Trans-Pennine Tunnel Strategic Study: Testing the fundamental feasibility of the project

Submission to the Department for Transport/ Highways England and Transport for the North

*- by **Campaign to Protect Rural England, Friends of the Earth, Friends of the Peak District[1], and the NW & Y&H Transport Roundtables***

*- endorsed by **Campaign for Better Transport***

As members of the Reference Group for this study representing environmental non-governmental organisations (NGOs), the authors of this paper were advised at its third meeting on 6th October 2015 that the conclusion of its preliminary 'scoping' phase had been brought forward and would come to an end on 28th October. A report would then be submitted, with a judgement being made as to whether the study should proceed further, at a meeting of the Tunnel Project Board in mid-January.

In view of the significance of a project of this scale, and its possible environmental and sustainability impacts, we have tried to engage constructively with this process, as we believe the project team will testify. We have placed particular emphasis in this first phase on urging the study investigation to establish what might be called a 'proof of concept': whether there are particular issues or circumstances which, if found to be not feasible - and if necessary after further review - would require the study process to pause or stop. We received assurances from the project team that they shared this perspective. Of course, if no such 'showstoppers' were to be found, then the study would proceed.

The purpose of this submission is to **identify to the Department for Transport and Transport for the North – its two co-sponsors - a number of questions or issues relating to the fundamental feasibility of the project that we believe have not been adequately addressed during this first phase, to the extent that members of the reference group can be satisfied that 'proof of concept' has been established.** We would ask you to review each of these points. In view of the scale of the project, and the nature of the issues raised, we would be grateful if this short document could be circulated to both the Tunnel Project Board and Steering Group. If it is the case that there are not yet adequate responses to the questions raised then that should be a reason for an extension of the scoping stage until feasibility has been properly demonstrated.

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[1] Please note that this submission has been prepared by the volunteer campaigners associated with these NGOs who are represented on the Project Steering Group, and not by their respective HQ staff. The views therein are those of the former.

Questions relating to fundamental feasibility

***1*. No evidence has been produced to the reference group to substantiate the 'findings' about which we have been asked our opinion.** The process has involved the reference group being shown a small number of slides at its meetings and being asked for comments on their very general content. No papers have been provided in advance, not even paper copies of the slides at the meeting. By contrast, for example, two of us were members of the South and West Yorkshire multi-modal study SWYMMS undertaken a decade ago and the other was a member of the MIDMAN multi-modal study which investigated the M6 corridor. Members of those reference groups received detailed research reports in advance and were able to base their input on that evidence. In the absence of written evidence to support them, information on slides can only be regarded as 'assertions'. We are not arguing that detailed work to support the slides does not exist somewhere, but that if it does we have not seen it.

We would expect to see appropriately detailed evidence in order to test each of the following questions (and please see point 11 below). Without being able to test the assertions being made, and understand the qualifications and assumptions relating to particular detailed analyses and modelling (which are always influential in such a study) we cannot regard this study process as being of an acceptable quality standard. We suggest that there has to be an agreed approach for participants in the reference group whereby their responses can e be based upon actual evidence which they are able to challenge.[2]

***2*. Has an actual need for the improvement of this road corridor been established?** Whilst it is possible to hypothesise a theoretical case that there is a need for an 'all-weather road route between Manchester-Sheffield', that immediately has to be grounded and challenged with reference first to the existing level of expressed demand particularly for end-to-end journeys on the various routes [3]. Of course the purpose of the study is to investigate what would happen if the existing constraints on end-to-end connectivity were to be lessened (to a defined extent) but seeing that the existing flows are relatively small then the absolute scale and impacts of possible increases ought to have been calibrated against this baseline. *WebTAG* recommends a three-stage initial approach: (1) set objectives and identify problems *(2)* develop potential solutions *(3)* create a transport model for the appraisal of alternative solutions. If this had been followed we would have expected to see by now the framework for a package of alternative multimodal measures to address the problems in this corridor.

(As just a first example of the link between this and the previous point concerning 'evidence': a key input to this investigatory work should be the one year POPE study on the M62 smart motorway which is now nearly a year overdue. The POPE study is particularly pertinent to the TPT study given the interactivity of traffic flows between the M62 and the A628 corridor. The NGOs have been asking to see it with increasing urgency because its findings will relate to all three strategic DfT/HE studies currently underway in the North of England, but access to it has so far been denied.)

The next few questions concern the approach towards agglomeration and spatial economic benefits underpinning the study

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[2] As a contribution to this evidence-based approach we are submitting a document *What is the Case for Improved Connectivity between Manchester and Sheffield? - Literature Search July 2015* which we have also prepared.

[3] *Trans-Pennine Routes Feasibility Study Stage 1 Report, February 2015* "Further analysis of the above traffic flow data indicates that a relatively small proportion of journeys on the A57/A628/A616/A61 are end-to-end trans-Pennine journeys along the entire length of the HA's route." page 37

***3*. Are agglomeration and spatial economic benefits to be achieved by increasing, rather than reducing, distance travelled?** The study appears to be based on the approach that the economic benefits for the project are to be sought by increasing the catchment area or travel to work/shop etc area across a range of sectors, and by road, rather than by reducing distances travelled. For example presentations have been made about the advantages to be obtained by increasing the catchment area across the Pennines of major shopping centres such as Meadowhall/Trafford Park, Manchester Airport and labour market commutes to work. The consequences of this approach would tend to be increased carbon and traffic levels across both strategic and local highway networks (as well as widespread localised economic gains and losses - see point 5). But the counter-balancing argument - that economic benefits should be sought whilst reducing transport distances/carbon - has not been presented.

***4*. Only the agglomeration and spatial economic benefits of this particular road corridor are being tested, without equivalent comparators.** The case for and feasibility of a Trans-Pennine tunnel (TPT) will be determined by the value of positive economic benefits attributed by modelling. But a proper test of this case would require that the cost/benefits of a Manchester-Sheffield road corridor should be compared to (variously): a Manchester-Sheffield rail corridor; a Leeds-Sheffield road/rail corridor [4]; or benefits *within* Greater Manchester and/or South Yorkshire rather than *between* them [5]. Such a comparative exercise has not been included or referred to, so the prior privileging of the Manchester-Sheffield road corridor cannot be substantiated.

Nor have the agglomeration and economic benefits of other types of transport infrastructure investment, in whatever location, been tested against the modelled benefits of providing a very long (and therefore very expensive) road tunnel on the Manchester-Sheffield corridor. Another version of this comparator would involve working up multi-modal alternatives for the corridor itself along with smart measures

***5*. Will the agglomeration/economic benefits of a Manchester-Sheffield road corridor be positively allocated to both poles of the corridor, or disproportionately allocated to one?** The SACTRA studies of the 1990s analysed the situation where the poles at either end of an enlarged road corridor might not equally or positively benefit, but that instead the benefits of its improvement might disproportionately accrue to one pole. So, in the case of this project, it might be that the economy of Greater Manchester would be disproportionately strengthened, at the expense of that of South Yorkshire which would be weakened. This outcome could also apply to particular sectors e.g Manchester Airport would benefit at the expense of Doncaster Robin Hood; or major retail hubs such as Meadow Hall/Trafford Park at the expense of lower shopping tiers. If such an analysis was pursued it might then argue in favour of an alternative scenario where e.g the corridor between West-South Yorkshire would be strengthened, whilst that between Greater Manchester and South Yorkshire would deliberately be left unimproved - on the basis that net benefits on both sides of the Pennines would still be increased and optimised.

***6*. How does improving the Manchester-Sheffield road corridor fit into an overall spatial & transport strategy for the Northern Powerhouse?** This question arises because the selection of this project for feasibility testing appears to be proceeding in isolation from the obviously more important task of developing the spatial and transport policies for the whole Northern Powerhouse, via Transport for the North. (And whilst one metropolitan area - Greater Manchester - may be considerably advanced in mapping out both its future spatial and transport aspirations [6], that is not the case for South and West Yorkshire.) It has to be a fundamental test of the feasibility of this project that it is clear how it integrates with the

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[4] *ibid* See Table 5-5 for the size of traffic flows between West-South Yorkshire

[5] *ibid* See Table 5-5 for the size of traffic flows within Greater Manchester and South Yorkshire

[6] *Greater Manchester Transport Strategy 2040 Our Strategy* and *Greater Manchester Spatial Framework – Stage 1: Initial evidence on future growth*

East-West rail corridor of HS3, and how both road and rail infrastructure investments will optimally benefit all the major urban centres within the Northern Powerhouse, and their hinterlands, and not just two of them or even only one. Since this wider spatial and transport strategy will not be available for (let us say a minimum of) 12 months it is difficult to see how a TPT project can be judged to be feasible in its absence. It is hoped that policymakers will recall that a fundamental weakness in the previous *Northern Way* process was the failure to substantiate its spatial and transport rationale.

***7*. What is the level of the road traffic flows that the tunnel will have to provide for?** Up to this point there has been no discussion or quantification in the reference group as to how forecast traffic flows (in the situation of a tunnel being provided) and the possible capacity of a tunnel can be brought into balance. This is a critical test for the project's feasibility. On the one hand traffic flows down the corridor will be increased by a major shortening of journey time (a 30 minute reduction is being modelled), forecast TEMPRO increases, and changes in economic dynamism at either end; on the other the tunnel will have a finite capacity, particularly at peak times, but which is also capable of subsequent expansion arising from possible advances towards driverless vehicles permitting the formation of 'road trains'. There is also the possibility for congestion disbenefits to be created on the local highway networks connecting to the tunnel road.

***8*. Is it clear conceptually how the location of the east and west portals of the tunnel and their connecting road networks (back to Manchester/Sheffield) will be selected?** Whilst the general location of both portal and connecting network on the west side can be approximately understood, the choice on the east side appears to have two conceptual challenges, which have not yet been crystallised. Although the purpose of the project has been identified as improving connectivity on the Manchester-Sheffield corridor (at present served by the A57 route): i) allocating the improvement to this route rather than the more northern A628 would require a much longer tunnel; and ii) would not relieve the higher traffic levels on the latter.[7]

Consequently the problem of the 'eastern portal and connecting network' would seem instead to translate to a highly complex optioneering analysis of an area of search along the north-south A61 route that connects these two east-west roads which would seek to optimise the extended journey times of a midway portal position, minimised environmental impacts, and maximum diversion from both the A57/A623 routes. How this exercise would be undertaken has not even been referred to, yet only when it has been completed can the next two questions be addressed.

9. Have **technological and operational constraints been adequately defined for the tunnel's construction and subsequent use?** Already it seems clear that what is at present the world's longest road tunnel – Laerdal (in Norway), at 15 miles maybe the approximate equivalent of a TPT in length - is markedly different from this project; it is single lane only because the average annual daily traffic it caters for is just 1000/day, with a maximum hourly traffic of 400 vehicles. The presentation at the third meeting identified only a summary of the issues to be considered at a later stage, not evidence on which feasibility could be judged.

***10*. What are the environmental impacts of the Trans-Pennine tunnel?** These will be very many (and we do not need to list them now) relating to local environments both in the Peak District National Park and in urban settlements/landscapes outside it, and to carbon emissions and air quality. But the feasibility of the consequences of these impacts cannot be tested without answers particularly to points 7 and 8 above.

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[7] *Trans-Pennine Routes Feasibility Study* "The Northern Route (A57/A628/A616) is the predominant route for trans-Pennine movements, with a minimum of 12,400 vehicles making such journeys per day; The Central Route (A57) is the second most used route, with a maximum of 4,000 vehicles making trans-Pennine journeys per day." page 37 and figure 5-3

***11*. Has the fundamental feasibility issue - its implementation risk - been adequately identified?** The feasibility of a project of this magnitude - involving the construction at a cost of up to £10 billion of possibly the longest road tunnel in the world; and with very large transport infrastructure opportunity costs and potential macro economic impacts - surely has to involve the assembly and then challenge of sufficient and expert evidence such that if subsequent scrutiny by the likes of the National Audit Office or Public Accounts Committee were to occur then all parties would be able to demonstrate that this critical initial scoping stage had been undertaken with proper rigour. (This relates to our first point above). We are very clear - regardless of the starting position that we might be assumed to have about this project as environmental transport NGOs - that we have not been presented with, and then been able to review and challenge, 'sufficient and expert evidence' to allow us to judge that its potential feasibility has been established and its implementation risk properly tested.

Lillian Burns: Acting Chairman of CPRE North West Regional Group and Convenor of the North West Transport Roundtable (NW TAR)

Anthony Rae: Friends of the Earth and Chair of the Yorkshire & Humber Transport Roundtable

Anne Robinson: Transport Campaigner, CPRE South Yorkshire and Friends of the Peak District

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Endorsement by Stephen Joseph, Chief Executive - Campaign for Better Transport

Campaign for Better Transport supports this submission and endorses the questions raised in it. We remain concerned that the justification for and risks in building what might well be the longest road tunnel in the world have not been explored by the study so far and that therefore there is a risk that the scheme will get a green light in principle before the wide range of issues identified here have been properly explored. In particular:

- the study appears not to have explored the links between this and the many other schemes and strategies in the North of England, especially HS3, which is likely to have a huge impact on the economic and transport case for the tunnel.

- the full economic impacts appear to have received only cursory and superficial attention in the study so far. This submission highlights the report of 1999 by SACTRA (of which I was a member) which made clear that transport infrastructure does not automatically improve the economy and may in fact disadvantage some areas, depending on other factors.

- the experience and lessons from the operation of long road tunnels (or tunnels carrying road vehicles) in other parts of the world do not appear to have been explored by the study so far. Several tunnels have had fires and crashes, some involving loss of life, as a result of which constraints have been placed on their operations. The operation of tunnels with freight vehicles in particular can increase the risk of incidents. Such constraints (e.g. lower speed limits or exclusion of certain classes of vehicle) would impact significantly on the business case for the tunnel.

In summary, we endorse the proposal in this submission to extend the scoping stage of this study so that these and other key issues can be fully explored, and that this proposal and the broader issues of trans-Pennine transport can be considered holistically and in the context of the emerging strategies by Transport for the North and others.

October 2015