



# The potential of Northern Powerhouse Rail

Improve connectivity  
Unlock opportunity

# Why Northern Powerhouse Rail?



Bringing up to **10 million people** within 90 minutes of four or more northern cities



Unlocking **place improvements** valued at up to **£15bn**

GVA benefits valued up to **£3.4bn** per year



Supporting increased rail travel by up to **400%**



Adding up to **35,000 more seats** per hour into the six core cities of the North

**Trebling** the number of businesses able to access four or more cities or Manchester Airport within 90 mins, from 70,000 today to **260,000**



Taking **64,000 car trips** per day off the road



Increasing productivity by up to **2%** in better connected places

Allowing the North to function as **a single economy**

**35,000 more jobs** in our city centres





“Investment to improve the North’s connectivity is an investment in unlocking its people, its productivity and its economy. The plans and the potential are in place, now we need to make it happen.”

John Cridland,  
Chairman of Transport for the North

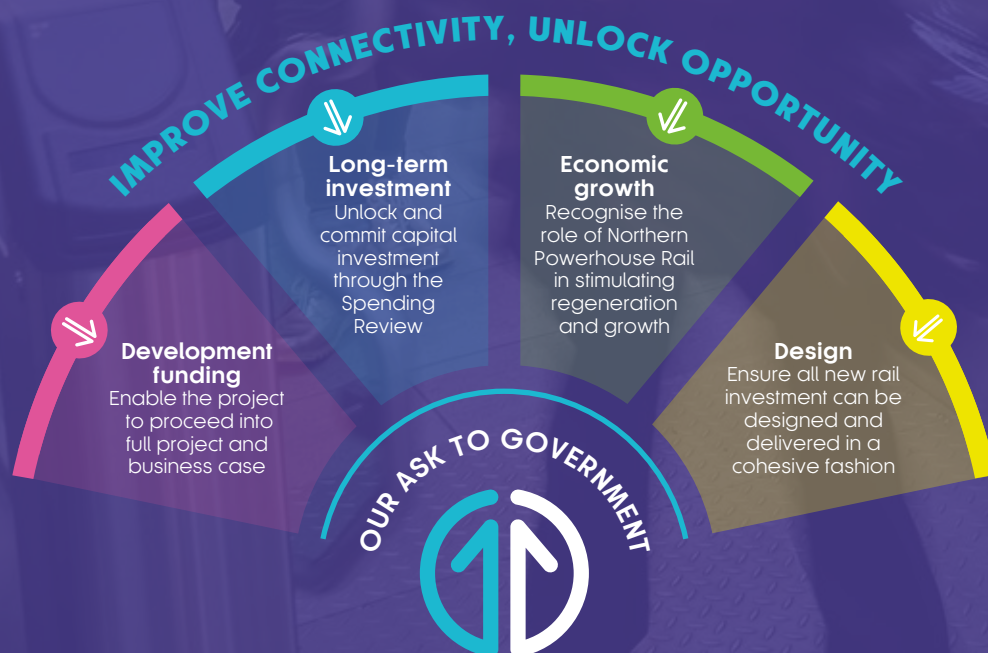


**Northern Powerhouse Rail (NPR) is a major rail programme designed to unlock the economic potential of the North. It will transform rail services making it easier to move between the region’s towns and cities.**

Poor connectivity is a widely acknowledged barrier to productivity. Slow connections and sub-standard links are holding back the North’s potential and constraining its growth.

Northern Powerhouse Rail offers the opportunity to unleash productivity and growth and power up the North’s economic potential. The National Infrastructure Commission (NIC) has recommended that Government invest to bring the opportunity forward.

*With significant business case development and economic benefits analysis well advanced, and with our plans moving at pace, Transport for the North has four key asks to Government, set out in the graphic below:*



**THE POTENTIAL OF NORTHERN POWERHOUSE RAIL**



# Why Northern Powerhouse Rail

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Up to  
**35,000**  
 more  
 jobs  
 in our city centres



Northern Powerhouse Rail is a programme to deliver a transformed network in the North of England. Featuring new and significantly upgraded railway lines, it will be the region's single biggest transport investment since the Industrial Revolution.

It is much more than an infrastructure project – it has the potential to be a social and economic catalyst for the region and the people and businesses of the North.

It is an investment in infrastructure that will deliver benefits to the economy, quality of life, education and the environment.

## NORTHERN POWERHOUSE RAIL AND HS2

HS2 will increase capacity across our network while improving rail connections between 25 towns and cities. Not only this, but it will help deliver up to 35,000 jobs, revitalise areas and provide economic benefits that will help rebalance the economy. There is now a clear opportunity to ensure that, alongside Transpennine Route Upgrade and HS2, we can deliver a step-change in rail that can benefit the whole of the North and the country.

Both Northern Powerhouse Rail and HS2 will be transformational. They will both be key pieces of world class infrastructure integral to the expansion of the existing rail network, regeneration of railway stations and their surrounding areas, which will free up much-needed capacity in a system that is struggling to perform.



**“Northern Powerhouse Rail will radically improve capacity and journey times across the North of England to deliver a much more effective rail system to unlock future prosperity.”**

**Tim Wood,**  
 NPR Director

# Emerging vision for the Northern Powerhouse Rail network



KEY			
	Northern Powerhouse Rail - upgrade line		Existing line
	Northern Powerhouse Rail - new line		Northern Powerhouse Rail - hub station
	Linking Liverpool to HS2		Largest intermediate stations
	HS2 line		Northern Powerhouse Rail junction with HS2
	Transpennine Route Upgrade		

Alternative concepts will continue to be assessed between Liverpool–Manchester, Manchester–Sheffield and Manchester–Leeds as part of taking forward the Strategic Outline Business Case for the programme. Map shows only railway lines which interact with Northern Powerhouse Rail. TfN is currently assessing concepts with Sheffield City Region Partners for a parkway serving South Yorkshire.

# Why The Economic case

© AV Dawson

Increase  
productivity

by up to



2%

in better  
connected  
places

GVA benefits  
valued up to



£3.4bn  
per year

**The primary objective for Northern Powerhouse Rail is to boost economic growth and close the north-south gap in productivity.**

As the Government's Industrial Strategy makes clear, we need a more balanced approach to growth across the country.

Currently the North is less productive than the rest of England, and in 2016 the Northern Powerhouse Independent Economic Review found that poor connectivity was a key factor influencing our productivity.

By better connecting our strongly performing sectors in the North, we can rebalance the economy and bring tangible benefits to the places of the North that will make a real difference to the lives of the people that live here.

By better connecting our towns and cities, NPR could support an increase in productivity of up to 2%, going some way to closing the North-South divide.


At present connectivity between the North's towns and cities, and beyond, restricts business growth and opportunities. Whilst most of our cities are relatively close together, they tend to work separately rather than as one economy. Increasing the effective reach of each individual city, through improved transport links for example, could help cities to work together to boost what the northern economy produces overall.

Creating more dynamic places where people and businesses thrive will be an important factor in boosting productivity and jobs, and realising the North's economic opportunity.

To help the North work more effectively together to build a stronger northern economy, the North requires frequent, faster, more efficient, reliable, and sustainable journeys on the transport network.

# Why The People case

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Up to   
**760m**  
trips expected by  
rail in the North  
by 2050

Number of seats  
between key cities  
increased by up to  
**35,000**  
per hour with NPR

“Daily stress  
travelling to  
work. Never  
know if the train  
will be on time  
and have all its  
carriages.”

Lancashire Commuter

**Northern Powerhouse Rail will transform the way people travel across the North and enable them to access greater opportunities raising their quality of life.**

## MEETING DEMAND

Rail travel is predicted to be up to four times higher in 2050 - from 180 million trips a year today, to 760 million in 2050. Passenger demand is invariably greater between our larger urban centres and Northern Powerhouse Rail would increase the number of seats between our key cities by up to 35,000 per hour. Rail is the best way to move significant numbers of people quickly, safely and reliably, and can move significantly more passengers than by road.

## IMPROVING JOURNEYS

Northern Powerhouse Rail would drastically improve journey times, with an average reduction of 30-45 minutes on journeys between key cities in the North. The new network could allow speeds of up to 140mph, today the average speed by train between the North's key cities is around 46mph.

New lines and significant improvements to existing lines would also free up capacity, enabling more services on local lines and allowing more trains per hour, giving the people of the North a truly 'turn-up and go' transport network.

## ACCESS TO OPPORTUNITIES

Currently people in the North's ability to access new opportunities is constrained by the current transport network.

Northern Powerhouse Rail would bring more than 10 million people within 90 minutes of multiple key cities in the North, against just 2 million today. This would allow five times the number of people access to new opportunities, within easy reach of their home and without the need to relocate.

## ENVIRONMENTAL BENEFITS

Our transport network must be decarbonised to support a shift to a low carbon economy, and with increased investment in the whole of the transport network, the North will support the achievement of the targets set out in the Climate Change Act.

Increasing demand for rail means fewer trips by car, resulting in benefits from reduced emissions of air pollution and greenhouse gases.

Northern Powerhouse Rail will ultimately deliver a modal shift and reduce road travel across the North.

# Why The Business case

## Poor transport connectivity is creating a constraint on businesses across the North.

Access to labour markets is limited, connectivity between businesses is reduced and opportunities for trade and collaboration are constrained.

Despite the relatively short distances between each of the city regions in the North, there is little economic interaction between these cities.

Northern Powerhouse Rail would change that.

Bringing businesses, universities and labour markets closer together will stimulate substantial benefits.

Northern Powerhouse Rail will put businesses, big or small, in touch with more people more easily. It will fuel what businesses need to perform and prosper.

Businesses in the retail, hospitality and tourism sectors will benefit from improved connectivity to leisure and tourism destinations.

The visitor economy has the potential not only to provide Gross Value Added (GVA) and jobs growth, but can also maintain and enhance the Northern population's quality of life, whilst helping retain and attract a skilled and experienced workforce. Places such as Scarborough and York in particular will receive added tourism benefit due to better connectivity.

**“An NPR hub station at Manchester Airport will help expand its worldwide network of routes and ensure the benefits of these vital links flow fully throughout the North.”**

**Charlie Cornish,**  
Chief Executive of Manchester Airport Group







# Why Global Opportunities

## Manchester Airport is an integral part of the Northern Powerhouse Rail network.

Serving more than 200 destinations, the connectivity it provides is key to ensuring all parts of the North are as productive and internationally competitive as possible.

The integrated NPR/HS2 station at the airport will mean people and businesses across the Northern Powerhouse have the access to the global opportunities they need to thrive, creating jobs and economic value in the process.

NPR will transform journey times to Manchester Airport, shortening supply chains and creating stronger trading routes.

By more than doubling the number of people who live within 90 minutes of the airport, NPR will also encourage international airlines to establish dozens more direct long haul routes to key global markets.

By improving international connectivity in this way, we will equip the North to trade more effectively.

International connectivity through other airports such as Newcastle, Bradford, Liverpool and Doncaster to name just a few, will support visitor economies, and universities, attracting international students and world-leading academics and encouraging knowledge exchange and research partnerships with the world's best academic institutions.

Whether based in Darlington, Bradford, Sheffield or Hull, businesses across the whole of the North will be better connected to trading partners from New York to Shanghai - or wherever in the world they need to be.

## Access to Manchester Airport



**2m**  
people



**NOW**

**4.7m**  
people



**WITH NPR  
& HS2**



**4m**  
people



**NOW**

**8.7m**  
people





**WITH NPR  
& HS2**

# Impact

## Bringing the North's key cities closer together

Northern Powerhouse Rail will cut journey times and connect key cities across the North like never before.

The benefits of reduced travel times will be substantial and transformative. Finally, our region will become connected and cohesive, unlocking its potential and enabling its people and its productivity.

	Corridor concepts under consideration 	Best current		Best potential with Northern Powerhouse Rail*	
		Frequency	Minutes	Frequency	Minutes
<b>Newcastle - Leeds</b>	Significant infrastructure upgrades	3	88-95 <sup>†</sup>	4	58
<b>Leeds - Hull</b>	Significant infrastructure upgrades	1	57	2	38
<b>Sheffield - Leeds</b>	Significant infrastructure upgrades and use of HS2	1	39-42	4	28
<b>Sheffield - Hull</b>	Significant infrastructure upgrades	1	80-86	2	50
<b>Manchester - Sheffield</b>	Significant infrastructure upgrades	2	49-57	4	40
<b>Leeds - Manchester</b>	A new line serving Bradford via Parkway or centrally Diggle upgrades akin to new line	4	46-58	6	25
<b>Liverpool - Manchester<sup>‡</sup></b>	A new line, or Fiddlers Ferry upgrade, serving central Warrington or a new line via a Southern Parkway	4	37-57	6	26 <sup>‡</sup>

\* Journey times will depend on the final engineering options, the strength of the business case, and what can be timetabled in practice.

<sup>†</sup> Typical journey times via York, Darlington and Durham. Fastest current journey time is 81 minutes.

<sup>‡</sup> Liverpool - Manchester via Warrington, journey time includes a call at Manchester Airport. A non-stopping service would take 21 minutes.



## Access to Cities

Our six main cities would see substantial benefits. Large numbers of people would have better access to better connections and more opportunities:

### Liverpool

2.7m

People within  
90 mins

92,000

Businesses  
within 90 mins



### Hull

1.1m

People within  
90 mins

31,000

Businesses  
within 90 mins



### Sheffield

2.9m

People within  
90 mins

100,000

Businesses  
within 90 mins



### Manchester

3m

People within  
90 mins

98,000

Businesses  
within 90 mins



### Leeds

4.2m

People within  
90 mins

136,000

Businesses  
within 90 mins



### Newcastle

340,000

People within  
90 mins

15,000

Businesses  
within 90 mins



# Impact

## Supporting our towns and communities



Right across our region, the impact of Northern Powerhouse Rail will be material and meaningful. It is not just the key cities that will feel the benefit.

Our towns and communities will gain as the overall benefits of better, faster and more reliable connections draw us all together and empower our potential.

Journey times from our region's towns will be faster and connections better. Getting from Warrington to Sunderland, for example, will be 85-90 minutes faster. Bradford to Crewe will be 70-75 minutes quicker and Darlington to Preston will see a saving of 50-55 minutes.

These are not just incremental differences. There are substantial and serious savings to be achieved.

The impact of Northern Powerhouse Rail will be felt right across towns and communities in our region, stitching the North closer together and enabling its people and potential to flourish.



### Warrington to Sunderland



**85-90** minutes faster

### Preston to Hull



**40-45** minutes faster

### Darlington to Preston



**50-55** minutes faster

### Wakefield to Liverpool



**30-35** minutes faster

### Bradford to Crewe



**70-75** minutes faster



© Network Rail

Unlocking  
place  
improvements  
valued at up to  
**£15bn**



**Investment into new railway lines and hub stations represents a clear opportunity for transforming the way our towns and cities perform and are used.**

This is a once in a generation solution for bringing people, places, business and institutions closer together and driving regeneration forwards.

Northern Powerhouse Rail can contribute massively to creating dynamic and attractive places where people want to live and work. Spreading out beyond the big cities, the benefits in terms of regeneration and confidence for our towns and communities will be tangible.

Warrington, Bradford, Barnsley and York - to name just a few - could all see an injection of development which will strengthen and propel them forwards. Our early analytical work shows that Northern Powerhouse Rail will unlock commercial and place development worth up to £15bn across the region.

## **A CATALYST FOR COMMUNITIES**

Our towns play a fundamental role in economic growth and are at the heart of the Northern Powerhouse Strategy. But above all this is about people and communities.

By improving the infrastructure, we can enhance the opportunities for everyone in our communities across the North.

Whether they live in a village in the East Riding or a small town in the Wirral, they will be closer to connections that offer faster, better and more reliable journeys. They will benefit as the investment flows more widely out and into the North as a whole.

Our smaller towns and communities all play a part in the North's productivity.

**By improving the connectivity, we can unlock the potential.**

**“As a mum and an employee, the key for me is being able to get from A to B efficiently and without delays”**

**Olivia,**  
Entyce Creative, Chester



# How What happens next

**Work to progress Northern Powerhouse Rail is moving at pace. Having secured £52m of development funding for 2019/20, we can deliver significant progress.**

Over the next 12-18 months TfN will be carrying out detailed work to make progress towards a single preferred concept on each route by 2020 at the latest.

This will would mean public engagement on the network could start as early as the early 2020s.

During this time, important, collective decisions will be made with our Members about putting forward phasing preferences and how we bring the programme to construction.

Development funding is needed to drive forward this vital work.

Transport for the North are still making the case for Northern Powerhouse Rail, so Government investment now would allow us to continue to make rapid and purposeful progress.

Over the coming months we will continue to work with our stakeholders and the public to make the case for this essential piece of national infrastructure, developing the scheme to maximise its benefits at a local and strategic level.

This is the best opportunity in more than a century.

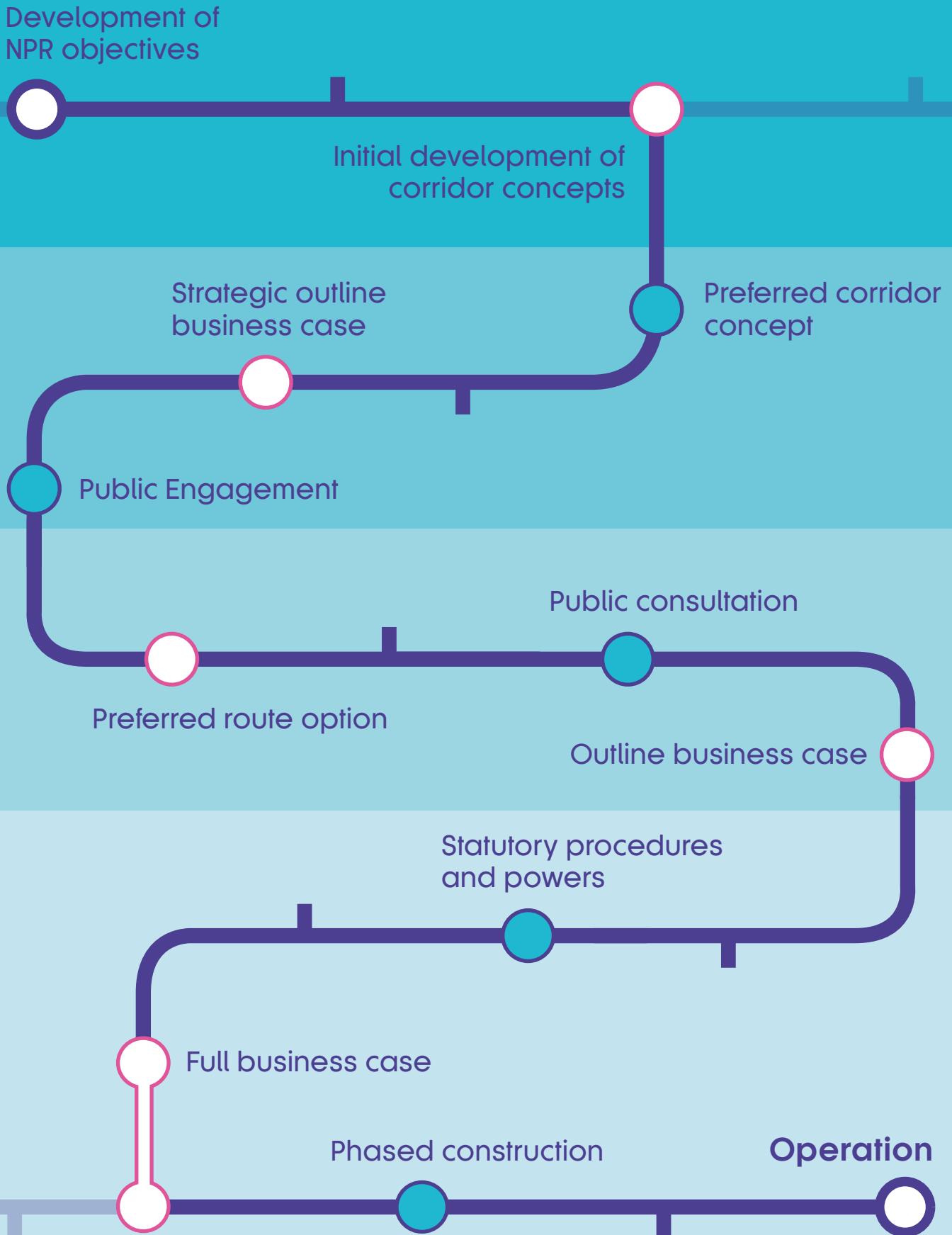
For too long the country has been running with one engine, that of the South East, and we are therefore committed to working with the Government to deliver this major economic programme.



**“I want to be the Prime Minister who does with Northern Powerhouse Rail what we did for Crossrail in London... We need to inject some pace into this programme so that we can unlock jobs and boost growth across the country.”**

**Boris Johnson,**  
British Prime Minister

## Northern Powerhouse Rail network development:





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