

Let's connect everyone

Bringing fibre to TransPennine communities





Why read this paper?

Electricity. Water. Gas. Digital connectivity? Absolutely.

Connectivity – having fast, reliable connections to the digital world – is now essential for individuals, communities and businesses. Essential, but sadly not available to everyone.

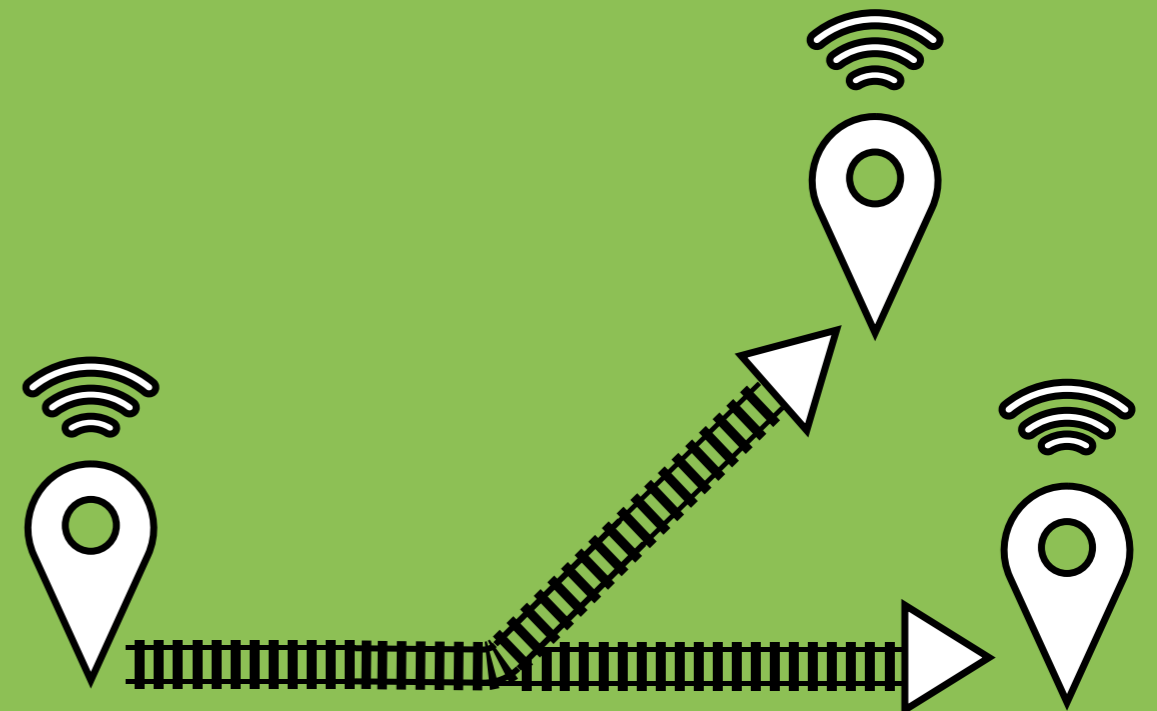
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Many rural communities still don't have the connections they need, severely limiting their opportunities and capabilities.

We're facing a growing digital divide between urban and rural communities. If we don't address this, it will continue to widen and many communities will be left further behind. We need to deliver full fibre broadband, digitally connecting more remote communities, so that everyone can achieve their full social and economic potential.

In this paper we look at

- What's driving the need for digitally connecting rural areas
- The challenges facing rural communities
- How Network Rail can help overcome these challenges and improve local people's lives
- Why Network Rail's Trackside Connect Services are an exciting new way to bring full fibre broadband to rural communities





We all need to be connected

From global trends to government policy, there are many reasons why we need to improve connectivity in rural areas.

The main reasons for improving rural connectivity

More dependence on being connected

With more people using more digital devices (smartphones, tablets and smartwatches), there's an increasing expectation to be able to stay connected – at home, at work, out and about and on the move.



88%
of UK adults now have a smartphone, up from 52% in 2012¹



95%
of smartphones are used every day²



82%
of all IP traffic is predicted to be video by 2022, through increased video communication and embedding within web pages and social media³

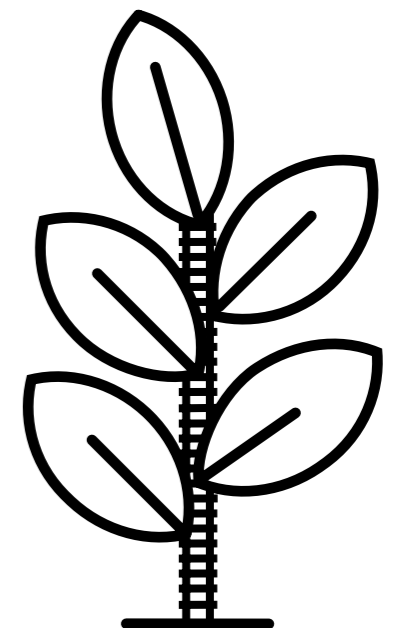
Fast, continuous and reliable access to the internet helps people work, communicate and share information. As the UK Digital Strategy, quoted in the House of Commons, states: "Digital connectivity is now a utility, and modern life is increasingly impossible without it."⁴

Rural communities are excluded

Without high-speed broadband, physically remote communities can't access important services, information and opportunities. They are excluded both geographically and digitally.

The lack of this connectivity can limit all members of a community, including:

- Children in rural schools who struggle to access learning resources
- Small services businesses – such as designers and accountants – who find it difficult to win clients outside their local area
- Stay-at-home parents who are held back from returning to the workforce unless they commute to a city
- Elderly people who want to stay independent but can't easily get to supermarkets or shop online
- Business owners and households trying to access Government and council services that are increasingly available online, such as tax returns, import/export information and council tax and services



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Social and economic benefits

Having full fibre broadband enables smarter ways of working, better public services and greater opportunities for UK businesses.⁵

 **£59bn**

The economic boost (equivalent to £1,700+ per worker) that could result from connecting the whole of the UK to full fibre broadband by the end of 2025 – rising to £70bn by 2038⁶

Better broadband is a national issue

Having better broadband across the UK is now acknowledged to be of national importance.

The Government target is for full fibre and gigabit-capable broadband to be available to every home and business across the UK by 2025.

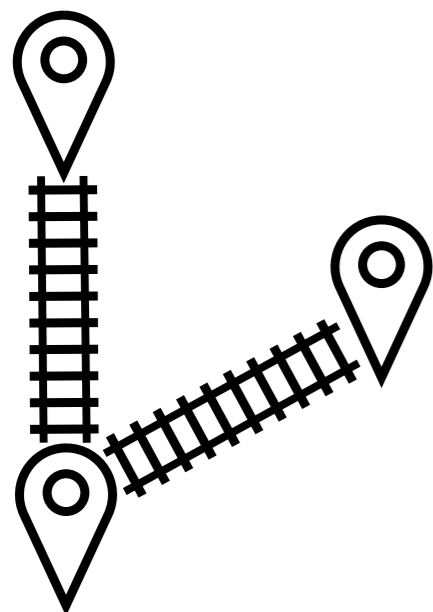
In its 2017 statement, the National Infrastructure commission highlighted the importance of full fibre broadband as an essential utility: “Fibre [...] will provide the foundations for digital networks for decades to come. This connectivity will be at the heart of a successful 21st century economy, just as electricity or railways were in earlier eras.”

As part of the Future Telecoms Infrastructure Review, the Government has started to facilitate greater deployment of fibre to the premises (FTTP) with initiatives such as the Local Full Fibre Networks Programme.

As local communities continue to campaign for better broadband, it’s clear that more needs to be done to help meet the Government’s ambitious targets of nationwide connectivity by 2025.

 **>370**

local councils signed up to a national broadband campaign after warnings that Britain’s rural areas faced becoming a “digital twilight zone”



The challenges that make change essential

The rural/urban digital divide

No one can deny that lack of access to fit-for-purpose broadband services remains a very real problem in rural areas. As the broadband needs of households and businesses grow, so does concern that remoter regions will be left further and further behind.⁷

 12%

of rural premises cannot get a decent broadband connection, compared to just 1% of urban premises, as reported by Ofcom in 2018⁸



34%

slower download sync speed in rural areas of England in 2018, when compared to urban areas⁹

We need new answers

So far, decisions tend to be made by comparing the size of a rural community with the high cost of introducing fast broadband. It's an approach which means that rural areas are often overlooked or deprioritised. Cities are usually served first, with highly populated urban areas a close second and rural locations last.

To meet our growing digital needs, greater bandwidth (higher speeds and data transfer volumes) is urgently needed in all parts of the UK. Already, the amount of internet data used by people in the UK is doubling every two years.

It's clear that faster, more reliable connections for homes, offices and mobile networks are needed in rural and urban areas alike.



£3-5bn

of state aid which the Government's Future Telecoms Infrastructure Review indicates may be required to support commercial investment¹⁰

Unless something changes, the connectivity gap between rural and urban communities is at risk of widening. Rural areas are likely to have far less access to digital services and capabilities. The knock-on effects of this inequality will damage local productivity, employment opportunities and wellbeing.

We urgently need to find the answers to these questions:


- How can rural communities be better connected?
- What improvements in broadband connections can be achieved?
- Which areas can be served most quickly?
- How can better broadband improve rural life?





Introducing Network Rail's Trackside Connect Services

We want to make things much better. We want to raise wellbeing and the standard of living in rural communities along and around the TransPennine rail corridor. So we're bringing an exciting new proposition to the market: Network Rail's Trackside Connect Services. By providing better broadband, we can regenerate and invigorate rural communities.

Network Rail's Trackside Connect Services will deliver:

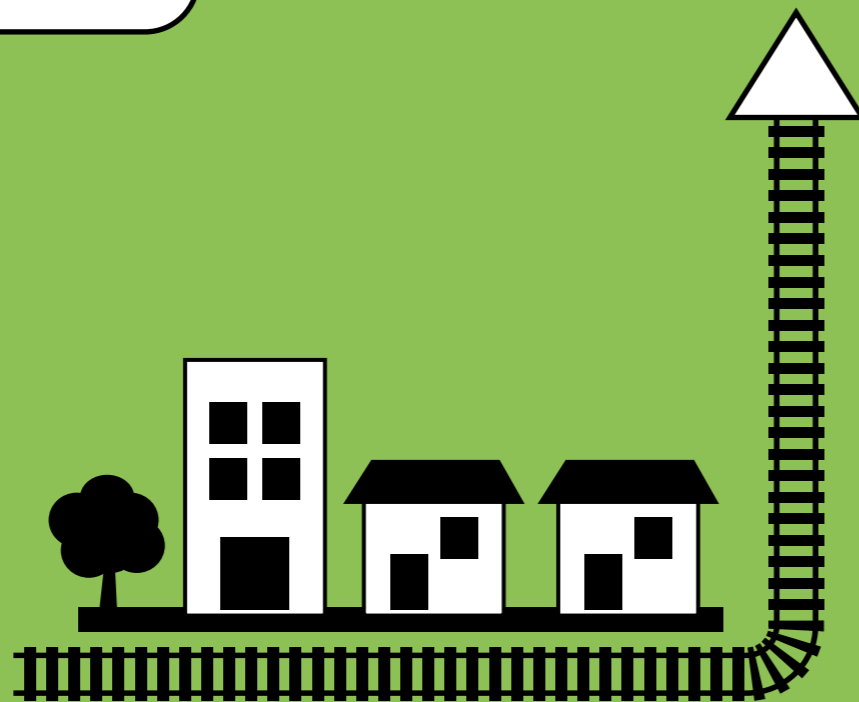
 Digitally connected communities to reduce the digital divide

 Control and flexibility for local organisations

 A more protected and robust network

Supercharged capability for meeting tomorrow's needs

By using our own high-capacity, flexible fibre network across the TransPennine route, we can help connect communities and bring cutting-edge digital capabilities to rural and urban areas alike.



Answering the questions

How can rural communities be better connected?

We're reducing the broadband inequality between rural and urban locations by giving all communities and businesses along and around the rail corridor equal access to a high-performance fibre network.

Our Trackside Connect Services bring easily accessible, high bandwidth backhaul solutions to within 1km of over 700,000 homes and businesses. We can connect communities in remote locations to the digital services and capabilities that were previously unavailable due to high set-up costs.

 **>2,500**

premises within 1km of the TransPennine fibre can currently only access basic broadband, with virtually none outside major cities and towns able to receive full fibre¹¹

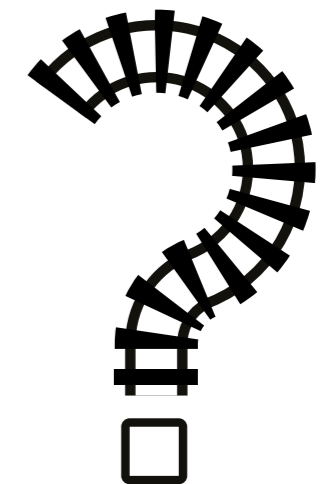
How much better is our broadband?

Network Rail's Trackside Connect Services increase speed and capacity via a supercharged network, set up to meet today's and tomorrow's needs. We're offering unconstrained bandwidth for maximum speed and reduced traffic congestion, with the capacity to deliver against growing data demands.

Our unrestricted capacity means customers can take dark fibre to light their own networks or ask Network Rail to deliver unconstrained bandwidth, choosing output speeds of 1, 10, 100 Gbps or faster. Our rail corridor provides faster direct fibre routes that cut through cities and geographies.



**>8Tb network
x 216 fibre pairs**
Almost limitless potential ensures maximum power for data-hungry times



Contact us

Which areas can be served most quickly?

Network Rail's Trainside Connect Services improve the connectivity of Northern Powerhouse communities, serving organisations across the TransPennine route from Manchester to York, via 116km of brand new high-specification, protected and robust fibre. Local authorities and organisations can gain seamless connectivity and public service delivery.

Our rail corridor which the fibre runs along is a controlled environment with very tight procedures for maintenance. It is protected from day-to-day disruption of the highway, such as digging up roads by developers and other utilities. Connection is easy too – you can interconnect at a data centre, on the public highway or we can extend the fibre to your premises.



116km
of brand new high-specification, protected and robust fibre



17
local authorities can be connected

How can better broadband improve rural life?

Research by the Government's Department for Digital, Culture, Media and Sport found that access to broadband improves the local economy, reduces unemployment and increases productivity for businesses. It also revealed that people with faster broadband reported improved wellbeing, compared to those without.

Network Rail's Trainside Connect Services also support existing businesses in the area by providing improved communication and distribution channels. On average, existing businesses will see increased productivity, with an expected impact of between 0.3% and 3.8% increase in turnover per worker per annum.

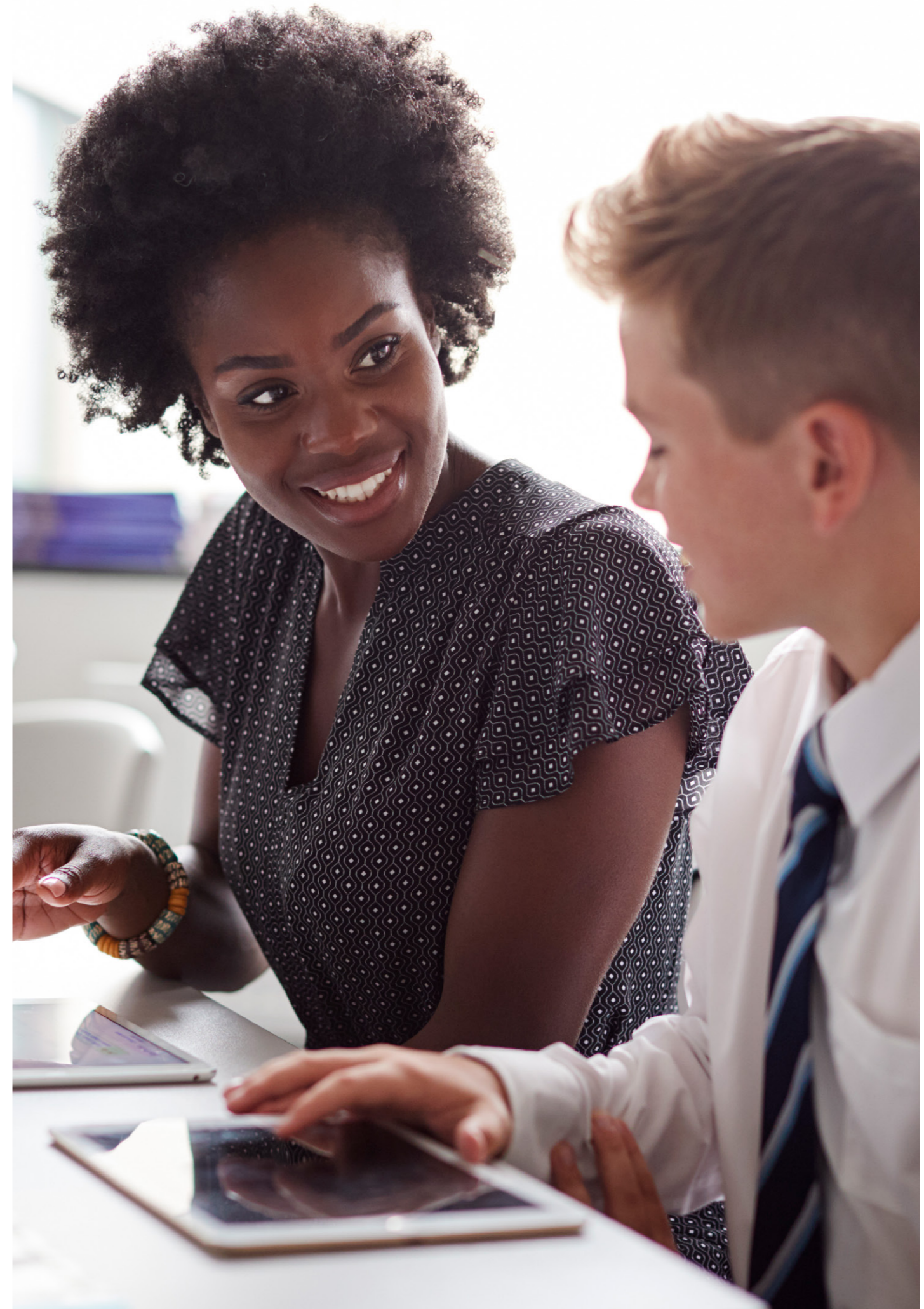
Fast broadband encourages new business start-ups and growth, especially those who rely on digital business models. The number of businesses in the area is expected to grow by between 0.4% and 3.2%.¹⁴



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expected increase in turnover per worker per annum¹⁵



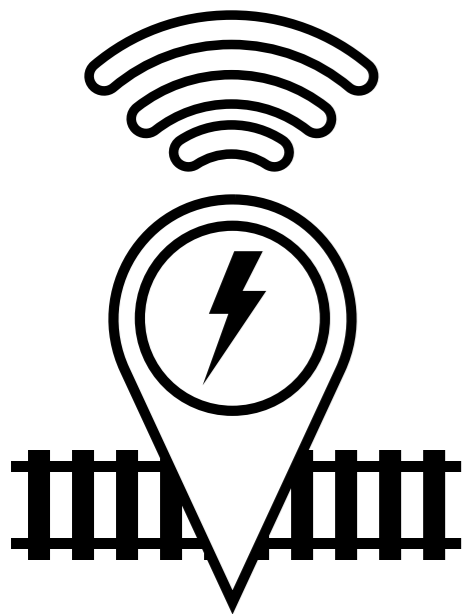
0.4% to 3.2%
expected increase in the number of businesses operating in the area¹⁶



An exceptional opportunity for exceptional results

Network Rail's Trackside Connect Services present an outstanding opportunity to bring communities together and strengthen their economies. For organisations along the TransPennine route, we're opening the door to the power of dark fibre, with easy access to interconnect.

It will now be possible to boost the connectivity of local communities cost effectively, respond quickly to growing data demands and increase overall levels of network protection.



Network Rail's Trackside Connect Services deliver:

- **The most direct and protected fibre routes across the Northern Powerhouse**
Our direct routes through major cities speed up and improve connections, with fibre safeguarded along the protected railway corridor.
- **The latest-standard fibre and infrastructure, newly deployed**
We're providing easy access to the very highest-grade fibre, ensuring the best possible quality and performance.
- **A fair and supportive partnership model**
We're offering a collaborative partnership with Network Rail, and a shared commitment to invigorate and create better outcomes for local communities.
- **Full, whole-life price transparency**
We're enabling organisations to manage growing data volumes without unseen growing costs.
- **Easy business processes**
We provide single points of contact and dedicated account support throughout the partnership.
- **The expertise of one of the largest telecom network providers in the UK**
We have 180 years' experience of providing telecoms services to the railway, and are the third largest telecoms operator in the UK by assets and reach. We're a public sector-owned network with Government investment, delivering benefits for our communities.



Let's get connected

To find out more about Network Rail's Trackside Connect Services and how we're improving the social and economic lives of rural communities, contact:

✉ tracksideconnectservices@networkrail.co.uk

🌐 www.networkrail.co.uk/TracksideConnectServices



Department for
Digital, Culture,
Media & Sport

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