

# TR010034 – A57 Link Roads, DEADLINE 2 SUBMISSION

Daniel Wimberley, Friday, 14 January 2022

## CONTENTS

### ***PRELIMINARY SECTIONS***

Contents	Page i
Notes to readers of this document	Page iii
Preface & Summary	Page iv
Introduction	Page v
Abbreviations	Page vii

### ***CONCERNING THE FUNDAMENTALS***

#### **Chapter 1: Admissibility of Arguments and Evidence Page 1**

In which I describe the different levels of arguments and evidence which I believe can be brought by participants at this EiP and which can be considered by the ExA.

#### **Chapter 2: The History of the Scheme Page 8**

In which I describe the history of scheme and critique the Highways England (HE) version. The "long bypass"; tunnels under the Pennines; and how road and rail fared in appraisals are addressed.

#### **Chapter 3: the Overall Approach of Highways England Page 10**

In which I critique the overall approach of Highways England and consider how this has contributed to the situation we find ourselves in now with respect to this scheme. Is the scheme in line with best practice and current government thinking? What are the implications of these matters for the ExA?

#### **Chapter 4: HIAA (Here Is An Alternative) vs. TINA (There is No Alternative) Page 11**

In which I describe the alternative package, and its benefits, many of whose elements follow government policy to the letter and consider the issues surrounding the fact that such an alternative was never considered or proposed by Highways England.

#### **Chapter 5: Climate Change Page 17**

In which I consider the facts of climate change, its urgency and its over-riding importance.

#### **Chapter 5A: staying safe with climate change - beyond government targets Page 29**

and argue that we should appraise this scheme using stricter emissions targets in view of the unacceptable level of risk built into current targets

## ***EVALUATING THE SCHEME AS IS***

### **Chapter 6: What a Case for the Scheme should look like Page 1**

In which I compare what a Case for the Scheme *should* look like and what the Case brought to this EiP *does* look like.

### **Chapter 7: technical aspects of the traffic data Page 37**

I consider the technical aspects of the traffic data including the issues around non-availability of the data and of the underlying workings.

### **Chapter 8: traffic nuisances 1 - Air Quality Page 1 zz**

Chapter 9: traffic nuisances 2 - noise and vibration Page 1 zz

Chapter 10: traffic nuisances 3 - health Page 1 zz

Chapter 11: traffic nuisances 4 - severance Page 1 zz

Chapter 12: the Green Belt Page 1 zz

Chapter 13: overall effects on the local community Page 1 zz

Chapter 14: the policy environment - climate change Page 47

Chapter 15: the policy environment – transport Page 1 zz

Chapter 16: the policy environment - equality Page 1 zz

chapter 17: the policy environment - localism, and "levelling up" Page 1 zz

Chapter 18: connectivity and economic growth Page 1 zz

Chapter 19 - Value for Money (VfM) Page 1 zz

## ***CONCLUDING CHAPTERS***

Chapter 20: legal issues Page 1 zz

Chapter 21: list of cases of HEHT – (Highways England Hiding Things) what are the implications of these matters are for the ExA? Page 1 zz

Chapter 22: list of cases of QEXA – (Questions the ExA should consider asking) Page 1 zz

Chapter 23: Conclusion Page 44

## **Notes to readers of this document, in particular, the ExA**

**Note 1:** I have written this submission as if it were addressed directly to you, the panel. After reflection, I have preferred this more direct way of writing to the "parliamentary third person" where you become the impersonal "ExA." Yes you have a role, that of ExA by virtue of your qualifications and experience and by being selected according to some due process. But you are also my fellow citizens, with the same desires, motivations and fears as I have - well, not exactly of course, but I think you can see what I am driving at. And so I will usually use "you" but not always, as there are occasions where "ExA" is better, for various reasons.

**Note 2:** I shall use "Highways England" and not "National Highways" throughout as that was the name of the agency proposing this scheme.

**Note 3:** I have included in this preliminary section a list of abbreviations, somewhat expanded from the one I put at the top of my Deadline 1 submission.

Among the additions made this time around to that list are two which are perhaps worthy of comment. HEHT stands for "Highways England Hiding Things" and QEXA stands for "Question which the ExA should consider asking". I will mark them as I go along which allows the reader to go back to them or search for them if required and see each one in its context.

**Note 4:** I will try to give references as appropriate. Often these are to website URL's. I will give such references in the hope that in the copy of this document which goes to the ExA these URL's will be displayed correctly.

On this matter of URL's being redacted in documents on the PINS website for this scheme, I have to comment that I cannot see how my citations or quotations or those of Highways England or those of other participants can be checked for accuracy, relation to context or for other reasons, without such links being available to readers. And yet I see that in my Deadline 1 submission all URL have been redacted. I have queried this with PINS Admin but also want to mention it here and put it formally on the record. I cannot see how this restriction helps the Examination in Public or indeed can be squared with the requirement for transparency and normal behaviour in a debate geared to finding out the truth.

**Note 5:** These CONTENTS list the areas which I hope to cover in this submission. However my various health battles may mean that some areas don't get covered as I would wish or even covered at all. I will naturally try to address the most important issues first, and if there are gaps or missing chapters then so be it, and apologies in advance.

## ***Preface and Summary***

"Hey gran'dad, what did you do to stop climate change?"

"I wrote a submission for the Public Inquiry into the A57 Link Roads."

Why on earth are we looking at this scheme in excruciating detail? It makes no sense at first glance, and it makes no sense when you take a closer look. Billed simultaneously as a solution to the "problem" of Manchester/Sheffield connectivity, and as an improvement to local traffic conditions, it can hardly be said to solve the first, nor does it seem to help with the second.

A rational process, and rational institutions, faced with this amazingly costly (£228 million for 2 miles of road) double failure, would actively look around for alternatives. And yet none are on offer. Highways England do highways in England – the clue is in the name. Whether working in silos in this way gives good value is doubtful. <sup>1</sup>

And then there is the small matter of timescale. This scheme has been in the making for 50 years, maybe more – there seems to be some debate around just how long in the tooth this scheme is. When it was first conceived, climate change was scarcely a Thing for most people. Now this scheme is quite simply past its sell-by. It has been overtaken by the absolute imperative to tackle climate change.

And the long period of endlessly producing new iterations of this scheme might indicate another deep underlying problem. Geography is not on its side. The area is a natural bottleneck and so the scheme is in fact not a bypass but a funnel. Traffic on the A57 and A628 experiences a tiny benefit but the needs of local residents come last. The area seems to be a pollution-concentrator, and rising traffic levels in the past and now planned in with this scheme for the future, cause bad outcomes.

In transport, there are rafts of national policy pointing in other directions – towards more active travel, more public transport, and the need to get the most out of our railways. And there are plenty of pointers, both policy levers and behavioural and attitude shifts which make new road-building very problematic.

What has always been missing is a long-term commitment to work with local people to work out viable and consensual solutions to the traffic and other public realm issues confronting the area. Instead we have division and sadly, misinformation. It is all very very disheartening.

And yet there was one example of consultation going beyond roads. Following the abandonment of the "long bypass" public inquiry in 2009, Tameside Borough Council consulted in 2010 on the

---

<sup>1</sup> Of course specialisation in technical matters is fine and dandy. But HE's role goes beyond the business of constructing (or commissioning the construction of) and maintaining and operating the SRN ( Strategic Road Network) and includes the promotion of schemes at strategic and local level. They are planner, promoter, architect and builder rolled into one. Or at least that is how it looks from here and if these roles were separated maybe we would get better solutions and better outcomes.

Longdendale Integrated Transport Strategy which included a wide spread of measures and scenarios. Whatever happened to that initiative? QEXA

In conclusion, there may be a very few places in England where new road capacity has a place, to resolve a very specific issue which blights people's lives, where the new capacity really does draw traffic away from a sensitive area, and where there genuinely is no alternative. It is pretty clear that Mottram/Glossopdale/Longdendale is not one of those places!

## ***Introduction***

This introduction aims to signpost the reader around this Deadline 2 submission and clarify what the key issues are.

This submission picks up on the issues which I listed in my registration letter, though the cards have been shuffled to some extent and re-dealt. It also follows on from the concerns which I expressed at the First Open Hearing where I urged you to consider wider issues such as climate change.

Chapters 6 to 19 form a section of this submission headed "evaluating the scheme as is" They consider various aspects of the A57 Link Road scheme, beginning with an overview chapter, and then considering in detail the central issue of the traffic data and network predictions which in my view have a severe flaw at their centre.

There is then a series of chapters about traffic nuisances, with air quality being the most important, due to its well-known impacts on public health, and because it has legal implications.

There are then chapters looking at the overall impact on the community including loss of green space and finally considering various aspects of government policy as they apply to this scheme.

This section concludes with consideration of the economic growth argument and finally a look at the value for money calculations.

This is all to be expected at an examination such as this. However I firmly believe that the twin related issues of climate change and of the consideration of alternatives to this scheme are of such importance that they should also be brought before this examination. I was however concerned that these wider issues would be viewed by you, the panel, as being somehow peripheral or marginal when compared to the "real" issues of evaluating the scheme as it is which I have just listed.

I had this worry that priority would always be given in the listening and thinking of the panel to detailed arguments about the scheme itself. It seems a natural thing to do. And that is why the very first chapter of this submission is a close consideration of the legal position around admissibility. I am sorry if you have heard this all before, but there may be some nuggets of gold when you see the familiar words under a new light and furthermore this will be read also by other participants for whom this information may be revelatory and/or useful.

Section 104 of the Planning Act 2008 lists what the Secretary of State " must have regard to" when deciding an application for an order granting development consent if a national policy statement has effect. Subsection 1 contains the words "any national policy statement which has effect in relation

to development of the description to which the application relates (a" a relevant national policy statement ." The national policy statement appears to support this notion of the overriding importance of the National policy statement.

But, and it is big but - there are four considerations which run parallel to or which override the national policy statement. Firstly, in subsection 2 paragraph d) of section 104 we read that the Secretary of State "must have regard to" "**any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.**" (*my emphasis*)

And there are three caveats which also limit the National policy statements' supremacy. **The NPS ceases to apply if a decision would**

**a) lead to the UK being in breach of its International obligations,**

**b) lead to the Secretary of State being in breach of any legal duty and**

**c) result in adverse impacts of the development outweighing its benefits.** (*my emphasis*)

It seems to me that consideration of climate change, consideration of alternatives, and consideration of whether we should in fact be aiming at stricter climate change targets are all admissible at this examination and not only admissible but lie at the very Centre of the question of whether this scheme should go ahead or not.

And so it is that the chapter 1 of this submission examines the legal underpinnings of this examination. Chapter 4 outlines an alternative package which would offer clear and major benefits to local residents and deal with the issue of freight traffic. Chapter 5 looks at climate change, setting out the impact, scale and urgency of this challenge, the science behind it (briefly!), and finally considering the vital and too often side-lined question of risk. Are the risks implicit within the targets we are currently aiming at in fact unacceptable? If they are then should we not appraise this scheme with "reasonable" risks in mind?

Chapters 2 and 3 are background chapters and look at the long and chequered history of the scheme and at the overall approach of Highways England and whether it fits in with the current central government focus on holistic and strategic approaches to investment and the appraisal of investment decisions, and whether it fits in with arriving at good decisions.

The concluding chapters consider legal and procedural matters, and questions which the examining authority should consider asking. These clearly have major implications for this scheme going forward.

The above is all subject to time constraints and also health constraints. In some chapters I will only very briefly set out major concerns or questions which come to my mind. Some chapters will be "deliberately left blank" as the saying goes. Apologies for that but I have done what I can and I hope that this submission is helpful.

## ***ABBREVIATIONS***

Abbreviations used in this document are as follows:

BCR	Benefit Cost Ratio
CC	Community Consultation
CC2020	Community Consultation for the A57 Link Roads scheme run by H.E. from 5 November to 17 December 2020
CCA	Climate Change Act 2008
CCC	Climate Change Committee
CftS	Case for the Scheme Library ref: APP-182
DCC	Derbyshire County Council
DCO	Development Consent Order
EiP	Examination in Public
ExA	Examining Authority
HPBC	High Peak Borough Council
HE	Highways England
HEHT	Highways England Hiding Things
QEXA	Question which the ExA should consider asking
LIR	Local Impact Report
NPS	National Policy Statement
NPS-NN	National Policy Statement - National Networks
PINS	Planning Inspectorate
SoS	Secretary of State
SPM	Summary for Policy Makers, of SR1.5
SR1.5	IPCC Special Report: Global Warming of 1.5 °C, 2018
SRN	Strategic Road Network

### **Documents referred to in this document, are as follows:**

AoCR	Adequacy of Consultation Report from HPBC and DCC. Library ref: AoC-003
------	---

## ***Chapter 1: the admissibility of arguments and evidence***

### INTRODUCTION

At the first open hearing, I spoke about what I called the two tower blocks of policies, legislation, guidance and statements which have risen up around two areas of government: the one set concerned with tackling climate change and the other set concerned with building roads.

There is a clear and obvious temptation for you to focus on the block of policies, legislation etc. under which the scheme before the EiP is being brought forward, but I said then that you had a duty, in view of the fundamental importance of climate change, not to put it to one side but to give it too the full weight it deserves.

At the time I urged you to do this **because it was the right thing to do**. I am older and wiser now, and I now know that not only is it the right thing to do, but also it is **laid down in the law that you can do it**. Indeed such matters can and should be considered by you.

In this chapter I will first examine the Planning Act 2008 as amended and then NPS-NN to shed light on the admissibility question.

### PLANNING ACT 2008

*Chapter 4 examination of applications under chapter 2 or 3* (chapters 2 and 3 describe the procedures to be followed when there is either a panel or single-appointed-person) spell out how examinations of such applications should be carried out.

*Chapter 5 Decisions on applications, section 104* spells out what the Secretary of State "must have regard to" in making decisions on applications for a DCO in cases where a National Policy Statement has effect.

Chapter 4 covers how the examining authority should control the examination and contains details of written and oral representations, hearings, rules of procedure, who may be an interested party, etc. I stand to be corrected, but I have not found in Chapter 4 any guidance or restrictions on what the examining authority may consider or not consider.

It seems to me that the matter of what issues are to be looked at in the examination is left entirely to be gathered by implication from chapter 5. In other words, if the Secretary of State, in reaching a decision, must have regard to (and those are the exact words of the Act) matter X or matter Y then it follows that matters X and Y may be considered - in fact should be considered - by the examination.

What then are these matters which the Secretary of State "must have regard to"?

I copy below the full text of section 104, to give the full context, and will then pick out the relevant paragraphs of subsection 2.

#### **Section 104 [F1Decisions in cases where national policy statement has effect]**

*(1) This section applies in relation to an application for an order granting development consent if a national policy statement has effect in relation to development of the description to which the application relates.*

(2) In deciding the application the Secretary of State **must have regard to**—

(a) **any national policy statement which has effect in relation to development of the description to which the application relates (a “relevant national policy statement”),**

[F4(aa)the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009;] N/A

(b) **any local impact report** (within the meaning given by section 60(3)) **submitted to the Secretary of State** **before the deadline** specified in a notice under section 60(2),

(c) any matters prescribed in relation to development of the description to which the application relates, and

(d) **any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.**

(3) The Secretary of State must decide the application in accordance with any relevant national policy statement, except to the extent that one or more of subsections (4) to (8) applies.

(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.

(5) This subsection applies if the [F9Secretary of State is] satisfied that deciding the application in accordance with any relevant national policy statement would lead to the [F10Secretary of State being in breach of any duty imposed on the Secretary of State] by or under any enactment.

(6) This subsection applies if the [F11Secretary of State] is satisfied that deciding the application in accordance with any relevant national policy statement would be unlawful by virtue of any enactment.

(7) This subsection applies if the [F12Secretary of State] is satisfied that the adverse impact of the proposed development would outweigh its benefits.

(8) This subsection applies if the [F13Secretary of State] is satisfied that any condition prescribed for deciding an application otherwise than in accordance with a national policy statement is met.

(9) For the avoidance of doubt, the fact that any relevant national policy statement identifies a location as suitable (or potentially suitable) for a particular description of development does not prevent one or more of subsections (4) to (8) from applying

Subsection 2 lists the five things which the SoS “must have regard to”.

Paragraph a) states that the Secretary of State must have regard to the relevant national policy statement. The thing to note here is that there are a further 3 paragraphs in this sub-section, specifying other matters which the Secretary of State must have regard to, and a further 6 sub-sections which taken together impose five caveats.

Paragraph c) states that the Secretary of State must have regard to the Local Impact Reports

Note that at this examination the local Authorities have been impeded in this by the withholding of the information they need from them by HE.

*"Furthermore , again (from the context, this means 'just as in 2018,' when the 2 Councils said the same thing) insufficient information was published with the consultation in 2020 to enable the Councils and the local community to determine the likely impacts of the scheme. Accordingly, as in 2018, HPBC and DCC submitted a holding objection to the scheme on this basis."*

*extract from joint AoCR letter from HPBC and DCC, dated 6 July 2021 Library Ref; AoC-003*

Paragraph d) of subsection 2 states that the Secretary of State must have regard to *"any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision"*.

In construing this paragraph I suggest we should reflect on why this paragraph should be written into the law. Clearly it allows for changes in circumstances or in the legal and political environment to be considered in addition to what the relevant NPS contains.

How this works out in practice and the tensions involved can be seen within the Act itself. In *section 87 - examining authority to control examination of application* which comes under *Chapter 4 "EXAMINATION OF APPLICATIONS UNDER CHAPTER 2 OR 3"* we see that subsection 3 says:

*"The Examining authority may in examining the application disregard representations if the Examining authority considers that the representations—*

*(a)are vexatious or frivolous,*

*(b)relate to the merits of policy set out in a national policy statement"*

So here we read that the examining authority “may” exclude discussion of the merits of policy set out in a national policy statement. One can understand the reasons for this permissive clause, but what if the national policy statement has been overtaken by events?

We know that it has been overtaken by events because it is now under review. In the Secretary of State’s foreword to “Decarbonising Transport, A better, greener Britain, July 2021,” we read: *"And for the same reason, as new demand patterns become clearer, we will also review the National Policy Statement which sets out the government’s policies on the national road network."* <sup>2</sup>

In the same document at page 103 the reason for reviewing the national policy statement is giving in more detail:

---

2

*"The current National Policy Statement (NPS) on National Networks, the government's statement of strategic planning policy for major road and rail schemes, was written in 2014 – before the government's legal commitment to net zero, the Ten Point Plan for a Green Industrial Revolution, the new Sixth Carbon Budget and most directly the new, more ambitious policies outlined in this document. While the NPS continues to remain in force, it is right that we review it in the light of these developments, and update forecasts on which it is based to reflect more recent, post-pandemic conditions, once they are known."*

It seems to me that this illustrates precisely the thinking behind paragraph d) in subsection 2 of section 104 (see section 104, copied into this text, above). The national policy statement can clearly not be relied on as is. We know this because the Secretary of State has caused it to be reviewed.

The matters which the Secretary of State "must consider" when deciding to review a national policy statement are set out in the Planning Act 2008 in *PART 2 - NATIONAL POLICY STATEMENTS - section 6 - review*. Subsection 3 reads as follows:

*"(3)In deciding when to review a national policy statement the Secretary of State must consider whether—*

*(a)since the time when the statement was first published or (if later) last reviewed, there has been a significant change in any circumstances on the basis of which any of the policy set out in the statement was decided,*

*(b)the change was not anticipated at that time, and*

*(c)if the change had been anticipated at that time, any of the policy set out in the statement would have been materially different."*

I take the key phrases in this subsection to be first: *"significant change in any circumstances"* and second: *"any of the policy set out in the statement would have been materially different."* Both the circumstances - which Secretary of State admits have changed - and the 'material difference' in policy apply to this scheme. And indeed we know, don't we, that the policy environment has indeed changed beyond recognition. The document "Decarbonising Transport" is itself a prime example of this. I will be considering the ambitions set out in that document and how they impact on the scheme under consideration at this examination in chapter 15.

A further pointer to the significance of matters which strictly lie outside of the existing and now blighted-by-the-march-of-progress national policy statement can be read in the Planning Act 2008 *Section 10 Sustainable development*, which is in the same part of the act as section 6, namely *PART 2 - NATIONAL POLICY STATEMENTS*. I quote this section 10 in full:

*"Section 10 Sustainable development*

*(1)This section applies to the Secretary of State's functions under sections 5 and 6.*

*(2)The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.*

*(3)For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of—*

(a)mitigating, and adapting to, climate change;

(b)achieving good design."

So, when exercising his function of deciding to order a review of the national policy statement, the Secretary of State must (note the word "must") *"do so with the objective of contributing to the achievement of sustainable development."* Following the review the rewritten national policy statement will embody current notions of what constitutes sustainable development, just as the previous national policy statement embodied notions of sustainability current at the time, which was 2014.

We need to remind ourselves of what sustainable development means. It is commonly defined as *"Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs"*<sup>3</sup> Clearly our view of climate change and of the absolute threat it poses to "the ability of future generations to meet their own needs" has changed utterly since 2014. And clearly also, this change has implications for whether this scheme should be allowed to go ahead.

In terms of the law, and what it says, it is almost as if those who were behind the drafting of the Planning Act 2008 anticipated the way in which climate change would become ever more of a pressing issue. In fact this is precisely what they did anticipate.<sup>4</sup> At subsection 3 of section 10, copied in above, we see that when the SoS is carrying out his duty of achieving sustainable development he/she "must have regard to" (and again note the word "must") "mitigating climate change."

And for the avoidance of doubt section 5 of the Planning Act 2008, which sets out how national policy statements are to be created also makes specific mention of both sustainability, at sub section 3 and of climate change, at subsection 8. So these two key guiding principles of policy-making and policy implementation are specifically included at both the stages of creation and of review of national policy statements.

### **National policy statement - national networks**

The caveats which are contained in the Planning Act 2008, section 104 sub-sections 3 to 8 are set out, slightly simplified in their presentation, in paragraph 1.2 I copy this paragraph below:

*"Under section 104 of the Planning Act the Secretary of State must decide an application for a national networks nationally significant infrastructure project in accordance with this NPS unless he/she is satisfied that to do so would:*

- *lead to the UK being in breach of its international obligations;*

---

<sup>3</sup> From <http://www.sd-commission.org.uk/pages/what-is-sustainable-development.html>

<sup>4</sup> After all it was the same administration which created the Climate Change Act of that year, which created mechanisms for constant review (and therefore the possibility of constant revisions upwards of the targets and corresponding measures needed to achieve those targets), principally the creation of the CCC, to ensure that the whole show stayed on the road.

- *be unlawful;*
- *lead to the Secretary of State being in breach of any duty imposed by or under any legislation;*
- *result in adverse impacts of the development outweighing its benefits;*
- *be contrary to legislation about how the decisions are to be taken.”*<sup>5</sup>

Thankfully for the people of Glossop, Tintwistle, Hollingworth, Mottram, Gamesley etc., and thankfully for this examination and thankfully for the planet this section of the Planning Act trumps any limitations or any exclusions which NPS-NN might contain, or might appear to contain which conflict with these caveats. The NPS after all is written under the Act.

I have in mind principally (there may be other cases, but time limitations stop me from ferreting them out) the strange provision in NPS-NN which says that, when assessing a scheme against climate change, the climate impact of a scheme should be considered in total isolation. (paragraphs 5.17 and 5.18 refer).

And these paragraphs are written in a section which claims that the road program in its entirety has no significant impact on the government’s climate emissions targets. (paragraph 5.16 refers). On the face of it, even with the now historic targets in force in 2014, this claim is absurd. I copy paragraphs 5.16, 5.17, and 5.18, in this footnote.<sup>6</sup>

---

<sup>5</sup> Note in passing that this key statement in this document, key because it defines how projects under the policy statement will be approved, is not strictly accurate. In saying that "the Secretary of State must decide an application . . . . in accordance with this NPS unless he/she is satisfied that to do so would: . . ." and then listing the caveats, the NPS gives a false impression of the true situation. In reality there are other factors that the Secretary of State must consider beyond and outside of the NPS, in particular any local impact report (section 104, sub-section 2, paragraph b)) and "any other matters which the Secretary of State thinks are both important and relevant to Secretary of State's decision" (section 104, sub-section 2, paragraph d)). The Law is indeed liable to being mis-construed here because of the way it is phrased, but by taking this bit out of context the effect is to mislead)

<sup>6</sup> **NPS-NN section headed: Carbon emissions**

**Introduction**

5.16 The Government has a legally binding framework to cut greenhouse gas emissions by at least 80% by 2050. **As stated above, the impact of road development on aggregate levels of emissions is likely to be very small.** (*my emphasis*)<sup>fn50</sup> Emission reductions will be delivered through a system of five year carbon budgets that set a trajectory to 2050<sup>69</sup>. Carbon budgets and plans will include policies to reduce transport emissions, taking into account the impact of the Government’s overall programme of new infrastructure as part of that.

**Applicant’s assessment**

5.17 Carbon impacts will be considered as part of the appraisal of scheme options (in the business case),<sup>fn70</sup> prior to the submission of an application for DCO. 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.

However it is clear that the Secretary of State should not follow the NPS if he or she thinks that "the adverse impacts of the development outweigh its benefits." And clearly the adverse impacts of a development for example the A57 Link Road can and do include its direct impact on greenhouse gas emissions and the indirect impacts on these emissions.

By direct impact I mean construction emissions and operation emissions of the specific scheme which I believe the Environmental Statement has attempted to quantify. By indirect impacts I mean not only the emissions from induced traffic but also the fact that there are wider effects on emissions when any new road is built. I list these below.

Firstly when people see a road being constructed they are primed to think in terms of travelling by road in the car and are thus less likely to make the journey by active travel or by public transport. The road acts like an advertising hoarding. It advertises this mode of travel namely "go by car."

Secondly the New Road pops up on people's smartphones as offering a new route possibility, which is another version of the advertising hoarding I referred to above.

Thirdly, for every New Road added to the network there are synergistic effects - the network as a whole becomes more attractive.

Fourthly, to take the scheme as a prime example the effort it takes to plan, evaluate options, go to examination and construct a new road all takes the oxygen out of the room and has a chilling effect on any alternatives which might be considered.

All these effects have a bearing on likely future emissions, and I submit therefore that they have to be taken into account when evaluating any scheme, and therefore this scheme..

Note that all these effects equally apply to any new rail or rail station improvement scheme, or major upgrade to public transport, or big improvement to active travel convenience. Such schemes have a priming and attracting and attention-grabbing effect drawing people to make rail or bus or active travel journeys. They are simply a fact of life – but one which either takes us in the direction of tackling climate change or in the opposite direction.

---

**It is very unlikely that the impact of a road project will, in isolation, affect the ability of government to meet its carbon reduction plan targets.** (*my emphasis*) However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets.

#### **Decision making**

5.18 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.** (*my emphasis*)

So to go back to the caveats themselves: what possibilities are created by them for this examination?

To my mind (and there may be other issues which are pertinent here) bullet point one points to the consideration of the Paris Accord and of COP26; bullet point 3 points to the question of whether the scheme will cause the Secretary of State to be in breach of his duties regarding air quality and bullet point 4 points to a wide-ranging consideration of the negative impacts of the scheme and the positive impacts of the scheme.

This last bullet point points to at least two things: firstly the tension we see in this scheme between the claimed benefits with regards to "connectivity" between Manchester and Sheffield and the various harms which the scheme will arguably cause to local people. And secondly the phrase "adverse impacts" clearly includes the impacts of the scheme on climate change, bearing in mind and what I have said about the status of climate change in the Planning Act 2008 which is the parent legislation for the planning statement.

All these matters are key areas for consideration. And all are dead centre in what is permitted and indeed encouraged by the Act. And looking carefully at the balance of benefits and harms and finding that the balance is poor, raises the question of alternatives. Why are none on the table – and what would they look like? And bear in mind that consideration of alternatives is clearly mandated by NPS-NN.<sup>7</sup>

Air quality I consider in Chapters 8 and 20. Climate change I consider in Chapters 5 and 14. Alternatives are looked at in Chapter 4 and also in chapter 3.

## ***Chapter 2 history of the scheme***

The history of the scheme provided by Highways England in their Case for the Scheme (CftS) leaves a lot to be desired. It does not help you, the ExA, and us the public including those involved in the examination, to understand the scheme.

### **Date of conception**

Even what seems like a simple matter of when this scheme was first conceived is not clear. HE's Case for the Scheme says both that this scheme has been in preparation for 50 years but the history

---

<sup>7</sup> **NPS-NN Section headed "Alternatives"**

4.26 Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:

- The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.

.....

4.27 All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options. **TAG LEGAL**

they give actually starts in 1989 which is 33 years ago. Maybe the "start " of the scheme is lost in the Mists of Time though we are assured by Highways England that they are able to use the information gathered along the way. <sup>8</sup>

From the way that it seems to connect with the end of the "M67" motorway one could guess that it goes back to the time when motorways were all the rage, and a triple "motorway box" was planned for Manchester, along the lines of Buchanan's Traffic in Towns report. Those days are long gone.

### **Acceptance through the years**

This scheme has been controversial for many years. Who would have thought this, on reading the CftS! And yet this fact is highly significant and might be taken to indicate that there is some underlying problem or problems with it. There are. First the public have never been really consulted on the basis that we start with a blank slate, identify what the problems are, and seek together a good solution or package of solutions. Second, there is the geographical problem of the site acting like a funnel for traffic, making a "bypass" a hard thing to pull off, if not impossible. And third, there is what appears to have been a lack of consideration of less polluting alternatives.

### **Road and rail**

I know from my reading that there were feasibility studies done in 2014/5 into various ways of tackling the problem of improving the route across the Pennines. I think I am right in saying that these involved at one point consideration of rail, but this was soon dropped and left as 'someone else's baby.' Again this should have been part of the historical account.

Also part of any proper account would be an account of the history of the Woodhead (rail) tunnels which go – under the Pennines! This would include the precise reasons they stopped being used for rail services, and the scope for re-opening.

It is noteworthy in this connection that the Hope Valley (HV) line is having a capacity upgrade at a cost of over £100 million with the construction causing virtually no disruption to residents' lives, only to rail users, who of course will be provided for in some way when the line needs to be closed, which may not happen very much.

We have no information about these rail options – about any consideration in the past of their potential to remove traffic from the roads through the area we are concerned with, nor of their potential impact now and into the future. What impact will this enhancement have? Has HE studied or even taken on board the potential impact on road traffic of the HV line and of the Woodhead line in the area we are considering? (QEXA)

---

<sup>8</sup> One relevant representation (or maybe it was in a letter concerning the acquisition of land) said that the scheme has been thought about since 1961. I have a note to that effect but did not give myself a clear reference. It seems an extraordinarily long time ago.

### **The scheme option which did go to public inquiry**

In 2007 the “long bypass” option, which would take the traffic around Hollingworth and Tintwistle went to public enquiry. We are told this in CftS para. 2.2.5. In 2009 the scheme was withdrawn. We are told this in CftS paragraph 2.1.7. i.e. before being told when it went to inquiry. This is hardly a coherent way to present this information.

More importantly, no reason is given for this ostensibly sensible solution being withdrawn. This is a prime example of important information not being made available by HE (HEHT). Of course we should be told the true story of this, as it is bound to shed light on this scheme. Instead we get, in the passive voice: “was withdrawn”.

I have read around a lot and have come across three possible explanations. I suggest the ExA ask the question of HE (QEXA)

### ***Chapter 3 the Overall Approach of Highways England***

This can be summed up in six words: “bunker”, or “silo” mentality and “hiding things” and “blind spot”.

Having lived in Jersey, I know about bunkers. They have very thick walls and you cannot hear anything that is going on outside; and they have very small slits for looking out, so you can hardly see anything either. It is a telling image.

Examples of the bunker (or silo) mentality are the ignoring of the public consultation by Tameside Borough Council in 2010 on their transport plan, and the removal of rail from the feasibility study in 2014. Another is their statement in a reply to a relevant representation that they would not consider the plans of the Peak District National Park Authority to encourage visitors to visit the park by public transport or travel - a policy which will lead to reduced traffic flows into the park and out of it again – saying that “measures distant from the scheme cannot be classed as part of the scheme proposals”

“Hiding things” principally refers to the traffic data and the workings behind them. HE treats it as their private black box. They even, according to Keith Buchan’s relevant representation, did not let him have the technical data and documents he wished to have, to the extent that he was forced to either sue them for breach of their professional code, as transport planners, or threaten to do so, sorry I can’t remember which.

Three authorities, HPBC, DCC and the PDNPA have been so hampered by the lack of information that they lodged holding objections, saying that neither they nor the community they serve, could understand the proposal as the necessary information was missing.

This is shocking and should have led, in my view to serious action being taken by you, the ExA. They have hampered the preparation of the LIR’s by not providing this information and yet the

LIR's are a matter which the SoS is obliged by law to consider.<sup>9</sup> And the consultation report, which is a summary of views sent in to HE and which is based on misleading and absent information as I showed in my Deadline 1 submission should be officially declared invalid by you. Alternatively you could ask a series of questions about HE's approach to not sharing the traffic data, as I requested. QEXA

And finally I gave some examples of "blind spot" in my Deadline 1 submission. Those, and some new ones are here. The effect on severance – making it easier to cross the road – is only mentioned, so far as I can see, with respect to the roads which are being specifically bypassed like the ones through the centre of Mottram. In the same way where the CB wrote about the benefits with respect to noise of the scheme, they gave as evidence that along the bypassed route there will be reductions in noise. I would not expect otherwise! There was no indication whatsoever about noise or severance in the remainder of the area.

Case for the scheme informs us at paragraph 4.5.2 that the scheme will not have an impact on accidents on minor roads. In the same way any additional traffic in Glossop will be for the local authorities to deal with. Perhaps the most important blind spot has always been Glossop. Anne Robinson of CPRE had to gather information from various places to show what would happen to traffic levels in Glossop if the scheme were to be built.

#### ***Chapter 4: HIAA (Here Is An Alternative) vs. TINA (There is No Alternative)***

##### **WHAT AN ALTERNATIVE PROGRAM OF INVESTMENT THROUGHOUT THE AREA WOULD LOOK LIKE**

*Note that the initiatives listed below work in concert, and support each other. It is indeed a "package".*

##### **i) provision of improved bus and rail services**

- frequent and regular timetable
- improve reliability
- improved comfort and safety

##### **ii) creation of a patchwork of "living streets"**

Here the motor vehicle is seen as 'permitted' not dominant. Vehicular access for deliveries, residents, (see iv) above) and emergency services can be retained by retractable bollards.

##### **iii) achieving better conditions for the active travel modes of cycling and walking**

- traffic is reduced, tamed, and in certain instances, screened out completely
- provision of specific signed routes to key destinations
- Safe Routes to Schools

---

<sup>9</sup> See Chapter 1

**iv) establishing car sharing schemes**

These allow access to all for all to the advantages of personal mobility for those trips where it is needed, for example: the big shop, visiting far-flung friends and relations, collecting awkward items.

**v) improvement of the urban environment:**

Trees please nearly everyone, ditto well designed benches and litter bins. The measures described above create the space and the conditions (vastly reduced car use ) to go beyond trees and bins and allow the creation in residential streets and town centres of a truly liveable, sociable, enjoyable and breathable urban environment.

**vi) public participation in all of the above**

This package will succeed if there is buy-in and effort has to be put in if local authorities and other stakeholders and the public are to work well together. From gathering good quality information about the trip patterns of residents to setting up Safe Routes to Schools, to creating successful car pools to re-imagining the townscape, every opportunity for community involvement must be taken.

**vii) tackling the issues of local deliveries and freight “passing through”**

Local deliveries must be concentrated onto fewer vehicles and then those vehicles should be made zero-carbon, whether van or cargo-bike. Freight “passing though” must be reduced by radically improved logistics, shifting freight onto rail, and possibly controlling road access. I would suggest that these important parts of the package will need progress at regional and possibly national level.

**NOTES ON THE ABOVE****i) Bus and Rail services:**

The schedules would be created following research to establish where residents wanted to go; for example industrial areas, shopping areas, leisure facilities, night-time venues and other towns and villages, including Manchester! This would achieve maximum value to users, and reduce the amount of subsidy needed ideally to zero. Reliability, comfort, and safety – now including ventilation - are key in ensuring that public transport attracts and keeps its customers.

**Living streets:**

Reducing and taming motorised traffic is the prerequisite for creating truly people friendly public places. Once the traffic is removed (or slowed down to a trickle) then the atmosphere changes completely. There is an absence of the threat posed by motor vehicles. There is also peace and quiet. As someone in Bamford remarked in the first lock down: "I can hear myself think." and with this change of the nature of the space comes the opportunity to make those places come alive and be places where people want to be. Which takes you to item v) on the list.

**Cycling and walking:**

Creating living streets immediately results in better conditions for pedestrians and cyclists. In addition it is helpful for everybody that there be signed routes for key destinations such as schools, hospitals, shopping centres and so on. Establishing Safe Routes to Schools can be a catalyst for community involvement and for children's health, welfare and independence (as well as the welfare and independence of their parents) and this can become the springboard for area wide improvements in Street safety.

### **Car sharing schemes :**

Car pools have three huge benefits. First, they increase people's disposable income by removing the financial burden of car ownership and therefore enhance well-being (prosperity up to a point being part of well-being) and free up money which can support the local economy, second, they make the benefits of having access to a car available to all, thus they play a major part in tackling the inequality of resource and therefore of agency, which comes with not owning a car,<sup>10</sup> and third, they free up a huge amount of urban space currently occupied by parked cars. (A quick search on Google confirms that the average car is parked around 95% of the time, effectively burning up space which can be used for other things.)

### **Improving the Urban environment:**

Who amongst us does not prefer to walk and shop in a pedestrianised area rather than in a busy street? In the 60's King Street and Queen Street, which together formed the main shopping street of Jersey's capital St. Helier were choked every weekday with rush hour traffic. They were pedestrianised for a trial period of 6 months. The transformation was never reversed, and it is the prime retail space of the town ever since pedestrianisation.

#### **vi) public participation in all of the above**

I personally have experienced a one-day workshop where the community identified the issues facing the small and congested harbour town, worked out the connections between them and came up with solutions which were then implemented. It was a thoroughly positive experience for all involved. Note the importance of follow-through. Engagement will quickly turn into disappointment and disillusion if the work is not followed by implementation.

The public can consider examples in other places, and working out how they want their street, area, and town centre to look and feel, create places where people and their needs come first, and where community can take root and grow. The people affected do know best. The rewards are massive, from greater well-being to personal satisfaction to a renewed sense of community.

---

<sup>10</sup> map showing percentage of households without a car for every ward in England and Wales – may be available from tom forth at imactivate, Leeds. Website: <https://www.imactivate.com/about/> Email: [thomas.forth@gmail.com](mailto:thomas.forth@gmail.com) Imactivate also have maps revealing the amount of space devoted to car parking in 4 English cities. I personally established that space devoted to car parking in Jersey's capital, St. Helier, was worth in the tens of millions of pounds.

## BENEFITS OF CARRYING OUT THIS ALTERNATIVE STRATEGY

This package would replace the many downsides which the scheme would bring to many residents if it were to be built, with big improvements to the quality of life of everyone. The list of improvements below is adapted from a FOE publication, which is written with a “national policy” perspective, so it is a bit lumpy in some places when applied to one specific location. But the points are well made and valid:

- ✓ Failure to stay below 1.5°C of warming will have enormous social and economic costs.<sup>fn20</sup> This package goes heavily in the direction of **reducing emissions**. Improved bus and train services, car pooling, and more active travel will reduce car miles and hence emissions
- ✓ **Better air quality:** air pollution leads to around 40,000 early deaths per year at a social cost of £23 billion <sup>fn21</sup>, and road traffic is a major source of pollution <sup>fn22</sup>. Meeting the Climate Change Act targets could cut NOx and particulate matter (PM2.5) by half by 2050, with significant public health benefits <sup>fn23</sup>. Measures to encourage low-carbon vehicles and to reduce traffic are consistent with other government strategies to improve air quality in urban areas, such as Clean Air Zones<sup>24,25</sup>.
- ✓ **Safer roads:** less traffic and lower speeds would reduce road deaths and injuries, estimated to cost society £31 billion a year <sup>26,27</sup>.
- ✓ **Healthier population:** more active travel would reduce levels of obesity-related diseases<sup>28,29</sup>. Shifting less than 2% of car miles to walking and cycling has been estimated to provide health benefits worth over £2.5 billion per year in 2030. <sup>fn30</sup>.
- ✓ **Quieter neighbourhoods:** less traffic would reduce noise. At low speeds (<20mph), electric vehicles are quieter than petrol and diesel vehicles<sup>31</sup>. Noise is to cause or further various ill-health issues.
- ✓ **More convivial public spaces:** reduced car use and car pooling reduces the space needed for parking and provision of road space, enabling creation of high-quality public realm.
- ✓ **A fairer transport system:** nearly a quarter of households (and nearly half of low income households) don't have access to a car <sup>fn32</sup>. These low-income households would benefit the most from measures to provide affordable good quality alternatives to driving or owning your own car. This is particularly relevant to this area where I believe that car ownership is well below the national average. (QEXA: can HE inform the examination of the car ownership figures for all the areas of the scheme? What do these figures tell us about the impact on “equality” of the scheme?)
- ✓ **Benefits to drivers:** less traffic would mean fewer delays from congestion for essential road users. Nearly half of motorists find driving stressful, and more than half would like to reduce their car use, but feel constrained by the lack of alternative ways to meet their transport needs<sup>33</sup>. An RAC survey found the majority of drivers would swap to public transport if the services were better<sup>34</sup>.

<https://www.transportforqualityoflife.com/u/files/1%20More%20than%20electric%20cars%20briefing.pdf> where the footnotes can be followed up

## ALIGNMENT WITH GOVERNMENT POLICIES

### **Decarbonising Transport 2021**

#### **Strategic priorities**

##### **•Accelerating modal shift to public and active transport**

We want public transport and active travel to be the natural first choice for our daily activities. An important aspect of reducing emissions from transport will be to use our cars less and be able to rely on a convenient, cost-effective and coherent public transport network. For those able to do so, we would like cycling and walking to be the easy and obvious choice for short journeys. We are already exploring how we can use vehicles differently, such as through shared mobility. New technologies and business models may help facilitate modal shift, such as Mobility as a Service platforms. This will require behavioural changes and we will consider how government and others can support this shift through infrastructure and encouraging those forms of travel.

##### **•Decarbonising how we get our goods**

Future demand for transporting goods, in response to changing consumer behaviours, is an important consideration. A huge opportunity exists to transform ‘last mile’ deliveries, ensuring an integrated, clean and sustainable delivery system. Reducing emissions for last mile deliveries, particularly in urban areas, as well as potential improvements in logistics efficiency have a key role to play. As we consider the future of the transport system, innovative digitally-enabled solutions, data-sharing and collaborative platforms could transform how our goods are moved, potentially also reducing the negative impact of congestion.

##### **•Place-based solutions for emissions reduction**

.....

Local authorities, mayoral combined authorities, subnational transport bodies and other interested parties will provide valuable insights into considering place-based solutions for emissions reduction.

### **NPS-NN 2014**

Paras. 2.53 & 2.54

The transfer of freight from road to rail has an important part to play in a low carbon economy and in helping to address climate change. To facilitate this modal transfer, a network of SRFIs is needed across the regions, to serve regional, sub-regional and cross-regional markets

So as long ago as 2014 this was acknowledged. Now the IRP, over 90bn of rail investment has put fresh flesh on the bones. Here is what the IRP views the purpose;

### **IRP (Integrated Rail Plan) 2021**

The electrification and new lines in the IRP will mean that more than 75% of Britain's main trunk routes are decarbonised. The plan will take significant volumes of passengers and freight away from

petrol or diesel cars and trucks onto clean, electric trains. Better connectivity with local and regional services will allow more journeys to be made easily without a car. Trains in the East Midlands will reach city centre stations accessible by local public transport. A smaller construction footprint will reduce environmental damage and carbon emissions.”

Exec. Summary, Page 23

## THE BIG QUESTION – WHY HAS THIS ALTERNATIVE BEEN IGNORED

The long gestation and the endless iterations of this scheme and its various options must have raised the question in someone’s mind – are we barking up the wrong tree? I believe that it can be shown that HE have known about the problems with increased traffic spilling across the area even with the scheme being constructed but still they carried on. They even make sure that's the public were unaware of the true situation regarding their traffic predictions. HEHT

This is all the more surprising when you discover, as I did, that Tameside Borough Council, after the withdrawal of the long bypass scheme at the Public Inquiry of 2007-2009 developed Longdendale Integrated Transport Strategy and ran a public consultation in 2010 on the strategy. This is all available to Highways England if they cared to look. I believe that it must come down to them operating in a silo, in a bunker. For more on bunkers, see Chapter 3. But this alternative package should have been looked at

My observation is that government policies on transport issues and place issues <sup>11</sup> could hardly be more closely aligned with this alternative package. But it is not just substantive government policies which have been set aside here, it is also policies relating to process. The new revisions to the Treasury Green Book insist on investment appraisals being carried out in a holistic and strategic fashion. You have to consider multiple goals in the round. So if we are investing a large sum in an area on the urban fringe of Manchester with health and wealth issues, then you would look for a solution which brings as many benefits as possible. This surely has to be the true meaning of “levelling up.” In fact the need for “levelling up” has caused some of the changes in the Green Book, as schemes in the North tended to be undervalued.

Even the NPS-NN specifies that alternatives should be looked at; in particular modal alternatives are mentioned. (paragraphs 4.26 & 4.27 refer, iirc). Given that the traffic data shows that many roads will have more traffic on than before, and therefore more nuisances from that traffic, and given that the benefits to drivers are so modest, coupled with the negative impact on climate change, a look at alternatives was called for.

So what were Highways England thinking? Why has rail being pushed to one side?. Why has a local authority consultation on a coherent transport plan, together with all the public responses (over 300) been ignored? I would suggest that you ask Highways England some questions around this topic of non-consideration of alternatives. QEXAS Such as: how has HE complied with NPS-NN,

---

<sup>11</sup> I forgot to mention that the NPPF has been updated to put more emphasis on the creation of “beautiful places”. And why not indeed? (Hat tip – the questions of the ExA in First Written Questions)

paragraphs 4.26 & 4.27? Has HE done any work on comparing the additional or avoided GHG emissions of an alternative such as that described in this Chapter with the additional emissions from the scheme? Has HE incorporated the thinking contained in “Decarbonising transport” in any way into the plans for the A57??? Or into the traffic data for that matter??

## CONCLUSION

We are being offered a stretch of road at an eye-watering cost which will increase traffic nuisances for a large swathe of the population, when what we need is more encouragement for people to cycle and walk, better busses and trains, we need to reduce vehicle miles, and we need a better, more healthy, more accessible, more beautiful environment, yes, even in built-up areas. And I suspect we could have all of this for the price of this Link Roads scheme. So, a QEXA – what would be the ball-park figure for such an alternative? (This question would not necessarily go to HE? Could be for anyone .)

## ***Chapter 5: This is not a drill – the reality of climate change***

### CONTENTS

- 0 Introduction
- 1 Climate Change – Impacts
- 2 Climate Change – It's here now and it is unprecedented
- 3 Climate Change – The scale of global ambition
- 4 Climate Change – The urgency of the task
- 5 Climate Change – The basics of the science
- 6 Climate Change – Assessments of the Threat

### ***INTRODUCTION***

This chapter and its sister Chapter 5A are long. I make no apologies for that. Climate change is, as we are often told, the defining issue of our time. This chapter shows why this is so. And if it is true that climate change has this over-riding importance then the impact of the scheme on climate change is a critical factor in determining whether its construction should be recommended or not. All 6 sections below make the case; however I should point out that section 3 and Chapter 5A have particular and detailed relevance to the consideration of the scheme. Section 3 includes the wording of the UN climate change treaties which we are signatories to, and therefore are implicated in the Planning Act 2008, section 104, and Chapter 5A makes the case, based on the science, that as well as considering the government's carbon budgets and its stated targets, which derive from those treaties, we should apply stricter tests still, as in fact the treaties, the targets and the budgets are not strong enough to ensure our protection and the protection of our world.

## 1 Climate Change – Impacts

*NOTE: these are eyewitness accounts, reported in various media. I give references/URL's when I have them. All are from 2021.*

### CANADA: LYTTON IN BRITISH COLUMBIA

**For three days temperatures in Lytton, British Columbia broke all national records, peaking at a staggering 49.62°C (121°F). On the fourth day it was consumed by wildfires accelerated by high winds. Lytton was burnt to the ground.** <sup>12</sup>

*(Transcript – imagine Canadian accents . . .)* “The flames were horizontal. And it was just pushing it along. And you could see it move – horizontal – flames (pause) – that’s how strong the wind was, with a big fire like that usually the flames you see them go going up these flames were going horizontal”

Reporter: “Also on the west side, Owain Collins could see what was going on too.”

“We watched the whole - village burn. Watched my house burn watched my truck burn watched my neighbour’s place burn watched the fire dancing around the village *(he kind of chuckles to himself here)* it was a fire storm. I’ve heard that fires often have personalities, this one was a monster, it sounded like a monster, it was roaring.”

Woman’s voice: “At one point – power had gone out, and next day you know, we had no water, Man’s voice: “right so at the very moment when the town was being engulfed and there were volunteers there with hoses then the water stops.” Woman’s voice: “Yeah and I discovered that – when I went up to my place I got a little spit comin’ out, and I have no pressure really, using my thumb to try and spray as much as I can because I have no pressure, to stand back, I leaned in to put some flames out, err a big gust of wind came up an’ this bush just went “pouf!” in front of my face but luckily there was enough water to put me out because when I got the flash burn I doused myself with water.”

Man’s voice: “The explosions – they were constant – and what’s exploding well every aerosol can in your house is exploding, paint cans, propane, tanks blowing their steam off, compressors, every fridge, freezer, has a compressor in when the heat gets to them they explode I mean chunks are flyin’ around and explosions are going off . . .” Woman’s voice: “whole houses are exploding it felt like you were in a – odd zone of focus and then you went in to car keys find the purse grab some things - you’re fighting back the fear. I know that this is an emergency . . . don’t get caught here – *(emphasis)* leave.”

Lou *(surname inaudible)* heard that voice too. “I went runnin’ into my bedroom because I was still in my pyjamas and I grabbed my hampers and he was right behind me and I said: here! I said I hope you don’t mind looking at an old lady’s naked body and he goes – ‘just give me the basket’ yer know, and so

---

<sup>12</sup> Sources: Avaaz & NOAA & Wikipedia, June and July 2021

I got dressed as I was runnin' out and I grabbed my purse and my cell phone and I kicked myself because I left my cat sittin' on the armchair (*chuckles to herself*), and then within minutes it was up at my house.

Reporter: "What did it sound like?"

"Like wind – wheeeeeeshshshshshhh. When I went outside the..the house that's exactly what I heard, I.. there was like a blizzard wind – and it was a blizzard of ashes and embers and all of them was goin' – sideways."

<https://www.bbc.co.uk/sounds/play/m001320h> in BBC Radio 4 "Pick of the Year 2021"

## GREECE: ISLAND OF EVIA

**Over 580 fires have broken out across the country since late July.**



"It is a holocaust. All the villages, the whole area is finished, finished. All we are saying today, is that we are fortunate to be alive."

*Klelia Dimitraki, president of Monokaria a village on the island of Evia*

## GERMANY – AHR VALLEY

**At least 130 people died in the Ahr valley alone, and 200 across the Eifel region of Belgium and Germany after some of the worst flooding in decades.**

*You ask what I experienced? It was catastrophic. All the people living here, I know them all. I feel so sorry for them, they've lost everything. All they have is what they had on them, it's all gone. A friend had a workshop over there, nothing standing. The bakery the butcher, all gone. It's scary. (Pause) Unimaginable"*

Transcript of Edgar Gillessen, resident of Schuld, on video

BBC News, July 15, 2021

*"Our tennis courts were over there, the house of Stanni from Poland was over there," Marlene Wiechmann 76-year-old resident of Schuld, pointing to a tangle of mud, smashed trees and wreckage.*

BBC News, July 16, 2021

## RUSSIA – SIBERIA, YAKUTIA REGION

**Officials have described this summer’s weather as the driest in the past 150 years. And that follows five years of hot summers.**

Extraordinary forest fires have already burned through [an area the size of Yorkshire] in north-east Siberia releasing choking smog across Russia’s Yakutia region.

*“For a month already you can’t see anything through the smoke,”* Varvara, a 63-year-old pensioner from Teryut, a village in the Oymyakonsky district. Guardian July 20 2021

All these were in 2021, and there were many other events. Who could forget the wildfires in Australia, for example?

## ***2 Climate Change – It's here now and it is unprecedented***

### USA - CALIFORNIA

*“We're seeing fire activity that even veteran firefighters haven't seen in their career. So we're just in really uncharted territory.”* Edwin Zuniga, a spokesman for California Fire.

BBC Newsround, 9 August 2021

### UK – CUMBRIA – 3 X FLOODING

#### **1: 2021**

*“.....more than a foot of rain fell over parts of Cumbria in 24 hours.”*

*“First published on Thu 28 Oct 2021 10.02 BST”*

<https://www.theguardian.com/uk-news/2021/oct/28/windermere-ferry-halted-after-excessive-rainfall-in-lake-district>

#### **2: 2020**

### **Storm Ciara: Cumbria begin clean-up after flooding**

Published: 10 February 2020

Andrew Connell, chairman of Eden District Council, lives in Appleby and said: "Storm Desmond was billed as a once-in-a-century event, and here it is happening again barely four years later."

*(and then it happens again just one year later – Ed)*

<https://www.bbc.co.uk/news/uk-england-cumbria-51442839>

3: 2015

**Storm Desmond: Study says flood was 'largest in 600 years'**



*Appleby was one of the worst affected areas in the 2015 storm, Image source, PA*

The storm saw more than 341mm (13ins) of rain fall in parts of Cumbria in just 24 hours and left an insurance bill of more than £1.3bn. More than 50,000 homes in Cumbria were [flooded or had severe impacts](#) from flooding.

<https://www.theguardian.com/environment/2019/may/22/floods-in-2009-and-2015-were-worst-in-cumbria-for-centuries-study>

and

<https://www.bbc.co.uk/news/uk-england-cumbria-48351653>

EUROPE – SICILY

**Highest recorded temperature of 48.8C in Europe apparently logged in Sicily**

**Reading at monitoring station in Syracuse unverified but comes amid heatwave in last few days**

.....

The finding comes amid a fierce heatwave stretching across the Mediterranean to Tunisia and Algeria. Fires have blazed across much of the region for more than a week. Italy’s government has declared a state of emergency. Turkey and Greece have also been hit by devastating conflagrations

.....

The extreme heat in Europe is the latest unwelcome record to strike the northern hemisphere this summer. Temperature records have been [smashed in Canada](#), the west of the US, Finland, Estonia, Turkey and Moscow. Unprecedented floods have swept through Germany and parts of China. Record wildfires are blazing in the [Siberian taiga](#), the world’s biggest forest.

.....

“This is climate change in 3D. It is here,” said Owen Gaffney, an analyst at the Potsdam Institute for Climate Impact Research. “We are radically changing the climate system so hot areas will get hotter, wet areas will get wetter. We are going to get more extremes.”

Friederike Otto, an associate director of the Environmental Change Institute at Oxford University, said extreme weather, and particularly extreme heat, was being seen across the world. “Climate

change is already here. There are things we can stop from getting worse, but there are a lot of changes that are already here.”

<https://www.theguardian.com/world/2021/aug/11/sicily-logs-488c-temperature-possibly-highest-ever-recorded-for-europe>

First published on Wed 11 Aug 2021 20.07 BST

## USA – DROUGHTS, WILDFIRES AND STORMS COUNTRYWIDE

### **US hit by 20 separate billion-dollar climate disasters in 2021, NOAA report says**

“The US was battered by 20 separate billion-dollar climate and weather disasters in 2021, one of the most catastrophic climate years on record which led to at least 688 deaths, according to the annual report of the National Oceanic and Atmospheric Administration (NOAA).

“Damage from the year’s 20 most costly disasters, which included thousands of wildfires burning across western states, frigid temperatures and hail storms in Texas, tornadoes in the south-east, and tropical storms saturating the east coast, **totalled around \$145bn.**

.....

“Between 44% and 56% of the country was affected by drought during the course of 2021.

.....

“Disaster tracking by NOAA shows that the average number of annual billion-dollar events over the past five years was 17.2 compared with just 5.3 during the 1990s. **The staggering costs from the mega-disasters between 2017 and 2021 totalled almost \$750bn.**”

*(My emphases)*

<https://www.theguardian.com/environment/2022/jan/11/us-hit-by-20-separate-billion-dollar-climate-disasters-in-2021-noaa-report-says>

## **3 Tackling Climate Change – The scale of global ambition**

### **PREAMBLE**

I think it is helpful to remind ourselves of the actual texts which this country has signed up to - our “international obligations” as mentioned in Planning Act 2008, section 104 subsection 4, any breach of which disappplies the sway of the NPS-NN, according to the Act. It is not just the targets we have signed up to but a mind-set and practice. And also we have signed up to what I find a very moving and inspiring notion: that of humanity acting together for one common aim – mutual support and survival.

In the Paris Accord, this mind-set and practice includes, as we see from the Accord extracts below, carrying out an **“effective and progressive response to the urgent threat of climate change,”** and recognising and presumably acting upon **“the importance of the engagements of all levels of government and various actors... in addressing climate change”**. (although these two clauses are only in the preamble) and acting urgently since **the stated aim**, applying especially to wealthier countries, is to **“reach global peaking of greenhouse gas emissions as soon as possible”**

## THE PARIS ACCORD

Justice Dove gave a summary of the key provisions of the Paris Accord as regards the ambitions to be followed by the parties to the Accord, in the course of his Approved Judgment on a case about Energy Trading Schemes, and whether the ETS being proposed by the government was ambitious enough: case CO/3093/2020

*“Para. 6*

*“On 12th December 2015 the state parties to the UN Framework Convention on Climate Change adopted the Paris Agreement in relation to climate change. The recitals to the agreement recognise **“the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge”**, along with **“the importance of the engagements of all levels of government and various actors... in addressing climate change”**. The recitals recognised that sustainable lifestyles and sustainable patterns of consumption and production, with developed country parties taking the lead, play an important role in addressing climate change. Articles 2 and 4 of the agreement provided as follows so far as relevant to the issues in this case:*

*“Article 2*

*1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:*

***“(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre- industrial levels, recognising that this would significantly reduce risks and impacts of climate change.***

*“Article 4*

*“1. In order to achieve the long-term temperature goal set out in Article 2, **Parties aim to reach global peaking of greenhouse gas emissions as soon as possible**, recognising that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic by sources and removals by sinks of greenhouses gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”*

*(My emphases)*

## THE COP26 GLASGOW CLIMATE PACT

On the floor of the COP26 the goal of 1.5° moved from being an aspirational sub-target to centre stage – it is now the target which is in everyone’s mind. As the chair of the Conference, Alok Sharma, said:

*“We can now say with credibility that we have kept 1.5 degrees alive. But, its pulse is weak and it will only survive if we keep our promises and translate commitments into rapid action. I am grateful to the UNFCCC for working with us to deliver a successful COP26.*

*“From here, we must now move forward together and deliver on the expectations set out in the Glasgow Climate Pact, and close the vast gap which remains. Because as Prime Minister Mia Mottley told us at the start of this conference, for Barbados and other small island states, ‘two degrees is a death sentence’.*

*“It is up to all of us to sustain our lodestar of keeping 1.5 degrees within reach and to continue our efforts to get finance flowing and boost adaptation. After the collective dedication which has delivered the Glasgow Climate Pact, our work here cannot be wasted.”*

<https://ukcop26.org/cop26-keeps-1-5c-alive-and-finalises-paris-agreement/>

And although the wording for the twin targets of 2°C and 1.5°C did not actually change between Paris and Glasgow, the language of ambition around those targets has been beefed up. Here is the relevant text from the Glasgow Climate Pact:

.....

#### **IV. Mitigation**

*15. Reaffirms the long-term global goal to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;*

*16. Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C, and resolves to pursue efforts to limit the temperature increase to 1.5 °C;*

*17. Also recognizes that **limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions**, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases;*

*18. Further recognizes that this requires **accelerated action in this critical decade**, on the basis of the best available scientific knowledge and equity, **reflecting** common but differentiated responsibilities and **respective capabilities** and in the context of sustainable development and efforts to eradicate poverty;*

The wording which I have emphasised brings out two things: one is urgency, the words **“rapid”** applied to **“reductions”** in para. 17 and the word **“accelerated”** applied to **“action”** in para. 18. And the other is the use of the phrase **“respective capabilities”** which means that countries like the UK must go faster in all this than countries like for example, India or Kenya.

Note that these three requirements are clearly relevant to this EiP and your consideration of the A57 scheme. I will pick this up in Chapter 14 the policy environment - climate change.

#### **BORIS JOHNSON – SPEECH AT THE UN GENERAL ASSEMBLY**

*“We still cling with part of our minds to the infantile belief that the world was made for our gratification and pleasure and we combine this narcissism with an assumption of our own immortality.*

*“We believe that someone else will clear up the mess we make, because that is what someone else has always done.*

*“We trash our habitats again and again with the inductive reasoning that we have got away with it so far, and therefore we will get away with it again.*

*“My friends the adolescence of humanity is coming to an end.”*

[PM speech at the UN General Assembly: 22 September 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/speeches/pm-speech-at-the-un-general-assembly-22-september-2021)

In his inimitable way Johnson is signalling here the end of an era. For him it means one thing, for each of us it will mean something different, but the conclusion is the same: the old way of doing things and thinking about things must come to an end. Now is the time to restore nature for example, and not to treat her in such a cavalier and irresponsible way, now is the time to learn how to achieve good lives without trashing the planet and treating it simultaneously as a vast dustbin and an inexhaustible source of whatever it is we think we need.

Many have reached or are moving towards this point mentally, spiritually or both, and many are trying to tread this new path in their lives. But the world must be set up to promote and enable this change, and not to put obstacles in the way, otherwise our civilisation is heading for the rocks.

#### **4 Climate Change – The urgency of the task**

After COP26 we can safely say that the world, from the smallest of small islands threatened with oblivion by rising sea levels to the wealthiest nations on earth, have all accepted, and more than that are proclaiming to the rooftops, that we are in crisis, and any further delay in rising to the challenge is unthinkable. From the street to the Conference hall there was agreement on one thing: the time to act is now.

*“There’s no more time to hang back or sit on the fence or argue amongst ourselves. This is a challenge of our collective lifetimes. The existential threat, threat to human existence as we know it, and every day we delay, the cost of inaction increases. So let this be the moment that we answer history’s call here in Glasgow.”*

##### **Joe Biden, US president**

*“I know that all of us here at Cop26 want to be on the right side of history. And this is why I call on all of us to do whatever it takes, now, to limit global warming to 1.5C. And we can do it. Because climate change is man-made, science tells us. So we can do something about it. It’s our opportunity to write history. Even more, it’s our duty to act now.”*

##### **Ursula von der Leyen, president of the European Commission**

*“Your Royal Highnesses, Excellencies, Ladies and Gentlemen,*

*The six years since the Paris Climate Agreement have been the six hottest years on record.*

*Our addiction to fossil fuels is pushing humanity to the brink.*

*We face a stark choice: Either we stop it — or it stops us.*

*It’s time to say: enough*

.....

*Excellencies,*

*We face a moment of truth.*

*We are fast approaching tipping points that will trigger escalating feedback loops of global heating.*

*But investing in the net zero, climate resilient economy will create feedback loops of its own — virtuous circles of sustainable growth, jobs and opportunity”*

*António Guterres UN Secretary-General*

*“The worse it gets, the higher the price when we are eventually forced by catastrophe to act, because humanity has long since run down the clock on climate change. It’s one minute to midnight on that Doomsday Clock and we need to act now.”*

**Boris Johnson, UK prime minister**

---

<https://www.bbc.co.uk/news/science-environment-58130705>

Latest IPCC Report is “code red for humanity” say Gutierrez

## **5 Climate Change – The basics of the science**

All that is above and below this section is based on the science. I need not rehearse I trust the credentials of the IPCC, the world’s largest ever scientific endeavour, dwarfing the effort to tackle COVID by an order of magnitude. Thousands of scientists working in dozens of disciplines focussed on understanding, ever more exactly, and in ever more connectedness, how climate change works, how fast it is moving, etc. etc.

I am sure you are aware of this and the truth of this, so this section will be relatively short!

The Pentagon, the US government, the UK, the EU, and the world community are saying what they say **based on the scientific consensus**. The IPCC, as they are charged to do, synthesises the work of this vast network of scientists the world over. They assess and /or generate probabilistic predictions and set these alongside research in mitigation and adaptation, so that policymakers can take appropriate action.

The IPCC’s 2018 report “Summary for Policymakers 2018”<sup>13</sup> is a tough read. I have written the gist of the key paragraphs, which themselves are of course summaries of subsidiary paragraphs. For the paragraphs themselves please see the actual text.

---

<sup>13</sup> IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press

1 It is relatively certain that certain populations will suffer the most from temperature rise, and it is moderately certain that if the temperature rise to 2050 is 2°C and not 1.5°C, then the number of people both exposed to climate-related risks and susceptible to poverty could increase by up to several hundred million by 2050 (B.5.1).

2 Yes one can take refuge in the word “could”. However, two points: the first is that the IPCC historically have erred on the side of caution. That is, their predictions have tended to be on the optimistic side. This is forcefully demonstrated in this extract, see B.5.7 where the scientists found that “there are multiple lines of evidence that . . . **the assessed levels of risk increased for four of the five Reasons for Concern (RFCs)** for global warming to 2°C” (my emphasis) and go on to explain what these are.

The second is that 2°C is a challenging target, 1.5°C much more so. At present, the world is on track for a worse outcome. Anything above 2°C is according to the IPCC “catastrophic”<sup>14</sup> So all the consequences in this extract could be worse than spelt out here.

3 The impacts on human health of either rise in temperature (2<sup>o</sup> or 1.5<sup>o</sup>) are uniformly bad, and the scientists make these predictions with high or very high degrees of confidence. (B.5.2)

4 It is pretty certain that if the temperature rise to 2050 is 2°C and not 1.5°C, then production of maize, rice, wheat, and potentially other cereal crops will fall to a greater extent, particularly in sub-Saharan Africa, Southeast Asia, and Central and South America. Likewise it is moderately certain that if the temperature rise to 2050 is 2°C and not 1.5°C, then there will be a greater reduction in food in the Sahel, southern Africa, the Mediterranean, central Europe, and the Amazon. (B.5.3).

And as the military men make very clear (*see directly below*), these global climate consequences will impact directly on our way of life in the UK, one way or another. There are security, health, weather disruption and food implications for us here in Britain also. As with the pandemic, “we” has to be taken as the new “we” – we are all in this together.

## 6 ***Climate Change - Assessments of the Threat***

These are observations by military planners and security experts. Note that these people are experts in **threats**.

### **The US Department of Defence**

The US Department of Defence said this in a memo to Congress in 2015:

“Climate change is an **urgent and growing threat** to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources such as food and water. These impacts are **already occurring**, and the scope, scale, and intensity of these impacts are **projected to increase over time.**” (my emphases)

This memo is cited in a Guardian piece in November 2019, by Michael Klare, who is professor emeritus of peace and world security studies at Hampshire College and the author of 15 books,

---

<sup>14</sup> UNFCCC at Cancun in 2010 (Revill and Harris, 2017). Revill, Chloe and Harris, Victoria, 2017: Mission 2020. 2020: The ClimateTurning Point(Mission 2020, 2017); available at <http://go.nature.com/2takuw3>

including [All Hell Breaking Loose: The Pentagon's Perspective on Climate Change](#) (Metropolitan Books).

Professor Klare lists three main pathways by which climate change is likely to endanger American security: by increasing the level of conflict and chaos abroad; by exposing the homeland to ever more destructive climate effects; and by the potential for the military being overwhelmed by having too many problems arising from the first two issues to deal with at once. He gives sobering detail on how these effects will arise.

He concludes: “Finally, for the rest of us, it should become evident that climate change will come in time to supersede all other threats to national security, requiring an even greater popular response than that now devoted to other, more familiar threats.”<sup>15</sup>

### **The UK National Security Strategy**

In 2008 the National Security Strategy said “Climate change is potentially the greatest challenge to global stability and security, and therefore to national security” and went on to contemplate more frequent territorial disputes and intense humanitarian crises.<sup>16</sup>

It goes into considerable detail as to how things will play out and how differing issues will intersect,<sup>17</sup> before calling for clear and determined action to tackle climate change at a UK and international level (paras. 4.83 – 4.86)

---

<sup>15</sup> <https://www.theguardian.com/commentisfree/2019/nov/12/us-military-pentagon-climate-crisis-breakdown->

<sup>16</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228539/7291.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228539/7291.pdf)

<sup>17</sup> For example: “Along with climate change and water stress, it (competition for energy) is one of the biggest potential drivers of the breakdown of the rules-based international system and the re-emergence of major inter-state conflict, as well as increasing regional tensions and instability.” (para. 3.39) and “growing and increasingly urbanised global population will increase demand for food and water, at the same time as climate change and other trends put greater pressure on their supply. (para. 3.50) and “Climate change will also add to the pressure on food supplies, through decreased rainfall in many areas, and climate-related crop failures. (para 3.50)

## ***Chapter 5A Chapter 5A: staying safe with climate change - beyond government targets***

### INTRODUCTION

The visible effects of climate change, the words of warning from the military planners, the weight of the science itself have combined to ensure that climate change is now perceived worldwide to be THE supreme challenge facing the human race and one which demands urgent and committed action.

In the light of this the supplementary aspirational target of limiting the global mean temperature rise to 1.5 degrees which was set down in the Paris Accord in 2015 has become now the de facto agreed international target, and we saw this clearly in the words and outcomes of COP26. The urgency and scale of the effort required are now no longer in doubt. <sup>18</sup>

In the UK this has led the government, acting under the Climate Change Act 2008, to raise the legal overall target from an 80% cut in emissions by 2050 to a 100% cut (i.e. the nation is committed now to achieving net zero emissions by 2050) and to raise the statutory 5-year carbon budgets in line with the overall target.

In chapter 14 of this submission. I set out the detail of these massive increases in ambition, and the implications for government policy and implementation in every sector including of course transport, and not forgetting that both the overall target and the carbon budgets are legally binding.

The implications for this particular scheme, the A57 link roads, are already drastic under a strict interpretation of the legal situation in the UK, as we will see in Chapter 14.

**But in this chapter I put it to you that there are further considerations which mean that you should give even greater weight to climate change.**

### THREE CONSIDERATIONS WHICH RAISE THE LEVEL OF AMBITION REQUIRED

The considerations which I want to impress on you are three:

- 1 the consideration of the **risks of climate change**, where I mean by the word “risks”: “adverse impacts”. The sober scientific assessment is that it is likely that **they will be worse than previously thought**.
- 2 consideration of the truth about the 2°C and 1.5°C temperature rises and the fact that these numbers are arbitrary points on a continuum of fear. A closer look reveals that in fact **what is required is to aim as low as possible**.
- 3 the consideration of risk, in the different sense of the “probability of something bad happening.” **The odds of "success" in reaching the relative safety of a 1.5 degree global temperature rise via the suggested carbon budgets are not odds that any “reasonable person” would accept** when one remembers the gravity of the bet. So what’s to be done?

---

<sup>18</sup> For the relevant texts and detailed discussion of the shift, see above, Chapter 5, section 3

I will take these considerations one by one.

## **1 the risks of climate change are worse than previously thought.**

### **Three definitions from the IPCC Special Report: Global Warming of 1.5 °C publ. 2018**

I start with three necessary definitions. Box SPM.1: “Core Concepts Central to this Special Report”<sup>19</sup> defines “risk” as:

**Risk:** *The potential for adverse consequences from a climate-related hazard for human and natural systems, resulting from the interactions between the hazard and the vulnerability and exposure of the affected system. Risk integrates the likelihood of exposure to a hazard and the magnitude of its impact.*

Reasons for Concern (RFCs) are defined in the Glossary of IPCC SR1.5<sup>20</sup> as:

**Reasons for Concern (RFCs):** *Elements of a classification framework, first developed in the IPCC Third Assessment Report, which aims to facilitate judgments about what level of climate change may be dangerous (in the language of Article 2 of the UNFCCC) by aggregating risks from various sectors, considering hazards, exposures, vulnerabilities, capacities to adapt, and the resulting impacts.*

From these definitions we see that the concept of “risk” captures both the severity of the hazard and the vulnerability of the receptor, and the two combined give a reading of the harmfulness of the impact, which is the “risk.” A risk is limited in its extent, it concerns a single hazard, so far as hazards can be isolated in this way. Reasons for Concern (RFCs), on the other hand, are systemic: they are labelled in the opening paragraph of Chapter 3 of SR1.5 as “major categories of risk.”<sup>21</sup>

Confidence levels in what the IPCC Report is asserting are defined as follows (in section 1.6 of SR1.5, Chapter 1)<sup>22</sup> :

**“Confidence:** *Five qualifiers are used to express levels of confidence in key findings, ranging from very low, through low, medium, high, to very high. The assessment of confidence involves at least two dimensions, one being the type, quality, amount or internal consistency of individual lines of evidence, and the second being the level of agreement between different lines of evidence. Very high confidence findings must either be supported by a high level of agreement across multiple lines of mutually independent and individually robust lines of evidence or, if only a single line of evidence is available, by a very high level of understanding underlying that evidence. Findings of low or very low confidence are presented only if they address a topic of major concern.”*

---

<sup>19</sup> Special Report: Global Warming of 1.5 °C IPCC 2018, Summary for Policy Makers (SR1.5 SPM), page 24, From Box SPM.1: “Core Concepts Central to this Special Report”

<sup>20</sup> Special Report: Global Warming of 1.5 °C IPCC 2018, Annex 1: Glossary

<sup>21</sup> Special Report: Global Warming of 1.5 °C IPCC 2018, Chapter 3: Impacts of 1.5°C of Global Warming on Natural and Human Systems, Executive Summary paragraph 1

<sup>22</sup> Special Report: Global Warming of 1.5 °C IPCC 2018, Chapter 1: “Framing and Context” section 1.6: “Confidence, Uncertainty and Risk”

## Levels of risk have increased for most of the RFC's

Paragraph B.5.7 of SR1.5 Summary for Policymakers states;

**B.5.7.** *There are multiple lines of evidence that since AR5 (IPCC Fifth Assessment Report published in 2014, ed.) the assessed levels of risk increased for four of the five Reasons for Concern (RFCs) for global warming to 2°C (high confidence). The risk transitions by degrees of global warming are now: from high to very high risk between 1.5°C and 2°C for RFC1 (Unique and threatened systems) (high confidence); from moderate to high risk between 1°C and 1.5°C for RFC2 (Extreme weather events) (medium confidence); from moderate to high risk between 1.5°C and 2°C for RFC3 (Distribution of impacts) (high confidence); from moderate to high risk between 1.5°C and 2.5°C for RFC4 (Global aggregate impacts) (medium confidence); and from moderate to high risk between 1°C and 2.5°C for RFC5 (Large-scale singular events) (medium confidence). (Figure SPM.2) {3.4.13; 3.5, 3.5.2} <sup>23</sup>*

So for these “major categories of risk” which cover a huge range of outcomes, the possible harmful impacts were all assessed as having got worse in just 4 years from 2014 to 2018 (although 2 out of the 5 were assessed on a temperature increase going up to 2.5). And events have already borne witness to 2 out of the 5 RFC's mentioned above: RFC1 - Unique and threatened systems - and RFC2 - Extreme weather events, the symptoms being in the first case, coral reef damage and the desperate efforts to save them, <sup>24</sup> and in the second case, well, news items in 2021 seemingly on a weekly basis.

## 2 The different impacts of 1.5 degrees and 2 degrees, the nature of these numbers and what this means for our level of ambition

### The impacts

The main purpose of Chapter 3 of IPCC SR1.5 is to set out what the impacts of a global average temperature rise of 1.5°C would be across the world in all countries, in all latitudes, everywhere, and to compare these impacts with those which would arise from a rise of 2°C.

Here is how the Chapter answers the question: “What are the Impacts of 1.5°C and 2°C of Warming?” :

*Extra warming on top of the approximately 1°C we have seen so far would amplify the risks and associated impacts, with implications for the world and its inhabitants. This would be the case even if the global warming is held at 1.5°C, just half a degree above where we are now, and would be further amplified at 2°C of global warming. <sup>25</sup>*

<sup>23</sup> Special Report: Global Warming of 1.5 °C IPCC 2018, Summary for Policy Makers (SR1.5 SPM)

<sup>24</sup> Ref to piece in the Guardian about the efforts in an Australian research station to breed adapted corals and “re-release” them into the “wild”.

<sup>25</sup> FAQ 3.1 in Special Report: Global Warming of 1.5 °C IPCC 2018, Chapter 3

Those words paint the overall picture in very abstract terms. At 1.5°C it will be bad, at 2°C it will be worse. But it does imply a sliding scale of risk. Here is some detail about the key risks, distilled by me from the section “1.5°C and 2°C Warmer Worlds” of the Executive Summary of Chapter 3:

- the risk of heatwaves and heavy rainfall events, leading to wildfires, droughts and floods
- extreme heatwaves in the tropics, expected to already become widespread there at 1.5°C global warming
- stronger melting of ice sheets and glaciers, as well as increased sea level rise
- shifts in the distribution of plant and animal species, and further extinctions
- risks for the survival, calcification, growth, development and abundance of a broad range of marine life forms, caused by ocean acidification
- decreases in crop yields and fishing yields
- additional effects arising from the combined effects of all the above

I copy the full text of these paragraphs in Appendix 1 of this document. Not, perhaps, suitable for bed-time reading.

### **The language**

There are two important points to note here. One is my observation of what happens to me, and perhaps to others, when I am reading the IPCC report. I feel that my brain is numbed, almost desensitised. There is a disconnect between the reality of what they are describing, the implications of what they are describing and the cold scientific prose which is on the page.

The job of the authors of the report is to assemble and combine data from hundreds of academic studies in dozens of areas. The job is to set out the conclusions which they have reached clearly and dispassionately. There are no marks for emotional impact or Style, only for accuracy. And so there is this disconnect, and this numbing effect, which is also down to the sheer scale and range of what we are being told..

And so the reader, and that includes you, must make the jump for themselves, to integrate the cold facts on the page with our knowledge of the world, and to interpret their effects on flesh and blood the world over.

### **The two numbers**

The second point is that the two figures of 1.5°C and 2°C are in a sense arbitrary. They serve to provide a focal point for governments, societies, and even scientists to organise activities around and to galvanise action. But this is a teensy bit misleading. We should not allow our ambition to be limited or defined by these two numbers. And we should not have any illusions about them either.

**They are not cut off points**, they are in fact points on a sliding scale. This is made abundantly clear by Figure 2.3 on page 105 of chapter 2 in the SR1.5 report. This chart shows that the relationship

between the amount of CO<sub>2</sub>e being added to the atmosphere and the amount of global warming is more or less linear, that is, the more CO<sub>2</sub>e that there is, the greater the temperature rise.<sup>26</sup> It is a continuum.

In the course of the first review period of the “long-term global goal” (or LTGG, because everything has its acronym) of the UNFCCC process, which happened in the years leading up to COP21 in Paris, the idea was born that “Parties would profit from restating the temperature limit of the long-term global goal as a ‘defence line’ or ‘buffer zone’, instead of a ‘guardrail’ up to which all would be safe.” Concerning the strengthening of the temperature limit of 2°C, the review’s key message was: ‘While science on the 1.5°C warming limit is less robust, **efforts should be made to push the defence line as low as possible**’<sup>27</sup>

It is not binary, an either or between reaching the target and not reaching it. The purpose of the 1.5 figure is to provide a clear and far less dangerous alternative to aiming for 2 degrees of warming, a strategy which invites disaster. The Paris agreement speaks in terms of reducing the impacts of global warming by striving for 1.5°C. But in fact, given that it is a continuum, and given the uncertainties involved (which I deal with below, under consideration 3) **the lower we aim for, the safer we are.**

#### **our level of ambition**

FAQ 3.1 in IPCC SR1.5 says this:

*Essentially, the lower the rise in global temperature above pre-industrial levels, the lower the risks to human societies and natural ecosystems. Put another way, limiting warming to 1.5°C can be understood in terms of ‘avoided impacts’ compared to higher levels of warming. Many of the impacts of climate change assessed in this report have lower associated risks at 1.5°C compared to 2°C.*<sup>28</sup>

It is clear from this that the IPCC is saying that risks are proportional to the amount of temperature rise. Here is just one specific example:

***Risks to natural and human systems are expected to be lower at 1.5°C than at 2°C of global warming (high confidence). This difference is due to the smaller rates and magnitudes of climate change associated with a 1.5°C temperature increase, including lower frequencies and intensities of temperature-related extremes. Lower rates of change enhance the ability of natural and human systems to adapt, with substantial benefits for a wide range of terrestrial, freshwater, wetland, coastal and ocean ecosystems (including coral reefs) (high confidence), as well as food production systems, human health, and tourism (medium confidence)***<sup>29</sup>.

<sup>26</sup> There are complicated caveats, but the truth of the statement still holds.

<sup>27</sup> All quotations from FAQ 1.1 “Why are we Talking about 1.5°C?,” in Chapter 1, in Special Report: Global Warming of 1.5 °C IPCC 2018

<sup>28</sup> Chapter 3, FAQ 3.1 “What are the Impacts of 1.5°C and 2°C of Warming?” in Special Report: Global Warming of 1.5 °C IPCC 2018

<sup>29</sup> Executive Summary of Chapter 3, *ibid*

**So, I repeat, the lower we aim for, the safer we are.** Since it is the logical consequence of the science, the scientists say it too.

Piers Forster, IPCC coordinating lead author and member of the Climate Change Committee, writing on the CCC website about the IPCC Sixth Assessment Report, published 9<sup>th</sup> August 2021, says:

*The IPCC report is unequivocal that past emissions of greenhouse gases have led to the unprecedented rates of climate change (including heatwaves and intense rainfall) that we are seeing around the world today. It further details how we are already locked into centuries of sea-level rise and that **each tonne of greenhouse gases we emit will further increase climate-related hazards around the world.*** <sup>30</sup> (my emphasis)

Mann (director of the Earth System Science Center at [Pennsylvania State University](https://www.psu.edu/), ) says he is concerned focusing on absolute targets like 1.5C or 2C can divert from the bigger job. He offers the analogy of trying to get off a highway. If the world missed the 1.5C “exit ramp” that doesn’t mean it should not aim for the ramp at 1.6C. “And if we miss that, the 1.7C exit ramp,” he says.” **Every tonne of carbon we don’t burn makes things better, reduces the harm and the risk.**” <sup>31</sup> (my emphasis)

### **3 The odds of "success" are not acceptable so what can we do to improve them?**

#### **The size of the bucket and the odds of “success”**

Because CO2 emissions relate directly to global mean temperature rise (with large caveats, to which I will return, under the heading “uncertainties” ) it is possible to work out what humans can emit on top of what we have already emitted since the pre-industrial era and stay below 1.5°C. And this the IPCC have done, as painstakingly and accurately as possible.

The IPCC, in SR 1.5 calculated that starting on January 1st 2018 humans could add 580 Gt CO2 for an even chance of staying below 1.5°C. That would be the remaining global carbon budget, or as I prefer to call it as it is a bit more real, the remaining global carbon bucket. Budgets can always be stretched by enterprising treasurers, but a bucket – when it is full it is full.

If 50% does not appeal as the odds for having a maybe-liveable planet, then the IPCC can offer you a smaller bucket, this one holds just 420 GtCO2, for a 67% chance of staying below 1.5°C please.

The first thing to say about these odds is that **you would not cross the road if there was only a 50% chance of reaching the other side alive.** I have to stress that we are really talking about odds in a bet with absolutely massive consequences riding on it, and so, comparable to not being alive if you lose the bet.

With the smaller global bucket of 420 Gt CO2 we have a 67% chance of crossing the road alive and a 33% chance of getting to the other side dead. Is that any more acceptable? No, I thought not.

<sup>30</sup> <https://www.theccc.org.uk/2021/09/06/what-does-the-ipcc-report-mean-for-the-uks-climate-policy/>

<sup>31</sup> <https://www.theguardian.com/environment/2021/apr/03/every-choice-matters-can-we-cling-to-hope-of-avoiding-15c-heating> accessed 27/11/2021 00:58

How on earth have we got ourselves into this mess? Good question and I could have a go at answering, doubtless many could answer that, but it would not be strictly relevant. The question is: what next?

That is what the school strikers are telling us. They do not see why they should suffer for our mess. They do not wish to grow up into a world where these sorts of odds are actually being planned for by their "elders and betters" with a 50% or 33% chance of growing up into a world with an ever greater chance of endless calamity ahead. Tip: take a look now at Appendix 1. (Or keep it for later)

### **Uncertainties**

And then we must add into the mix the fact that these there are possible **Earth system feedbacks** that **could reduce the budget by a lot** such as CO<sub>2</sub> and methane release from permafrost thawing and tropical wetlands, there are potential **tipping points**, not predictable, as icecaps melt and forests recede or burn.

And then there are what the IPCC calls: **knowledge gaps**. These include the size and effect of non-CO<sub>2</sub> radiative forcing, the amount of residual warming which might happen after we have arrived at net zero, and the path-dependence of carbon budgets – meaning that it is not yet well-known how differences in the precise paths followed for cutting emissions affect the amount of actual temperature rise.

Other complex uncertainties are so large that they total more than the carbon budgets themselves. So we are alive in a landscape of uncertainty coupled with a huge, almost unimaginable cost of failure. It is enough to make you anxious, depressed or worse, I suggest that the cure is to wake up and do the right thing. We would be gamblers indeed, knowing what we know, not to do everything in our power to cut emissions as fast and as deeply as possible.

That is the only rational response. And we "Are All In This Together" we must all take responsibility, the Global "we" includes everyone in the UK and on down to us in England and down to us in Glossop Mottram and Manchester., oh, and Bristol too.

## CHAPTER 5a CONCLUSION

I have just said: we are all responsible.

It is a sliding scale:

The bill for damage in just five years in one country, the USA is \$750 billion. And the party has only just begun. And that is just one country. And then you add in the cost in human misery and death.

The risks are worsening, the costs will spiral, the uncertainties remove any temptation to "take it easy" or "hope for the best".

The sooner we start in earnest the greater will be our relative safety, the less will be the suffering, the better environment we will have, the more of nature which will survive.

*“If you look at this in a very systematic way, we are still able to pull this off. The right conclusion is the 1.5C limit is really hanging in the balance, and I think everyone knows that, and that’s why we need to get on with really rapid action.”*

Dr Bill Hare, the chief executive and senior scientist with Climate Analytics <sup>32</sup>

---

<sup>32</sup> <https://www.theguardian.com/environment/2021/apr/03/every-choice-matters-can-we-cling-to-hope-of-avoiding-15c-heating> accessed 27/11/2021 00:58

## ***Chapter 7: technical aspects of the traffic data***

There is one main issue I wish to raise about the traffic data and then a number of other issues.

### **BASELINE FLOWS SHOULD BE THE BASIS OF ALL TRAFFIC COMPARISONS**

When I was trying, without success to get traffic information out of H.E. I automatically wrote my emails referring to “existing” and “predicted” flows. I assumed that consultees would wish to compare the *current* situation (i.e. the actual flows at the time of presenting the information, or as near as it is possible to get) with the *predicted* situation. That was certainly what *I* wished to do.

*Current* flows are (roughly, see exact wording above) what people experience in the here and now. That is their natural baseline. What other baseline for comparison could there possibly be?

‘Ah, the traffic is going to be 30% more (worse) in *this* scenario .’ OR ‘Ah, the traffic is going to be 30% less (better) in *this* scenario .’ Note that for most people “more traffic” will automatically be translated into “a worse situation for me” and “less traffic” will automatically be translated into “a better situation for me.”

This is however NOT what HE have done in this instance. They have instead provided Tables and maps which compare the “Do-Minimum” flows and the “Do-Something” flows. This is a very different comparison and one which, as I will demonstrate, is very misleading for consultees. It compares two hypotheticals and it effectively “hides” any overall traffic increase which may be taking place.

Such an increase might be due to national trends, which are liable to be influenced downwards by policy action in order to reduce emissions, which policy action then reduces local traffic flows, or due to local attraction factors such as the attraction of traffic from the M62 which HE have admitted will happen if this scheme is built. Either way, useful information gets “lost” and possible solutions do not get thought about. HEHT

Apart from the loss of the information about the traffic increase which is taking place, there is another major consequence, and that is that the numbers of difference become smaller. And that means that they appear to the reader as less significant. So for example, on a given stretch of road, the 2040 traffic flows for the two scenarios of Do-Something and Do-Minimum might be different from one another by say 5%. " Nothing to worry about" the reader says to themselves. But those same traffic flows, when compared to the baseline, might be different by, say, 25% and 20%. A very different picture emerges of a traffic situation that has got worse by 20 or 25%.

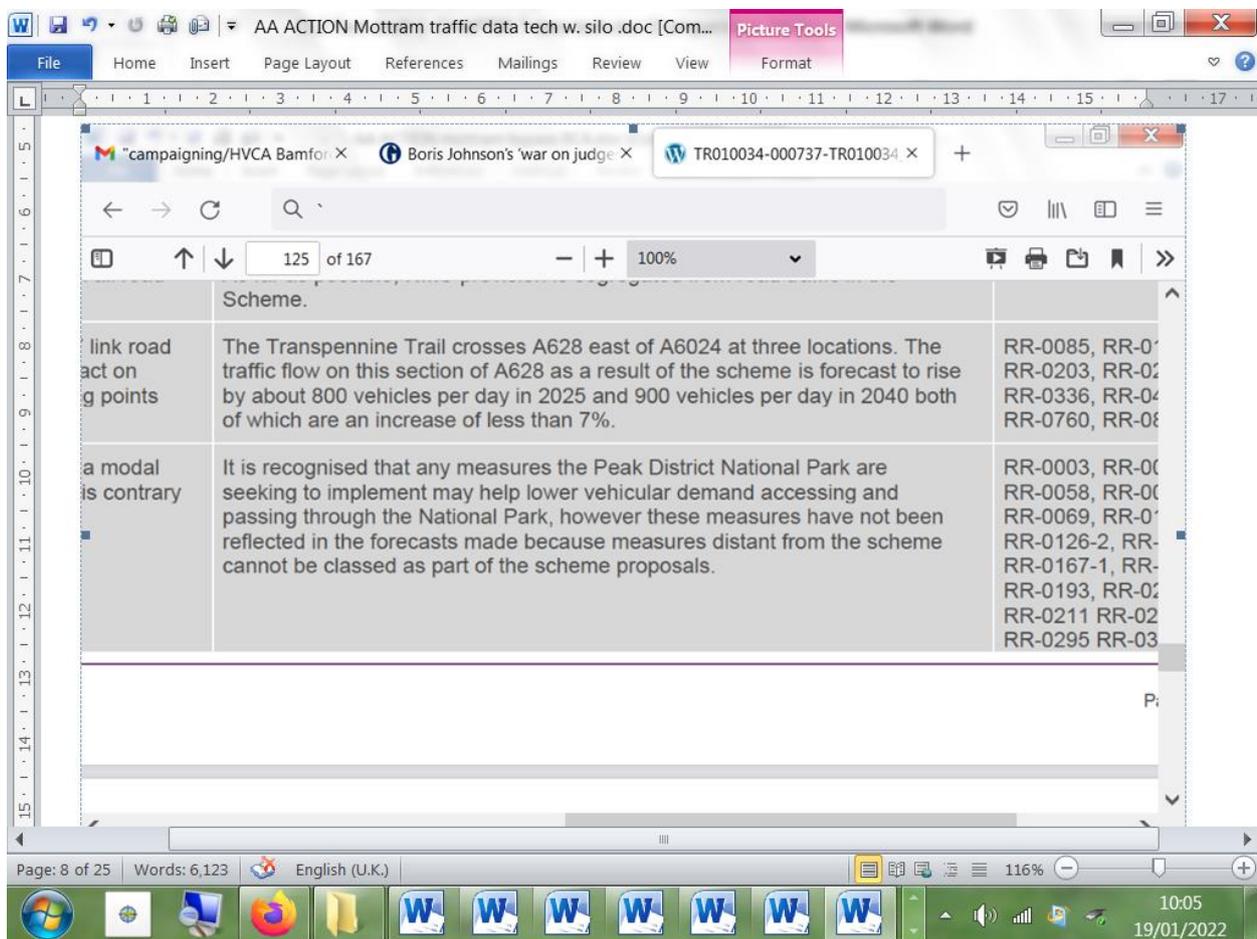
And that in turn directs the attention of all of us to the right place. The difference between the 2 scenarios may be quite slight in this instance, but the real problem is revealed, that of a general traffic increase over the years.

And if it is the case that the two scenarios are in fact really different from one another, then that will show up too, for example Do-Something might in 2040 be 30% worse than the baseline and Do-Minimum be 5% more than the baseline, and the difference will show up. Comparing to the baseline is simply more accurate and more revealing than comparing the two scenarios to each other.

There is another vital consequence of the differences being small all because of the way that HE are presenting this data. It appears to make sense to compare Do-Something with Do-Minimum. After all, then we can isolate the effect of the scheme. No doubt that is the rationale which HE would use. However by doing things in this way we make the numbers smaller and that may have serious consequences for this examination.

I have noticed that certain assessments depend on traffic reaching certain increase thresholds. Things are scoped in or out, screening is another term used, because the increase is “not big enough” So which way are the increases being stated? And what is the proper way to consider such matters?

Here are some examples: <sup>33</sup>



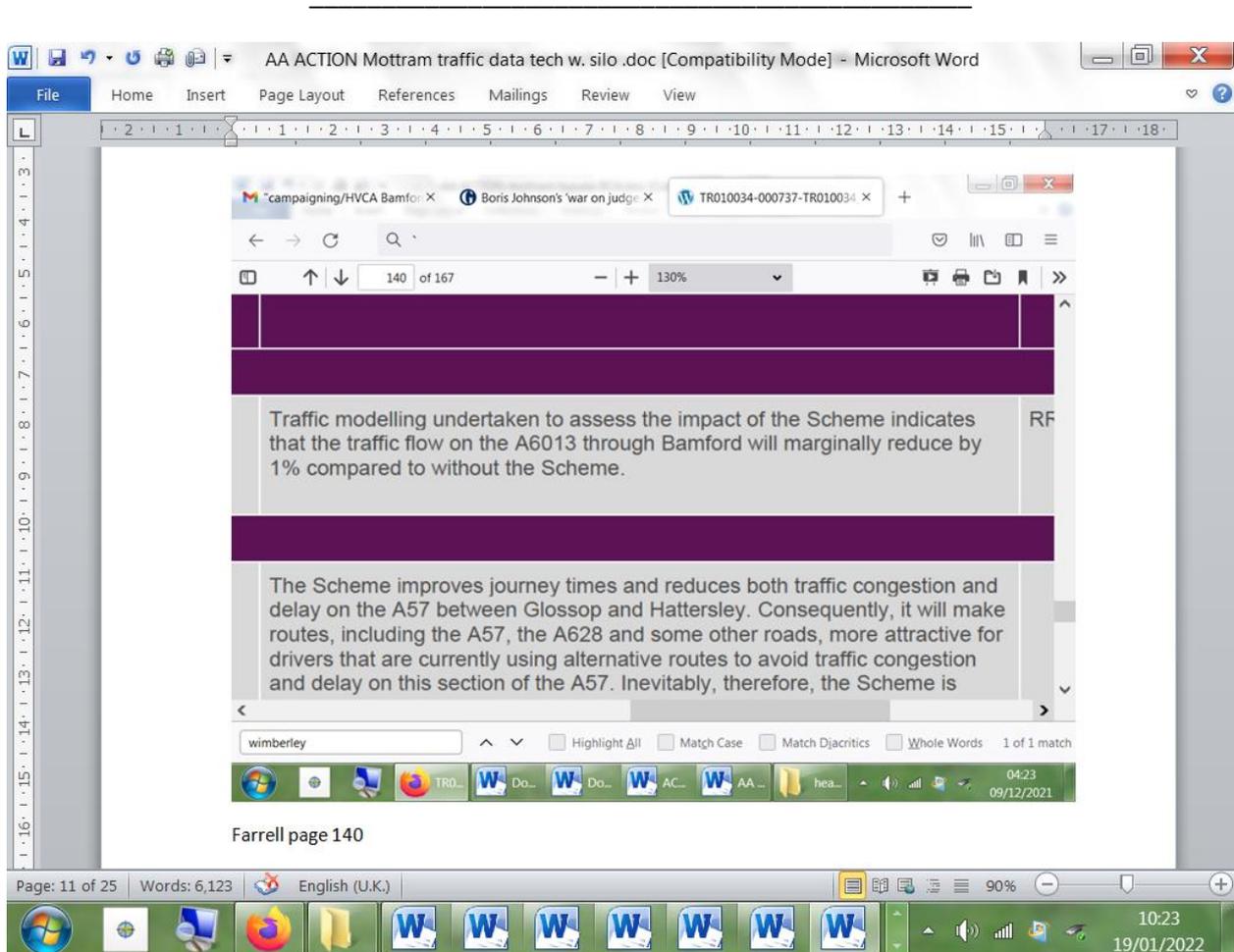
In the upper paragraph here, we are told by HE that “traffic flow as a result of the scheme is forecast to rise by about 800 vehicles per day in 2025 and 900 vehicles per day in 2040 both of which are an increase of less than 7%.”

The question is, is that 7% the difference between Do-Something and Do-Minimum or is it a difference between Do-Something and the Baseline. If it is the former then it is possible that the 800 vehicles and 900

<sup>33</sup> (they are screenshots, apologies but it is hard to copy stuff from Exam documents)

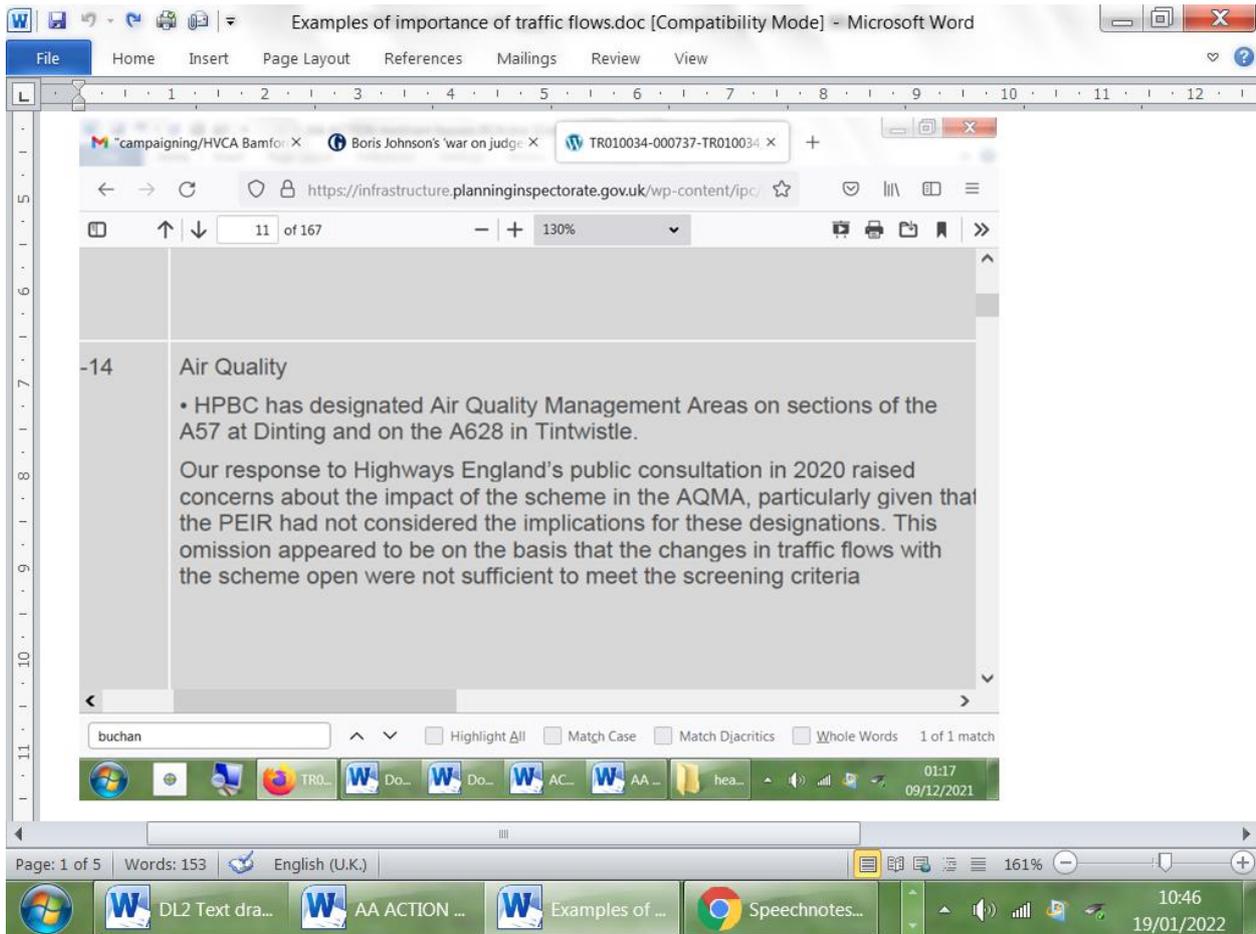
vehicles per day mentioned here are actually far less of an increase than what is actually going to happen with respect to the baseline, which is a far better measure of how people would perceive this.

In this screenshot perhaps it makes not much practical difference but it illustrates the problem.



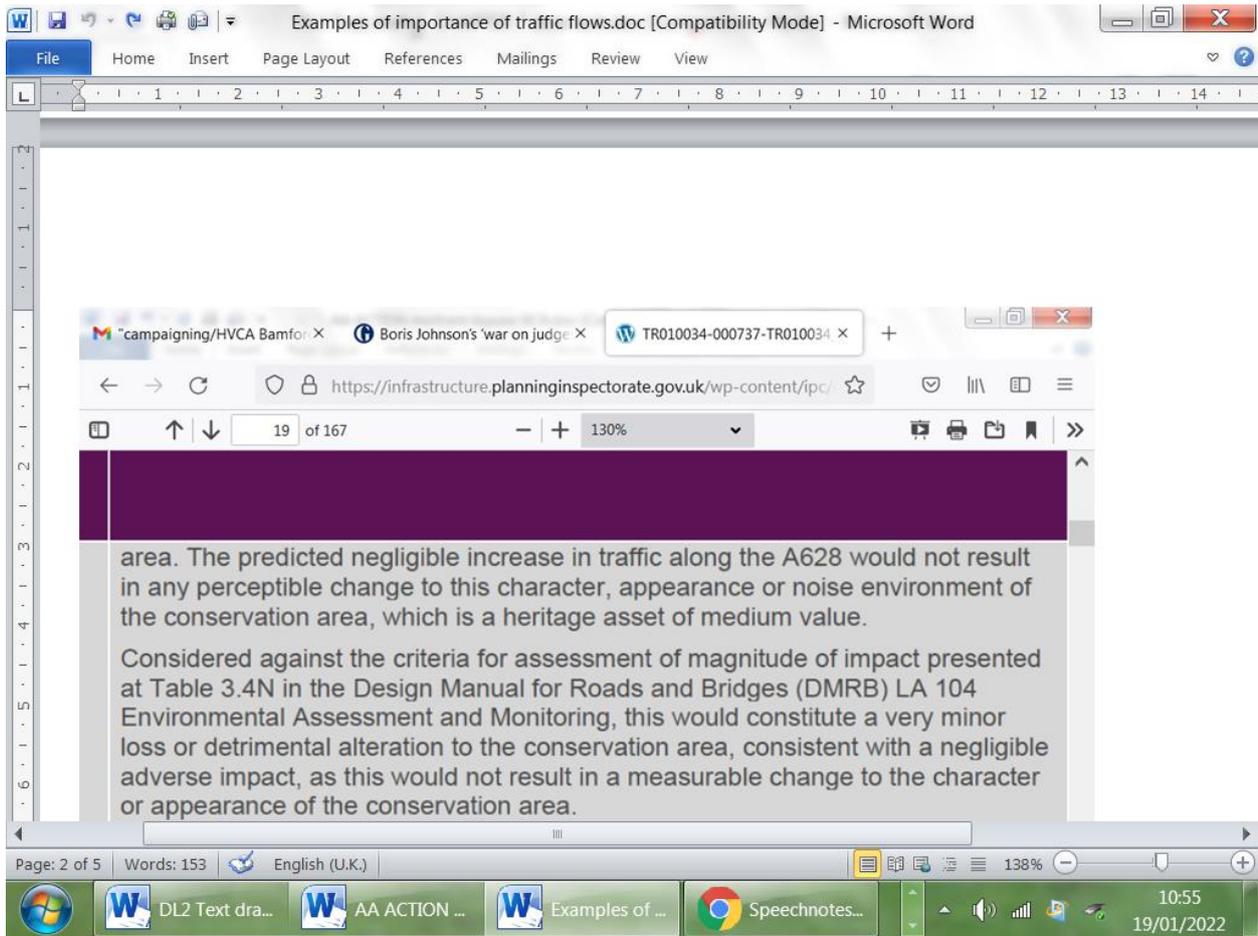
In the top paragraph here we see the “small number” syndrome. ‘Oh, just 1% - and it’s LESS, so that’s fine.’ But I as a resident of Bamford, have no idea of what the traffic flows will actually be like in relation to what we have now, because there is no comparison with the baseline of now (usual caveat). For all I know, with traffic growing across the nation as HE seem to expect,<sup>34</sup> there will be 20 or 30% more traffic. This is far more likely than 1% as traffic over Snake is forecast to increase by around 25% iirc.

<sup>34</sup> see para. 3.1.2 in CftS, which refers to “long term traffic growth”

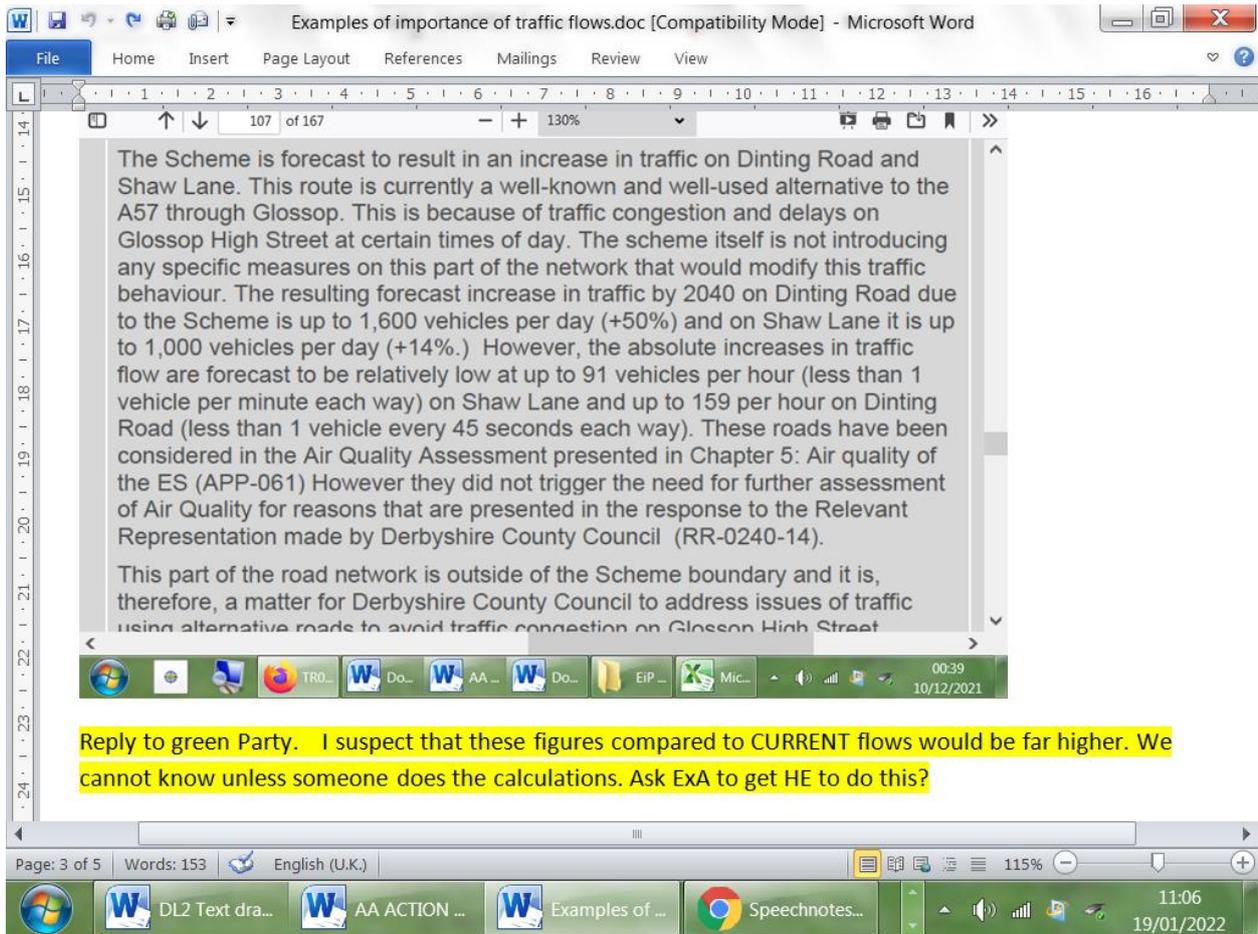


HE not considering the implications of the scheme for 2 AQMA's " appeared to be on the basis that the changes in traffic flows with the scheme open were not sufficient to meet the screening criteria.

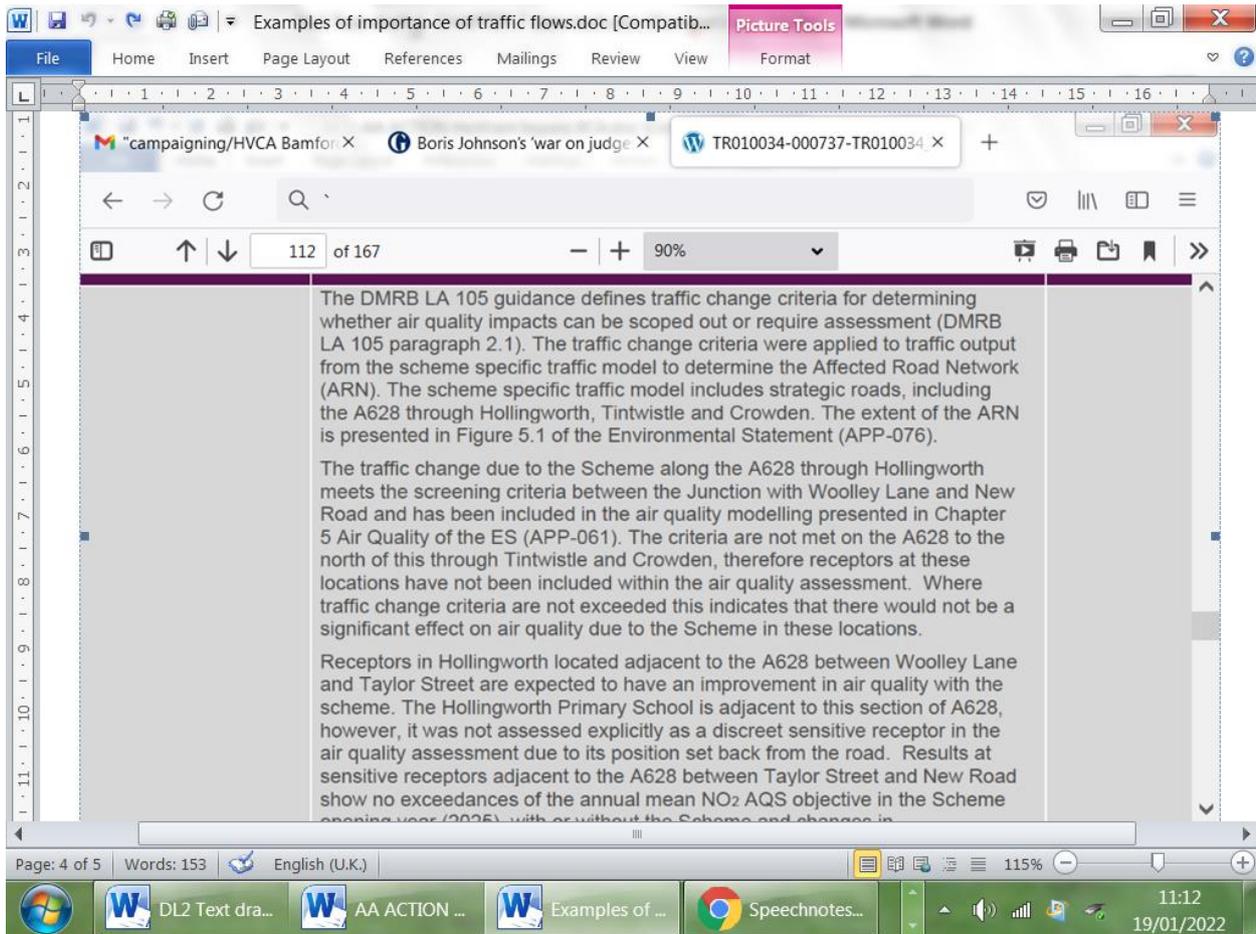
Were the changes in traffic flows which were "insufficient" the difference between Do Something and Do Minimum or were they the difference between with the scheme and the Baseline? Greening out an AQMA from an air quality assessment is a serious matter. (screenshot ios from REP1-042)



"The predicted negligible increase in traffic along the A628 would not result in any perceptible change to this character, noise environment of the conservation area" Here again I suspect that the "negligible increase" comes from comparing the situation-with-the-scheme to the situation without the scheme at some time in the future. What we do not know and can only guess at because of the way the data is presented throughout the examination is what the increase in traffic along the A628 is when compared to the baseline.

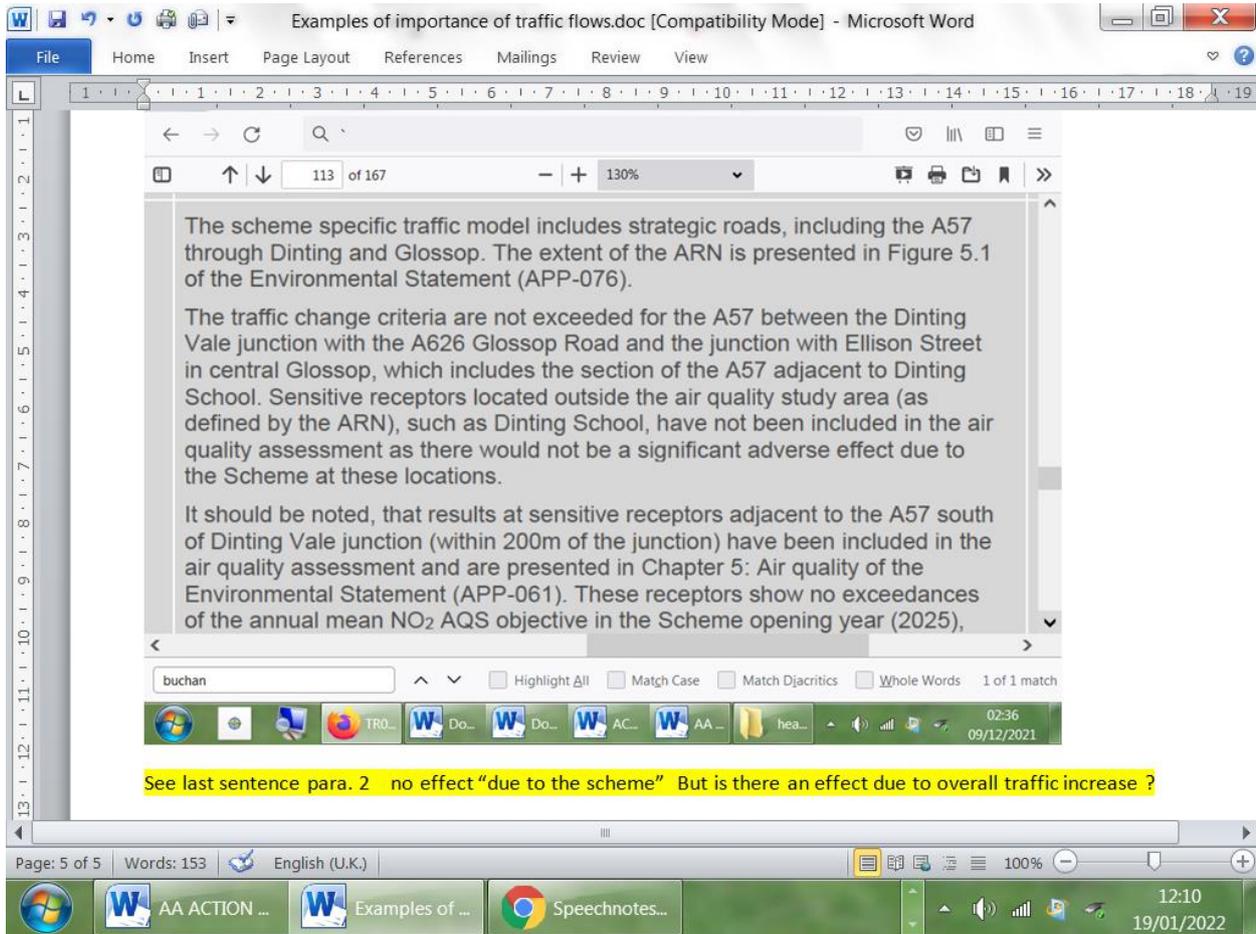


The same confusion again in this screenshot and again assessment for air quality was screened out because of traffic data. The reader cannot know if the forecast increases in traffic on Shaw lane and Dinting Road are relative to to the Bassline or relative to 2 to future flows in a Do Something scenario.



Here once again potential receptors for an air quality assessment were screened out because of “traffic change criteria”. These are not specified but I think we can assume that they will have been derived from comparing Do-Something with Do-Minimum. If that is true then it is the case that we do not know if the criteria would have been met if the comparison had been made with the Baseline. I am very anxious that the screening out of potential receptors has happened when it should not have happened.

In this connection I have to say that I am somewhat surprised by the claims made by the applicant for air quality and noise if the scheme were to be built. I am bound to wonder whether the figures for these nuisances have been improved as a result of the approach taken to the presentation of traffic data. I trust that you will follow up these concerns particularly as they have have a legal component.



## OTHER ISSUES

### **Not being open with the data – call for review**

HE refused to let me have their traffic data, both before and after the 2020 consultation. They have denied it to Local Authorities as well, and Keith Buchan, transport consultant for CPE seems to have had difficulty in getting the information which he needed.

These data are so important, as I am sure you are aware. They are needed to validate the drop in traffic nuisances we are being told will occur. They are critical in the role they play in VfM (Value for Money) calculations. And they are essential for disentangling the intentions of this scheme: Transpennine Upgrade (which would surely attract traffic into Longdendale) or local environmental scheme.

These delays in a process which is very truncated with short deadlines make it pretty difficult for any real scrutiny to take place. And yet there is plenty of scope for errors to take place. For example the method of extrapolating from mobile phone data to arrive at origin and destination information is fraught with difficulty. There is plenty of methodology to go wrong.

And it is known that mistakes can be made and that is why it is wise to have this work reviewed. I describe a very famous mistake made by talented researchers with big repercussions in the box below.

A famous example is the paper by two economists from Harvard Reinhart and Rogoff, whose 2010 paper “showed average real economic growth slows (a 0.1% decline) when a country’s debt rises to more than 90% of gross domestic product (**GDP**)”. “This 90% figure was employed repeatedly in political arguments over high-profile austerity measures.” Indeed it was, and yet the calculations were plain wrong. A team from University of Massachusetts Amherst found three errors in the spreadsheet which led to the results. “The most serious was that, in their Excel spreadsheet, Reinhart and Rogoff **had not selected the entire row when averaging growth figures**; they **omitted data** from Australia, Austria, Belgium, Canada and Denmark.

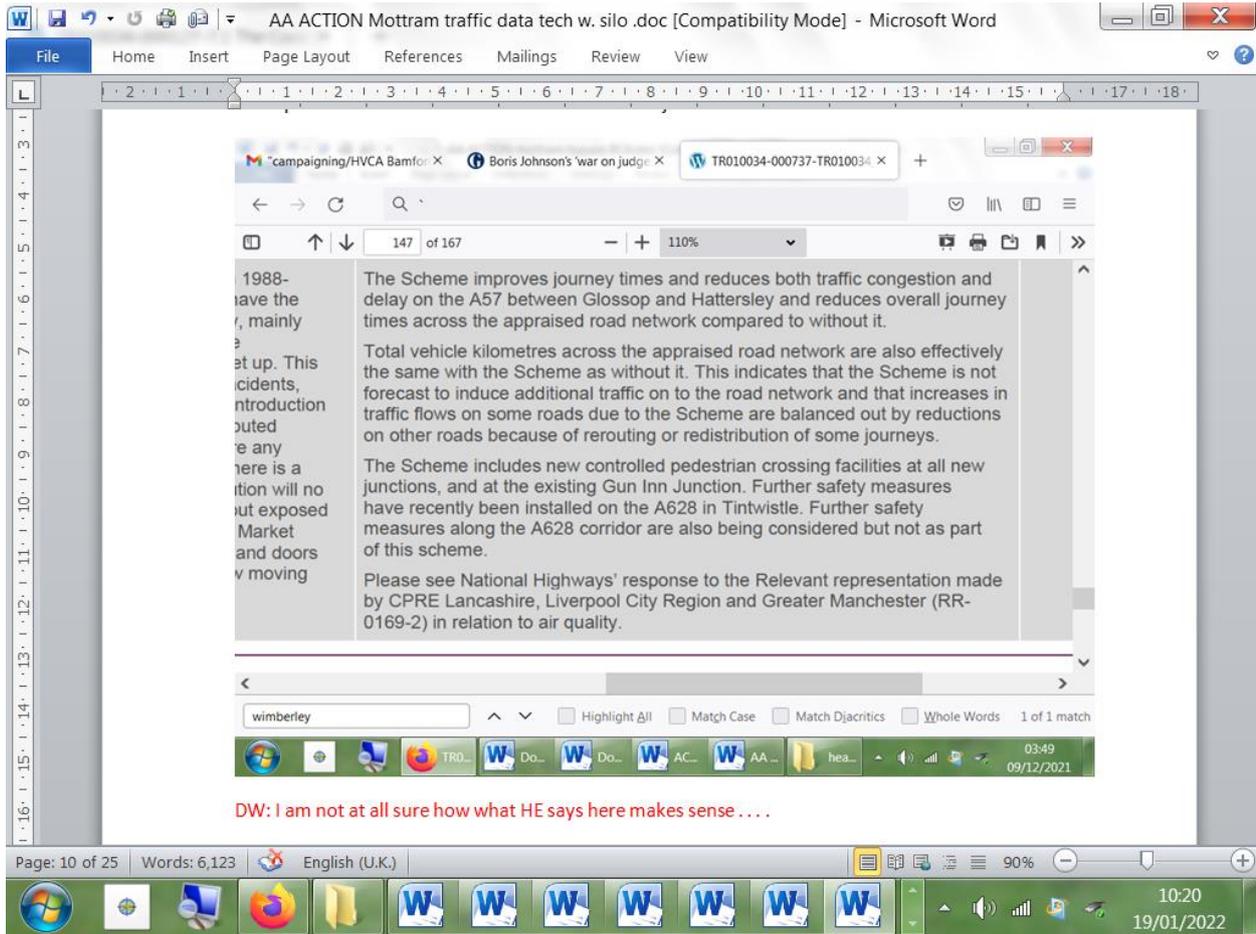
“In other words, they had accidentally only included 15 of the 20 countries under analysis in their key calculation.

“When that error was corrected, the “0.1% decline” data became a 2.2% average increase in economic growth.”

So the key conclusion of a seminal paper, which has been widely quoted in political debates in North America, Europe Australia and elsewhere, was invalid.” (source: [The Reinhart-Rogoff error – or how not to Excel at economics \(theconversation.com\)](#))

### **Glossop traffic flow data**

This is available to HE. Their model’s zones included the whole of Glossop, and they did supplementary studies in Glossop about traffic matters as we read in CftS. And yet no streets in Glossop appear in the Tables and maps as presented in CftS, unless I missed something. The data could be found buried in the Environmental Statement and Anne Robinson of CPRE located it and that is why I know that we do have the data. The outcomes and impacts on people in Glossop do matter, but HE seems to have a blind spot, noted in my deadline one submission. HEHT



The third paragraph in this screenshot says that the scheme is not forecast to induce additional traffic onto the road network. This is hard to reconcile with the statement at paragraph 5.1 13 of Case for the scheme, which talks about the fact that traffic will divert from the M62 and M1 to cross the Pennines using these newly improved routes.

### Questions for the ExA - QEXA

How much traffic do HE think will be attracted from the M62 onto the A628, as stated in paragraph 5.1 13 of Case for the scheme?

Could HE create charts comparing traffic flows on ALL roads which they have data for, whether assigned or counted, baseline versus DS 2025 and 2040 and DM 2025 and 2040, and clarify the situation regarding screenshots.

How will the traffic network data being provided by HE be reviewed?

## **Chapter 14:        the policy environment - climate change**

This Chapter sets out the climate change policy environment and the legal framework of targets and carbon budgets in the UK, and the work of the CCC within the CCA (Climate Change Act) under which this examination is taking place. What this run-through makes clear is that the direction of travel is firm and constant. There is, and there will continue to be, more and more emphasis on cutting GHG emissions. And rightly so, if we take on board the contents of Chapters 5 and 5a earlier. It then considers other government agencies and departments' input into the climate change arena, and then focusses down onto issues specific to this examination.

### **climate change policy environment and the legal framework**

#### **CCA, carbon targets and budgets**

The **Climate Change Act 2008 (CCA)**. Passed in November 2008 the CCA committed the UK to reducing its GHG emissions by 80 per cent by 2050, compared to 1990 levels. In 2019 the UK adopted a new target and committed to a 'net zero' target by 2050. So, **the overall goal, or "target", has moved from -80% to -100%**.

The Act provides a system of carbon budgeting, to help the UK meet its targets through a series of five-year carbon budgets. These are legally binding. The Committee on Climate Change (CCC) has reported that the first and second carbon budget were met and the UK is on track to meet the third (2018–22), but is not on track to meet the fourth (2023–27) or fifth (2028–32) budgets. These budgets will need revising in the light of the new NET ZERO 2050 commitment, and this will be in the direction of more stringency. However the CCC has said that it is not necessary in its view to enshrine updates to the fourth and fifth budgets in law.

The CCC's sixth carbon budget has now been put forward by the CCC and approved by parliament. This budget says that we must now aim for a 78% reduction in emissions by 2035. The previous budget set a 57% reduction by 2030.

According to the carbonbrief website, "The committee recommends that the sixth carbon budget, which will run from 2033 to 2037, should be set at 965m tonnes of CO<sub>2</sub> equivalent (MtCO<sub>2</sub>e), equating to, on average, 193MtCO<sub>2</sub>e annually. In 2019, annual emissions stood at 522MtCO<sub>2</sub>e".<sup>35</sup>

The reduction, either way you look at it, in permitted emissions is of 37% This is a substantial ratcheting up of climate emissions ambition.

#### **CCC**

The CCC is a statutory body, and much of what it does is laid down in statute also. It gives advice to government, for example it gave formal advice on the setting up of an ETS (Energy Trading Scheme) when requested to do so, but in fact it had said to the government that they should ask for such advice if setting up such a scheme.

<sup>35</sup> <https://www.carbonbrief.org/cc-uk-must-cut-emissions-78-by-2035-to-be-on-course-for-net-zero-goal>

But its main tasks are to prepare on a rolling basis the five-year carbon budgets which are intended to get the country to the overall target (originally 80% reduction on 1990 levels and now 100%) for consideration and ratification by government and parliament, and to write Annual progress reports which “measure progress” with the budgets. The CCC is not above telling the government is falling short: they are concerned with getting things right for the climate and the planet. The CCC also writes specific reports on a host of subjects, some as preparatory work when working up to a budget, some not.

Clearly the CCC’s research capability, and its budget which allows it to commission external research also, is considerable, its standing and importance are unquestioned, and it has a prime role in setting the agenda, and formulating the climate change policies of the government. I think I am right in saying that its recommended budgets including the upgrade to the overall target have never been questioned.

Here is their chairman’s statement of where the CCC sits:

*The basis of the British approach to tackling climate change is contained in the mix of responsibilities that the Act lays out so clearly. An independent body, the Climate Change Committee, advises on targets and delivery and measures progress. The long-term emissions goal is determined by the UK’s international obligations, themselves reflecting the scientific imperatives. Interim targets, expressed in the carbon budgets, are set in line with that long-term goal, stimulating short-term action. But the responsibility of meeting these carbon budgets – of actually delivering on the advice and the commitments – rests with Government.* <sup>36</sup>

Here is the CCC’s general approach in the 6<sup>th</sup> carbon budget:

*Our recommended Sixth Carbon Budget and UK NDC (Nationally Determined Contribution) reflect the goals and requirements of the Paris Agreement, recognising the UK’s responsibility as a richer developed nation and its respective capabilities:*

*Our recommended pathway has been explicitly designed to reflect the UK’s ‘highest possible ambition’ within the UK’s particular capabilities, as required by the Paris Agreement.*

*The actions required to meet the budget and NDC . . . . . would go beyond those required from the world on average (Table 1), in line with the UK’s responsibility as a richer nation with larger historical emissions.* <sup>37</sup>

So the work of the CCC is firmly anchored in the international joint effort to tackle climate change and respects the finer points of the responsibilities of the wealthier nations to do more than the global average.

And here are the June 2021 recommendations for transport policy. I have selected those which are strictly relevant to this scheme, backed up as I say by the willingness of the CCC to call out an inadequate response, if such there be:

---

<sup>36</sup> The Sixth Carbon Budget - The UK’s path to Net Zero, December 2020, Page 6

<sup>37</sup> The Sixth Carbon Budget - The UK’s path to Net Zero, December 2020, Page 17

## TABLE A6

Page “20”

Decisions on investment in roads should be contingent on analysis justifying how they contribute to the UK’s pathway to Net Zero. This analysis should demonstrate that the proposals would not lead to increases in overall emissions. Wherever possible, investment in roads should be accompanied by proportionate investment in EV charging infrastructure and in active travel and public transport  
(*Timing 2021/2022*)

Page “21”

Strengthen support for, and provision of, schemes to support walking, cycling and public transport to reduce demand for higher-carbon travel:

- Provision of infrastructure for active travel and other support schemes, as well as measures to make it less attractive to drive, are needed.
- This should include maintaining positive behaviour shifts and addressing risks resulting from the COVID-19 pandemic.
- Working across delivery bodies (e.g. local authorities) is critical

(*Timing 2021/2022*)    *“Priority Rec”*

Page “21”

Government should support the public transport and shared mobility sectors to recover from the COVID-19 pandemic:

- Positive communications and messaging will be required to rebuild public confidence in the safety of public transport.
- Financial support for the sector should be maintained while confidence and demand are rebuilt, to avoid the risk of operators cutting service provision.
- Government should seek to reverse the increasing relative price advantage of car travel over public transport

(*Timing 2021/2022*)

Page “21”

Implement schemes to reduce HGV and van use in urban areas (e.g. e-cargo bikes and use of urban consolidation centres), to reduce traffic and improve the safety of active travel

(*Timing 2021*)

All of these CCC recommendations have a direct bearing on the scheme before the examination and on the alternative approach which I and others are putting forward. The timescales which the CCC have put on these recommendations are also very revealing. The CCC really wants the Department for Transport to get on and change things around rapidly. And as the description of the CCC above shows, the CCC's recommendations are hard to ignore.

Perhaps you could ask some questions of Highways England. QEXA One could be along the lines of: will they agree to the analysis mentioned in the first recommendation being done with reference to this scheme, and if not why not? And if the analysis mentioned is believed to apply to

investment in the entire road network, then can HE explain the likely impacts which such an analysis would have on the scheme.

Another question could be about whether the second third and fourth recommendations would have an impact on the viability or the justification of the scheme.

The point underlying these questions, which I am sure you can improve on, is that they ask Highways England to justify the scheme in the light of the latest policy developments. Unless the Department for Transport formally reject these recommendations, which at a guess is unlikely, then they represent the policy direction for transport, and it seems to me that the scheme before this examination is like a beached whale. It is out of its element, which was a past era of policy. Or you could say, in an image perhaps more appropriate for an urban area on the fringe of Manchester that it is an industrial relic.

### **Other government agencies – OBR (Office of Budget Responsibility)**

The Office for Budget Responsibility issued a report in July 2021 which pointed out the advantages of early action on climate change.

#### ***Early action on net zero would halve cost to UK public finances, says watchdog.***

*In a delayed-action scenario, whereby no decisive global action against climate change is taken by 2030 before it is rushed out, debt in 2050-51 would be 23% of GDP higher than in the early-action scenario.*

*If no action is taken at all, debt would rocket to 289% of GDP by the end of the century, up from about 100% now.* <sup>38</sup>

### **Other government agencies – BEIS (Business, Energy and Industrial Strategy)**

In September 2021 the BEIS published a policy paper entitled "valuation of greenhouse gas emissions: for policy appraisal and evaluation."

The relevant webpage says: "This document sets out a revised approach to valuing greenhouse gas (GHG) emissions in policy appraisal, following a cross-government review during 2020 and 2021. It replaces the previous guidance on carbon valuation." <sup>39</sup>

The webpage has a lengthy, detailed and technical explanation of the thinking behind this new valuation. It is a very important step. The value of carbon emissions, perhaps I should say the negative value of carbon emissions, is now far greater than it was. As I understand it, this new value will apply across government and must be included in value for money appraisals and similar assessments.

---

<sup>38</sup> Fiscal risks report – July 2021 | Office of Budget Responsibility press release (6 July 21) <https://obr.uk/download/july-2021-fiscal-risks-report-press-notice/>

<sup>39</sup> <https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation#application>

The question therefore for you QEXA would be to ask Highways England to clarify the impact of this change on their Value for Money calculations. If my back of the envelope calculations are correct then the BCR of the scheme falls from 2.45 to around 2.

For comparison, below is a table showing BCR's for some rail freight enhancement schemes, calculated using the DfT's WebTAG methodology, just like this scheme:

### Freight related network enhancement BCRs (example)

Scheme Title	Output	BCR
Southampton – WCML freight train lengthening	Enabling operation of 775m trains	1.7
ECML North	Loading gauge enhancement	7.2
ECML South	Loading gauge enhancement	6.2
Buxton to Peak Forest	Enable operation of 2600t trains	4
Yorkshire Terminals Gauge Clearance (Route 1)	Loading gauge enhancement to Selby, Wakefield and Leeds terminals	>4
Oxford 3 Minute Headways	Capacity enhancement	4.1
F2N2: Felixstowe Branch Capacity	Capacity enhancement	>4
Northern Ports & Trans Pennine	Port of Liverpool related capacity enhancement	>4
GWML Gauge Enhancement sites	Loading gauge enhancement	2.7
Doncaster Immingham W12 Gauge	Loading gauge enhancement	>4

This table sets out a representative sample of freight related network enhancement schemes currently being developed through the Rail Network Enhancement Pipeline, as part of the Strategic Freight Network (SFN) and their respective BCR's using DfT's WebTAG transport appraisal method (*text simplified and shortened, DW*)

FREIGHT BUSINESS PLAN, Updated March 2021, Network Rail, page 25, page 19

#### Other points

QEXA Another question which needs to be asked is “have the calculations on the GHG emissions of construction been peer-reviewed?” The comment has been made to me that they look like under-estimates. I have not looked into this.

The same question could be asked about the emissions in operation. However this would be covered by the first question about the CCC's recommendations to the DfT.

And I asked in Chapter 4, whether HE had done any work on comparing the additional or avoided GHG emissions of an alternative such as that described in that Chapter with the additional emissions from the scheme?

## ***Chapter 23 CONCLUSION***

### CLIMATE CHANGE

Whether it's the grief of the fireman mourning his daughter, also a fireman, swept away in the floods when assisting a bedridden woman in a caravan in the Ahr valley in Germany, or the bewilderment of the Canadian householders as they watched their houses burst into flames, or the anguished cries of the villagers in Kenya or Afghanistan when their harvests fail for the nth time, you must listen to the imperative of climate change.

You must consider the legally binding targets and carbon budgets which are in force in the UK and how they apply to projects such as this.

You must add to these targets and carbon budgets the considerations I mention in Chapter 5a.

Firstly the **risks** we, the human race, face are now assessed by the scientists as being worse than we already feared.

Secondly, the **precautionary principle**, allied to the known fact that each additional ton of carbon emitted and the earliness with which it is emitted make our situation worse, means that we should act to limit our emissions as urgently and as decisively as possible.

Thirdly, the **uncertainties** are so great and the **odds** of success so poor with regard to mitigation pathways that we have no option but to focus on improving those odds, and that means the deepest and most immediate avoidance of additional emissions as possible.

*Now please take the time to take in the significance of those three points.*

### OTHER FACTORS

All that I have written so far in this concluding Chapter points to the necessity for you to recommend that this scheme should not be built. And this is so, for the sole and utterly compelling reason that it will cause additional emissions, estimated by the proposer at zzz tons of CO<sub>2</sub>.

This necessity can only be over ruled if the case for the scheme is overwhelming. Perhaps it achieves so many good things that taken together they outweigh the climate change considerations. Or perhaps it achieves some essential goal which cannot be achieved in a low-carbon way.

But unfortunately for the proposers of this scheme neither of the above possibilities is true. On the first possibility, the “many good things” hypothesis, I will state the matter simply and in list form.

The scheme:

1. Does not **reduce the traffic flows** including the HGVs in either Hollingworth and Tintwistle and beyond along the A628 nor in Glossop along the A57 or other roads in parallel to the A57;
2. Does not therefore **reduce traffic nuisances** in these and other areas and therefore leaves many local residents with the same poor air quality, poor noise conditions, and generally poor amenity as they have now;
3. Does nothing to **improve public transport options** beyond relieving a couple of sections of road of traffic
4. Does nothing to **solve the problem of HGVs** in the area - no serious effort having been made in the matters of switching freight to rail or weight restrictions which would force these vehicles to use more suitable routes;
5. Does nothing to **solve the known problems of health and inequality / poverty** in the area in that a transport solution which consists of building a road harms people's health in several ways and does nothing to address the transport needs of those households without a car;
6. Destroys the **largest green space at the heart of this area**. It goes straight through it, partly in deep cutting and partly on a huge embankment, transforming what is now a mature and long-standing piece of open countryside into an urbanized countryside, a developed countryside, albeit with substantial mitigation efforts in the form of tree and shelter belt planting;
7. Does not therefore **contribute to any real regeneration and improvement** in the urban public realm or to people's lives;

So the problems are not solved, and the largest green space is cut open. Benefits are not delivered and the asset is damaged. Alternatives exist which would deliver the benefits and solve the problems.

On the second possibility, the only possible “essential goal which cannot be achieved in a low-carbon way” that I can see, is the proposer’s idea that “connectivity” between Manchester and Sheffield would be improved and this would bring economic benefits.

This argument can only be described as “sketchy” and I have addressed it in Chapter 18. Suffice to say here, that the need to cut carbon is immediate, and so solutions to commuting times, or to freight movements, or to business trips, which do not involve shifting traffic away from roads, especially long-distance traffic, are deeply problematic, especially where obvious alternatives exist.

## LEGAL ISSUES

### **Admissibility of evidence and lines of argument.**

I believe that I made a solid case in Chapter 1 that every matter raised in this document is legally entitled to be raised, in particular, but not limited to, all matters concerning climate change and concerning the weight which should be given to these matters.

### **The consultation carried out by HE**

This was deeply flawed in that consultees lacked the information to arrive at any informed view, in contravention of the Nolan Principles and possibly of the legal / regulatory basis of such a consultation.

I submit that you, the Exa should declare the Consultation report as “out of play.” A compromise position would be to accept only matters of detail e.g. suggestions about lighting or similar, as part of the examination, but to exclude any wider matters..

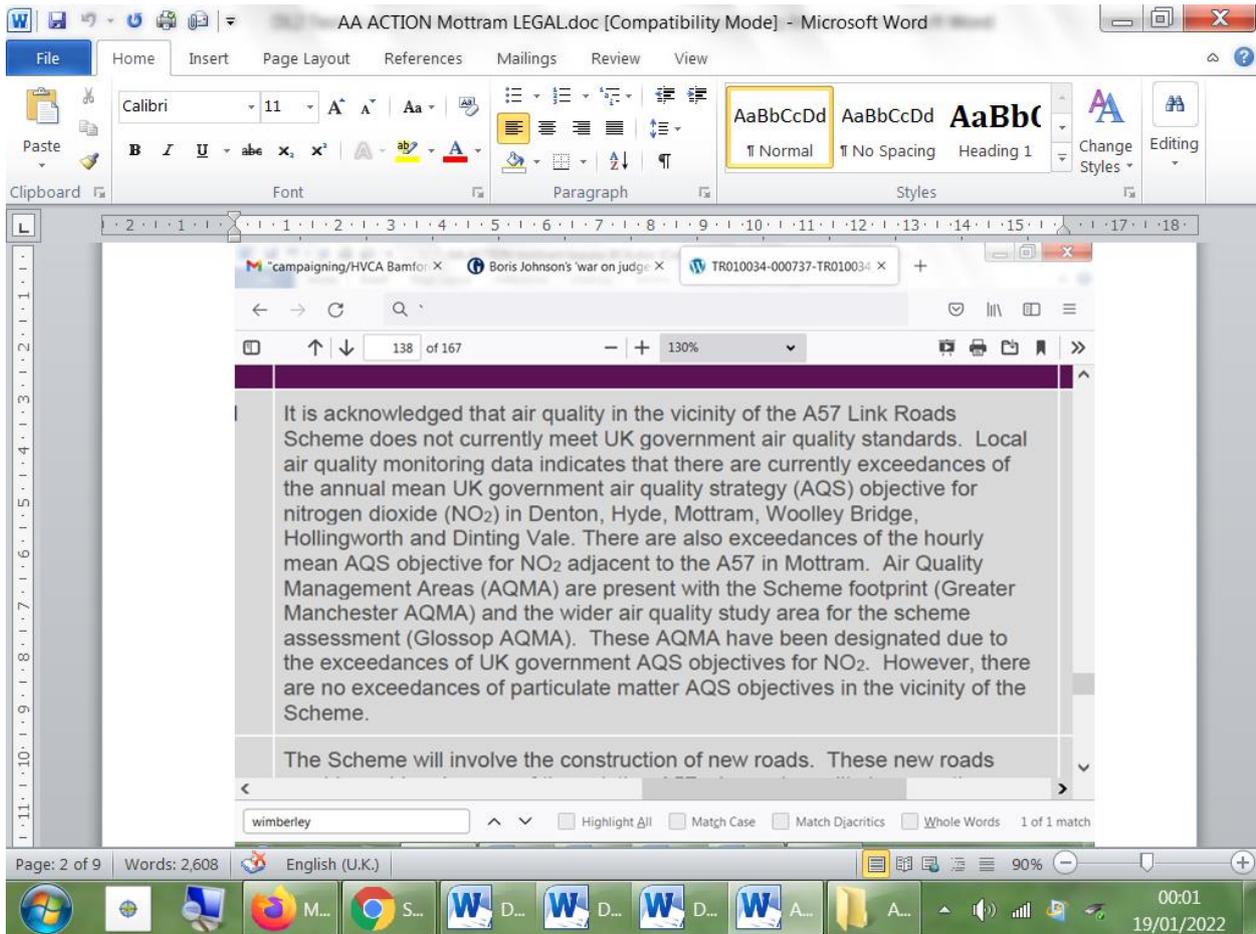
The notion that HE may have broken the law in their approach to this consultation should be of concern to you as it might lay the entire process, including the conclusions and recommendations of the ExA open to legal challenge.

### **Air Quality**

I am seriously concerned, as I believe you are, about the apparent problems with this scheme in the area of AQ. Here is a revealing screenshot <sup>40</sup>

---

<sup>40</sup> It has to be a screenshot as it is impossible to copy and paste this text in this document.. The document is I believe the relevant representations replies document



If the current situation in the area breaks the law, where does that leave this scheme? Does it fall foul of the law if it fails to remove these exceedances, in that an opportunity to ensure that these areas became compliant was passed up, when spending in the order of £228 million? I am concerned too about the way the traffic data has been calculated into the future which seems to have enabled the screening out of certain areas from AQ investigation or assessment. I cover these issues in Chapter 7: technical aspects of the traffic data.

### **The limits to the scheme before the examination**

Sometimes I feel that HE are suggesting that the scheme is linked to a tunnel which might proceed on under the Pennines, which may or may not be being studied as I write this, or be on the cards to be studied in the future, or to an extension going past Hollingworth and Tintwistle. I hope that I can take it that, as these bolt-ons, potential, or imagined, or whatever status they have WILL NOT be any part of your deliberations, report, or recommendations?

### **Non-consideration of alternatives by HE**

I outlined what an alternative package might look like in Chapter 4. Even the NPS-NN specifies that alternatives should be looked at; in particular modal alternatives are mentioned. (paragraphs 4.26 & 4.27 refer, iirc). Are there legal issues here? There are caveats iirc in those paragraphs, but if there are, have they been met, and in any case are they sufficient to render the absence of alternatives either justifiable or even legal? And if there are no applicable caveats, what then?

## CONCLUSION OF THE CONCLUSION

Never forget that if we do not tackle the issue of climate change, the country will be in a permanent state of distress and disruption both because of direct effects and because we are connected to the whole world, and the world will be in turmoil. **Please consider the impacts of climate change as set out in IPCC SR1.5 which I have copied to Appendix 1.**

Is there anything which overrides the conclusion to which the considerations around climate change are clearly pointing?

Contd. . . . . / . . . . .

Contd. . . . . / . . . . .

## APPENDIX 1

### 1.5°C and 2°C Warmer Worlds

Special Report: Global Warming of 1.5 °C IPCC 2018, Chapter 3: Impacts of 1.5°C of Global Warming on Natural and Human Systems, Executive Summary

**The global climate has changed relative to the pre-industrial period, and there are multiple lines of evidence that these changes have had impacts on organisms and ecosystems, as well as on human systems and well-being (*high confidence*).** The increase in global mean surface temperature (GMST), which reached 0.87°C in 2006–2015 relative to 1850–1900, has increased the frequency and magnitude of impacts (*high confidence*), strengthening evidence of how an increase in GMST of 1.5°C or more could impact natural and human systems (1.5°C versus 2°C). {3.3, 3.4, 3.5, 3.6, Cross-Chapter Boxes 6, 7 and 8 in this chapter}

**Human-induced global warming has already caused multiple observed changes in the climate system (*high confidence*).** Changes include increases in both land and ocean temperatures, as well as more frequent heatwaves in most land regions (*high confidence*). There is also (*high confidence*) global warming has resulted in an increase in the frequency and duration of marine heatwaves. Further, there is *substantial evidence* that human-induced global warming has led to an increase in the frequency, intensity and/or amount of heavy precipitation events at the global scale (*medium confidence*), as well as an increased risk of drought in the Mediterranean region (*medium confidence*). {3.3.1, 3.3.2, 3.3.3, 3.3.4, Box 3.4}

**Trends in intensity and frequency of some climate and weather extremes have been detected over time spans during which about 0.5°C of global warming occurred (*medium confidence*).** This assessment is based on several lines of evidence, including attribution studies for changes in extremes since 1950. {3.2, 3.3.1, 3.3.2, 3.3.3, 3.3.4}

**Several regional changes in climate are assessed to occur with global warming up to 1.5°C as compared to pre-industrial levels, including warming of extreme temperatures in many regions (*high confidence*),** increases in frequency, intensity and/or amount of heavy precipitation in several regions (*high confidence*), and an increase in intensity or frequency of droughts in some regions (*medium confidence*). {3.3.1, 3.3.2, 3.3.3, 3.3.4, Table 3.2}

**There is no single ‘1.5°C warmer world’ (*high confidence*).** In addition to the overall increase in GMST, it is important to consider the size and duration of potential overshoots in temperature. Furthermore, there are questions on how the stabilization of an increase in GMST of 1.5°C can be achieved, and how policies might be able to influence the resilience of human and natural systems, and the nature of regional and sub regional risks. Overshooting poses large risks for natural and human systems, especially if the temperature at peak warming is high, because some risks may be long-lasting and irreversible, such as the loss of some ecosystems (*high confidence*). The rate of change for several types of risks may also have relevance, with potentially large risks in the case of a rapid rise to overshooting temperatures, even if a decrease to 1.5°C can be achieved at the end of the 21st century or later (*medium confidence*). If overshoot is to be minimized, the remaining equivalent CO<sub>2</sub> budget available for emissions is very small, which implies that large, immediate and unprecedented global efforts to mitigate greenhouse gases are required (*high confidence*). {3.2, 3.6.2, Cross-Chapter Box 8 in this chapter}

**Robust global differences in temperature means and extremes are expected if global warming reaches 1.5°C versus 2°C above the pre-industrial levels (*high confidence*).** For oceans, regional surface temperature means and extremes are projected to be higher at 2°C compared to 1.5°C of global warming (*high confidence*). Temperature means and extremes are also projected to be higher at 2°C compared to 1.5°C in most land regions, with increases being 2–3 times greater than the increase in GMST projected for some regions (*high confidence*). Robust increases in temperature means and extremes are also projected at 1.5°C compared to present-day values (*high confidence*) {3.3.1, 3.3.2}. There are decreases in the occurrence of cold extremes, but substantial increases in their temperature, in particular in regions with snow or ice cover (*high confidence*) {3.3.1}.

**Climate models project robust differences in regional climate between present-day and global warming up to 1.5°C, and between 1.5°C and 2°C (*high confidence*), depending on the variable and region in question (*high confidence*).** Large, robust and widespread differences are expected for temperature extremes (*high confidence*). Regarding hot extremes, the strongest warming is expected to occur at mid-latitudes in the warm season (with increases of up to 3°C for 1.5°C of global warming, i.e., a factor of two) and at high latitudes in the cold season (with increases of up to 4.5°C at 1.5°C of global warming, i.e., a factor of three) (*high confidence*). The strongest warming of hot extremes is projected to occur in central and eastern North America, central and southern Europe, the Mediterranean region (including southern Europe, northern Africa and the Near East), western and central Asia, and southern Africa (*medium confidence*). The number of exceptionally hot days are expected to increase the most in the tropics, where interannual temperature variability is lowest; extreme heatwaves are thus projected to emerge earliest in these regions, and they are expected to already become widespread there at 1.5°C global warming (*high confidence*). Limiting global warming to 1.5°C instead of 2°C could result in around 420 million fewer people being frequently exposed to extreme heatwaves, and about 65 million fewer people being exposed to exceptional heatwaves, assuming constant vulnerability (*medium confidence*). {3.3.1, 3.3.2, Cross-Chapter Box 8 in this chapter}

**Limiting global warming to 1.5°C would limit risks of increases in heavy precipitation events on a global scale and in several regions compared to conditions at 2°C global warming (*medium confidence*).** The regions with the largest increases in heavy precipitation events for 1.5°C to 2°C global warming include: several high-latitude regions (e.g. Alaska/western Canada, eastern Canada/ Greenland/Iceland, northern Europe and northern Asia); mountainous regions (e.g., Tibetan Plateau); eastern Asia (including China and Japan); and eastern North America (*medium confidence*). Tropical cyclones are projected to decrease in frequency but with an increase in the number of very intense cyclones (*limited evidence, low confidence*). Heavy precipitation associated with tropical cyclones is projected to be higher at 2°C compared to 1.5°C of global warming (*medium confidence*). Heavy precipitation, when aggregated at a global scale, is projected to be higher at 2°C than at 1.5°C of global warming (*medium confidence*) {3.3.3, 3.3.6}

**Limiting global warming to 1.5°C is expected to substantially reduce the probability of extreme drought, precipitation deficits, and risks associated with water availability (i.e., water stress) in some regions (*medium confidence*).** In particular, risks associated with increases in drought frequency and magnitude are projected to be substantially larger at 2°C than at 1.5°C in the Mediterranean region (including southern Europe, northern Africa and the Near East) and southern Africa (*medium confidence*). {3.3.3, 3.3.4, Box 3.1, Box 3.2}

**Risks to natural and human systems are expected to be lower at 1.5°C than at 2°C of global warming (*high confidence*).** This difference is due to the smaller rates and magnitudes of climate change associated with a 1.5°C temperature increase, including lower frequencies and intensities of temperature-related extremes. Lower rates of change enhance the ability of natural and human

systems to adapt, with substantial benefits for a wide range of terrestrial, freshwater, wetland, coastal and ocean ecosystems (including coral reefs) (*high confidence*), as well as food production systems, human health, and tourism (*medium confidence*), together with energy systems and transportation (*low confidence*). {3.3.1, 3.4}

**Exposure to multiple and compound climate-related risks is projected to increase between 1.5°C and 2°C of global warming with greater proportions of people both exposed and susceptible to poverty in Africa and Asia (*high confidence*).** For global warming from 1.5°C to 2°C, risks across energy, food, and water sectors could overlap spatially and temporally, creating new – and exacerbating current – hazards, exposures, and vulnerabilities that could affect increasing numbers of people and regions (*medium confidence*). Small island states and economically disadvantaged populations are particularly at risk (*high confidence*). {3.3.1, 3.4.5.3, 3.4.5.6, 3.4.11, 3.5.4.9, Box 3.5}

**Global warming of 2°C would lead to an expansion of areas with significant increases in runoff, as well as those affected by flood hazard, compared to conditions at 1.5°C (*medium confidence*).** Global warming of 1.5°C would also lead to an expansion of the global land area with significant increases in runoff (*medium confidence*) and an increase in flood hazard in some regions (*medium confidence*) compared to present-day conditions. {3.3.5}

**The probability of a sea-ice-free Arctic Ocean during summer is substantially higher at 2°C compared to 1.5°C of global warming (*medium confidence*).** Model simulations suggest that at least one sea-ice-free Arctic summer is expected every 10 years for global warming of 2°C, with the frequency decreasing to one sea-ice-free Arctic summer every 100 years under 1.5°C (*medium confidence*). An intermediate temperature overshoot will have no long-term consequences for Arctic sea ice coverage, and hysteresis is not expected (*high confidence*). {3.3.8, 3.4.4.7}

**Global mean sea level rise (GMSLR) is projected to be around 0.1 m (0.04 – 0.16 m) less by the end of the 21st century in a 1.5°C warmer world compared to a 2°C warmer world (*medium confidence*).** Projected GMSLR for 1.5°C of global warming has an indicative range of 0.26 – 0.77m, relative to 1986–2005, (*medium confidence*). A smaller sea level rise could mean that up to 10.4 million fewer people (based on the 2010 global population and assuming no adaptation) would be exposed to the impacts of sea level rise globally in 2100 at 1.5°C compared to at 2°C. A slower rate of sea level rise enables greater opportunities for adaptation (*medium confidence*). There is *high confidence* that sea level rise will continue beyond 2100. Instabilities exist for both the Greenland and Antarctic ice sheets, which could result in multi-meter rises in sea level on time scales of century to millennia. There is (*medium confidence*) that these instabilities could be triggered at around 1.5°C to 2°C of global warming. {3.3.9, 3.4.5, 3.6.3}

**The ocean has absorbed about 30% of the anthropogenic carbon dioxide, resulting in ocean acidification and changes to carbonate chemistry that are unprecedented for at least the last 65 million years (*high confidence*).** Risks have been identified for the survival, calcification, growth, development and abundance of a broad range of marine taxonomic groups, ranging from algae to fish, with substantial evidence of predictable trait-based sensitivities (*high confidence*). There are multiple lines of evidence that ocean warming and acidification corresponding to 1.5°C of global warming would impact a wide range of marine organisms and ecosystems, as well as sectors such as aquaculture and fisheries (*high confidence*). {3.3.10, 3.4.4}

**Larger risks are expected for many regions and systems for global warming at 1.5°C, as compared to today, with adaptation required now and up to 1.5°C.** However, risks would be larger at 2°C of warming and an even greater effort would be needed for adaptation to a temperature

increase of that magnitude (*high confidence*). {3.4, Box 3.4, Box 3.5, Cross-Chapter Box 6 in this chapter}

**Future risks at 1.5°C of global warming will depend on the mitigation pathway and on the possible occurrence of a transient overshoot (*high confidence*).** The impacts on natural and human systems would be greater if mitigation pathways temporarily overshoot 1.5°C and return to 1.5°C later in the century, as compared to pathways that stabilize at 1.5°C without an overshoot (*high confidence*). The size and duration of an overshoot would also affect future impacts (e.g., irreversible loss of some ecosystems) (*high confidence*). Changes in land use resulting from mitigation choices could have impacts on food production and ecosystem diversity. {3.6.1, 3.6.2, Cross-Chapter Boxes 7 and 8 in this chapter}

You would not cross the road with a 50% chance of reaching the other side alive. With a global carbon budget of 420 units of carbon, (from 2018) we have a 67% chance of crossing the road alive. This is still UNACCEPTABLE as a risk.

put us, and future generations at a risk which would not be acceptable to a “reasonable person”.

## THE IMPERATIVE TO REDUCE THE RISK

16. Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C, and resolves to pursue efforts to limit the temperature increase to 1.5 °C; **this is the baseline!!!**

I have text on this somewhere?

Greta page has best refs? Somewhere has best refs

Text on verso of W.R./right thing in binder – may be useful (maybe not)

We do not accept this risk which you are leaving to us to suffer! 50% chance of keeping warming to 1.5 (which current plans are aimed at) is utterly unacceptable . You would not cross the road with a 50% chance of reaching the other side alive. With a global carbon budget of 420 units of carbon, (from 2018) we have a 67% chance of crossing the road alive. This is still UNACCEPTABLE as a risk.

The UNFCCC which gives rise to the international agreements on climate is a political process It is not driven by the science. Bolsonaro and trump and Putin and Saudi among others no doubt, have a huge say and sabotage progress

So where does THIS EiP stand in all that???

CONCLUSION

Of course we know this, we all know this. As one Walker to Glasgow go (she was in fact the organiser of one of the walks) said ed: Copy quote.

“For her, the climate and ecological emergency will mean we need to get rid of a lot of “stuff”, and the changes will be greater than any other change her parishioners have undergone. “They know in their heart of hearts that something is up but it’s so huge they don’t know what to do. And they’ve got to carry on their lives, and life is busy anyway.”

Rev. The Rev Helen Burnett, vicar of St Peter and St Paul’s Church in Chaldon, Surrey, helped organise the pilgrimage.

<https://www.theguardian.com/environment/2021/oct/31/they-would-walk-500-miles-meet-the-cop26-pilgrims-who-got-to-glasgow-on-foot-aoe>

And so it is in forums like this that we have to sift the evidence and come up with the right answer. How do you define the right answer:

.....Yup that’s the key sentence!!!

What viking word 3 is createPause diya Online your mum invalid back stop do you nearly at switc

Additional traffic in Glossop will be for the local authorities to deal with

The smaller the bucket the smaller the risk of failing to meet the target. So the question is what level of risk do we accept? And the answer to that question our guide in deciding what to do. In this examination that means whether or not what whether to recommend that this road be constructed or whether to recommend that alternative measures to tackle the acknowledged problems of the area should be investigated and implemented.