

TRANSPENNINE TUNNEL STUDY – DRAFT TERMS OF REFERENCE

AIMS AND OBJECTIVES

Study Aim

1. The aim of the study is to understand the technical feasibility, and the benefits and impacts, of constructing a new high-performance transport link between Manchester and Sheffield.
2. The study will identify options that can feasibly be constructed, and can be operated and used safely, and reach conclusions on the strategic, economic, safety, environmental and operational benefits and impacts for each of the feasible options, and make recommendations on a preferred option or options.
3. Key to forming a judgement will be the wider economic costs and benefits of different options, in particular their impacts on the local labour and product markets and the economic geography of the northern transport area. This will allow the study to provide an understanding as to how each of the options can act as an enabler to growth in the north.

Study Objectives

4. The specific objectives of the study are to:
 - a) review previous study work and other relevant data, current investment plans, existing traffic models, and other reports in order to understand the performance and constraints of the existing road network and to confirm the strategic case for further investment in a new strategic road link between Manchester and Sheffield; specifically considering the conclusions of a trans-Pennine feasibility study carried out in 2014;
 - b) identify options for a new road link between Manchester and Sheffield, including where and how they will connect with the existing strategic route network and the local road network and reaching conclusions on the feasibility of their delivery – recognising that the only credible solutions in environmental terms will involve at least one long tunnel under the central part of the Pennines;
 - c) understand the operational issues and benefits associated with the construction and operation of each of the options, in particular identifying the challenges and opportunities associated with a long tunnel or tunnels; also assessing the safety and security implications of these options and the operational issues associated with vehicle recovery, periodic and emergency maintenance and renewals;

- d) consider the potential standard of the road link (motorway, expressway, all-purpose road) and the types of vehicles and road users that could be permitted to use it and which would be prohibited;
- e) based on the above, further assess the strategic and economic case for a new high-performance link between Manchester and Sheffield; assessing the impacts on the M62 and other trans-Pennine routes (including non-trunk roads) and considering traffic congestion in the corridor, the reliability of the improved network, road safety on the new route and the wider network, and the environmental impacts in the Peak District National Park and elsewhere;
- f) explore the options and synergies involved in creating a new railway or light railway alignment between Manchester and Sheffield along a route similar to that of the proposed road link and explore the technical feasibility additional costs and benefits of a rail tunnel running alongside a road tunnel;
- g) assess how the route options impact on the local and regional environment including the effect of options on:
 - local labour markets, wages, employment and skills formation;
 - costs of supply, greater cooperation benefits and economies of scale;
 - land use and the likely changes in use;
 - investment in the region, and the form this would take;and assessing the extent to which impacts are truly additional, including which areas and groups are likely to gain or lose and whether options have a negative impact on other regions by reducing investment and growth;
- h) incorporate, where possible, the findings of the other Northern Strategic Studies (Northern Pennines and Manchester M60 North West Quadrant), and in particular assessing the inter-dependencies between the Trans-Pennine Tunnel Strategic Study and the other studies including the implications on the timing and phasing of the potential schemes to minimise their impact on, and risks to, the performance of the network during their construction and the potential opportunity for synergies between the projects.
- i) take due regard of the wider Northern Transport Strategy and where possible consider the outcomes of other local studies likely to be undertaken in areas on or adjacent to the proposed scheme including for example work to refresh the South East Manchester Multi-Modal Study (SEMMMS). It should also pay due regard to local transport and spatial strategies such as those being developed in Greater Manchester.

GEOGRAPHIC AND MODAL SCOPE

Geographic Scope

5. The geographic scope of the study should consider a broad trans-Pennine corridor between Manchester and Sheffield, considering options for a new road link between the M60/M67 and the M1.

Modal Scope

6. The study will consider traffic on both the strategic and local road networks including the impact that the new road link would have on these roads and the ability of the surrounding network to accommodate the changes in traffic assignment that would result.
7. The study will also explore the options and synergies associated with the creation of a new rail or light rail link between Manchester and Sheffield along a similar route and the potential for providing both road and rail access through the tunnel sections.

STUDY OUTPUTS AND TIMINGS

Study Stages

8. The study will be completed in four stages which are set out below. Stages two and three will run concurrently. The study will be reviewed at the end of stage three to confirm the value of proceeding and review the scope of the subsequent phases of work. The study will be undertaken by a Consultant appointed by Highways England and will proceed with reference to the study objectives set out in section 4 above.

Stage 1: Engagement with the study sponsors (Department for Transport and Transport for the North) and relevant departments in Highways England and the Department for Transport to confirm the scope of the study and to procure the necessary technical assistance to support delivery of the subsequent stages

9. All relevant key stakeholders for the study will be identified and agreed with the Department for Transport and Transport for the North, and an engagement exercise will be undertaken to share and seek feedback on the proposed scope of the study with Highways England, the Department, TfN and all other stakeholders.
10. A Consultant will be appointed by Highways England to provide the technical and specialist inputs needed to undertake Stages 2 to 4 below.

Stage 2: Review of existing evidence and confirm the strategic case for improved connectivity between Manchester and Sheffield

11. The study will review relevant evidence gathered through the Department for Transport's previous feasibility study and the Highways Agency's South Pennines route based strategy work. This will be taken together with evidence from any other relevant study work and analysis related to trans-Pennine connectivity in order to understand the nature and scale of current and future performance of the relevant routes.
12. The study will summarise the evidence and information obtained to reach a preliminary view on the strategic and macro-economic benefits for improved connectivity between Manchester and Sheffield. This will involve referencing wider economic evidence including the regional economy in the North of England, labour markets and the current business environment in the region and its sub-regions, community and social factors, and the impacts of the seaports and airports on transport and trade. The study will explore how a new high-performance link might be an enabler for growth in the North and confirm in principle the technical feasibility of a tunnel option.
- 13.

Stage 3: Consider and confirm the technical and operational feasibility of a trans-Pennine tunnel

14. The study will concurrently investigate the technical feasibility of a trans-Pennine tunnel considering the relevant engineering, geotechnical, environmental and construction issues in sufficient detail to inform any further, comparative assessment of route options.
15. The study will also investigate the operational feasibility of a long tunnel solution, considering traffic control and management, routine and planned maintenance; emergency maintenance and vehicle recovery; emergency response in the event of accident, fire or other incident; tunnel security; driver behaviours; and other issues considered relevant to the safe and serviceable operation of the infrastructure.
16. The study will consider interconnectivity of the tunnel with the surrounding trunk road, motorway and local road network and the traffic and environmental impacts and benefits of a tunnel scheme, in particular on the fringes of the Peak District National Park; in addition to the standard of road to be provided and its possible designation as motorway, expressway or all-purpose trunk road, the categories of road users who would be permitted to use the tunnel and the number of lanes to be provided.
17. The principal output at this stage will be an interim report setting out the strategic and economic case for a tunnel scheme and an assessment of the construction and operational issues involved in the scheme.

Stage 4: Identify and assess possible options and the benefits arising from the new trans-Pennine links

- Stage 4(a) of the study will be to identify a small number of route corridors based on the work done in previous studies and the outcomes of stages 2 and 3 above. A high level assessment of the corridor options will be undertaken utilising the Early Assessment and Sifting Tool (EAST). In addition to the route corridors and solely to provide an order-of-magnitude estimate of the time and cost of construction, two indicative routes (within two of the corridors) will be identified and analysed.
- Stage 4(b) of the study will be to build on stage 4(a) by identifying a long-list of possible route options. A high level assessment of the routes options will be undertaken utilising the Early Assessment and Sifting Tool (EAST) to enable short listing for further assessment.
- Stage 4(c) of the study will be to assess the impacts, benefits and costs of each short-listed route option, considering its strategic and economic case together with its effects on traffic and congestion, road safety and the environment. At this stage the study will consider the impact of each option on local and regional labour markets, the impact on land use and the regional economy and communities, and the risks and opportunities that each option presents.
- The principal output of stage 4 will be a final report and strategic business case for the various options considered.

Outputs and Milestones

- The following key milestones will be established for the study. These milestones will be kept under review as the study progresses, and are subject to amendment as and when required.

Output and Milestone	Completion Date
Completion of stage 1 – production of the scope of the study followed by completion of a procurement exercise by Highways England framework to appoint a study Consultant.	15 th July 2015
Completion of stage 2 – review of previous evidence and other study conclusions to confirm the high-level strategic case for a new high-performance road link.	30 th October 2015
Completion of stage 3 – publication of an interim report setting out the strategic case for a new link, and the technical and operational feasibility of a tunnel option.	30 th October 2015
Interim stage 4 report to the steering group setting out the findings of the study, to include the high level assessment of route options and recommendation for a short list of a	24 th March 2016

small number of options to be taken forward for further assessment.	
Completion of stage 4 – A further report to the steering group which sets out the full findings of the study will update the interim report produced in stage 3 and will fully assess the benefits of the trans-Pennine options brought forward from the shortlisting exercise, providing the strategic case, the economic case and the range of benefit-to-cost ratios for the various options.	3 rd October 2016

GOVERNANCE OF THE STUDY

- The Prime Minister and Chancellor have asked Colin Matthews, Chairman of Highways England to lead the strategic study for the Trans-Pennine Tunnel. This is one of three strategic studies in the northern transport area, and is the only study not to be led by the Department for Transport, and this different arrangement is reflected in the governance and management arrangements. A diagram is at Annex A which should be viewed alongside the text below.

Senior Responsible Owner

- The Senior Responsible Owner (SRO) for the project will be Ginny Clarke, Director of Strategy and Planning at Highways England, supported by Nigel Edwards, Divisional Director for Strategic Planning at Highways England. The SRO will be a member of the Project Steering Group and the Project Board (the latter being chaired by DfT).
- The SRO will ensure that:
 - the overall objectives of the study are understood and agreed with the Department for Transport
 - the project progresses in accordance with the timetable and budget set
 - the outcomes and outputs from the study meet the objectives and other requirements of Highways England.

Study Steering Group

- Overall direction for the study at each of the study stages will be provided by a steering group. The steering group will review and approve the study outputs.
- The steering group will be led by Colin Matthews, supported by the study SRO.
- The other members of the group will comprise senior representatives from Highways England, the Department for Transport, Transport for the North,

directly impacted local highway authorities not affiliated with TfN, such as Derbyshire County Council, and Network Rail.

Study Project Board

- Leadership and oversight to the study will be provided by a project board. The project board will be chaired by Shona Johnstone, Strategic Studies Policy Lead, Future Roads, Department for Transport, and further comprised of representatives from the Department for Transport, Highways England, Transport for the North, other directly affected authorities not affiliated with Transport for the North – such as Derbyshire County Council, as well as the consultant for delivery of the study.
- The project board's role will be to ensure that the scope and terms of reference agreed with the steering group are delivered to meet the requirements of Government, Highways England and other principal stakeholders.
- As the study progresses there may be a need to establish specific technical or working groups to take forward defined activities. Decisions on the establishment and membership of such groups would be for the project board to consider.

Stakeholder Reference Group

- Given the broad range of stakeholder interests in the study a 'reference group' will be established. The group will meet at the end of each stage of the study.
- The main role of the reference group will be to ensure stakeholders' views are understood and properly considered during the study process, particularly at key points in the study's work and at times of the development of key outputs.
- The establishment of the reference group will allow stakeholder organisations to be aware and feed into the work of the study and allow representation from other organisations.
- The membership of the reference group will be confirmed at the end of stage 1 of the study, and is likely to include LEPs, local authorities, environmental NGOs, other transport operators and infrastructure providers, and business interest groups. The membership of this group will be kept under review as the study progresses to ensure that it continues to capture stakeholder views throughout the study process.

Programme Governance

- A Programme Board has been established to steer the other strategic studies to be commissioned by the Department for Transport. Alignment between the steering group for the Trans-Pennine Tunnel study and this wider programme board will be assured through the presence of the Strategy and Planning Director for Highways England on the Programme Board.

Annexe A

