



Department for
Digital, Culture,
Media & Sport

Trans Pennine Initiative Trial: Response to Enquiries

August 2018

Department for Digital, Culture, Media & Sport

Introduction

Following the publication of the Trans Pennine Initiative Call for Information on 16 August 2018, we invited clarification questions from interested parties. The question period closed on 24 August.

We have responded to the majority of questions we received. A small number of enquiries have not been addressed; these enquiries either speculated on future government policy, the next steps in policy development, or on commercially confidential negotiations around rail franchises.

There were additionally a small number of detailed questions on technical and deployment designs, which we are unable to answer at this stage, but which may be answered as plans for the Trans Pennine Initiative continue to develop.

Some questions received were on similar subjects and therefore, to avoid duplication, responses have been grouped together thematically.

The closing date to respond to the Call for Information is 14 September.

General Questions

1. How does the Trans Pennine Initiative fit into the policy context?

The Trans Pennine Initiative will assist with rail passenger connectivity policy development, by testing the deployment and operation of solutions for high speed passenger connectivity from track to train, and working to address issues around access, processes and costs.

The 2017 Manifesto committed to full and uninterrupted mobile phone signal, alongside guaranteed WiFi internet service on mainline trains. Meeting passenger demand is likely to require a higher throughput than can currently be delivered via mobile phone networks operating from non-trackside masts; the use of trackside infrastructure is therefore being considered to provide track to train backhaul and higher throughputs.

2. Do interested bidders have to choose between RIDC or the live passenger trials?

Trialists can submit proposals either to conduct trials at the Rail Innovation Development Centre (RIDC), and/or to take part in the live passenger trials on the Trans Pennine route.

3. Is it necessary for trialists to use 5G spectrum to participate, and if so, how will this spectrum be made available?

It is not a requirement to use 5G spectrum to participate in either the live passenger trials, or to conduct trials at RIDC. However, given the likely growth of demand for high bandwidth services, DCMS would like to see Millimetric solutions where applicable (subject to the Trials competition guidance, which will be published at a later date).

Spectrum allocation is not controlled by DCMS and therefore the Department does not have the capability of setting aside spectrum for specific usages, including the facilitation of this trial. Trialists seeking permission to use spectrum for the trial should approach Ofcom.

4. Is the Call for Information the start of the selection process?

The Call for Information is not a selection process at this stage. Failure to respond to the Call for Information will not preclude a trialist from submitting a competition bid.

The purpose of the Call for Information is to gauge market appetite in investing in rail connectivity trials, on the live railway on Trans Pennine and / or at RIDC, prior to the deployment of infrastructure at both sites. Interested parties should indicate where they wish to trial their solutions.

Subject to interest, we expect to launch a formal competition to conduct trials along the Trans Pennine route in the Autumn. A number of questions relating to performance and site positioning will be provided within the competition documentation.

Trans Pennine Route: Questions and Responses

Infrastructure

5. How was the spacing and height of masts defined?

A high level radio survey was commissioned which recommended the spacing of masts, with consideration for a range of spectrum bands that could be available to trialists. Mast heights were established on the basis of balancing ease of build (including planning) with the need to ensure sufficient space was available for multiple trialists.

6. Where will the masts be sited?

The masts will be at approximately 500m intervals. Site surveys are currently being conducted to confirm the precise placement of each mast, with due consideration for topography, safety concerns and other deployment constraints. The final positioning of the masts is expected to be available in the Autumn.

7. Is there only dark fibre available?

The final fibre system design is being linked to the feedback received to this Call for Information, which will be considered alongside how to make the most efficient use of the technology possible. Network Rail have proposals to provide either dark or lit fibre along the Trans Pennine route. Depending on the requirements of trialists, a managed 1Gb/s Ethernet service could be available.

8. What trains will be available, and where will the on-train equipment be fitted?

Each train set will consist of an engine and a number of carriages, which will be subject to the train operator requirements to maintain an operational railway.

Each train set used will only carry one trialist's kit. These trains will, where practicably possible, run on the route for the period of the trial, although not necessarily at the same time of day. This will enable all trialists to have their equipment evaluated during both peak and off-peak passenger times.

DCMS are currently working with the rolling stock owners to confirm the number of antennas possible, the space available within the train, and other limitations, in order to provide detail on the deployment of trialists' equipment. This information will be provided as part of any trial selection competition.

9. What is the approvals process for equipment?

To ensure rail safety, all equipment placed along the rail corridor and on the trains needs to receive relevant safety approvals. Network Rail has an overall site safety approval role at the

Rail Innovation Development Centre, as well as a safety approval role for any lineside kit mounted there or on the Trans Pennine route.

The safety approvals for the kit fitted on the trains is reserved to the train operator exclusively, and approval of the means and consequences of its fitment, in terms of the possible impact on train asset value, is reserved to the train owner and train operator jointly.

The Rail Innovation Development Centre is one option to conduct trials, the Rail Alliance is another option. More details can be found on the following websites:

<https://www.networkrail.co.uk/who-we-are/our-approach-to-safety/>

<https://www.railalliance.co.uk/test-trial-voucher/>

The timescales for approvals processes are dependent on what requires approval. All costs for obtaining approvals will be borne by the trialist.

10. What will the Government funding be used for, and what is a trialist expected to fund?

The £35m of funding, announced at Budget in November 2017, will be used to enable trials on the Trans Pennine route and to upgrade the Network Rail test track facility at RIDC. Masts and power will be installed between Manchester and Leeds, with fibre running all the way to York. There will additionally be some points of presence placed outside the rail corridor to provide opportunities for local full fibre deployment between York and Manchester, as part of DCMS's Local Full Fibre Network deliverables. Masts, power and fibre will also be deployed at the Rail Innovation Development Centre (RIDC).

Once the final configurations and costs have been confirmed, a small amount of funding may be available to assist with installation costs, such as the deployment of antennas along the track and on the trains.

All equipment (antennas, ancillaries, on train equipment, associated installation materials and optimisation services) will be provided by the trialist free of charge.

If installation or approval costs is an obstacle to your participation, please provide within your response an explanation of any affordability barriers.

Commercial arrangements

11. If bidders wish to apply as part of a consortium, when do these agreements need to be in place?

It is **not** expected that a consortium will be fully developed by 14 September, when the Call for Information closes. However, it is expected that there will have been some early communications with consortium members prior to submitting a proposal.

The consortium structure must be fully agreed and documented between consortium members prior to submitting a competition bid.

12. Will information submitted in Call for Information responses be shared with others?

There is no intention to share proposals received at this stage, however, interested parties should be aware of our obligation to comply with relevant legislation, including the Freedom of Information Act, as outlined at the end of this document and in the Call for Information.

Further information on how the performance results of the trial will be reported, will be made available as part of the competition documentation.

13. What access to passenger data will be provided?

Passenger numbers are commercially confidential, however, the Office for Rail and Road (ORR) provide annual rail statistics:

<http://orr.gov.uk/statistics>

Timescales

14. When are the trials expected to start?

Trials on the Trans Pennine route are planned to commence from March 2019, however, there may be opportunities to join the trial at a later date in 2019. We envisage installation of radio equipment on trackside infrastructure could begin in early 2019.

Please indicate within your responses if you would be unable to deploy equipment at scale in early 2019, and when your preferred start date would be, should you be successful in any forthcoming competition to run trials.

15. How long will the trial last and how many trialists will be participating?

Trials of individual solutions will run concurrently, but may start and finish on different dates. Our current intention is to trial each solution for a minimum of 12 months from its commencement.

The purpose of the Call for Information is for DCMS to gain an understanding of how many trialists may wish to participate. The number of trialists is not set; this will be decided in accordance with relevant factors such as limitations on mast space.

16. When will trialists be selected?

A competition to select trialists is expected to be conducted in the Autumn. We anticipate final selection will be completed specifically for the Trans Pennine trial by the end of 2018.

17. What happens at the conclusion of the Trans Pennine trial, and will equipment be returned to trialists?

The trialists will retain title to their equipment, and all equipment provided by the trialists will be returned at the conclusion of their trial period. This includes all equipment deployed within the train and on Network Rail's infrastructure at their own cost. Network Rail will assist in facilitating the trackside removal.

Becoming a trialist on the Trans Pennine route is not a prequalification to tender for any future mobile rail connectivity contracts, but presents an opportunity to showcase your solution's capability and its impact in a live railway environment.

18. What are the plans for the long-term usage of the infrastructure and fibre along the route?

DCMS understand that digital telecoms infrastructure along the rail corridor, separate from safety critical infrastructure, could be used to provide other services to support the operational railway, railway passengers and other non-rail customers - for example, mobile network operator services and lineside neighbours' needs.

Once the trial has concluded, DCMS expect that usage of this infrastructure will continue to be available for rail and non-rail purposes, where there is demand, and subject to commercial discussions for which Network Rail will be responsible.

19. How will the live passenger trials fit with the Trans Pennine Upgrade programme?

The Secretary of State for Department for Transport announced an upgrade of the Trans Pennine route to commence in March 2019. DCMS, Department for Transport and Network Rail are working closely to ensure that the two projects do not conflict.

Performance of solutions

20. What are the expectations of trialists' coverage performance?

There have been no network performance objectives set at this stage. The outcomes of the live passenger trials will help develop policy, by enhancing our understanding of the coverage capability within the context of a live railway, to support delivery of the Manifesto commitment of uninterrupted and guaranteed passenger connectivity coverage along mainline routes.

21. How will the performance of solutions be evaluated?

Independent evaluations will take place during the period of the trial along the Trans Pennine route. Further details will be provided in the Trans Pennine trial competition guidance. Within your response to the Call for Information, it would assist if you could provide expectations around minimum, consistent and maximum data rates to the train.

It is currently anticipated that each train set will carry a single trialist's equipment. The use of multiple trainsets will therefore enable a comparison, over the trial's time period.

22. How will the potential mutual interference among collocated radios be managed?

As part of the pre-trial evaluations, interference will be reviewed and addressed, in a similar manner to that used in a commercial environment.

23. What are the plans to provide coverage in tunnels?

It is appreciated that safety constraints, and the complexities of working in a live rail environment, may make deploying equipment in tunnels very challenging.

At present there is a requirement for trialists to propose their solution to providing coverage within all the tunnels. It is understood that for the long tunnels, at Standedge and Morley, there may be particular technical challenges. We welcome any thoughts about how best to approach these issues.

24. Are you only interested in providing connectivity to passengers?

The principal objectives of the Trans Pennine trials are:

- to enable the testing and delivery of rail passenger connectivity using trackside infrastructure to test high speed, reliable track to train technologies;
- to demonstrate the viability of using the rail corridor to deploy high capacity, cost effective fibre; and
- to increase the availability of full fibre connectivity to communities and enterprises.

If a trialist wants to conduct other rail related trials, they will need to negotiate separate agreements with Network Rail, the train operating company and/or the rolling stock owners, in addition to any other necessary stakeholders. They will be required to completely fund and take all risks associated with their other trials.

Any additional trials that a trialist provides will not be subject to reporting or review by DCMS. DCMS recognise that other services will be important as part of any future commercial model.

Rail Innovation Development Centre (RIDC)

25. What is the role of Network Rail at RIDC?

Network Rail owns and operates the test track facility at RIDC. Network Rail will therefore build the upgrade, and facilitate access to it, subject to availability and through a fee structure (yet to be finalised).

26. What are the timescales involved for the RIDC upgrade?

After our investments are complete, RIDC will offer a facility where a wide range of track to train technologies can be tested, including 5G solutions.

Network Rail will facilitate trials at RIDC, and are finalising the process for accessing the site. The infrastructure is currently being built and is expected to be available from early 2019.

There are no restrictions to the length of time a trialist can utilise the test facilities, subject to their availability and Network Rail's terms and conditions.

27. Will rolling stock be made available for parties interested in trialling at RIDC?

At present RIDC does not have a dedicated train which is available for trial purposes. RIDC can facilitate introductions to clients who are conducting train trials. It will be necessary for any trialist to negotiate their own terms and conditions with a train trialist. Network Rail are investigating other options to provide alternative train availability.

28. What approvals will be necessary to trial solutions at RIDC?

There is a reduced approval process for infrastructure deployment along the RIDC test bed, compared with deploying along a live railway. Further details are available at:

<https://www.networkrail.co.uk/industry-commercial-partners/research-development-technology/ridc/ridc-melton/>

29. What is the policy for the sharing of information from RIDC trials?

RIDC is a facility for trialists to conduct their own trials, and any IP or details of test results and outcomes are not subject to publication or sharing by Government.

Freedom of Information

Information provided in response to this Call for Information, might be published or disclosed in accordance with the access to information regimes. These are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 (DPA) and the General Data Protection Regulation (GDPR). If you want the information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply with and which deals, amongst other things, with obligations of confidence. In view of this it would be helpful if you could explain to DCMS why you regard the information you have provided as confidential. If government receives a request for disclosure of the information, DCMS will take full account of your explanation, but it cannot give an assurance that confidentiality will be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department for Digital, Culture, Media and Sport. More information about the Freedom of Information Act can be found on the website of the Ministry of Justice, Freedom of Information pages.

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