajectory. Both the Scottish and Welsh Governments have recently committed to no longer invest in road-building to cater for unconstrained increases in traffic volumes.”*⁹ [Emphasis added]

*“Reduced demand for carbon intensive modes of travel - Growth in road traffic limited to 2% by 2035 - Reduction in car usage per person.”*¹⁰

The report also has recommendations to various Government departments and organisations including the following for the DfT;

*“In further developing their thinking on Roads Investment Scheme 3, DfT and National Highways must rigorously assess the emissions impacts of these plans and thoroughly consider alternative approaches that could deliver similar benefits with lower emissions. **The strategy should not aim to cater for unconstrained growth in road traffic and should be compatible with Net Zero.**”*¹¹ [Emphasis added]

I fail to see why this rigorous assessment of emissions should not also apply to existing RIS2 schemes such as A47NTE against the National Policy Statement for National Networks (NNNPS) requirement to consider **current** carbon reduction targets.

Clearly, the CCC considers that growth in road traffic is being encouraged by road schemes which would have a material impact on the ability of Government to meet its carbon reduction targets emphasised by the A47NTE achieving less than 10% of both the NH target for the SRN and NCC target for Norfolk in LTP4.

Conclusions

Due to the complexities of algorithms, specialist formulae and TAG transport guidance the public is forced to accept the conclusions in appraisals of road schemes as being correct with little chance to evaluate and/or question.

Quite frankly, with the inconsistencies, discrepancies and changes in models I have lost all confidence in the carbon figures presented. The approach seems to be to produce figures which justify a particular road scheme rather than accurately assessing the climate change implications.

I have made the assessment against the LTP4 IP carbon targets which Norfolk County Council is adopting later this month which the Secretary of State required in his letter of June 27 June

⁹ Page 139

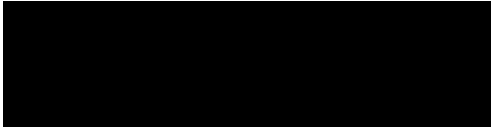
¹⁰ Page 121

¹¹ Page 575

2022. Although it is likely to be argued that these targets are non-binding, they nevertheless provide the crucial frame of reference for assessing the significance from a given scheme.

It is clear, from this assessment, that the A47NTE traffic modelling in the Environmental Statement shows that the carbon emissions associated with the scheme are **so significant** as to have a material impact on the ability of NCC to meet its Local Plan targets which must in turn will result in Government's ability to meet its carbon reduction targets, resulting in the scheme is not being compliant with NPS NN 5.18. **The Secretary of State therefore must not consent the A47NTE scheme – to do so would be to undermine his own TDP.**

Yours sincerely,

A large black rectangular box redacting the signature of Bryan Robinson.

Bryan Robinson (IP reference 20028154)