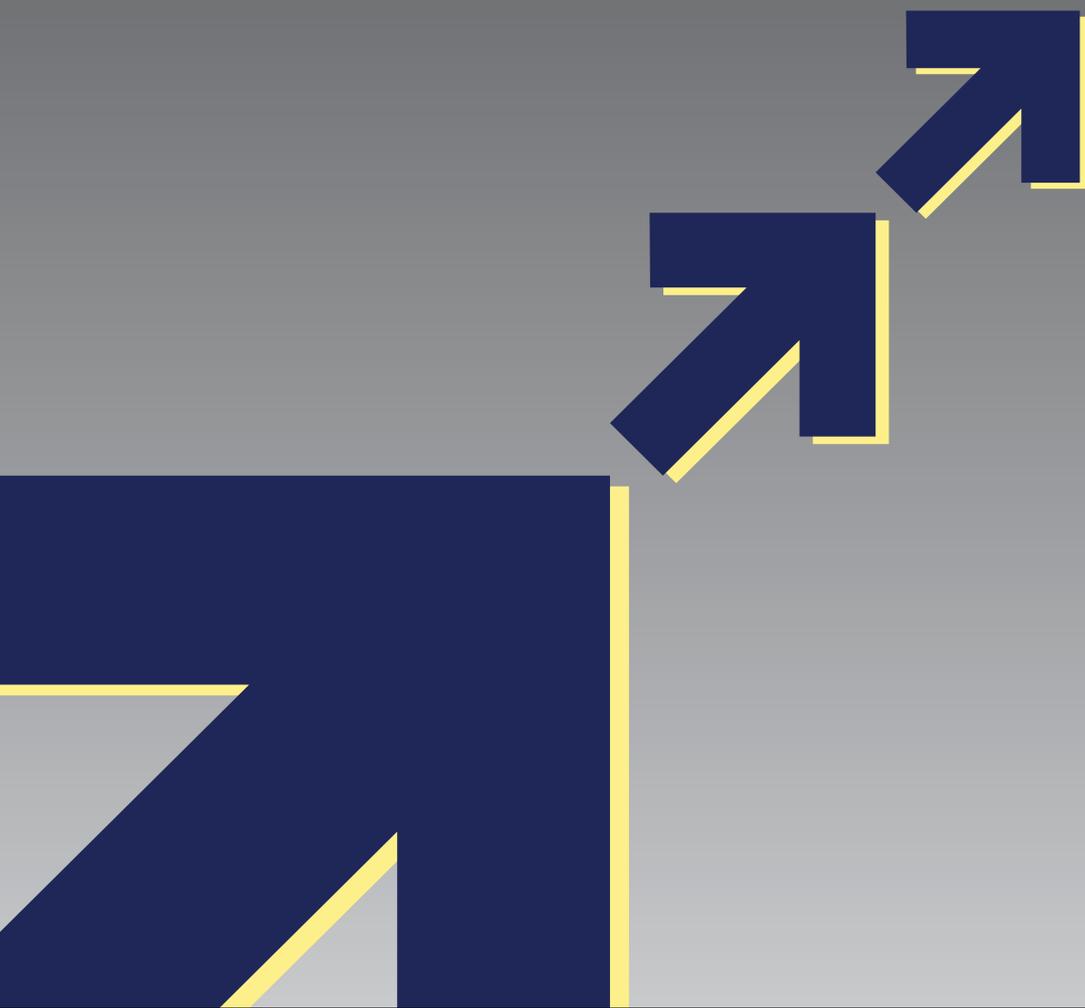


HOW WILL HIGH SPEED RAIL TRANSFORM THE SHEFFIELD CITY REGION



Sheffield
City Region

southyorkshire
local transport plan

HOW HSR WILL TRANSFORM THE SHEFFIELD CITY REGION

SUMMARY

- By 2033 the Sheffield City Region (SCR) will be served by High Speed Rail (HSR).
- The introduction of HSR services will improve the SCR economy by making the region more attractive for inward investment.
- HSR will significantly reduce rail journey times to London and other core cities, including Birmingham and Leeds.
- As passengers transfer to HSR, it will free-up capacity on the existing rail network, reducing overcrowding and allowing the creation of new journey opportunities, catering for expected future growth.
- Even with HSR, continuing passenger and rail freight growth up to 2033 and beyond will require further investment in the classic rail network.
- In addition, these enhancements will ensure full integration of the classic network with HSR and ensure the benefits are spread to locations not directly served by HSR, such as Doncaster and Chesterfield.
- Widespread electrification of the railway network will create carbon savings, reduce costs and improve reliability.



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INTRODUCTION

The proposed national High Speed Rail network (HSR) will revolutionise travel from the Sheffield City Region (SCR) to London and neighbouring city regions, reducing journey times, providing new links and creating new capacity to accommodate growth in rail demand.

With HSR, a Sheffield Meadowhall to London journey will take just 69 minutes, with Birmingham being reached in 38 minutes. In addition, stations in Leeds and the East Midlands will be less than 20 minutes from Meadowhall.

UK railways have seen unprecedented growth over the last decade. Demand has continued to grow through the economic downturn. The increase in passenger numbers is showing no signs of slowing.

All SCR districts are expected to experience significant increases in employment and housing growth between 2008 and 2033. Projections indicate there will be 180,000 new households and 65,000 new jobs¹, increasing pressure on our already over-crowded rail network.

Without HSR, our railways will not cope with the forecast increase in traffic. Investment in the rail network is needed, but simply seeking to cater for growth in long distance rail demand by enhancing existing lines cannot provide the capacity needed and will not be cost effective.

With up to 66% of rail passengers on long distance corridors forecast to switch to HSR², the capacity that this will free up on existing main lines can be used to enhance local and regional services. Given the size of this potential transformation to rail travel in Britain, the time for making plans is now.



¹ CLG (2010) 2008 based sub national household projections DFT, Tempro 6.2.

² Capacity relief for existing lines and future light rapid transport network (Arup, 2011)

HOW HSR WILL IMPROVE OUR ECONOMY

A national HSR network would generate significant economic benefits both nationally and to the SCR.

SCR has a population of 1.7m people and supports 650,000 jobs. We are internationally recognised in advanced manufacturing and business services. Our own research suggests that the areas served by the eastern leg of the proposed “Y-shaped” network will enjoy economic benefits worth £4.2bn³ (£400m direct to SCR).

These expected economic benefits provide the opportunity for the city region to attract new businesses and provide a stimulus to existing sectors. As well as supporting additional jobs, our evidence is that HSR will increase the productivity of existing jobs. This will help increase the wealth and disposable income of residents, supporting an improved quality of life in our area.

International evidence also shows that HSR can act as a catalyst for physical regeneration in the areas around stations on the network. The ‘regeneration effect’ of HS1 between London and Kent unlocked investment worth almost £20bn⁴. Work undertaken for Sheffield City Council shows that a well-located HSR station in SCR has the potential to accelerate the rate of regeneration and support additional growth in high value service sector employment.

In March 2012, Government approved a package of incentives for the regions outside London, which includes superfast broadband, streamlined planning processes and business rate relief. The SCR Enterprise Zone is forecast to attract additional advanced manufacturing employers to SCR, and once this growth has happened, it could create up to 13,000 additional jobs in SCR.

Although SCR will benefit from these incentives, only with the development of long-distance transport infrastructure, will we be able to achieve their full potential. HSR will allow us to attract investment from new international businesses.



IMPROVED CONNECTIVITY

HSR will bring significant journey time reductions which will make SCR far more accessible than ever before. Table 1 illustrates the potential journey times in minutes between the core cities on the eastern arm of the Y-shaped network.

Some benefits of improved accessibility include:

- Enabling our residents to use their skills further afield and increase job opportunities.
- Improving business connections with suppliers and clients.
- Facilitating access to a larger pool of talent for businesses.

A national HSR network serving SCR would generate the need for significant change in accessibility within SCR. The Department for Transport have identified Meadowhall as their preferred station location and this will need to be supported by improvements to the transport network to ensure local and regional connectivity. Partners across SCR are already undertaking extensive work to identify the infrastructure gaps that need to be filled to fully realise the benefits of the proposed Sheffield Meadowhall HSR station.

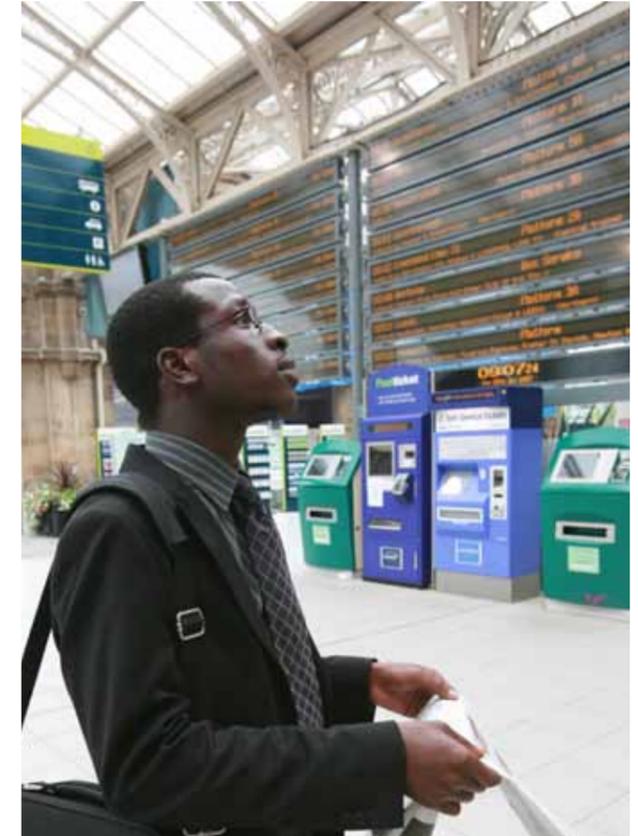
We will make the case to Government that the transport infrastructure required to connect HSR is included within the legislation for the second phase of the project and that Government should support the enhancement of local connectivity needed to maximise the benefits of HSR.

Table 1: Journey times between city centres using HSR, as published by HS2 Ltd

London				
49	Birmingham			
68	36	Nottingham*		
79	48	44	Sheffield †	
82	57	46	27	Leeds

* Journey times from Nottingham include connections between Nottingham City Centre and East Midlands Hub HS2 station.

† Journey times from Sheffield include connections between Sheffield City Centre and Meadowhall HS2 station.



³ Eastern Network Partnership (Arup, June 2011)

⁴ Economic impacts of HS1 (Colin Buchanan and Partners Ltd and Voltero)

CHANGES TO LOCAL RAIL SERVICES

The Government plans for the HSR network is for up to 14 trains per hour in each direction for Phase 1 (London to Birmingham), rising to 18 for Phase 2 (the Y-shaped network). There could be up to 6 trains per hour serving the SCR, each with up to 1,100 seats per train⁵.

The introduction of HSR to SCR will result in some passengers switching from existing rail corridors, freeing up vital capacity which can be used to develop and grow local and regional services.

The largest proportionate transfer is in passenger movements from services on the Yorkshire to West Midlands corridor. Analysis of forecast future journey patterns show that up to 66% of people are expected to switch to HSR.

The same analysis on the other inter-city corridors indicates that 50% of passengers on the East Coast Main Line and 15% of passengers on the Midland Main Line would also switch to HSR⁶.

These levels of changes to customer travelling patterns create a unique opportunity for changes to the timetables and specification of existing rail services. Released capacity will enable trains to serve additional intermediate locations and provide new journey opportunities.

In addition, the existing rail network will be essential to provide onward connections to places not directly served by HSR, such as Doncaster and Chesterfield, with the reduction in crowding providing the required growth opportunities to maximise the benefits of HSR.



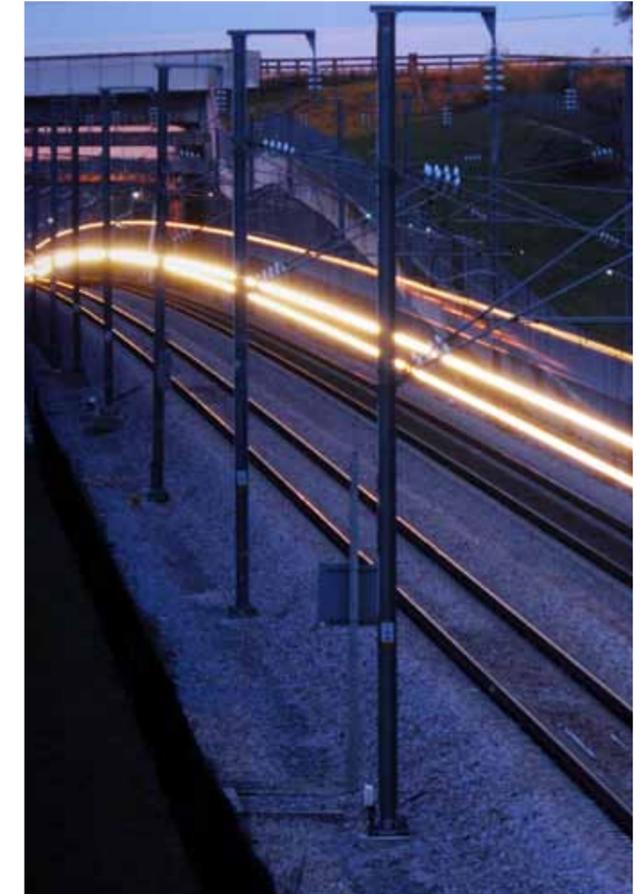
FURTHER RAILWAY INVESTMENT

The Government has committed to electrification of the Midland Main Line to Sheffield by 2019. They have also committed to increasing capacity and improving journey times on the Midland and East Coast Main Lines, as well as local station enhancements to allow longer trains.

We had worked hard to make the case for these improvements. As well as addressing some of the short term requirements for the local rail network, these programme enhancements will start to prepare for the future integration of HSR with SCR's public transport network.

Still, further enhancements will be required to make the most of the rail network, and investment from 2019 onwards is yet to be determined. This presents a unique opportunity to be able to influence future investment by ensuring the Government is aware of our needs for a reliable, effective rail network which serves everyone's needs.

Table 2 describes the planned railway investment and indicates some SCR aspirations post 2019.



⁵ HS2 Announcement documents (DfT, Jan 2012)
⁶ Capacity relief for existing Lines (Arup, July 2012)

Table 2: SCR aspirations which will enable an effective rail network

Network	Aspiration	How	When
Midland Main Line	Allow faster and increased connections from Sheffield and Chesterfield.	Midland Main Line Electrification.	Confirmed Government objective 2014-2019.
	Provide increased inter-regional services for Sheffield, Chesterfield, Alfreton, Langley Mill and Nottingham.	Electrify Erewash Valley.	SCR aspiration for 2019 onwards.
East Coast Main Line	Capacity and Journey speed improvements.	East Coast Main Line enhancements.	Confirmed Government objective 2014-2019. Further investment will be needed beyond 2019.
	Increase regional connectivity to London from North East and Yorkshire and Humber Regions.	Electrify local networks to allow through East Coast services.	SCR aspiration for 2019 onwards.
Hope Valley Line	Increase capacity and reduce journey times.	Northern Hub Enhancements.	Committed for delivery by 2019.
Sheffield-Barnsley-Leeds	Increase capacity and reduce journey times.	Journey time improvements, electrification and longer trains.	Electrification, SCR aspiration for 2019 onwards. Increased capacity confirmed Government objective 2014-2019. (may include additional trains and platform lengthening).*
Sheffield-Doncaster	Increase capacity and reduce journey times.	Electrification and longer trains.	Electrification, SCR aspiration for 2019 onwards. Increased capacity confirmed Government objective 2014-2019. (may include additional trains and platform lengthening).*
Worksop Line	Increase capacity.	More frequent and longer trains.	Increased capacity confirmed Government objective 2014-2019. (may include additional trains and platform lengthening).*
Freight routes	Improved access to South Yorkshire from South Coast and West London.	Creation of the "Electric Spine" route.	Confirmed Government objective 2014-2019.
	Extension of "Electric Spine" to allow access to freight facilities in Doncaster, Humberside and the North East.	Electrify: - Sheffield – Doncaster. - Chesterfield – Rotherham, via Beighton. - Trent Junction – Clay Cross (Erewash Valley). - Doncaster – Hull/Scunthorpe/Immingham. - Access to intermodal freight terminals.	SCR aspiration for 2019 onwards.
Cross Country	Enhance capacity Derby – West Midlands.	Electrify Derby – Birmingham/ Lichfield and capacity enhancements.	SCR aspiration for 2019 onwards.

*The following stations require platform lengthening to allow 4-car trains: Chapeltown, Swinton, Woodhouse, Kiveton Bridge and Kiveton Park.

ELECTRIFICATION

A significant part of the Government's commitments to 2019 and our proposals for future development is the replacement of diesel trains with electric trains through widespread electrification.

There are four main benefits of electric trains:

Faster Journeys

Electric trains are able to accelerate and brake quicker than diesel trains, improving journey times. Often, electric trains are faster than the diesel trains they replace.

Carbon Savings

Electric trains reduce carbon emissions. Electrifying the Midland Main Line to Sheffield could cut carbon emissions by 13,000 tonnes per year.

Reducing Costs

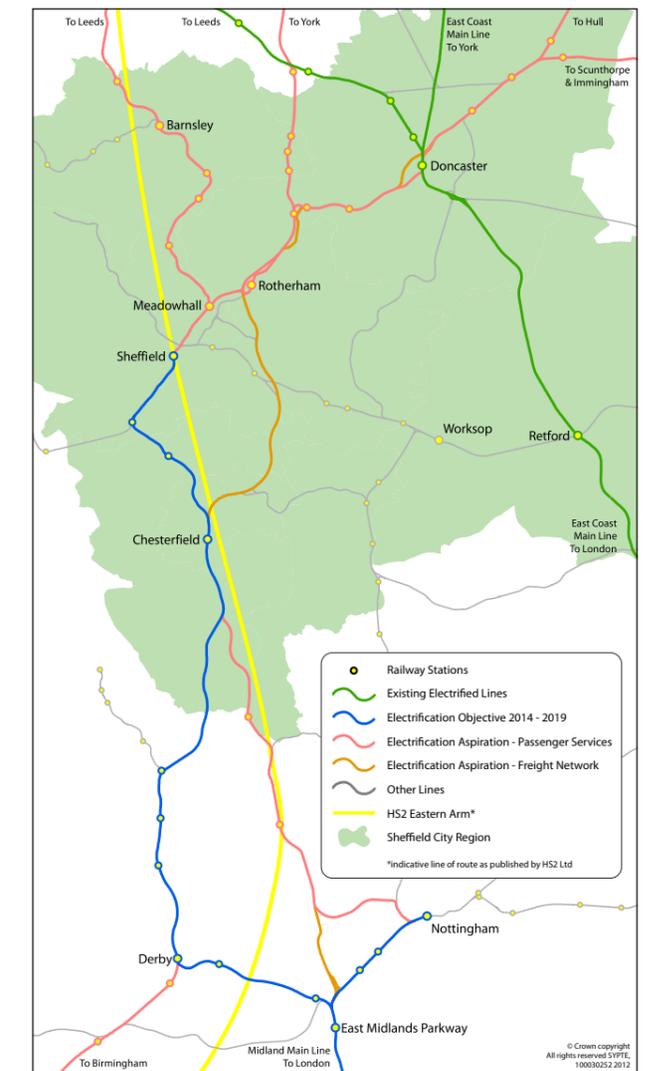
Electric trains are cheaper to buy than diesel trains and operating costs are also lower. Within ten years of completion, the electrification of the Midland Main Line to Sheffield will have paid for itself and will continue to reduce the cost of rail to the public purse.

Reliability

Electric trains are more reliable than the diesel trains they replace. This means the reliability and punctuality of services improve.

Figure 1 shows the planned electrification for the local area and our aspirations for extending the electrification to optimise the benefits of switching from diesel to electric trains.

Figure 1: Map indicating network electrification plans and aspirations



WHAT HAPPENS IF HSR IS NOT BUILT?

The East Coast Main Line connects some of the key economic centres in the country to each other and to London. It is one of our busiest rail routes and passenger numbers on long distance services are forecast to grow by up to 78% by 2036⁷. Already £240m has been committed to enhance the line during the 5 years from 2014. SCR is making the case for capacity improvements at Doncaster station and further electrification from Sheffield to Doncaster.

The Midland Main Line connects four of the eight largest cities in the UK to London and to each other. The commitment to upgrades and electrification announced in 2012 will be a welcome boost to capacity release and quicker journey time on this network. Together, the enhancements to the East Coast Main Line and Midland Main Line will be far from being able to address long term capacity needs.

Even with years of disruptive investment, if HSR is not built, long distance rail services linking SCR to London, the Midlands and the North East would not be able to cope with growing demand. The network will not have sufficient capacity to support the significant growth in rail freight that our economy will need. The plans for upgrades and electrification will become a short term fix rather than be part of a strategic national rail network.

A suppression in rail demand would inevitably lead to greater carbon emissions and increased car trips, leading to increased congestion on the local road network, the M1 and A1. SCR's economy would not grow as fast and it would have fewer jobs.



FURTHER INFORMATION ON EXISTING PLANS

High Level Output Specification 2012:

<https://www.gov.uk/government/publications/high-level-output-specification-2012>

Network Rail Yorkshire & Humber Route Utilisation Strategy:

<http://www.networkrail.co.uk/browseDirectory.aspx?dir=%5CRUS%20Documents%5CRoute%20Utilisation%20Strategies%5CYorkshire%20and%20Humber>

Network Rail Northern Route Utilisation Strategy:

<http://www.networkrail.co.uk/browseDirectory.aspx?dir=%5CRUS%20Documents%5CRoute%20Utilisation%20Strategies%5CRUS%20Generation%202%5CNorthern>

⁷ Network RUS – Scenarios, Network Rail [2009]

