
*Submission for:*

# Deadline 6 – expansion on Issue Specific Hearing 4 appearance

*for*

# A428 Black Cat to Caxton Gibbet Improvement Scheme Examination 2021

# 1 Introduction

1.1 The Examining Authority asked for the following issues to be addressed at the Issue Specific Hearing 4 (ISH4) on 3 December, 2021:

***7. Sustainability effects, including climate change***

*a. Understanding the significance of effects of the greenhouse gas emissions (GHG) of the Proposed Development by making like for like comparisons at a local, regional, national and international level*

*b. Relative significance of the lifetime GHG emissions of the Proposed Development in comparison with other RIS2 schemes*

*c. Assessment of the effects of the national RIS2 programme against UK Carbon Budgets*

*d. Calculated emissions of the Proposed Development, given disagreements amongst the parties in this regard, and including with reference to paragraph 5.19 of the NPS NN which seeks to ensure that the carbon footprint of the Proposed Development is "not unnecessarily high"*

*e. R (Transport Action Network Limited) v SoST [2021] EWHC 2095 (Admin) (Appendix A [REP3-020]), including the interpretation of de minimis in the judgement [REP4-073] [REP5-014]*

*f. Implications of the Proposed Development for UK net zero carbon emissions by 2050, given its measured 60-year lifespan would extend beyond 2050, and given the current uncertainties surrounding how the net zero figure will be achieved*

*g. Implications of the lifetime greenhouse gas emissions of the Proposed Development on the available global carbon budget to avoid dangerous climate change, including in light of the declared Climate Emergencies locally, regionally, nationally and internationally*

*h. With reference to S104(4) of PA2008, the assessment of the Proposed Development*

*i. Cancellation of the Oxford Cambridge Expressway, including the specific differences with the Proposed Development, such as respective costs and benefits*

1.2 TAN answers these questions below, expanding on the responses given at the ISH4.

# 2 Responding to the issues raised at ISH4

## 2.1 *Understanding the significance of effects of the greenhouse gas emissions (GHG) of the Proposed Development by making like for like comparisons at a local, regional, national and international level (part a)*

2.1.1 In a report[1] from Climate Crisis Advisory Group, established and chaired by Sir David King, former UK Government's Chief Scientific Advisor from 2000 to 2007, it states that:

> "***The CCAG is clear that the current shift in global emissions is not sufficient to avoid global disaster, and there is no 'remaining Carbon Budget'.*** *If proper account is taken of all greenhouse gases, and their CO2 equivalence, the 450ppm threshold has already passed, contradicting the widespread notion of a 'carbon budget' that could still be spent whilst remaining below 1.5°C temperature rise.*"

2.1.2 Ahead of COP26, the IPCC released its 6th assessment report, described as "nothing less than a code red for humanity" by UN General Secretary, Antonio Guterres as reported in an article in the House of Lords Library[2]. After COP26, it is clear that a huge amount needs to be done to reduce emissions sufficiently to even have a chance to keeping 1.5 alive[3]. Therefore, any development increasing carbon emissions, however big or small, is making that task harder and sending out the wrong message to others about the need to urgently cut emissions. The more we emit today, the bigger the burden we place on future generations to pay for technologies that don't exist at sufficient scale to remove carbon from the atmosphere quickly enough[4].

2.1.3 The evidence and messaging from the scientists is clear. We are in an emergency and need to act fast to reduce emissions and avoid making things worse. That's why National Highways (NH) needs to be challenged over its approach to this scheme which will undermine local, regional and national targets.

2.1.4 NH's current position has three strands to it:

1. It doesn't need to consider emissions at any level other than at the UK level because that is what is stipulated in the NPSNN.

[1] The Final Warning Bell: The most important assessment of humanity's future on earth to date - Climate Crisis Advisory Group, August 2021
[2] COP26: "Code red for humanity" – In Focus, House of Lords Library, 1 November 2021
[3] "keeping 1.5 alive" was the slogan adopted by many at COP26 to indicate the need to keep the hope of limiting global warming to a maximum of 1.5 degrees Celsius, an ambition from the Paris Agreement
[4] Reducing carbon emissions: don't wait until tomorrow - A Grantham Institute blog by Neil Grant, Imperial College London, October 2019

2. There is no need to consider emissions further because they are only a very small fraction of the UK carbon budget and are therefore not significant at a national level. NH also often incorrectly cites the RIS2 court case and the de minimus argument.

3. In any case, the emissions calculated are likely an overestimate as they don't account for new targets to ban the sale of new petrol and diesel cars in 2030, further making the case to ignore carbon emissions as an issue.

2.1.5 Taking point 1, first, the NPSNN says in paragraph 5.17:

> *"for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets."*

2.1.6 We do not dispute that that is what NH are asked to do in the NPSNN. However, NH presents this as this is all they are required to do. Yet the NPSNN is quite clear in paragraph 5.17 that:

> *"Where the development is subject to EIA, any Environmental Statement will need to describe an assessment of* ***any likely significant climate factors*** *in accordance with the requirements in the EIA Directive."* [our emphasis]

2.1.7 The sentence that NH relies on to claim that it only needs to consider emissions at a UK level clearly contains a supplementary directive to NH's legal requirements under the EIA regulations as set out in the same paragraph, which in turn is an abbreviated version of the requirements set out in paragraph 4.15. It does not supplant them.

2.1.8 As we have already submitted to the Examination, the EIA regulations do not specify what is deemed significant leaving it *"to be assessed in light of the Project's specific circumstances"*[5]. The guidance also highlights that *"significance determinations should not be the exclusive prerogative of 'experts' or 'specialists': significance should be defined in a way that reflects what is valued in the environment by regulators and by public and private stakeholders"*[6]. Given the high level of public concern about climate change and the substantial carbon emissions generated as a result of the scheme, it is hard to see how they could not be considered as anything other than significant on this basis.

2.1.9 Given the nature of carbon emissions, it can be hard to comprehend what is deemed significant in terms of environmental impact. That is why the latest official guidance

[5] Paragraph 3.2, REP4-073 – TAN's deadline 4 submission
[6] Paragraph 3.3, REP4-073 – TAN's deadline 4 submission

on this very point, states: *"The assessment should take relevant greenhouse gas reduction targets at the national, regional, and local levels into account, where available."*[7] Earlier, special guidance on climate change, which hasn't been superseded, specifically mentions road schemes as an example where local and regional impacts should be considered: *"Judging an impact's magnitude and significance must be context-specific. For an individual project — e.g. a road project — the contribution to GHGs may be insignificant on the global scale, but may well be significant on the local/regional scale, in terms of its contribution to set GHG-reduction targets."*[8]

2.1.10 It is abundantly clear from the above that an Environmental Statement should be including reference to carbon emissions targets at the local and regional levels. Especially since, as we have previously demonstrated, there are relevant local and regional carbon and traffic reduction targets[9]. Given this directive comes from official guidance sitting alongside the legislation, NH cannot dismiss this and claim that the wording in the NPSNN obviates the need to produce a fit and proper Environmental Statement. Its position does not stand up to scrutiny.

2.1.11 Additionally, the Institute of Environmental Management & Assessment (IEMA) based in March, Cambridgeshire, has produced guidance on greenhouse gas assessment. This is referenced in the Environmental Statement for the A55 in Wales. In this document it states:

> "*Greenhouse Gas Assessment* ***IEMA guidance indicates that all GHG emissions should be considered as significant, but that it is appropriate to contextualise emissions against local, national, etc. emissions****."*[10] [our emphasis]

2.1.12 This speaks for itself but reinforces our contention that NH should have included a local context within the Environmental Statement and without this information it is deficient (see paragraph 2.1.25 below).

2.1.13 Turning to point 2, in NPSNN paragraph 5.18 it states that:

> *"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*

[7] Paragraph 5.1.1, REP4-073 – TAN's deadline 4 submission
[8] Paragraph 5.1.2, REP4-073 – TAN's deadline 4 submission
[9] Sections 5.3 & 5.4, REP4-073 – TAN's deadline 4 submission
[10] Paragraph 16.8.3, A55 Junctions 14 and 15 Improvements Environmental Statement, Volume 1 Assessment Chapters – Welsh Government, March 2021

*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."*

2.1.14 This quote is interesting because it shows how much the NPSNN is out of date, based on a plan and policy set before net-zero, before Paris and before the UK's setting of its Nationally Determined Contribution of a 68% cut in emissions by 2030 on 1990 levels as part of the Paris Agreement. The reason given in paragraph 5.18 for effectively ignoring carbon emissions when deciding planning permissions for road and rail projects is therefore based on out-dated and flawed logic. This is highlighted by the fact that the Government finally committed to reviewing the NPSNN in the Transport Decarbonisation Plan (only after TAN had twice initiated judicial review proceedings), in part due to the change in circumstances around climate change. Given that the first part of paragraph 5.18 is no longer relevant, the final sentence that gives a free pass on carbon emissions no longer stands either. Its justification is based on the integrity of the first part of the paragraph which has now fallen.

2.1.15 No doubt it will be argued that the Government has a new plan, in the Transport Decarbonisation Plan, but this is not the relevant document referenced in the NPSNN. This is a plan that was much delayed, having originally been promised for publication in the autumn of 2020, but didn't get released until July 2021. That's over two years after Parliament declared a climate emergency. It will now be probably another 18 months before a revised NPSNN is published which will be nearly four years since a climate emergency was declared. So, any suggestion that the Government is taking the urgency of the situation seriously is questionable.

2.1.16 As we highlighted previously, Lord Deben, Chair of the Climate Change Committee stated after the publication of the TDP that: *"the Government must be congratulated on its targets and attacked on the basis it has not delivered on the mechanisms for delivering those targets."*[11] At the same time he also said: *"We've also got to ask ourselves a very big question about the road building programme. There's a very great deal of money there that should be used in other ways."*[12]

[11] Paragraph 7.6, REP4-073 – TAN's deadline 4 submission
[12] From 28:18 minutes into the Greener Transport Solutions webinar: Not the journey but the destination: how our whole economy needs to change – 8th September 2021

2.1.17 In its assessment of the Government's Net Zero Strategy the Climate Change Committee, while welcoming it / the TDP, expressed concerns in a number of areas, relevant to new infrastructure projects such as new roads:

> *"The Government has not yet put forward plans for a Net Zero Test, as we had recommended, to ensure that all policy and planning decisions are consistent with the path to Net Zero. Such a test is still needed to avoid locking in high-carbon developments."*[13]

2.1.18 This highlights that the CCC is concerned that large new roads, such as the A428, are potentially taking us in the wrong direction and need to be appraised against a new net-zero test.

> *"There is less emphasis on consumer behaviour change than in the Committee's scenarios. The Government does not address the role of diets or limiting the growth of aviation demand in reducing emissions,* ***while policies to reduce or reverse traffic growth are underdeveloped.*** *These options must be explored further to minimise delivery risks from an increased reliance on technology and to unlock wider co-benefits for improved health, reduced congestion and increased well-being."* [our emphasis][14]

2.1.19 This obviously would need to take a different approach to the NPSNN as otherwise the CCC would not have bothered to recommend this. They also highlight the need for demand management to play a greater role and that the Government is taking more risk than the CCC does in its scenarios which means there is less certainty that the Government will be able to deliver the carbon reductions needed. In the current situation, increasing emissions from new roads is adding to that risk and uncertainty and is something that should be avoided and not dismissed lightly.

2.1.20 Finally, turning to the third and final strand of its defence, NH claims that the calculated user carbon emissions over the 60 year appraisal period are likely to be an overestimate. We accept that the total user emissions are likely to be an overestimate, especially as we are meant to be at net-zero from 2050 so road user emissions should be minimal by then. However, while much hope is being placed on technology and that the vehicle fleet will be electrified, this is unlikely to happen quickly enough. Even with a ban on new fossil fuel cars in 2030, and a newly announced Zero Emission Vehicle mandate, most cars on the road in 2030 will still be wholly or partly fossil-fuelled.

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[13] Page 4, Executive Summary, Independent Assessment of the UK Net Zero Strategy – CCC, October 2021

[14] Page 4, Executive Summary, Independent Assessment of the UK Net Zero Strategy – CCC, October 2021

2.1.21 Additionally, we do not believe that all of the user emissions have been properly assessed as illustrated by our quoting of Professor Phil Goodwin[15]. We also have doubts as to the modelling of induced traffic and cumulative impacts which we will hope to expand on for a future deadline. If we are correct, emissions over the next 10 – 15 years, the most crucial years for emissions, are likely to be an underestimate, whereas beyond that they are likely to be an overestimate.

2.1.22 This is particularly important when considering the local and regional targets with their shorter timeframes. Bedford, for example, has a 2030 target, while England's Economic Heartland aims to be at net-zero by 2040.

2.1.23 National Highways has only assessed carbon emissions at a UK wide level, contrary to EIR guidance to consider local and regional impacts as set out in REP4-073 and REP5-025. For this scheme, as we set out in REP4-073, section 5, the regional context is particularly challenging given it has transport emissions growing faster than anywhere else in the UK, yet it wants to attain net-zero by 2040. The sub-national transport body is also aiming for a 5% reduction in car traffic per decade. Without closure of the old road and demand management measures and investment in sustainable transport we cannot see how this road fits with such a strategy.

2.1.24 Further on the point of compliance with the EIA regulations we would like to state that since this information hasn't been included by National Highways, the ES is not compliant and therefore the Examining Authority might like to consider whether section 20 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA regulations) should be invoked given the serious nature of this omission.

2.1.25 Section 20 provides for a set procedure to be followed in cases where an *"applicant has submitted a statement that the applicant refers to as an environmental statement"*[16] and *"the Examining authority is of the view that it is necessary for the statement to contain further information"*[17]. "Further information" is defined in Section 3 as meaning:

> *"additional information which, in the view of the Examining authority, the Secretary of State or the relevant authority, is directly relevant to reaching a reasoned conclusion on the significant effects of the development on the*

[15] Section 3, REP1-097 – TAN's Deadline 1 submission
[16] Part 2a, section 20, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
[17] Part 2b, section 20, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

*environment and which it is necessary to include in an environmental statement or updated environmental statement in order for it to satisfy the requirements of regulation 14(2);"*

2.1.26 What Section 20(1c) and 20(3) essentially require is that where further information is considered necessary the applicant must provide that information and, subsequently, there must be a new public notification and consultation process, which allows interested parties (not limited to those interested parties who have already been involved in the Examination process) to consider and comment on the updated environmental statement including the further information.

2.1.27 We would invite the Examination Authority to seriously consider whether the Examination needs to be suspended until such time that National Highways provides an adequate Environmental Statement that properly assesses carbon emissions at a local and regional level as spelt out by EIA guidance and a new ES is consulted upon.

## 2.2 *Relative significance of the lifetime GHG emissions of the Proposed Development in comparison with other RIS2 schemes* (part b)

2.2.1 This scheme is the third or fourth largest scheme in RIS2 depending on whether you count the Lower Thames Crossing as still being within RIS2. The bigger schemes in terms of carbon emissions are the Lower Thames Crossing, M6 J21A - 26 'Smart' motorway and A66 Northern Trans-Pennine. The A428's emissions represent approximately 9% of all known emissions from RIS2[18]. However, the current RIS2 emissions total is an underestimate as it does not contain the user emissions from several listed schemes and the construction emissions from many more.

2.2.2 The data used in calculating the RIS2 emissions all comes from National Highways' sources and is something it could have produced relatively easily if it was considering cumulative carbon emissions.

## 2.3 *Assessment of the effects of the national RIS2 programme against UK Carbon Budgets* (part c)

2.3.1 No proper assessment has been carried out by Highways England or the DfT regarding the full impact of all carbon emissions that arise out of RIS2. We have done our best to estimate the emissions associated with the second roads programme from National Highways figures and it is nearly 39 million tCO2e over the 60 year appraisal period, but that isn't broken down against UK carbon budgets. As we

[18] RIS2 carbon emissions table on the TAN website

describe above, the current RIS2 emissions total is an underestimate as it does not contain the user emissions from several listed schemes and the construction emissions from many more. It also does not address the issue of cumulative impacts arising from increasing road capacity across the whole of the country and the associated car-based development it encourages.

2.3.2 A more detailed analysis was done by Transport for Quality of Life which estimated that RIS2 would lead to an addition 20 MtCO2e by 2032 (end of 5th carbon budget)[19]. The CCC estimate we need emissions from surface transport to go down from 119Mt in 2020 to 49Mt by 2032, at a time when all indications are that DfT is off track with surface transport emissions largely unchanged since 1990 and RIS2 schemes forecast to increase traffic growth.

**2.4** ***Calculated emissions of the Proposed Development, given disagreements amongst the parties in this regard, and including with reference to paragraph 5.19 of the NPS NN which seeks to ensure that the carbon footprint of the Proposed Development is "not unnecessarily high"*** **(part d)**

2.4.1 Paragraph 5.19 relates to design and construction, but that does not mean that it should be constrained to just considering construction emissions. The design of a transport project should explore all aspects, including whether a road is the best solution, and if it is deemed that that is the case, whether it should be a dual carriageway or not. Therefore, we would contend that this should have been more of a consideration during the design of the scheme.

2.4.2 We would also argue that NH's approach is contrary to this paragraph in the NPSNN because the development is driving a coach and horses through local and regional carbon reduction targets and will make it much harder to deliver carbon reduction quickly enough. Given a new road is not required to deliver traffic reduction, a trebling of the road space which will induce significant extra traffic, cannot be considered "not unnecessarily high".

2.4.3 There is also the serious omission by NH in its appraisal process which does not follow Green Book Advice, which was current at the document's submission date. This states:

> *"Where longer time horizons are needed (i.e. beyond 2035), significant potential differences in climate effects start to emerge between each of the climate scenarios, with no indication of which is more likely than another. It is therefore*

[19] Infographic, page 23, The carbon impact of the national roads programme – Transport for Quality of Life, July 2020

*necessary to appraise using <u>at least</u> two climate scenarios. In practice this means considering a parallel approach in appraisal; one baseline should be consistent with a '2°C' scenario (RCP2.6) and the other appraisal baseline should be consistent with a global temperature rise of 4°C, or '4°C' scenario (RCP8.5). This approach is prudent to uphold the managing public money principles given our current understanding of risks."* [20] [their emphasis]

2.4.4 This affects the baseline forecasts, i.e. the 'without' or 'do nothing' case as well as the do something case with the scheme. Both scenarios will affect income growth and traffic growth, though by more than the sensitivities published in the Combined Modelling and Appraisal Report. Table E-1, Appendix E [APP-254] shows that moving from 'Core' to 'Low' Economic growth reduces the Present Value of Transport Economic Efficiency Benefits by 10%, by £55m.

2.4.5 Table 4.14 [APP-254] showing the 'Initial' BCR gives a value 1.2, with an NPV of £78m. The low growth assumption alone would reduce this to a BCR of 1.05 so we can be confident that the more drastic economic outlook implied by the 2°C and 4°C scenarios would make the initial NPV negative, perhaps substantially so. Unfortunately, the Appraisal assumes that the extra benefits of agglomeration etc, inherently more uncertain than the core benefits, are the same in low and core growth, which seems very implausible and no rationale is given for this. On this assumption there is still some headroom for a positive NPV if one could assume that these would still apply in conditions of serious climate change.

2.4.6 In addition, the estimated carbon values reported in the main analysis of the Combined Modelling and Appraisal Report [APP-254] are those which were recommended for appraisal at the time of the submission. However, it was already known that higher values were in prospect, and therefore the report included some sensitivity tests of what might happen if higher values were used.

2.4.7 The core carbon value was calculated at £127m, from a total estimated carbon output for the 60 year life of the scheme of 3.3m tonnes [para 4.4.7, p36, APP-254], and assumed to be the same for high and low economic growth. [table 4.22, p50, APP-254]. This represents an average discounted value at 2010 prices of £38 per tonne.

2.4.8 The 'high carbon value' test increased the cost ('negative benefit') of carbon to £196m, a 54% increase, or £67m [table 4.23, p51, APP-254]. This represents an

[20] Text from box on page 9, Accounting for the Effects of Climate Change: Supplementary Green Book Guidance – Defra, November 2020

average discounted value of £59 per tonne in 2010 prices. This reduced the BCR even before the extra impact of the Green Book climate change scenarios.

2.4.9 The carbon value has indeed now been increased, by the Department for Business, Energy & Industrial Strategy (BEIS) in September 2021, swiftly followed by DfT in October 2021. The new recommended values are now listed in the latest version of the TAG data book which was published on 29 November, 2021.

2.4.10 This raises a much bigger issue because the approximately 50% increase in carbon value reported in the 'High Carbon Value' analysis was based on a substantial error of judgement about how big the increased value would turn out to be. This may have seemed like a reasonable assumption to make at the time, but it is a mark of how swiftly and seriously the science and policies of climate change have developed. Luckily, it is a calculation that would be extremely easy to update since it is just a question of multiplying the carbon quantities in a spreadsheet by the new carbon values. There is no conceivable reason why it would be wrong to update the calculation to take account of the current Government position on future carbon values, instead of the assumptions of 2 or 3 years ago. Indeed, given Parliament's declaration of a climate emergency, the UK's NDC and a much-reduced 6th carbon budget all agreed since that time, it would seem imperative that this is done.

2.4.11 The increases were not in the order of 50% envisaged in NH's stress test. The new values' 'central' series now go from £209 per tonne in 2025, to £304 per tonne in 2050 and to £512 per tonne in 2085. The 'high' series (comparable with the 'high' test assumed) run from £313 per tonne in 2025, to £456 per tonne in 2050 and to £768 per tonne in 2085. All these figures are in 2010 prices[21].

2.4.12 This means that the value of carbon over the scheme's 60 year lifespan is now, on average[22], over 9 times that used to estimate the financial cost of the carbon generated by the scheme in both the central and the high cost pathways. This means that the carbon cost of the scheme has been severely underestimated.

2.4.13 In round terms, using the new figures we would expect a carbon cost (for user emissions) of around £1.2bn for the central scenario and around £1.8bn in the high cost scenario, all at 2010 prices. This is enough to wipe out not only the estimated transport economic benefits, but the whole of the less certain wider benefits too, even at high economic growth and with no allowance for the effect of climate change.

[21] Sheet 3.4, TAG data book – 29 November, 2021
[22] Averages were calculated by adding the 2025 and 2085 values together and dividing by two.

2.4.14 For construction emissions this can also be calculated, perhaps more reliably, as this is a set amount which happens in a short space of time at the start of the process. Given that there is a carbon cost between 2023 – 2025 of land use clearance and construction, we can calculate the economic cost of the carbon used in this process. The carbon lost or used during the construction period is 231,784 tonnes CO2e[23]. If we use the 2024 value for carbon from the TAG data book, which is £205.76 per tonne CO2e for the central value and £308.64 for the high value we can then estimate the cost of this carbon. For the central scenario this works out at £47.7 million and for the high scenario £71.5 million, values that will need to be added to the user carbon costs. These are not insignificant values in themselves and won't change as a result of the phasing out of petrol and diesel vehicles as will happen with user emissions.

## 2.5 *R (Transport Action Network Limited) v SoST [2021] EWHC 2095 (Admin) (Appendix A [REP3-020]), including the interpretation of de minimis in the judgement [REP4-073] [REP5-014]* (part e)

2.5.1 We have nothing to add to our previous submission REP1-097. We are still awaiting to hear about permission from the Court of Appeal.

## 2.6 *Implications of the Proposed Development for UK net zero carbon emissions by 2050, given its measured 60-year lifespan would extend beyond 2050, and given the current uncertainties surrounding how the net zero figure will be achieved* (part f)

2.6.1 To reach net-zero by 2050, we need an ambitious trajectory as we're already off track. Since 1990, emissions from domestic transport have barely changed and now represent the largest source of emissions in the UK. Road transport makes up 91% of all surface transport emissions.

2.6.2 Critically we need to achieve a 68% reduction by 2030 (our National Determined Contribution) and the 78% target by 2035 (from the 6th carbon budget). The TDP acknowledges the need to reduce traffic, stating:

> *"We want to reduce urban road traffic overall. Improvements to public transport, walking and cycling, promoting ridesharing and higher car occupancy, and the changes in commuting, shopping and business travel accelerated by the pandemic, also offer the opportunity for a reduction or at least a stabilisation, in traffic more widely."*[24]

[23] Paragraph 5.3, REP5-025 – TAN's deadline 5 submission
[24] Page 6, Decarbonising Transport: A Better, Greener Britain – DfT, July 2021

2.6.3 This is recognised by the CCC in its review of the Government's Net-Zero Strategy, saying: *"The Transport Decarbonisation Plan represents a big step forward in recognising the need to reduce traffic growth"*[25].

2.6.4 However, the CCC review also cites *"clear targets and a credible policy to reduce traffic"* as one of the *"important areas [that] remain to be resolved"*[26]. It also says that:

> *"While the recognition of the need to reduce traffic growth is a big step forward, a more comprehensive set of measures and more measurable targets (including on total car-kilometres) are needed to give confidence that the continuing trend of traffic growth can be reversed."*[27]

2.6.5 Therefore, it is clear that the increase in traffic that this new road will create is an unwelcome hindrance to meeting the 6th carbon budget and net-zero. It is making an already difficult challenge even harder. Given the gap between rhetoric and policy and firm action, the Government will need all the help it can get to meet the 5th and 6th carbon budgets. And with significant challenges in reducing carbon other areas, it cannot assume other sectors will be able to take up the slack from transport.

2.6.6 At the hearing NH claimed that nothing more needed to be done with regards to Paris as the UK's commitment is written into the 6th carbon budget. However, that is not true since the 6th carbon budget runs from 2033 – 2037. The UK's NDC is a specific new target that the Government has pledged to achieve by 2030, several years ahead of the 6th carbon budget. It falls firmly in the middle of the 5th carbon budget which was legislated for many years before the NDC was agreed and is considerably less demanding. Therefore, the NDC is not covered by the carbon budgets and Climate Change Act 2008 and needs consideration in its own right. If the UK Government were to follow the 5th carbon budget pathway, it would miss its NDC.

2.6.7 It's worth noting that the devolved Governments in Scotland and Wales do not share the DfT's optimism that electrification will deliver sufficient carbon reductions quickly enough, although it's not clear that DfT entirely believes it either from the wording in the TDP.

[25] Page 32, Independent Assessment of the UK Net Zero Strategy – CCC, October 2021
[26] Page 28, Independent Assessment of the UK Net Zero Strategy – CCC, October 2021
[27] Page 39, Independent Assessment of the UK Net Zero Strategy – CCC, October 2021

2.6.8 Scotland is committed to reducing car kilometres by 20% by 2030[28], the most ambitious traffic reduction target to date in the UK. While the Welsh Government "aim[s] to reduce average car driver miles per capita to 10% below 2019 levels by 2030"[29]. It has also placed a moratorium on road building while it carries out a review of all road schemes currently planned. The terms of reference[30] for that review state:

*"In future, in accordance with the WTS [Welsh Transport Strategy], the priority and focus for road investment will be on:*

- *the avoidance of action which increases carbon emissions from operating, maintaining and improving the road network, especially in the next 15 years;*
- *the reallocation of existing road space to achieve a shift to sustainable forms of transport;*
- *the adaptation of existing road infrastructure to cope with climate change;*
- *investment which maintains the safety and serviceability of the existing road network in compliance with statutory duties, and*
- *the improvement of biodiversity alongside major transport routes."*

2.6.9 In Lee Waters' (Welsh Government's Deputy Minister for Climate Change) written statement[31] regarding his decision not to support any further work on the Llanbedr Access Road similarly says: *"The climate emergency makes it imperative that we avoid investment that increases carbon emissions, especially in the next 15 years when most cars on the road will still be petrol and diesel vehicles."*

2.6.10 These positions are backed up by recent studies:

- The Centre for Research into Energy Demand Solutions (CREDS), estimates that a 30-50% reduction in total car mileage is needed by 2030, relative to 2020 required[32].

- A Green Alliance report[33] estimates that traffic reduction of 20 – 27% will be required if there is not a fast uptake of battery electric vehicles. Even if there is a fast uptake as contained in the CCC's balanced pathway, it is worth noting that this scenario is also reliant on some demand management measures. This means

[28] Page 12, Executive Summary, Update to the Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero – Scottish Government, 2020
[29] Page 85, Net Zero Wales Carbon Budget 2 (2021 – 2025) – Welsh Government, 2021
[30] Context, Roads Review Panel Terms of Reference – Welsh Government, September 2021
[31] Written Statement: Road Review – Llanbedr Access Road – Welsh Government, November 2021
[32] The role of energy demand reduction in achieving net-zero in the UK – Centre for Research into Energy Demand Solutions (CREDS), October 2021
[33] Not going the extra mile: driving less to tackle climate change – Green Alliance, December 2021

that the traffic forecasts used to justify the road are likely to be higher than considered desirable to enable the UK to meet its carbon targets.

## 2.7 *Implications of the lifetime greenhouse gas emissions of the Proposed Development on the available global carbon budget to avoid dangerous climate change, including in light of the declared Climate Emergencies locally, regionally, nationally and internationally* **(part g)**

2.7.1 The next 10 years are critical for reducing emissions in order not to blow our carbon budgets, which are considered not demanding enough by some (as mentioned in section 2.1), in order not to place a bigger burden on future generations (to pay for technology that may or may not work at the scale required).

2.7.2 COP26 has highlighted that we need to do all we can to reduce emissions as we cannot rely on other sectors (such as power) to bail out transport.

2.7.3 In the hearing it was claimed by the local authorities that they had local plans for promoting sustainable transport. However, the plans mentioned by the Cambridgeshire authorities were for east of the Caxton Gibbett junction and therefore of little relevance to this scheme. Additionally, we are not aware of any local transport plans or strategies that specifically set out a pathway for reducing carbon emissions and traffic levels. These plans are usually based on aspiration without any evidence as to how they will achieve traffic reduction or modal shift, especially as they are often absent of any demand management measures.

2.7.4 As we pointed out at the hearing, trebling the available road space between Black Cat and Caxton Gibbett, alongside increasing traffic speeds, is only going to increase car use and carbon emissions. Even the most optimistic of sustainable transport interventions would find it hard to dent the resultant rise in traffic.

2.7.5 Most critical are the local impacts on Bedford Borough Council and South Cambridgeshire District Council. Both councils have around 20% of the new road length within their boundary, so it seems proportionate to allocate around 20% of the additional emissions generated by the new road to these councils. This is how the Department for Business, Energy and Industrial Strategy allocates road emissions for each borough and district across the country[34].

2.7.6 As we said in REP5-025, construction emissions with land use change and clearance are a minimum of 231,784 tonnes CO2e which will occur over the construction

[34] BEIS 2005 – 2019 Local Authority CO2 emissions

period. Given the scheme's opening year is 2025 and a decision is unlikely before August 2022, that would suggest a three year build, equating to 77,261 tCO2e per year. This equates to an increase in emissions in the two councils' area of 15,452 tCO2e per year for 2023, 2024 and 2025 just from construction.

2.7.7 Considering the impact on Bedford to meet its target, its total energy only carbon budget as calculated by the Tyndall Centre is 4.8MtCO2. That equates to 800,000 tonnes CO2 over the 5th carbon budget and 400,000 tonnes CO2 over the 6th carbon budget (see Annex 1). And if Bedford can't realistically offset emissions in 2030, then even greater reductions might be required.

2.7.8 Additional user emissions in the 5th carbon budget represent 201,520 tCO2e[35] of which Bedford's share is approximately 40,304 tCO2e. This equates to 5% of its budget. A significant rise when it is already seriously challenged by an annual reduction rate of around 13.7% (see Annex 1).

2.7.9 For the 6th carbon budget, things are worse with additional user emissions of 226,637 tCO2e[36], of which Bedford's share is approximately 45,327 tCO2e. This represents 11.3% of Bedford's budget. South Cambridgeshire will also be similarly challenged.

2.7.10 To put it in another perspective, Bedford's emissions in 2019 were 716,405 tCO2e[37], almost its entire 5th carbon budget in just a single year and nearly half of its 4th carbon budget (1,600,000 tCO2e) which starts in 2023. If that level of emissions is maintained, the level of reductions needed will be substantial and highly challenging, and impossible to meet with this new road.

## 2.8 *With reference to S104(4) of PA2008, the assessment of the Proposed Development* (part h)

2.8.1 S104(4) *"This subsection applies if the [F8Secretary of State] is satisfied that deciding the application in accordance with any relevant national policy statement would lead to the United Kingdom being in breach of any of its international obligations."*

2.8.2 This comes down to the significance of the impact of the scheme, both alone and alongside other road programmes, on the necessary sharp reductions in carbon emissions needed from now onwards and in particular by 2030. The 68% cut by 2030

[35] Table 14-11, page 26, Chapter 14 - Climate, APP-083
[36] Page 36, Carbon budget table as part of response to Q1.4.1.1d, Highways England response to 1st Written Questions – REP1-022
[37] Figures from BEIS 2005 – 2019 Local Authority CO2 emissions

NDC target is at risk by continued road construction over the next, critical eight years and the approval of this road would add to that risk.

**2.9** ***Cancellation of the Oxford Cambridge Expressway, including the specific differences with the Proposed Development, such as respective costs and benefits*** **(part i)**

2.9.1 Cancellation of the project will further reduce the need for the development and will undermine the projected increases in traffic used to justify this scheme which will most likely be lower than suggested by National Highways given the ambitions of England's Economic Heartland's Transport Strategy for a 5% reduction in car traffic by 2030. This will further undermine the economic justification for the scheme.

# Annex 1

## Calculation of relevant energy only carbon budgets for Bedford Borough Council from the Tyndall Centre's carbon budget tool

### 3. Results

#### 3.1 Energy Only Budgets for Bedford

Following the Method the recommended energy only $CO_2$ carbon budget for the Bedford area for the period of 2020 to 2100 is 4.8 $MtCO_2$. To translate this into near to long term commitments a $CO_2$ reduction pathway within the 4.8 $MtCO_2$ is proposed here. A consistent emissions reduction rate of -13.7% out to the end of the century is applied. In 2041 95% of the recommended carbon budget is emitted and low level CO2 emissions continue at a diminishing level to 2100.

***Figure 1:*** *An interactive chart of Energy related $CO_2$ only emissions pathways (2010-2100) for Bedford premised on the recommended carbon budget.*

Tracking your mouse over this chart will display the actual figures for each of the pathways, as well as for the lead-in historical values.

**Pathway projections for Bedford**

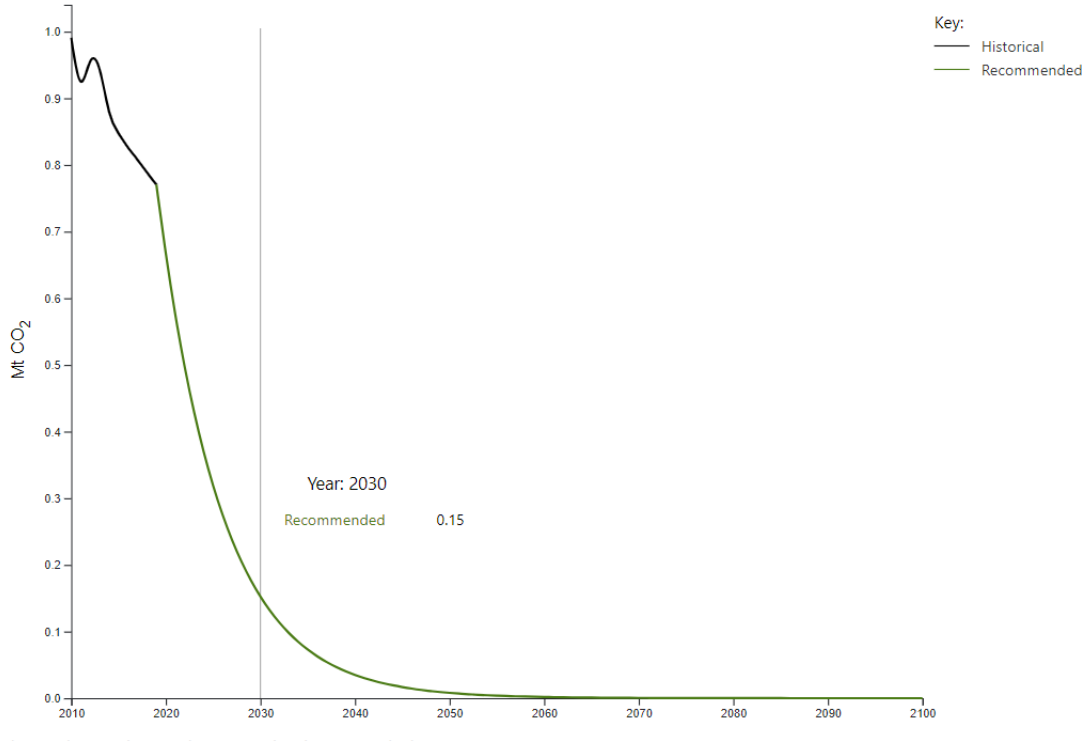

Table 1 presents the Bedford energy $CO_2$ only budget in the format of the 5-year carbon budget periods in the UK Climate Change Act. To align the 2020 to 2100 carbon budget with the budget periods in the Climate Change Act we have included estimated $CO_2$ emissions for Bedford for 2018 and 2019, based on BEIS provisional national emissions data for 2018 and assuming the same year on year reduction rate applied to 2019. The combined carbon budget for 2018 to 2100 is therefore 6.4 $MtCO_2$.

***Table 1:*** *Periodic Carbon Budgets for 2018 for Bedford.*

| **Carbon Budget Period** | **Recommended Carbon Budget (**Mt $CO_2$**)** |
|---|---|
| **2018 - 2022** | 3.3 |
| **2023 - 2027** | 1.6 |
| **2028 - 2032** | 0.8 |
| **2033 - 2037** | 0.4 |
| **2038 - 2042** | 0.2 |
| **2043 - 2047** | 0.1 |
| **2048 - 2100** | 0.1 |

The recommended budget is the maximum cumulative $CO_2$ amount we consider consistent with Bedford's fair contribution to the Paris Agreement. A smaller carbon budget, with accelerated reduction rates and an earlier zero carbon year, is compatible with this approach. It is however important that for an alternative zero carbon year the proposed 5 year budget periods are the same or lower that those specified in Figure 2. Furthermore meeting the budget must not rely on carbon offsets.

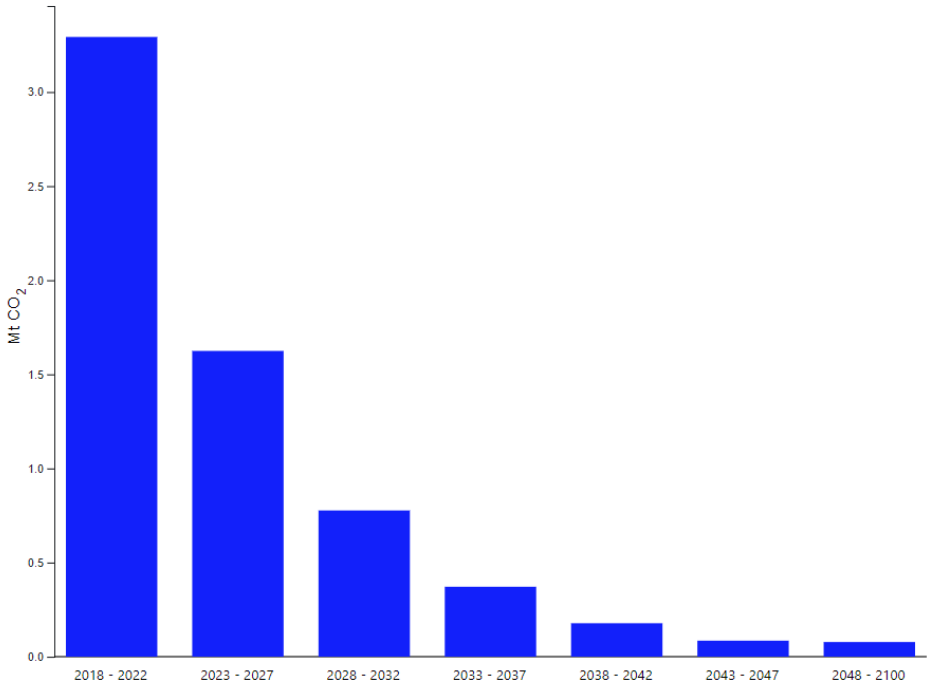


***Figure 2:*** *Cumulative $CO_2$ emissions for budget period (based on Table 1) from 2018 to 2100 for Bedford*

14 December 2021

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Transport Action Network provides free support to people and groups pressing for more sustainable transport in their area and opposing cuts to bus services, damaging road schemes and large unsustainable developments

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