



# Sheffield City Region Integrated Rail Plan

## CONTENTS

Foreword	03
<b>Sheffield City Region Integrated Rail Plan</b>	
1.0 Purpose of the Plan	04
2.0 Background	09
3.0 Delivering the Plan	21
4.0 Measuring Success	42
Appendix	56



## Foreword

**We will build a transport system that works for everyone, connecting people to the places they want to go within the Sheffield City Region, as well as nationally and internationally.**

This is an important time for the Sheffield City Region. With a programme of national, regional and local transport investment planned, it is important that we have a clear plan to join up this investment to ensure we build a transport system that is fit for the 21st century.

Poor rail connections limit the flow of people, ideas and businesses both within our region and between other parts of the north of England, particularly Greater Manchester and Leeds City Region.

We need a clear plan of action, one that draws together planned national, pan-regional projects such as HS2 and Northern Powerhouse Rail (NPR) and local investment in community rail stations and transport interchanges.

**This Integrated Rail Plan is the first time we have brought these things together in one place.**

The principal components of the Plan are set out below:

- Connecting HS2 trains from the centre of Sheffield to Leeds and the north east of England
- Improving the speed and frequency of trains from the Sheffield City Region to Greater Manchester and Leeds
- Intercity rail connectivity direct into the town centres of Barnsley and Rotherham
- A new station in the Dearne Valley on the NPR line that has the potential to be served by HS2 and NPR services, supported by improved road connections between the M1 and A1 along the A635
- Providing a direct national rail connection to Doncaster Sheffield Airport
- Delivery of major improvements at Sheffield Midland station and capacity enhancements to the north of the station
- Continued investment in upgrading the East Coast Main Line and the Midland Mainline
- Delivering a permanent tram-train service between Sheffield and Rotherham and future proofing the existing Supertram network
- Extending the tram-train network into the Dearne Valley, Doncaster and Doncaster Sheffield Airport
- A new rail station serving, businesses and communities in the Advanced Manufacturing Innovation District at Waverley, Rotherham
- A rolling programme of improvements at our network of local stations, including platform enhancements at Barnsley station to accommodate new intercity services
- The opening up of low usage or closed rail lines to new passenger and freight services.

This plan has been developed by working with the Department for Transport, the Ministry of Housing, Communities and Local Government, HS2 Ltd, Transport for the North, Local Authorities and the Local Enterprise Partnership. If businesses, communities, local and national government come together, I believe that this programme of rail infrastructure investment will deliver a big stride towards ensuring that everyone in the Sheffield City Region will benefit from better transport for years to come.

Mayor Dan Jarvis MBE MP.

# 1.0 Purpose of the Plan

The Sheffield City Region (SCR) Transport Strategy sets out how we intend to better connect our major urban and economic centres to enable the better flow of people, goods, businesses and ideas across the City Region, as well as promoting our rural and visitor economies. By doing so we will help create jobs, secure new investment and grow our economy.

The Strategy is underpinned by three goals:



**Residents and businesses connected to economic opportunity**



**A cleaner and greener Sheffield City Region**



**Safe, reliable and accessible transport network**



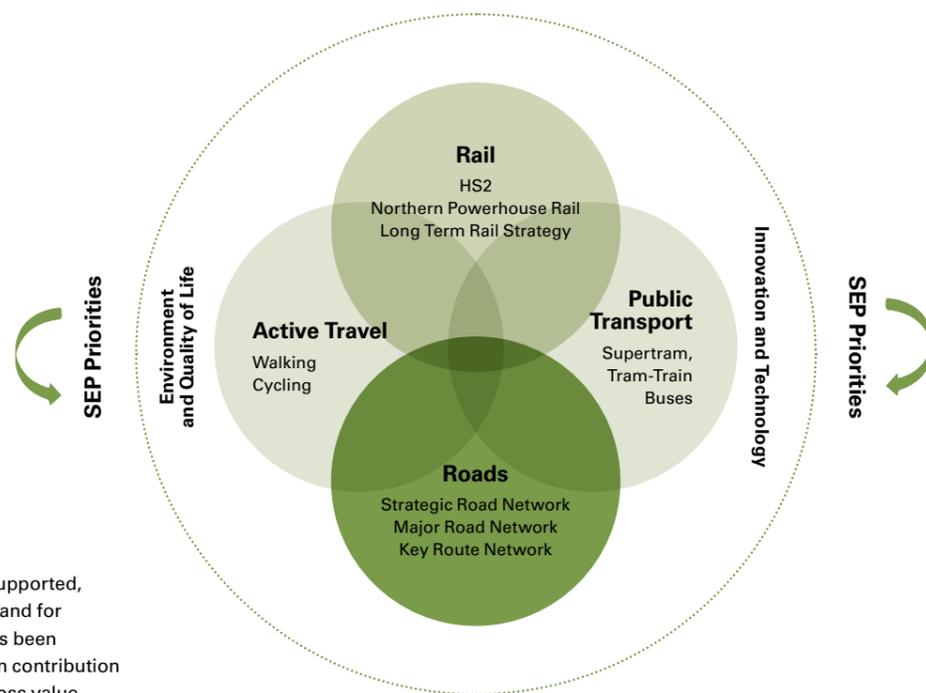
The Strategy also envisages a series of implementation plans, some of which the SCR will lead, some of which we will contribute to and some of which we will seek to influence. The Strategy envisages four key programmes, as shown opposite.

**This Integrated Rail Plan is intended to serve as the implementation plan for rail within the Transport Strategy.**

The contribution of railway related activity to the UK economy is significant. Activity supported, directly and indirectly, by the demand for rail-related goods and services has been calculated in 2018 as a £36.4 billion contribution to the UK economy in terms of 'gross value added', or GVA, and is associated with nearly 600,000 jobs.

Together with other benefits provided to the UK economy and society, not captured by this analysis, these figures show the importance of the rail sector for UK industrial growth, jobs and innovation, and its contribution to the achievement of the Government's Industrial Strategy. The rail network and rail industry within the SCR is also pivotal to the SCR Local Industrial Strategy/Strategic Economic Plan currently being refreshed.

**The City Region needs access to a properly planned high-speed network that is well connected to the conventional network, serving a wider spread of towns and cities. The benefits of national investment should be maximised and there needs to be ongoing, complementary investment in the local and regional network to improve capacity, reliability, affordability and journey times and frequencies, allied to the ambitious rail plans being developed by Midlands Connect.**



Yet there is no current single programme or funding opportunity to deliver what is needed on our rail network. Through this Integrated Rail Plan, we are aiming to set out what we need from our rail network to achieve the goals, policies and outcomes set out in the Transport Strategy, building on national and pan-regional projects such as HS2 and NPR.

HS2 will provide new state-of-the-art infrastructure between the North, the Midlands and the South, with services calling at Sheffield and Chesterfield, that will relieve existing capacity constraints on both the West Coast and East Coast mainlines, with Doncaster a key rail gateway on the latter, which will also benefit from the introduction of the new Azuma trains in 2019.

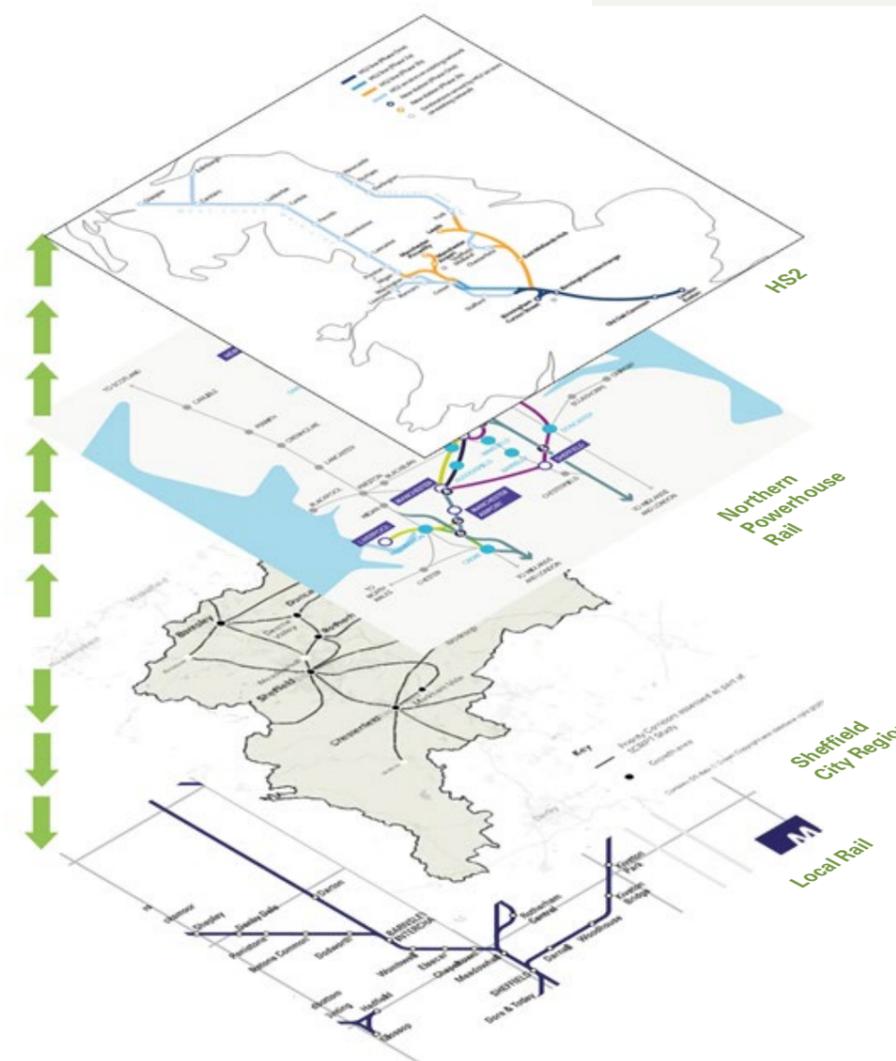
Through the stations at Sheffield and Chesterfield, HS2 will improve connections to adjacent city regions through the completion of Phase 2b in 2033 which will bring Birmingham within 49 minutes from Sheffield, the East Midlands Hub at Toton within 27 minutes, and London within 87 minutes.

Alongside this, Northern Powerhouse (NPR) is a transformational programme of rail investment that will build on current and planned investments to radically improve journey times and service frequencies between some of the major cities and economic areas in the North, which unlocks capacity and capability to deliver a much more effective rail network overall.

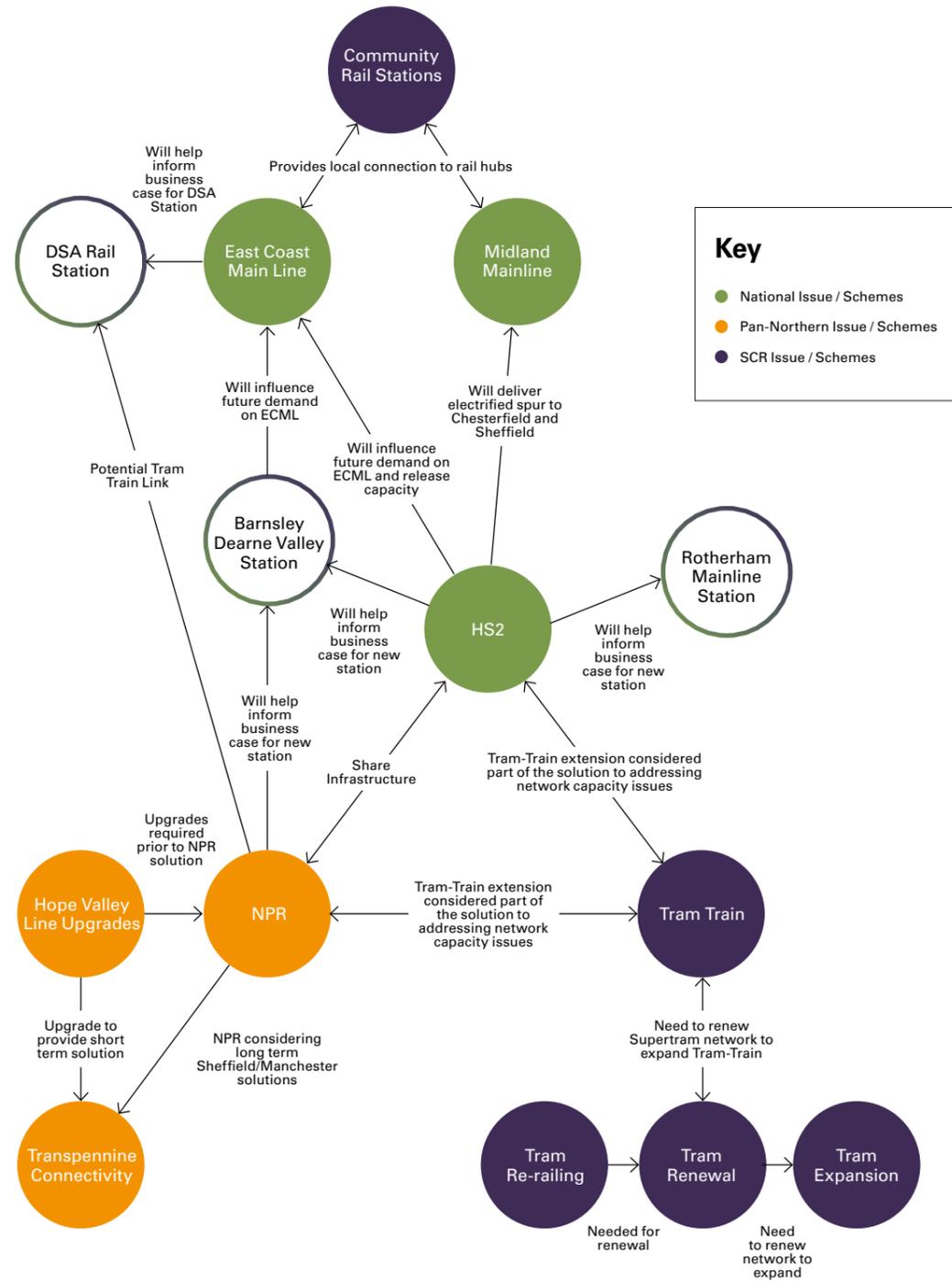
NPR will reduce journey times from Sheffield across the North, such as 40 minutes to Manchester, 28 minutes to Leeds (using the eastern leg of HS2 Phase 2b) and 50 minutes to Hull (via Doncaster). Onward connections to York and the North East via HS2 and the East Coast Main Line (ECML) will bring Newcastle within around 80 minutes.

It is estimated that more than 100,000 more businesses and three million more people will be within 90 minutes' reach of Sheffield with the completion of HS2 Phase 2b and NPR. To ensure that these benefits of HS2 and NPR are as widespread as possible, the SCR aims to ensure that they are well connected to the conventional rail and light rail networks, thereby serving more communities in the City Region.

**It is important therefore to recognise that HS2 and NPR are not isolated infrastructure projects flowing through the City Region and should never be seen as such – instead they are a catalyst to deliver the wider goals within the Transport Strategy by connecting the SCR's major urban and economic centres. They also need to be coordinated with other rail and transport investments, particularly as in some cases, they will share infrastructure with other services. The SCR is best-placed to make sense of the range of interdependencies that exist to make sure that the whole network works for the City Region.**



This plan will set out what investment is needed on our rail network and how plans at a local, regional and national level need to be aligned in order to realise the Mayor's Vision for Transport and to help deliver a transport system that works for everyone.



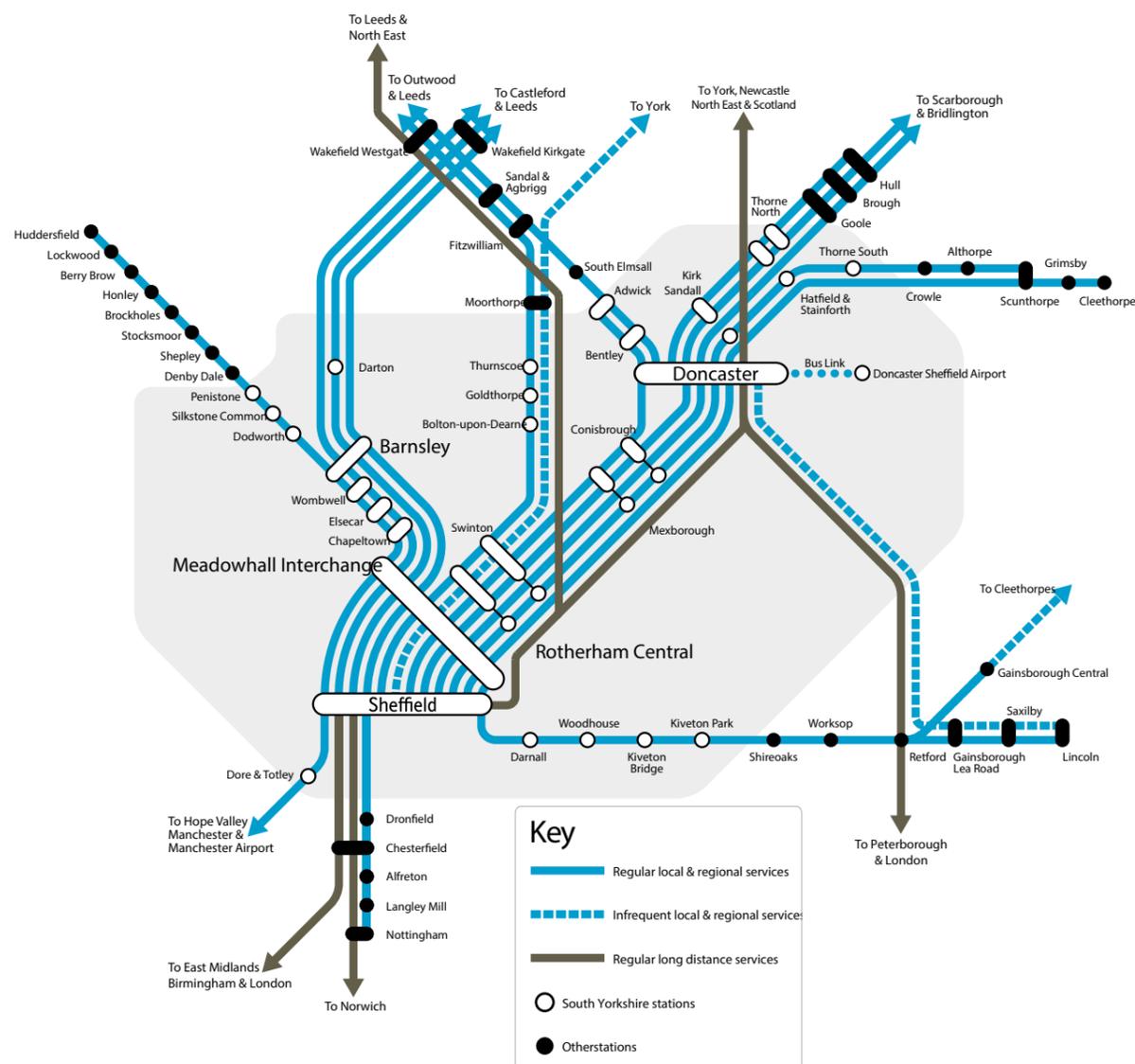
# 2.0 Background

## Existing Rail Network Challenges

The existing rail network in the SCR and surrounding area is shown below. This provides the framework within which this Integrated Rail Plan will sit and which the City Region's future rail aspirations will need to build upon.

The ECML is the key north-south rail line in the east of SCR, linking Doncaster and Retford to London, Leeds the North East and Scotland. Doncaster is a significant railway hub on the ECML and is well connected to a wide range of destinations across the UK. There are up to five trains per hour between Doncaster and London taking between 87 and 141 minutes, depending on the service pattern.

Network Rail is undertaking a programme of upgrades to the ECML, including line speed and capacity improvements and power supply upgrades, mainly in preparation for the introduction of the new fleet of Azuma trains in 2019. However, **further infrastructure works are required in the Doncaster area**, which was identified in the Network Rail East Coast Route Study as a major bottleneck on the ECML. Doncaster is currently the focus of one of Network Rail's Continuous Modular Strategic Planning (CMSP) studies to assess in detail what is required and the provision of a new rail link to Doncaster Sheffield Airport (DSA) from the ECML could help alleviate the identified capacity issues.



Barnsley and Rotherham have relatively poor intercity connections at present, requiring interchange in either case. There is a lack of a rail connection between Barnsley and Doncaster that further hampers access to the national rail network and travel choice within Barnsley and the Dearne Valley.

Despite these good existing north-south connections to Doncaster and Sheffield, **the SCR is let down by connections to our adjacent city regions** in Leeds and Greater Manchester, to the Midlands and the Humber, as well as poor connections within the City Region itself. The **Hope Valley Line provides the only Trans-Pennine rail link between the SCR and Greater Manchester**, and hence performs an important role in the SCR economy and wider northern transport network.

Whilst it runs through one of the most scenic parts of the Peak District National Park, thereby supporting the visitor economy, it is currently only served by two fast trains per hour and one train which stops at the intermediate local stations. It is also an important freight line, serving the Hope Cement Works and the Peak Forest quarries – these trains take heavy goods vehicles off the roads in the National Park, but also constrain capacity for passenger trains. An upgrade scheme has been developed, on which work is anticipated to start in the next year, to enable a third fast train to be introduced each hour, as well as improve reliability and maintain freight capacity. The scheme provides an additional passing loop and re-instates the second track at Dore.

The Government's own statistics highlight the capacity challenge facing the existing passenger rail network within the SCR, as evidenced by Network Rail's CMSP study for Sheffield. Over the past three years, the proportion of crowded services has increased and both local and longer distance services are affected by overcrowding at peak times.

The Midland Mainline (MML) is the key rail link between the central and western parts of the SCR, including the city regional centre of Sheffield, to London and the East Midlands. Twice hourly services provide connections from Sheffield to London with the fastest in around two hours and from Chesterfield to London in around 15 minutes less. Network Rail is also implementing a programme of upgrades to the MML, including partial electrification and line speed improvements, in order to deliver benefits for rail passengers. However, only the southern half of the MML will be electrified as part of these proposals, while north of Market Harborough a new fleet of bi-mode trains will be introduced from 2022, capable of operating on electric or diesel power, enabling them to run on both the electrified and non-electrified sections of the MML.

The section of the MML to be used by HS2 trains between Stonebroom Junction and Sheffield Midland station will also be electrified, so that HS2 can use electric, rather than bi-mode trains in serving Chesterfield and Sheffield Midland stations. **Full electrification of the MML**, which would be more efficient and cost-effective in the long term than using bi-mode trains, remains an aspiration of the SCR.

The Passengers in Excess of Capacity standard, which shows the proportion of standard class passengers that is above an accepted capacity level (allowing for both seated and standing passengers) on services at their busiest point, indicates trains arriving and departing from Sheffield station in the morning peak period were over capacity by 1.2% in 2017, while in the afternoon peak the figure was 0.8%. As such there is a clear need to **provide greater capacity to maintain and enhance the attractiveness of rail travel in the SCR**. If not, this will create a barrier to growth as our rail networks cannot adequately accommodate future growth.

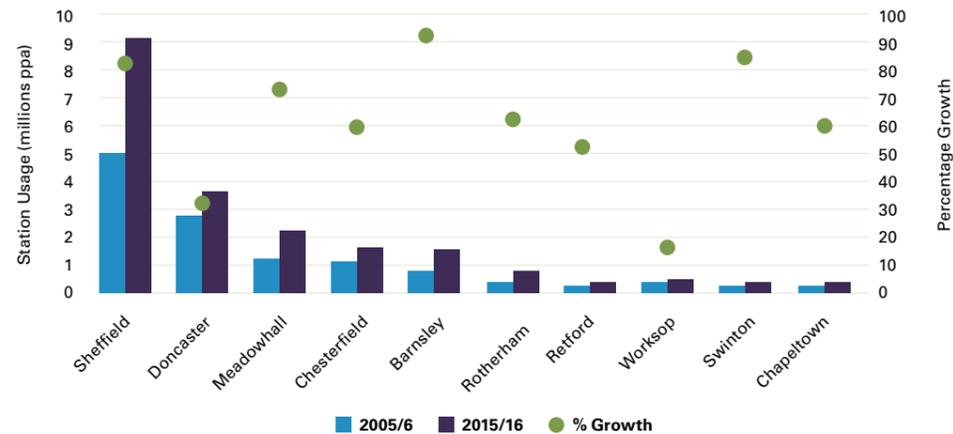
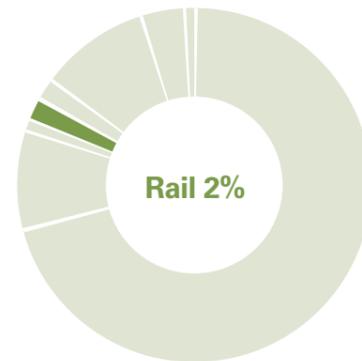
Performance is the overall measure of effectiveness of passenger rail services and represents the number of services that arrived at their destination on time, as a proportion of those planned. Over the five years up to 2017, the performance trend remained constant, with no net improvement on Northern Rail services, which constitute the majority of those operated across the SCR. However, there were well documented downward trends in 2018 associated with the May timetable crisis, and whilst improved over the first quarter of 2019, **performance is still below pre-2018 levels across the network**.

Stations are an important part of the overall passenger offer and the 'front door' of our rail network, where it connects with other modes of transport. The busiest stations within the SCR are Sheffield and Doncaster – in 2017/18 Sheffield had around 9,700,000 entries and exits, the second highest in the Yorkshire and Humber region, whilst Doncaster had around 3,900,000 entries and exits. Over the same period, Sheffield more than 1 million and Doncaster almost 1.5 million interchanges at each station, emphasising their roles as key hubs on the rail network.

Whilst facilities at the four current intercity stations within the SCR (Sheffield, Doncaster, Chesterfield and Retford) are generally of a good quality, **some of our local community stations fall short of our aspirations for them to be the gateway to all that the SCR has to offer**. The relatively large number of existing local community stations is a major benefit for accessing the rail network, but the quality of services, station facilities and the surrounding environment is variable. Integration with other forms of public transport is often poor, while park and ride facilities at a number of our rail stations tend to be full on weekdays, whilst other stations have little or no car parking available.

**Passenger satisfaction levels with rail travel are falling.** In the latest survey, satisfaction with local rail services fell by 8% (to 75% overall), with value for money satisfaction being only 56%, punctuality 72% (showing the largest year-on-year decrease) and journey time 83%. This shows that, for local services, actual journey time is less critical than the punctuality of the service itself and the perceived value for money.

Given these issues, it is perhaps not surprising that only 2% of commutes within the SCR are currently made by rail, which increases to 3% if light rail (tram) journeys are included. Although the actual numbers of people travelling in the SCR by rail has increased between 2005 and 2016, for commutes, rail is not seen as a viable alternative choice to the car for many journeys.



Compared with this, 71% of SCR residents currently travel to work by car, and this proportion has increased since 2001. Based on current trends, there will be up to half a million extra journeys on our road network every day by 2026. Without action to tackle congestion, travel times across the SCR will get worse. There is an **urgent need for investment in sustainable transport to reverse this trend and encourage mode shift from car to public transport**. The distances between our towns and city means that rail is the primary choice for public transport when travelling between the main centres in the SCR as well as outside of it.

Whilst much of the focus of this Plan is on passenger rail services, **the role, contribution and the needs of freight services to, from and within SCR cannot be ignored**. The SCR freight network supports our regional industries and permits the import and export of resources from our City Region, including through key connections to the Humber ports, power stations and centres of aggregate production.

The current situation sees a mixed-traffic railway, where freight and passenger trains largely operate on the same lines. As highlighted, **recent growth in both freight and passenger markets has put increased pressure on network capacity**, and this pressure is likely to increase as rail freight is a key part of the UK's economic growth plans, articulated in the Government's Industrial Strategy.

Freight trains have obvious constraints due to their length and weight, being harder to start and stop, accommodate within passing loops and have a lower overall speed of travel. On a number of routes serving the SCR, there is limited gauge clearance at bridges over the rail line which restricts the height of loads. For example, the Hope Valley Line cannot exploit the Trans-Pennine inter-modal container freight market as the structures on the route have insufficient clearance to accommodate modern containers on a standard rail wagon. Indeed, **there remains no suitably gauge-cleared route across the Pennines for freight services**, something that Transport for the North (TfN) identified as a priority in its recent Strategic Transport Plan (STP).

Particular areas of constraint in the SCR where conflict between freight and passenger services is expected to increase include the Hope Valley Line between Dore and Chinley, and the area around Doncaster station with the large number freight trains travelling from the Humber ports and on the ECML south of Doncaster as well as between Doncaster, Hare Park and South Kirkby Junctions on the Wakefield to Doncaster line.



### The top ten challenges with the existing rail network in the SCR are as follows:

1. Whilst Network Rail has a programme of upgrades to the ECML already underway, further infrastructure works are required in the Doncaster area
2. Only the southern half of the MML will be electrified as part of the current improvement scheme, whereas full electrification of the MML, which would be more efficient and cost-effective in the long term, remains an aspiration of the SCR
3. The Hope Valley Line provides the only Trans-Pennine rail link between the SCR and Greater Manchester, yet because of the constraints imposed by the mixed traffic on this line, it is currently only served by two fast trains and one stopping train per hour and journey times are relatively slow
4. The SCR is let down by existing rail connections to our adjacent city regions, such as Leeds and the Humber which need addressing before the completion of HS2 Phase 2b
5. Recent growth in both freight and passenger markets has put increased pressure on network capacity - this means that there is a clear need to provide greater capacity to maintain and enhance the attractiveness of rail travel as economic growth increases
6. Train performance is still below pre-May 2018 levels across the network
7. Whilst facilities at our current intercity stations are generally of a good quality, some of our local community stations fall short of our aspirations for them to be the gateway to all that the SCR has to offer
8. Passenger satisfaction levels with rail travel are falling and only 2% of commuter journeys within the SCR are currently made by rail
9. On a number of routes serving the SCR, there is limited gauge clearance which restricts the height of loads for freight trains and there remains no suitably gauge-cleared route across the Pennines for freight services
10. There is an urgent need for investment in sustainable transport to encourage mode shift from car to public transport, with up to half a million extra journeys forecast on our road network every day by 2026 unless we act.

## Future Rail Network Opportunities and Needs

**In order to address some of these challenges, it is vital that the HS2 network is aligned to complementary investment in the local network, especially the necessary improvements and works on the conventional rail network between Sheffield Midland station and Clayton Junction that will provide much of the planned NPR connection between Sheffield and Leeds at the same time.**

The planned journey time improvements with HS2 Phase 2b and NPR that the new and improved infrastructure will deliver, will ensure that the SCR is connected to its adjacent markets in a way that has never been achieved before. This will provide even more incentive for businesses to invest in, and relocate to, the City Region. HS2 will help to grow small businesses by reducing the effective distance between London-based investors and small and high-growth businesses in the SCR.

The benefits of HS2 Phase 2b will start to be felt across the SCR well before the arrival of HS2 services in 2033. There will be a gradual impact from 2023 onwards, as investor confidence begins to build and SCR residents and businesses begin to secure supply chain and employment opportunities during the construction of the new rail infrastructure.

The vision for NPR was first established through the 2014 One North report and the 2015 Northern Transport Strategy. The reports defined the journey times and frequencies for rail journeys between key cities in the North which would deliver the transformation in connectivity needed to attract businesses, investors and workers.

This included non-stop journey times between key city pairs in the North of between 20 and 60 minutes and a service frequency of four to six trains per hour to provide a seamless 'turn up and go' style of service. One North drew on the experience of similar urban regions, particularly the Randstad and Rhine-Ruhr regions of central Europe, which also have multiple key towns.

The conditional outputs for NPR provide a powerful vision of the North's future rail network and have framed the ambition for its development programme.

Through further development work, NPR has evolved in the light of the emerging evidence, changes to the HS2 Phase 2b route (which is essential to the delivery of NPR, particularly between Sheffield and Leeds) and the priorities of the North. The original journey time aspirations were 30 minutes between Sheffield and both Leeds and Manchester. The current proposals deliver a best estimated journey time of 28 minutes to Leeds (with four trains per hour) and 40 minutes to Manchester (with four trains per hour).

**As the NPR network development continues, the SCR wishes to explore all opportunities to reduce the journey times to Manchester nearer to the original aspiration, mindful of the need to consider value for money and deliverability.**



HS2 and NPR will provide fast, frequent and reliable access to job opportunities in a broader network of places without the need to relocate. As an example, someone living close to Sheffield Midland station will have the option of accessing jobs in Leeds and the East Midlands in under 30 minutes' travel time on HS2 services, in addition to improved local career opportunities in South Yorkshire. The analysis of the potential for **additional stations in the SCR that are served by HS2/NPR services identifies opportunities to boost these connectivity enhancements even further.**

However, these journey time improvements need to be matched by continued enhancements to the connectivity currently experienced on both the ECML and the MML.

Journey time improvements are also expected between Sheffield and Hull – reduced to 50 minutes with two trains per hour (via Doncaster) and the SCR would like to see a start made on the infrastructure needed to achieve these journey times in the early to mid-2020s. The opportunities afforded by both HS2 and NPR amplify the need for action on our rail network to address the challenges identified. Recent work to understand the opportunities that will be afforded in the SCR with HS2 and NPR has identified four in particular:

- HS2 and NPR will support delivery of the SCR’s refreshed Strategic Economic Plan to deliver **more productive and inclusive economic growth** so that by 2040, the SCR could be a £55 billion economy. Both projects will help connect the SCR’s people to productive jobs, its firms to national and international markets, its innovators and entrepreneurs to knowledge producers and finance. A combination of the improved strategic connectivity from HS2, NPR and better local transport can link together a series of key economic centres in the SCR and connect them nationally and internationally to create a Global Innovation Corridor.
- Through aligning land use planning, regeneration and local infrastructure interventions in the areas around the main HS2 hubs at Sheffield and Chesterfield, there is the potential to support **significant intensification of commercial and residential development**. There is a particularly significant opportunity to support the development of a larger and stronger cluster of knowledge intensive firms and jobs in Sheffield. Improvements to the main hubs will also help ensure seamless interchange between HS2, NPR and other local public transport services, and will link the stations better with their city/town centres. Allied to the main HS2 hubs, the roles of Doncaster, as a major rail and logistics hub and international gateway for the SCR, and Barnsley, with its strong connections to the Leeds City Region, need to continue and be supported, taking advantage of the opportunities along the classic rail networks of the ECML and the MML respectively.
- There is the opportunity through NPR to **transform the connectivity of Rotherham and the Dearne Valley**. New mainline stations at Rotherham and Barnsley Dearne Valley would transform their strategic connectivity, reconnecting Rotherham to the intercity rail network and achieving a step-change in accessibility to the labour markets of Leeds and Sheffield, as well as the national network. By doing so they can also provide a catalyst for accelerated regeneration and housing growth in the surrounding areas.
- **Improving local connectivity will spread the benefits** through investment in an integrated package of infrastructure to improve local connectivity to the national rail network and stations and the key economic centres. The SCR Integrated Public Transport study identified 20 corridors where connectivity improvements are important and solutions including upgrades to our intra-regional rail, tram and bus connections. Local connectivity will also depend on making permanent the innovative tram-train service, which exploits technology new to the UK, and exploring the potential for tram-train extensions using existing and re-opened rail lines, as well as potential extensions of the conventional Supertram network.

### Emerging vision for the Northern Powerhouse Rail Network



**Northern Powerhouse Rail junctions with HS2:**

- 1 Junction on HS2 mainline for Leeds – North East services
- 2 Junction on HS2 Leeds spur to facilitate through services via existing Leeds station
- 3 Junction on HS2 mainline for Sheffield – Leeds services
- 4 Junction at Manchester Piccadilly to support Northern Powerhouse Rail platforms
- 5 Junction on HS2 Manchester spur for Manchester – Liverpool services
- 6 South facing junction on HS2 mainline for London – Liverpool services

— Northern Powerhouse Rail - upgrade line  
— Northern Powerhouse Rail - new line  
— Linking Liverpool to HS2  
— HS2 line  
— TransPennine Route Upgrade  
— Existing line  
  Northern Powerhouse Rail hub station  
● Largest Intermediate Stations

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.

### Neighbourhood to Regional Hub

By walking, cycling, driving or using public transport, residents will be able to travel from their local neighbourhood to their nearest regional hub in no more than 15 minutes.

15  
MINS

### Regional Hub to Regional Hub

Using public or private transport, residents will be able to travel between the region's major centres and employment hubs in no more than 30 minutes.

30  
MINS

### Regional Hub to Major Centres

People will be able to travel from each of our main town and city centres to at least four other major cities within 75 minutes.

75  
MINS

Success will only be achieved by our ability to make the most of these opportunities in an integrated way by setting out what we want from our rail network, ensuring that HS2 and NPR really work for the City Region alongside investment in the local rail network. HS2, NPR and the continued connectivity on both the ECML and MML, will help deliver the inter-regional connections to major centres, whilst our ambitious active travel programme will help achieve the necessary local connections to/from neighbourhoods, helping to deliver the aspirational journey times set out in the Mayor's Vision for Transport.

The regional hub to regional hub connections will be delivered by an improved public transport network across the SCR, covering both rail (including tram-train) and buses. The future aspirations for the SCR's bus network will be developed through a separate implementation plan and a review of the most appropriate delivery model for our future bus network is underway. The SCR's major road network will also provide connections between neighbourhoods and the rail network, and this too will be the subject of a separate implementation plan.

There is significant evidence suggesting that station improvements, particularly those which improve the public realm, have a positive upwards impact on property prices. For example, the public realm improvements at Sheffield Midland station resulted in an increase in rateable values of business premises within a 400m radius of the station of 67% in the years following the improvements. Investment in smaller stations outside of major centres can have important localised economic effects. It is also the case that rail network and station investment provide the catalyst for additional development, complementing the initial investment. Conversely, where there is poor quality public realm and surrounding built environment, this could have a negative impact on the value and type of development realised in the future.

The rest of this Plan therefore concentrates on what we need from all aspects of our rail network.

## Objectives of the Integrated Rail Plan

Drawing on the current challenges and the opportunities afforded by planned national and pan-regional investment, the key objectives of this Plan are:

- **Improving connectivity** on a local, regional, national and international basis to support the economic growth of the SCR. This means providing faster and more frequent services, with optimised routes and calling points and **increasing the catchment of rail users** through improved access to stations, and the provision of new or enhanced stations and infrastructure linked to land use planning at an early stage.
- **Achieving greater integration**, with a focus on the total journey experience for passengers. This means providing accurate real time information and journey planning services, a seamless smart ticketing offer, and ease of interchange between modes
- Providing an **appealing travel choice**. This means clean, comfortable and reliable trains, safe and secure stations with the 'right' level of facilities such as parking and refreshments, stations that are accessible to everyone and travel at a reasonable cost
- Ensuring **sufficient passenger capacity** is provided to cater for growth and future demand. This means providing more seats on peak services.
- Supporting **rail freight** development whilst finding the right balance with securing improvements in passenger services. This means understanding the potential of the rail network to take heavy goods vehicles off our roads and planning improvements with the needs of the freight industry in mind.



It is also vital that the interventions set out in this Plan link back to the delivery of the three goals and nine key policies within the SCR Transport Strategy, as shown below.

Transport Strategy Goals	Transport Strategy Policies
 <p><b>Residents and businesses connected to economic opportunity</b></p>	<ol style="list-style-type: none"> <li>1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this</li> <li>2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this</li> <li>3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision</li> </ol>
 <p><b>A cleaner and greener Sheffield City Region</b></p>	<ol style="list-style-type: none"> <li>4. Improve air quality across our City Region to meet legal thresholds, supporting improved health and activity for all, especially in designated Air Quality Management Areas and Clean Air Zones</li> <li>5. Lead the way towards a low carbon transport network, including a zero-carbon public transport network</li> <li>6. Work in tandem with the planning and development community to create attractive places</li> </ol>
 <p><b>Safe, reliable and accessible transport network</b></p>	<ol style="list-style-type: none"> <li>7. Ensure people feel safe when they travel and invest in our streets to make them more attractive places</li> <li>8. Enhance our multi-modal transport system which encourages sustainable travel choices and is embedded in the assessment of transport requirements for new development, particularly for active travel</li> <li>9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces</li> </ol>

**Improvements to the rail network can help support all nine policies within the Strategy.**

We want our rail network to help connect all parts of the SCR to our economic growth areas, underpinning our functional labour market, and broadening opportunities to jobs and talent, while improving access to markets and supply chains for our businesses. Access to national and international markets is essential in our ever-increasing global economy and we are in an excellent position to capitalise on our existing assets to achieve this, in particular DSA, while rail improvements to Manchester, East Midlands and Birmingham airports will further increase our international connectivity.

We want to make sure that we can achieve a cleaner and greener City Region, moving towards a zero-carbon public transport network as fast as possible. Improvements to the rail network will make public transport and active travel options more attractive, which reduces congestion, improves our air quality and has a positive impact upon health.

A step-change in how people travel into, around and beyond our City Region is required if we are to reduce harmful transport emissions that degrade the quality of our air.

We want people and businesses to have confidence in using our rail network as a real alternative to the car, feeling safe and comfortable whilst doing so. We recognise that low perceptions of safety can be a barrier for older and vulnerable people using public transport. Additionally, perceptions of safety remain an important issue as some people choose not to travel in certain locations at certain times of the day. It is important that our rail network helps to offer sustainable and inclusive access for all to local services that matter to people's everyday lives, and we want all our residents to be able to enjoy the opportunities afforded by our green and recreational spaces, including the Peak District National Park.

## 3.0 Delivering The Plan

## The key component of the Integrated Rail Plan is what we intend to do to deliver upon our objectives.

The three maps in this section show, in turn:

- Interventions that are either committed for delivery, or which we need to see delivered, in the next five years
- Interventions for which we aim to complete business cases in the next five years, with the aim of these interventions being delivered from the mid-2020s onwards
- Interventions for which we will do more investigation work and develop options for, in the next five years, such that these interventions

Further detail on the interventions can be found in the appendix.

### Delivery in the Next Five Years

Over the next five years, we will work with the rail industry to ensure delivery of the required improvements to align with economic and housing plans and/or to address specific problems with our existing rail network. This includes the upgrades and improvements set out previously to:

- **ECML** – line speed and signalling improvements, power supply upgrades, closure of level crossings, and additional capacity enhancements at key bottlenecks
- **MML** – electrification up to Market Harborough and line speed improvements
- **Hope Valley Line** – additional passing loop and re-instate the second track at Dore.

At present the assumption is that the capacity constraints identified by Network Rail around Sheffield Midland station, in particular to the north of the station, will be addressed through the NPR programme, but a commitment to invest in some of the required improvements is needed sooner and delivery needs to be accelerated. We will work with Network Rail through the CMSP process to bring forward this investment.

We will seek to make permanent the current pilot of the innovative tram-train service between Rotherham and Sheffield, which exploits technology new to the UK to enhance intra-regional connectivity, aligned with the renewal of the Supertram network.

Journey time improvements on the Hallam Line between Sheffield, Barnsley and Leeds will be promoted as one of TfN's first packages of improvements to achieve the journey time standards between major centres set out in their Long Term Rail Strategy. Journey time improvements should also be implemented between Doncaster and Cleethorpes in this time period.

Our Transforming Cities Fund package will include complementary proposals for a bus rapid transit connection between Barnsley and Doncaster, the only two of the SCR's main centres not connected by a high quality rail connection at present.

The current Northern Rail franchise will see every train across the North either refurbished or replaced, and this will include the complete withdrawal of all Pacer units across the SCR by 2020.

As TransPennine Express take delivery of their new train fleet, the existing three coach trains will become available to strengthen South TransPennine Express services from Cleethorpes to Manchester Airport via Doncaster, Sheffield and Manchester Piccadilly. We expect to see six coach trains between Doncaster, Sheffield and Manchester as a result, doubling the number of seats available.

The Northern and TransPennine Express franchises will deliver overall an additional 40,000 seats on services every day across the North, with WiFi available on all services.

The newly announced East Midlands Rail Trains franchise, which will start in August 2019, will see the delivery of new trains, entirely replacing the existing intercity fleet with more reliable and comfortable trains. Passengers will also benefit from an 80% increase in the number of morning peak seats into London from Sheffield and Chesterfield, faster journey times over long distances, the introduction of improved delay repay compensation and flexipass tickets to provide better value fares.

A new Cross Country franchise was due to start in 2019, but a further direct award may be made to the current operator Arriva pending the outcome of the wider review into rail franchising. Whenever the new franchise is awarded, the SCR wants to see additional capacity on the core network between Birmingham and Leeds/York, improved rolling stock and passenger offer, an additional call at Chesterfield, and supports a reconsideration of the extremities of the network and consideration of potential re-mapping of parts of the network. This is an important franchise linking Doncaster and Sheffield to York, the North East, Scotland, the West Midlands and the South and South West, and there should be no loss of services in the future. It also currently provides the only fast service between Sheffield and Leeds, although there are plans for a new Northern Connect service within the next two years.

All rail stations should feel part of their respective communities and contribute towards the economic growth of the City Region.

Stations play a role in attracting inward investment and supporting regeneration of their wider catchment areas and should form an active part of an integrated transport system. To achieve this all rail stations, need to be accessible for all users, provide a convenient and safe environment for those who use them, and all facilities should meet their needs. Therefore, we will continue to lead a programme of improvements to existing stations focussing on accessibility, perception of safety, information and customer facilities, including supporting an increased focus on Community Rail. Community Rail activities have had a notable impact on rail passenger numbers, where affected stations and routes have seen above average growth. Community Rail is a key focus for the SCR and related projects are ongoing to help ensure social inclusion, understand and ultimately remove barriers to rail travel, working in partnership with the Train Operators and Community Rail groups.

**Over the next four years in partnership with TfN, TransPennine Express and Northern, rail passengers will see the rollout of integrated and smart travel across the North's rail network.**

The joint scheme will be delivered in three phases:

- **Phase 1** – Smartcards will allow for quicker, easier and more convenient ways to purchase rail tickets
- **Phase 2** – Improved customer information through focusing on journey planning and fares information, making it easier for passengers to find out and pay for travel
- **Phase 3** – Account based travel which will pave the way for contactless bank card payments across the North and gives passengers confidence in the price they pay for travel.

Finally, the SCR will continue to work with TfN to secure the recommendations of the Blake Jones Review into the operation of the existing Northern Rail franchise and awaits the outcome of the Williams Review into rail franchising and wider issues around how the rail network operates. As part of this, SCR wishes to see the optimum model for devolution of rail in the North implemented as soon as possible after the conclusion of the latter review.

# MAP 1

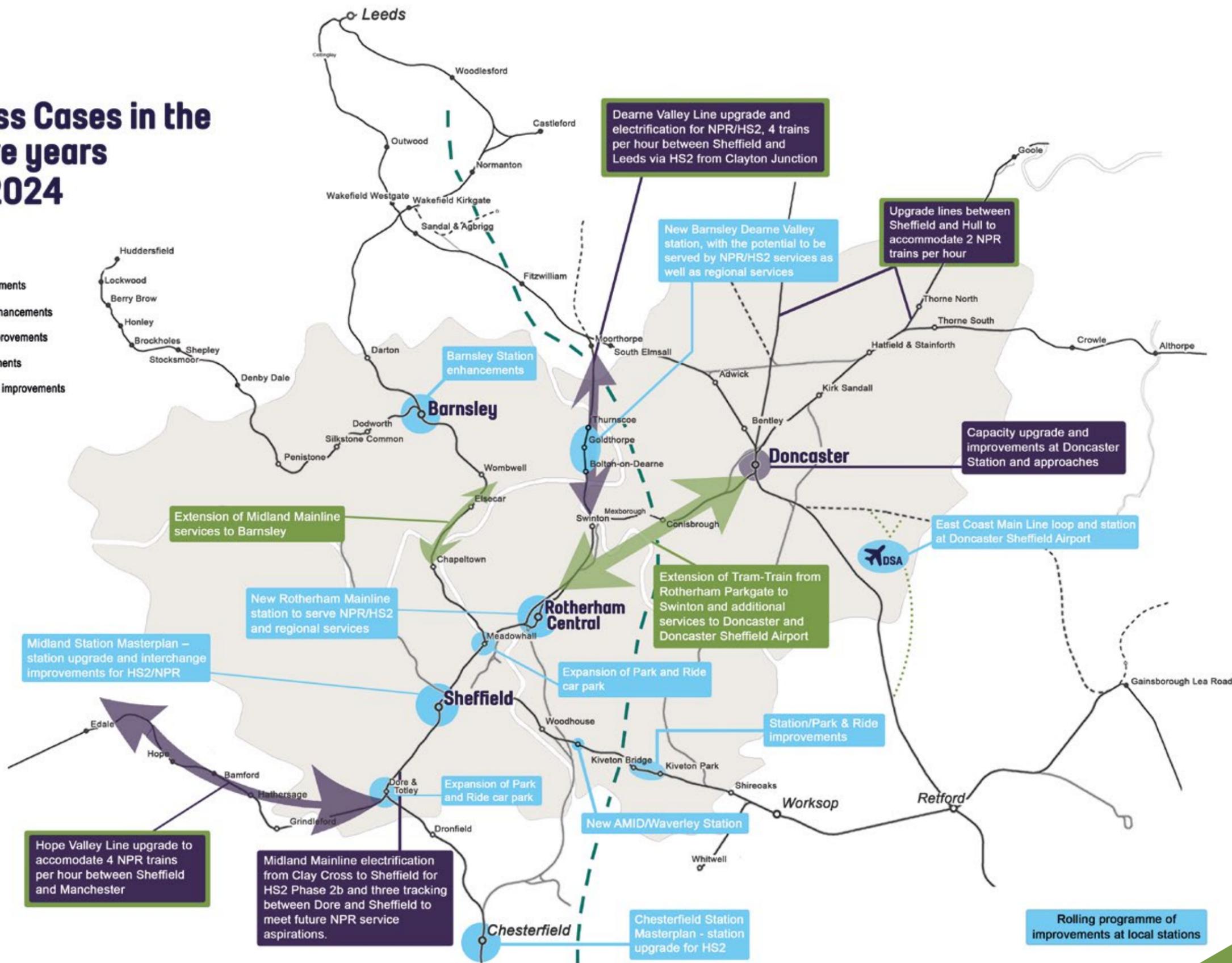
## Interventions in the next five years 2019-2024

- Service enhancements
- Infrastructure enhancements
- Rolling stock improvements
- Station improvements
- Fares & ticketing improvements
- \*TCF Subject to Transforming Cities Fund
- HS2 Phase 2b



# MAP 2 Business Cases in the next five years 2019-2024

- Service enhancements
- Infrastructure enhancements
- Rolling stock improvements
- Station improvements
- Fares & ticketing improvements
- HS2 Phase 2b



# MAP 3

## Further Investigation in the next five years 2019 - 2024



## Business Cases in the Next Five Years

In the next five years, we will work with the rail industry to complete business cases and undertake further design work on several interventions. This means that these can be delivered in the latter part of the 2020s as our economic growth ambitions start to move at pace, resulting in a need to accommodate further growth in rail passengers.

This will include continuing the ongoing engagement with HS2 Ltd on the Hybrid Bill for HS2 Phase 2b and with TfN on the further development of the Strategic Outline Business Case for NPR, which will identify a preferred concept for each of the corridors within the NPR network, most importantly for the SCR:

- **Sheffield – Manchester Corridor** (building on the early planned improvements to the Hope Valley Line)
- **Sheffield – Hull Corridor** (including capacity enhancements and improvements at Doncaster station)
- **Sheffield – Leeds Corridor** (the Northern Loop from Sheffield Midland station to the HS2 mainline at Clayton Junction).

The NPR proposals between Sheffield and Leeds include proposals for two new stations – a mainline station at Rotherham and a new station in Barnsley Dearne Valley which will have the potential to be served by HS2 and NPR services. The new Barnsley Dearne Valley Station will be linked to the direct bus service between Barnsley and Doncaster as part of the SCR’s Transforming Cities Fund package to start to address this identified lack of east-west connection between two of our four urban centres. It will also be an essential pre-requisite to improve road connections to the new station in advance of its opening, and the SCR will develop the business case to relieve existing traffic problems in the villages of Hickleton and Marr and the potential future dualling of the A635 between the M1 and the A1 linked to economic growth in the Dearne Valley.

As part of the next stage of the NPR business case work, we will work with TfN to develop proposals to extend the current tram-train network to Doncaster, helping to relieve increasing capacity issues at Sheffield Midland station and improving connectivity for local communities along this corridor, alongside the renewal of the existing Supertram network.

We will continue to support the growth of Doncaster Sheffield Airport (DSA) through enhanced surface access from all areas of SCR, particularly moving forward with the business case for a new rail connection and airport station providing connectivity to the national rail network.

The capacity issues and the need to improved facilities at Doncaster mean that an overarching masterplan relating to the development of the station and surrounding network is therefore important to prepare.

We will also develop the business case for extending London services on the MML through to Barnsley, relieving capacity issues at Sheffield Midland station and providing Barnsley with an hourly direct connection to London and the East Midlands. There will be complementary improvement works at Barnsley station to enhance this important gateway that we will define and promote within the rail industry’s programme. Full electrification of the MML also remains an aspiration of the SCR, and we will continue to press the case for this.

We will also work collaboratively with TfN, Train Operators and other partners to secure further local train service enhancements across the SCR. These will include earlier and later weekday and Saturday services and Sunday services and, on completion of the Hope Valley Line improvements, we are seeking an additional hourly service between Sheffield and Manchester and its airport by 2024.

## New Stations in Barnsley Dearne Valley and Rotherham

TfN has worked with Northern partners, HS2 Ltd, Network Rail and the Government to create a credible case for transformational investment in NPR. Through the development of the Strategic Outline Business Case for NPR, two additional stations in South Yorkshire have been identified. Offering fast and frequent access to Sheffield and Leeds for commuters and businesses, these are:

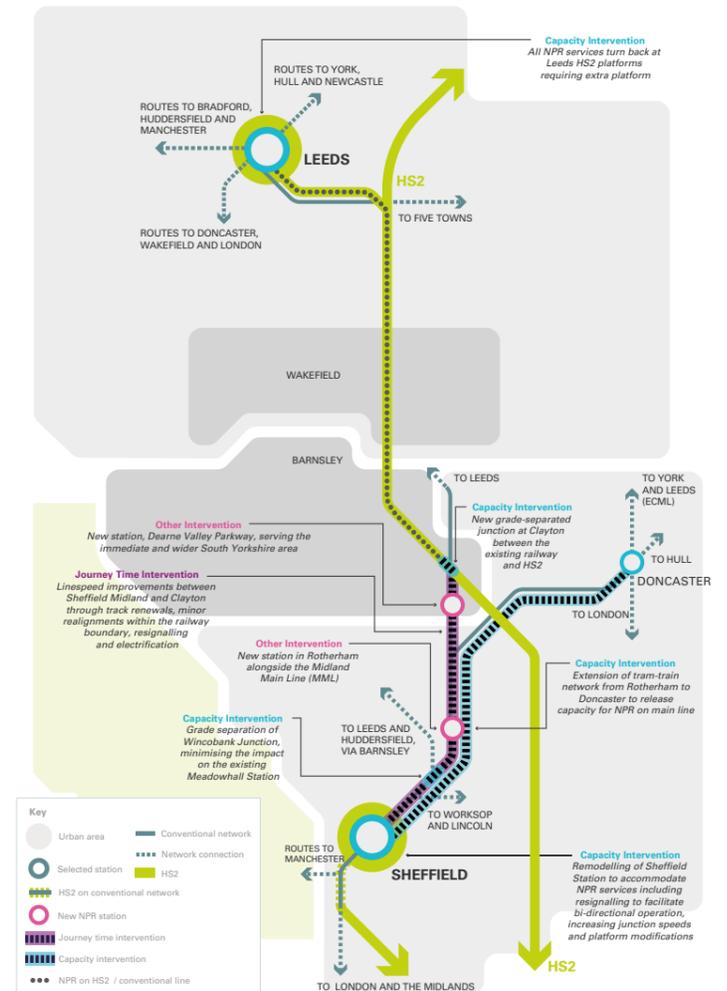
- A new station in the Dearne Valley to the east of Barnsley, at Goldthorpe
- A second new station, at Rotherham, on the mainline.

Destination	Indicative journey time from Barnsley Dearne Valley
Leeds	15 mins
Sheffield	12 mins
York	20 mins
Birmingham Curzon St	56 mins
London Euston	95 mins

Further detailed work has been carried out by Network Rail and TfN to assess the viability of the station in the Dearne Valley. Initial work on the station design at Goldthorpe has demonstrated that the new station could be constructed at a significantly lower cost than potential parkway station options that have been considered on the HS2 mainline, and offer greater benefits to passengers, without disrupting services on the main high speed line.

Barnsley Dearne Valley station will offer both attractive commuting opportunities into strong employment markets in Sheffield, Leeds and York and longer distance connectivity, including potentially to Birmingham, London and Newcastle.

Other local and regional services will also call at Barnsley Dearne Valley and Rotherham, providing local connectivity to sizeable towns including Wakefield and Pontefract, as well as intermediate stations to Sheffield, Leeds and York. As such, the proposed stations will not just benefit areas of South Yorkshire, but also areas to the south of the Leeds City Region.

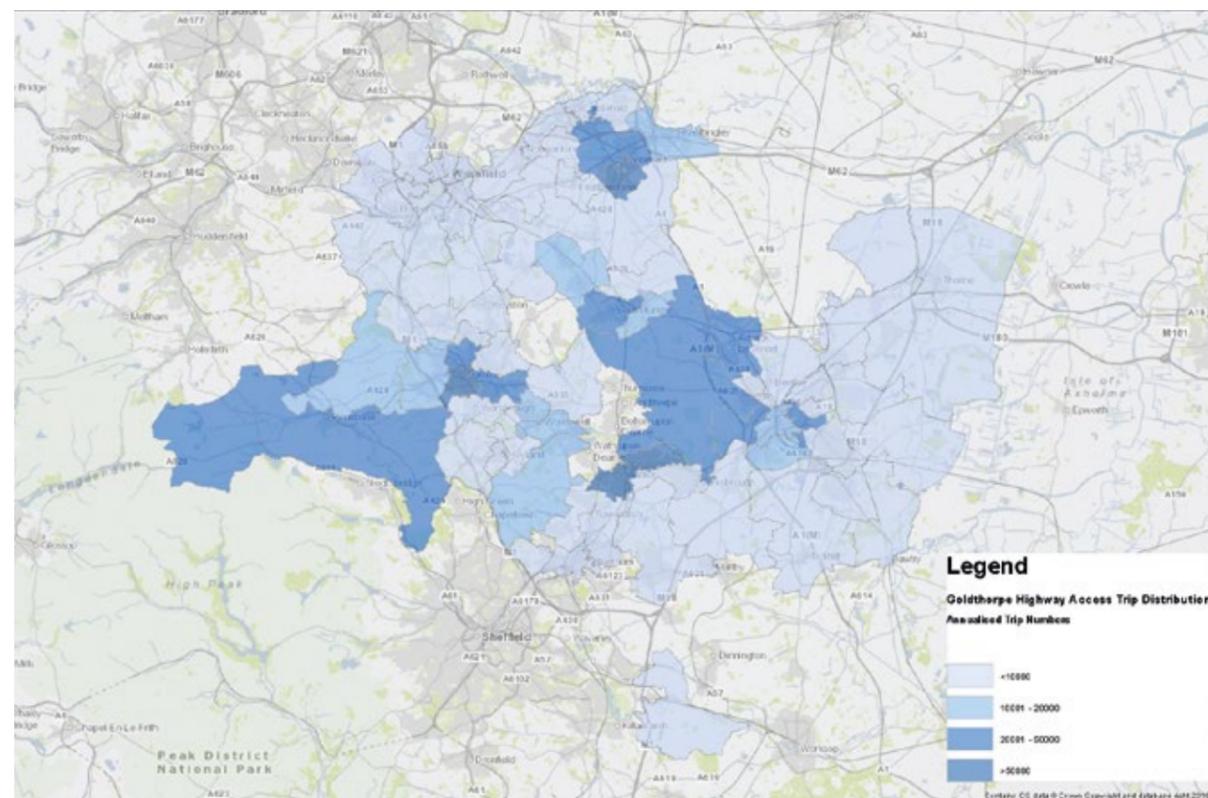


Intermediate stations are essential to growing a sustainable market for public transport in South Yorkshire – initial analysis by TfN shows how Barnsley Dearne Valley and Rotherham can grow the rail market in South Yorkshire with around 3,500 additional passengers per day at Barnsley Dearne Valley, as shown below. This will reduce the need for cars to travel into towns and cities and encourage sustainable travel, with approximately 1,000 fewer car trips per day. This initial analysis is currently being refined and tested as part of the business case work for NPR.

A new station at Goldthorpe can support ambitious local plans for housing growth in the area, create development opportunities for investment, maximising the impact of NPR and other transformational investments such as the TransPennine Tunnel proposals under development by Highways England, the SCR's own plans for direct and quick bus connections between Barnsley and Doncaster and improvements to the A635, particularly around the villages of Hickleton and Marr, which is an essential pre-requisite to the development of a new station.

The Barnsley Dearne Valley station will offer a desirable commuting opportunity from proposed housing growth sites in Barnsley and Doncaster to strong employment markets in Sheffield, Leeds and York, providing a transformative regeneration opportunity.

TfN will need to work closely with HS2 Ltd, Network Rail, the SCR and South Yorkshire partners to further develop plans for the Barnsley Dearne Valley and Rotherham stations as part of the NPR programme. SCR will also continue to explore longer-term ambitions for future stops on the HS2 mainline.



## Further Investigation Work in the Next Five Years

In the next five years, we will work with the rail industry to develop options for those interventions required to ensure that the SCR is ready for the completion of HS2 Phase 2b and the whole NPR network to ensure that we make the most of these investments.

This will include the option to investigate further improvements between the SCR and Greater Manchester, including the option for a new line should the preferred concept for the NPR network not deliver an acceptable level of journey time reduction.

The SCR will set out its ambition on how to best utilise the released capacity on the ECML resulting from HS2. The SCR will influence how this released capacity can support economic growth in Doncaster and at DSA. We will investigate opportunities to re-open disused rail lines and stations, and establish new services on existing non-passenger lines, including the Don Valley Line (Sheffield Victoria to Penistone), the Barrow Hill Line (Sheffield Victoria to Chesterfield via Beighton) and the Barnsley to Wakefield Line (via Royston). It will be important to ensure that Network Rail does not dispose of existing assets that may be needed in the future.

We will also develop options to build new stations where there is likely to be increased need, such as Waverley and Askern.

The current Northern and TransPennine Express franchises will be up for renewal from 2023 and 2025 respectively, and we will need to influence these franchises from 2020 onwards. We will collate evidence of current and future rail demand to make the case for service and capacity improvements across the SCR through the next franchise period. Examples of potential future enhancements include:

- Two trains per hour between Huddersfield and Sheffield
- Additional hourly off peak services to Worksop and Retford and faster services to Lincoln
- Faster services between Sheffield and Leeds, including extended services to Bradford
- Boxing Day services into Sheffield
- Platform extensions to accommodate longer trains.

We will also support TfN as it explores opportunities for further devolution of powers from central Government, which would enable the North to shape future franchises around its specific requirements and take greater control over the management of franchise service delivery.

In some parts of the SCR there is an issue with level crossings, which affect the operation of both the rail and local road networks, and so we will seek to work with Network Rail at a number of locations to resolve these conflicts.

A principal activity around stations will be delivering the masterplans that are being prepared for both Chesterfield and Sheffield Midland as a result of the arrival of HS2, not only including the stations themselves, but the wider area around the stations.

Further to this, land and property benefits are expected to result across the SCR as a result of HS2, NPR and other arising interventions that are expected to make the City Region a more successful economy in the future. The effect will be to increase occupier demand within these locations for both residential and commercial uses which will translate into increased volumes of development, increased densities and capital value growth. This will be felt most acutely at the stations served by HS2 and NPR, as noted in the following pages, but the SCR will pursue all opportunities to help realise local ambitions across the City Region, as also set out in the following pages.

**Occupier demand**

**Development densities**

**Rental and capital values**

**Increased land values**

**Delivery / Sales rates**

## Chesterfield Station Masterplan



Serving the south of the City Region, and already the sixth busiest rail station in the East Midlands, partners are preparing for unprecedented growth of Chesterfield station with the arrival of HS2 services.

Chesterfield sits in a prime position in the National Rail Network. Three franchises serve the station – East Midlands, Northern and Cross Country, running intercity and local trains. There are opportunities to deliver additional services in the next two-three years as new timetables and franchise arrangements emerge, and the Local Authority is working on options to improve infrastructure within the station and the wider rail network to deliver HS2 and maximise rail connections. Mixed private and public investment of around £30 million will deliver the step changes required for arrival, dispersal and destination at Chesterfield station. The newly electrified stretch of the MML and at least one HS2 service per hour offers London in 73 minutes, East Midlands Hub in 16 minutes and Sheffield Midland in 12 minutes. The fastest onward journey time between East Midlands Hub and Birmingham will be 20 minutes, whilst from Sheffield Midland to Leeds it will be 27 minutes.

Ambitious plans for parking, facilities and multi-modal transport will be at the heart of this. A Station Masterplan with ten outcomes that strengthen, connectivity and place making, and arrival has been prepared.

If the objectives of the Chesterfield and Northern Derbyshire HS2 growth strategy work are fully achieved the project could be worth around £1.5 billion in increased GVA to the area's economy. Developing the station area as per the Masterplan would create up to 860 jobs, bring road transport benefits of up to £25 million and see the creation of around 9,000 sq m of Grade A 1 offices, a 150 bed hotel, 950 sq m of ancillary retail and leisure space and around 1000 new homes, student accommodation and apartments. This development would be additional to the neighbouring £340 million Chesterfield Waterside Development which would also be accelerated by the project.

A National Cycle Network route runs adjacent to the station and out to the infrastructure maintenance depot at Staveley. The Barrow Hill line also offers a further pathway which could connect to Chesterfield. Public transport improvements are a key feature of the North Derbyshire Manufacturing Zone.



## Sheffield Midland Station Masterplan



Sheffield Midland Station Integrated Masterplan (SMSIM) will be at the heart of the transformation of Sheffield city centre and the SCR over the next 20 to 30 years, capitalising on the catalytic effects of HS2 and NPR, it will set the aspirational level for future transformational growth in the City.

Sheffield city centre is the principal business, transport, educational and cultural engine of the City Region. Knowledge intensive businesses gain from the proximity and environment that the city centre offers, and there is broad consensus that improved connectivity from high speed rail has a number of important economic benefits to businesses in these sectors due to agglomeration and productivity increases.

The need to increase the supply and quality of new homes across the city is an urgent priority. Park Hill and Norfolk Park are highly attractive and increasingly popular inner city neighbourhoods, and improvements to the environment and services at the station should make these areas even more attractive places to live, whilst there are also several sites within a 5-10 minute walk which would be attractive for significant numbers of new homes as well.

Clearly investment in new stations and the associated place making and regeneration can create new city districts and high quality commercial and residential floor space. There is a significant amount of land in public sector ownership in the vicinity of the station. Sheffield Hallam University is the largest landowner within the area and is preparing a new strategy for investment in its City Campus. A strategically co-ordinated approach to land and property will drive greater outcomes.

The SMSIM seeks to achieve three objectives which encapsulate several more detailed aims:

### 1. Establish the blueprint for a high quality and efficient passenger interchange.

- A transformational gateway: to the city, the City Region and the North, a station that is a modern, efficient, convenient, attractive and a safe place to travel from and to, encouraging greater economic growth than could be achieved by HS2 alone
- A multi-modal hub: efficient, convenient, attractive, safe interchange – local and regional connectivity aspirations integrated provision for taxis and sustainable modes
- A destination in its own right: generating substantial income from shopping, eating and drinking, community facilities, business services and as a place for events for the city as well as for visitors
- Mixed-use development: identifying opportunities in the 'station campus' as well as complementary development at strategic sites in the surrounding area
- High quality and permeable public realm: logically arranged, legible, beautiful, and elegant, unifying cross-valley pedestrian and passenger networks.

### 2. Maximise economic, social and environmental benefits in and around the station.

- Maximise economic benefits and capacity for growth: for the City and the SCR, well-connected regionally and nationally to support the SCR Strategic Economic Plan and Sheffield City Council City Centre Plan, enabling an expanded central business district
- Reconnecting the city centre, the station and adjacent residential communities: new pedestrian thoroughfares through the station and on its approaches, and high quality public spaces that promote the best of contemporary design, reflecting the traditions of Sheffield and its history as well as expressing its aspirations as a city at the heart of the North.

### 3. Shape an ambitious and phased strategy for delivery to maximise short, medium and long-term benefits.

- Phased delivery: giving consideration to consents, funding requirements and sources as well as delivery vehicles which will actively promote early and tangible changes that symbolise the start of something new at the same time as medium and long term phases
- Visionary yet pragmatic: craft an approach that makes the plans ambitious whilst at the same time affordable and deliverable, managing the impact on existing services, to maintain operational continuity, as much as possible.

Work to date has focused on identifying priority constraints and opportunities which influence the development options which are available in the area.

These include:

- Existing tram and highway networks already operating at capacity, with complex junction arrangements in the surrounding highway system
- Poor connectivity of tram, rail and bus facilities to the wider city centre due to severance, which is the product of natural land form and historical infrastructure planning and urban design
- Constrained and therefore inadequate provision of taxi and 'pick up and drop off' facilities at the station
- Weak legibility and wayfinding combined with fragmented and severed pedestrian and cycle networks
- Poor environment and outdated 'historic' urban form in certain locations.



The final stage, which will conclude in the summer of 2019, will develop in greater detail a preferred option which can be delivered in phases. Emerging proposals could include:

- Opportunities in the shorter term to improve tram capacity and connectivity as well as better integrating bus service provision
- In the longer term, potential to reduce the impact of the Inner Relief Road in front of the station in order to remove significant severance between the City Centre and the station, and hence prioritise and facilitate pedestrian and cycle movements in the area
- Identification of major new development areas that will be unlocked by provision of new infrastructure.

The SMSIM will identify how to overcome current constraints whilst planning robustly for the long term future in respect of transport and connectivity whilst also establishing a transformational sense of place which will open up new neighbourhoods and high quality employment areas.

## Barnsley



Barnsley town centre is undergoing a radical transformation which will reinforce its position as a key urban centre within the City Region. The £180m Glassworks scheme delivers a new retail, leisure and community offer in heart of the town. This is further complemented with the diverse cultural offer available within Barnsley underpinned by the strategic development of additional sites including the Barnsley Digital Campus complex. Enhanced rail connectivity will be a key element of this regeneration activity with the passenger interchange being at the centre of all strategic sites. Providing high quality and reliable inter-regional rail services to those who wish to work, shop and experience the diverse offer available within Barnsley is a critical success factor for the town.

Barnsley has an adopted Local Plan and an ambitious wider growth strategy which supports the delivery of 20,000 new homes and will act as a catalyst to stimulate the delivery of 220 hectares of employment land by 2033 bringing forward more and better jobs into the regional economy. This is underpinned with a clear Rail Vision for Barnsley that will assist us to maximise public and private sector investment, unlock the growth potential of Barnsley and realise local and City Region growth aspirations which include:

- Strengthening the Barnsley Dearne Valley contribution to the SCR Growth Areas, including the Global Innovation Corridor and delivering national objectives for connectivity investment to re-balance the national economy and maximise the power of the North's economy
- Promoting a significant uplift in land value in the Barnsley Dearne Valley economy to stimulate strengthening of private sector investment
- Overcoming the recorded acute transport poverty of the Dearne Valley Built Up Area economy (second most populous Built Up Area in the SCR and tenth most populous Built up Area in the Northern Powerhouse).



### Short term, this will involve:

- Line speed improvements on the Hallam Line, prioritising feasibility works to increase capacity between Huddersfield and Sheffield, improving the network capability and passenger appeal, increasing the overall rail capability within the Borough, improved rolling stock and improvements to station facilities.
- A new station in the Barnsley Dearne Valley area that has the potential to be served by HS2 and NPR services. This will be a major uplift in the connectivity of the Borough, allied to the extension of MML services to give Barnsley direct intercity connections once more. There is a need to develop a masterplan for the new station and associated strategic transit/sustainable transport access solutions in line with the planned investment.

### Longer term aspirations for Barnsley include:

- Dearne Valley rail connectivity access eastwards to Doncaster and DSA with options for additional direct services to Hull and Humber destinations
- Re-introducing passenger services on lightly used freight lines (such as the line from West Green north to Wakefield and Normanton)
- Re-instating former disused rail routes between Deepcar and Penistone and West Yorkshire via the Hallam Line connection to a re-instated Crigglestone Viaduct, such that by 2033 Barnsley will be connected to direct rail services on the high speed and intercity networks and have new rail infrastructure to link key locations within the SCR together with new and enhanced stations to support better quality and more frequent rail services.

## Doncaster

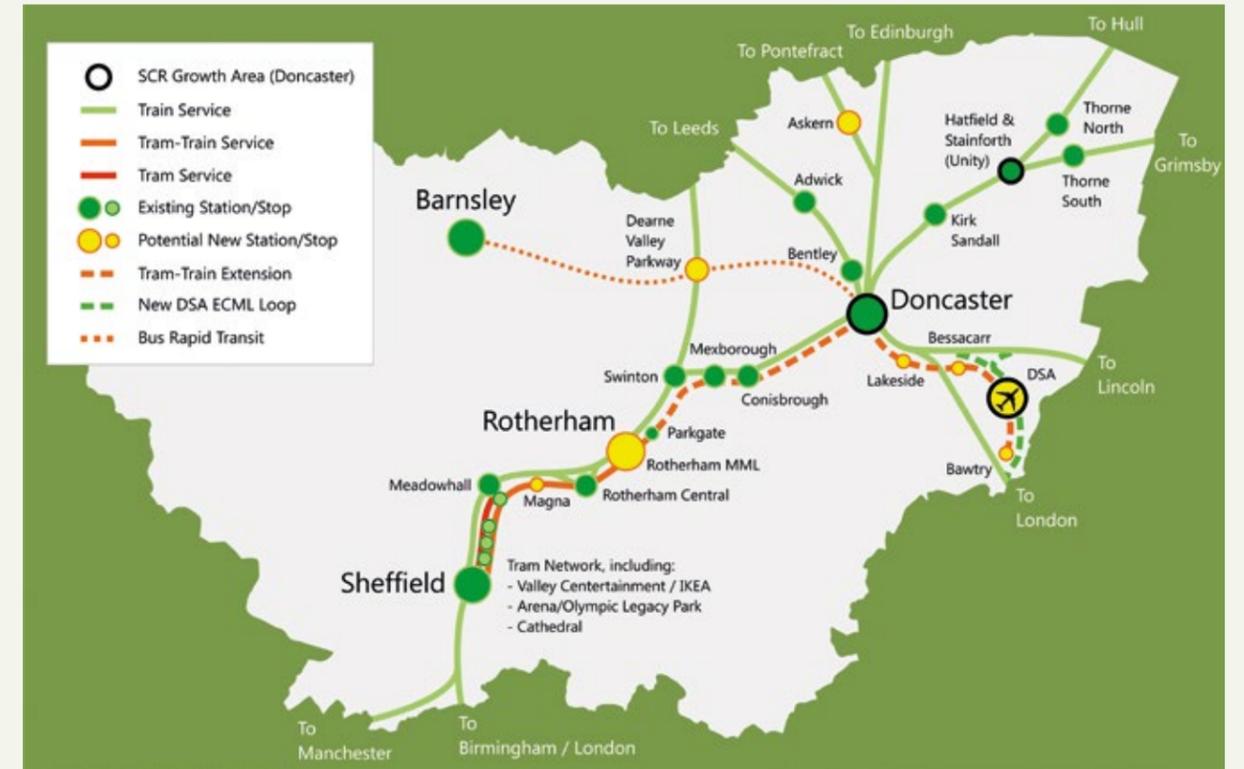


Doncaster has a fast growing economy with a strong pipeline of major development sites, including three SCR priority growth areas: Doncaster town centre, DSA and the Unity Project. These hubs are central to Doncaster's economic vision, which will deliver 26,000 new jobs, 13,800 new homes and contribute an additional £2.6bn per annum in GVA over the next 15 years.

Due to Doncaster's dispersed geography and location, high quality rail services are vital to achieve these growth ambitions and ensure that local communities can access social and economic opportunity. Doncaster is a historic railway town with an extensive rail network, including the ECML, nine stations and direct connections to 104 destinations. However, some of Doncaster's community stations are poor quality and the rail network around Doncaster station suffers from significant capacity issues.

Our short term priorities include implementing a comprehensive programme of enhancements to existing community stations, delivering improvements at Doncaster station and on the surrounding network and developing a Barnsley to Doncaster bus rapid transit service through the Transforming Cities Fund bid.

At the heart of Doncaster's long term plan for rail is the development of a new station and loop connecting Doncaster Sheffield Airport (DSA) to the ECML and the Lincoln Line. This will significantly enhance surface access to the airport, which has capacity for 25 million passengers and 250,000 tonnes of cargo per year. Growth around the airport will deliver 4.5 million sq ft of employment space and support the construction of 8,500 new homes. A new ECML station will transform the public transport catchment of the airport and deliver a strategic park and ride site, as well as offering access to the nearby Yorkshire Wildlife Park. The integration of extended tram-train services at this station would provide further regional connectivity and help to deliver a 'turn up and go' service between Doncaster and DSA, enabling the airport and town centre to act as a single growth pole.



Doncaster's Urban Centre masterplan sets out our ambition to re-purpose the town centre to become a prime location for business and residential growth, helping diversify our economy and improve economic resilience. Protecting and enhancing rail connectivity is vital to deliver this plan, which includes the development of 14 acres of office and commercial space, and more than 2,000 new homes.

Doncaster's ECML connectivity is vital to these developments. Although the new Azuma trains come into service in 2019, further network improvements are required, including the potential development of new platforms at Doncaster station. The proposed construction of HS2 would release capacity on the ECML, which can enable improved intercity services to Doncaster and DSA. We will work to maximise this opportunity, including strengthening services on the important Doncaster to Leeds corridor.

In the north of the borough, enhanced rail access will support the development of 3,100 new homes and 180 acres of commercial space at the Unity site, which has the potential for rail freight. Improved rail services can also provide important access to large employment sites in Thorne and Adwick. Connecting our residents to these opportunities is vital.

We will therefore explore delivery of a community station at Askern and the potential to provide new connectivity in the south of the Borough, through the proposed tram-train extension to DSA. We will also seek to improve service frequency at community stations wherever possible.

## Rotherham



**As set out in the Rotherham Economic Growth Plan, our economic vision for the borough is based on creating an economy in which business will prosper and local residents will have the enterprise and employment opportunities which reflect their ambitions and skills. This vision will provide the assurance for businesses to invest for the long term, building on local strategic strengths and tackling our underlying weaknesses.**

Rotherham is an important contributor to the SCR economy with sectoral specialism in a range of key and emerging industries within the private sector, and the borough will play a greater in retaining and attracting high GVA industries in the Advanced Manufacturing sector as part of the SCR's growth plans. As a consequence of Rotherham's commitment to support the Advanced Manufacturing sector and its supply chain, the areas around the west and south of the borough contain important clustered centres of economic activity and specialisation. These employment opportunities are important for the borough and have complex and often bespoke set of transport needs.

The adopted Local Plan has 14,000 new homes and 235 hectares of employment land up to 2029. The majority of this is focused around existing settlements which would benefit from improved regional and local rail connections given existing commuter flows out of the borough, in particular through the provision of new stations in the Dearne Valley and at Waverley.

Rotherham has not benefited from intercity rail connectivity since the late 1980s when Masbrough station was closed. Currently, local connections to Sheffield and Doncaster are available with an hourly, hour long service to Leeds. Restoring the provision of fast, reliable and high quality intercity connections allied to a new station on the mainline rail network, would fundamentally transform the developable proposition of companies seeking to invest in Rotherham. A new mainline station in the central Rotherham area, developed with a suitable masterplan, will ensure that the area plays an important economic development role for the City Region.

The tram-train pilot is already proving successful. As part of a package of permanent measures, it is critical to offset any potential disruption derived from the construction and operation of HS2.

Through the Transforming Cities Fund package, the current tram-train trial will be complemented by a park and ride at Parkgate and a supporting connectivity package including walking and cycle route as well as potential bus service integration. This will be an integral part of Rotherham's multimodal transport solution which will help enable economic growth in and out of the borough as well as promoting non car-based trips to support the Clean Air Zone mandate. Making the tram-train permanent and extending connections to Doncaster and DSA is crucial to achieving this.



Travel behaviour from and to the Advanced Manufacturing Park (AMP) and Waverley New Community is dominated by the private car placing significant stress on the local and strategic highway network. The growth that has been realised at this location over the past ten years has now created the critical mass for a larger scale public transport intervention which can help support the future growth and mitigate rising local congestion.

### Short term priorities

- The permanent operation of tram-train services between Rotherham and Parkgate, and Rotherham and Sheffield
- Park and ride expansion at Parkgate
- New tram-train station and associated park and ride facilities at Magna
- The development of a business case to support a new station at Waverley
- The commitment from NPR to deliver a mainline station which secures connectivity to intercity rail services – this would be supported by a comprehensive masterplan incorporates connectivity improvements.

Longer term aspirations for Rotherham include improved southern access to Rotherham Central (tram-train), tram-train extensions to Waverley and other residential areas such as Bassingthorpe Farm, and park and ride/station access improvements at the Kiveton stations.

### Medium to long term priorities

- Regional tram-train services to be maximised through Rotherham Central, with direct fast services to Doncaster, DSA and Sheffield
- The delivery of a mainline station with intercity rail services
- The delivery of a train station at Waverley on the Sheffield to Lincoln Line
- The introduction of tram train services to Waverley and the AMP as well as other strategic housing allocations across the borough
- Station improvements at the Kiveton stations, including new parking facilities, information enhancements and accessibility improvement.

## Sheffield



Sheffield is a city undergoing significant change and growth, which has seen a doubling in the number of passengers arriving into the city centre by rail since 2001. With major new developments including HS2 and NPR, coupled with an expanding city – the Sheffield Plan identifies over 2,000 new homes to be built each year to 2035 – it is anticipated that strong growth in rail use will continue.

Working with key delivery partners, we will ensure that the benefits of these transformational projects are realised in the city including putting in place the infrastructure and services to connect HS2 and NPR to the wider city and the SCR. However, through Network Rail's Continuous Modular Strategic Planning work in the Sheffield area, it is clear that to accommodate planned franchise commitments and improve network performance in Sheffield, significant infrastructure enhancements are needed to provide the required capacity on the classic rail network to ensure that Sheffield and its immediate rail network will be ready for HS2 and NPR, maximising the value of this investment by improving access to key employment areas by public transport.

To unlock growth potential, Sheffield is keen to work with partners to make better use of existing rail routes for both passengers and freight to exploit opportunities for freight to be moved from road to rail, improve access to the rail network for manufacturers and support improvements to passenger services.

Options for expansion of tram-train, building on the successful trial, will arise as we assess the most appropriate mass transit options for the city's key transport corridors. Our first priority is Sheffield – Advanced Manufacturing Innovation District (AMID) – Rotherham and other priority corridors include:

- Upper Don Valley, Chapeltown/High Green to Sheffield via Meadowhall, Northern General Hospital (NGH) and/or Hillsborough
- Meadowhead to City Centre
- A north orbital connecting Hillsborough to the NGH, Meadowhall and AMID
- A new service to the south east of the city from Handsworth, Woodhouse and Beighton, possibly with a spur to Aston and Aughton
- Improved direct service between the West and South West, the City Centre and the Lower Don Valley and Meadowhall.



The mass transit proposals will be integrated with proposals for onward routes to connect to other parts of the SCR. Our priority corridors align with potential mass transit routes from Sheffield to Rotherham, Doncaster and DSA, Hoyland and Barnsley, and Dronfield and Chesterfield. Such a major rail capacity uplift, allied to the electrification of the MML, will result in a better environment and air quality on the Sheaf Valley corridor, the station area and the city centre itself in accord with our proposed Clean Air Zone. This will enable us to meet national air quality regulations.

Working with partners in the SCR and Network Rail, we will consider new rail opportunities on the Sheffield to Lincoln and Rother Valley lines, exploring options for improved rail connectivity between the City Centre and Waverley and the Advanced Manufacturing Park, Beighton, Sothall, as well as Aughton and Killamarsh and on the Don Valley Line between Victoria and Penistone. We will also look at opportunities for new local services, perhaps including further roll out of tram-train, as well as options for new stations and access to existing and potential stations, including park and ride and cycle routes. Further work is also proposed in respect of the lines to Wakefield, including opportunities for additional services and stops in the Lower Don Valley, Rotherham and the Dearne Valley, all aligned to the economic growth plans of the SCR.

## Doncaster Sheffield Airport New Station and Rail Link



Doncaster Sheffield Airport is a key strategic asset for delivering the targeted growth of the SCR and surrounding areas. The airport and its site are further capable of being a major economic hub and international gateway for the East side of the Pennines between North London and the North East of England which is currently underserved.

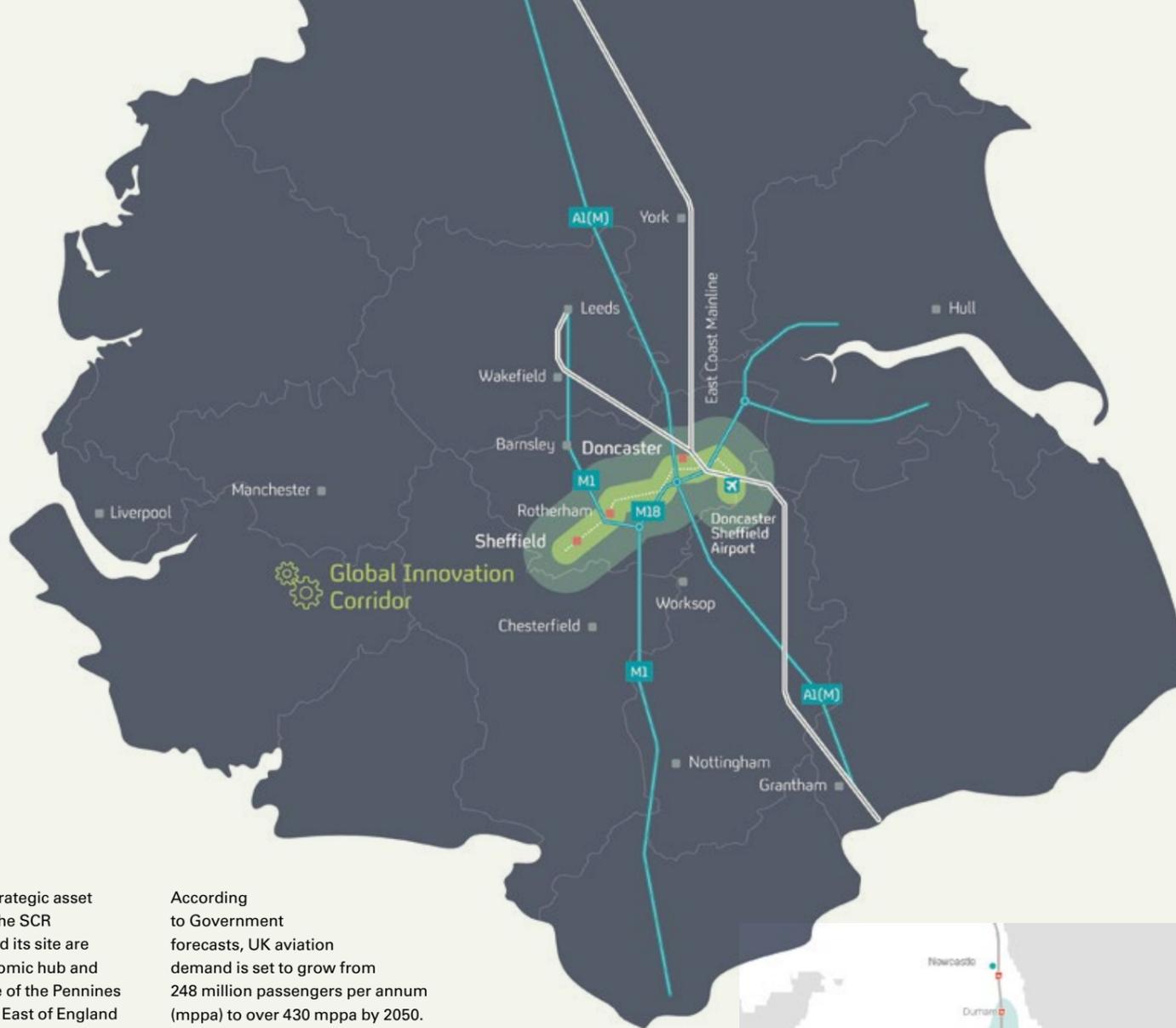
As an SCR growth hub, the airport acts as one of the two main economic catalysts of the emerging Global Innovation Corridor in the SCR. Its development provides a short term deliverable solution towards current policy challenges whilst unlocking a centre of long term and sustainable economic opportunity for residents and businesses.

DSA fully realised can handle 25 million passengers a year and 250,000 tonnes of cargo, the equivalent of London Stansted Airport. Today, with passenger and cargo levels growing rapidly at 1.25 million people and 18,000 tonnes per annum respectively, the airport supports 1,000 jobs, generates £62m GVA per annum with over 100 businesses located on the airport's site. Passenger traffic is expected to grow by around 25% to 1.45m passengers in 2019/20 and has grown by around 80% over the last five years.

According to Government forecasts, UK aviation demand is set to grow from 248 million passengers per annum (mppa) to over 430 mppa by 2050.

These forecasts demonstrate that regardless of the planned expansion at Heathrow, pressure will continue to grow and that there will be at least 50 mppa overflow from London and the South East to other parts of England. Demand in the North is itself expected to more than double in this period. DSA is more than well placed to accommodate this demand, with the fifth largest catchment area for UK regional airports with excellent motorway connectivity and runway infrastructure.

The airport's proximity to the ECML offers a deliverable short term solution to accelerate the growth hub's impact. Doncaster Council, the SCR and the airport's owner the Peel Group are working alongside Network Rail and TfN to progress delivery of a new ECML station at the airport's site, through just 4.5 miles of new track off the mainline and rejoining via the existing Doncaster - Lincoln Line running adjacent to the top of the runway.

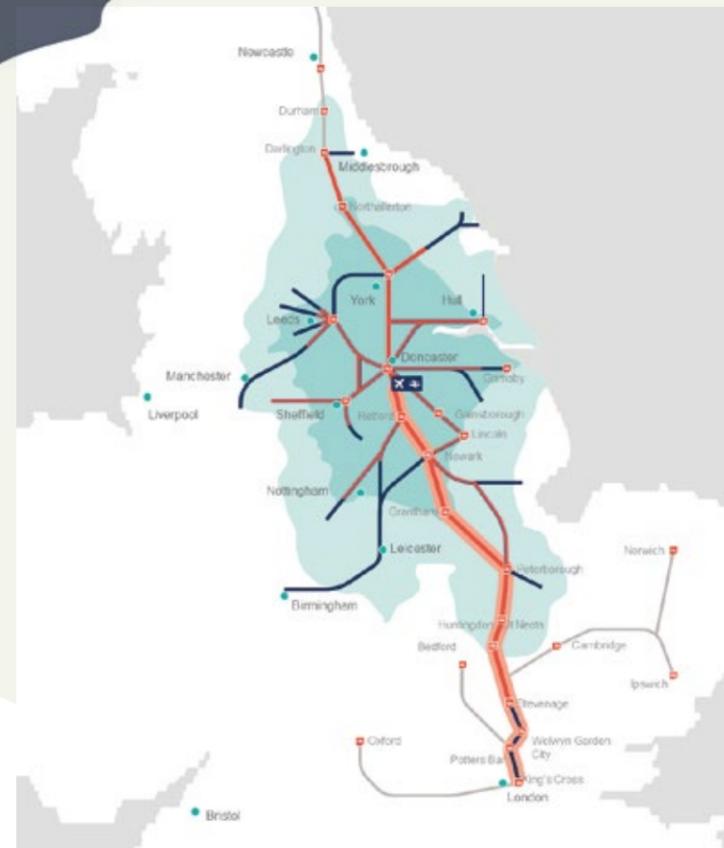


Rail surface access of this magnitude would more than treble the number of people within 90 minutes rail journey of DSA's site from 2.4 million to 8.8 million people, enhancing passenger catchment access making further long haul destinations viable and as an extended labour market able to access the SCR.

Regional services can also be extended to allow for services from other centres like Sheffield and Rotherham, alongside a possible tram-train extension to DSA.

The delivery of a station at DSA would help create the following opportunities:

- The station scheme alone is forecast to create 16,500 jobs – around the airport site sits 4.5 million sq ft for employment space and community facilities, with DSA's full site capability realised, 72,000 jobs and £3.2bn GVA per annum across the SCR would be created
- 550 new houses have been constructed on the airport site in recent years, with the strategic business case for the ECML station showing that development of an initial 8,500 new homes would be accelerated within the vicinity of DSA
- Greater access to sustainable travel to the airport whilst also reducing emissions and environmental impact from unnecessary travel outside the SCR and wider region – currently some 13,500 people per day travel to airports in the South East and 18,500 per day travel to the North West from the North East, Yorkshire and the Midlands.



## Integrated Rail Plan Timeline



# 4.0 Measuring Success

## 4.0 Measuring Success

The Transport Strategy states that any interventions brought forward will be judged against the three goals set out previously and the success criteria that flow from them, as shown below.

Goal	Success Criteria (by 2040)
 <b>Residents and businesses connected to economic opportunity</b>	<ul style="list-style-type: none"> <li>a. Contribute towards increasing GVA in SCR through increasing the number of economically active people living within 30 minutes of key employment locations and universities by public transport</li> <li>b. Better frequency of rail service between Sheffield and Manchester/Leeds - at least four fast trains per hour, with a target 30 minute journey time to/from both and a local rail network that meets the agreed minimum standards</li> </ul>
 <b>A cleaner and greener Sheffield City Region</b>	<ul style="list-style-type: none"> <li>c. Increase productivity through reducing delays on our transport network</li> <li>d. Increase trips by 18% bus, 100% rail, 47% tram, 21% walking and 350% cycling and manage the increase in private car/van/goods trips to 8%</li> <li>e. 95% public opinion that our local transport choices feel safe</li> <li>f. Reduction in reported casualties of 4% per year</li> </ul>
 <b>Safe, reliable and accessible transport network</b>	<ul style="list-style-type: none"> <li>g. Eliminate AQMAs in our City Region and comply with legal thresholds to achieve compliance in the shortest possible time</li> <li>h. Reduce tailpipe carbon emissions in line with targets for the UK and have a zero-carbon public transport network by 2040</li> </ul>

This Plan aims to improve conditions for growth, help to create and attract businesses, improve access to talent and a wider range of employment opportunities. SCR businesses will be able to draw on a wider labour pool when recruiting, leading to more efficient matching of labour demand and supply, and SCR residents' access to employment opportunities in labour markets will become more accessible.

Economic modelling indicates that, even allowing for displacement and leakage, HS2 and NPR will stimulate significant economic growth in the SCR over the next 30 years. An additional 24,000 jobs (FTEs) could be created, contributing £13.6 billion in Gross Value Added (GVA) in 2018 prices, to the economy under a high growth scenario.

The enhanced connectivity provided by HS2 at Sheffield Midland and Chesterfield stations is expected to generate an economic benefit to the SCR of £970 million in agglomeration and labour market impacts over the same period, based on the existing SCR transport network. These benefits primarily arise from the existing and future workforces being more productive with faster and more frequent transport connections.

Factoring in new stations at Barnsley Dearne Valley and Rotherham, this benefit increases to over £1 billion, based on an assessment of the connectivity between the growth areas and urban centres identified across the SCR to wider destinations served by HS2 and NPR. These benefits will increase even further with the enhanced local connections being promoted through this Plan.

The full benefits of HS2 and NPR will not be felt until 2033, when HS2 Phase 2b is operational, but there will be a gradual impact from 2023 onwards, as investor confidence begins to build and SCR residents and businesses begin to secure supply chain and employment opportunities during the construction of the new rail infrastructure. That is also why this Plan identifies not only interventions that need to happen within the next five years, but also those where business cases need to be prepared so that we have a pipeline of rail investment that can maximise these supply chain and employment opportunities.

The economic analysis indicates the potential for considerable impacts within close proximity of the main rail hub stations – Sheffield Midland and Chesterfield (HS2) and Rotherham and Dearne Valley (NPR). The effect will be to increase occupier demand within these locations for both residential and commercial uses which will translate into increased volumes of development, increased densities and capital value growth.

In order to maximise the land and property impacts, it will be important that measures are put in place to facilitate land assembly and release and other interventions to support the improved connectivity. This could also include accelerating housing growth near main transport hubs, aligning regeneration, housing investment and planning policies with the strategy for improving the transport network.

There is also the potential for increased inward investment, tourism and visitor spending, widening access to main cultural and tourism attractions across the SCR, including Chatsworth and Wentworth Woodhouse, and using the stations served by HS2 and NPR as sustainable entry points to the Peak District National Park.

In terms of sectors, HS2 and NPR will have a major impact on white collar employment, much of it higher skilled and well paid – professional and other private services, finance and insurance, and information and communications including digital industries. Whilst the employment impact is less pronounced in other sectors, there is likely to be a productivity uplift in other sectors which will benefit from access to markets and a wider labour pool, including:

- The procurement of billions of pounds worth of supply chain inputs, ranging from building materials, to rail components, to IT systems
- The job opportunities in rail engineering and construction required to build the new rail infrastructure, and then maintain the network once operational
- The construction opportunities arising from the scale of development activity which is expected to occur around the station locations as HS2 stimulates economic growth in specific sectors and leads to an uplift in demand for commercial property.

Despite recent improvements, the qualifications held by SCR residents compare poorly with many other areas. Compared to England as a whole, a larger proportion of SCR workers hold no or low-level qualifications (40.1% compared to 34.6%), and smaller numbers hold the qualifications at level 4+ (32.5% compared to 38.3%) which are expected to be increasingly in demand as SCR's economic transformation continues.

Educational attainment is improving from a low base, but around 6,500 young people per year leave education at age 19 without a Level 2 qualification in Maths or English, limiting opportunities to obtain the higher level skills and qualifications which will be required for success in the economy of the future. Commuting data shows that the SCR struggles to attract workers from outside the area, making the local skills base even more crucial to business and economic success and ensuring inclusive growth.

A package of employment and skills and business support initiatives can help SCR people and firms access and exploit the job and commercial opportunities that will be created by the interventions in this Plan. The projects will bring new jobs within reach of SCR residents, but also increase competition for jobs within SCR as employers gain access to a larger potential workforce. A wider pipeline of rail investment will create new job opportunities within the rail sector alongside the job-replacement requirements as the existing ageing rail workforce retires.

Delivery of both projects is dependent on the skills system generating sufficient appropriately skilled workers, both to meet the increase in demand and to replace the high number of workers who will retire from relevant occupations by the time that they are operational. The potential for skills shortages to act as a constraint on infrastructure investment has been recognised nationally and actions have been taken, including the establishment of the National College for High Speed Rail (NCHSR) in Doncaster and Birmingham.

The NCHSR is one part of the response to the changing skills needs within the rail sector (also seen in engineering and construction more generally) – an increasing need for higher level skills, the growing use of digital technology and rise of automation, and a need to appeal to a larger workforce. More generally, the Government has committed to invest in improving STEM skills, providing better technical education and supporting people to retrain.

There is also a need to engage and inform the future workforce, ensuring young people and those who advise them, plus adults who may be interested in a career change, have access to an impartial system which provides up-to-date and engaging information about future work opportunities (in STEM and non-STEM related sectors) and the pathways to employment. A package of support for SCR firms in the rail supply chain can help them access the significant and growing market for rail related manufacturing and services.

Supporting inclusive growth, connecting people with jobs, raising awareness of the range of opportunities that will be created in the rail and transport sector, and wider opportunities that will be brought within reach by rail investment, and enhancing their skills to access them is a core part of the SCR's economic plans. Such opportunities will only be available to all of the City Region's residents through the wider rail improvements set out in this Plan.

A combination of the infrastructure, service and rolling stock interventions that we have set out will move us towards a reliable and resilient 'turn up and go' rail network across much of the SCR that takes people where they want to go and at a time that they want to, or need to, travel. Services will show a marked reduction in the Passengers in Excess of Capacity standard, addressing existing peak time capacity issues and allowing for future growth.

This will meet the minimum standards that we have agreed for the North's local rail network but will involve interchange as well as direct connections. However, improved interchange will be helped by the upcoming investment in better information and through ticketing, that will take away the uncertainty around whether a train will turn up on time and how much a journey will cost – factors that can discourage people from using public transport.

Enhancements to the station facilities across the network so that it is safer and more accessible will also help reduce existing perceptions around safety that are influencing the way people decide to travel. We want to see the recent trends of increased numbers of passengers at the SCR's rail stations continue alongside a positive shift in public opinion around how safe they feel using our public transport network.

Investment in the SCR's rail network will be supported by the planned investment in active travel infrastructure that links home and communities to our rail network through our Transforming Cities Fund programme, giving people across the SCR a real choice to use the rail network as part of their everyday travel requirements. Improving the 'whole journey' will help us attract people away from the private car, moving towards meeting the air quality and casualty reduction targets set out in the Transport Strategy.

These targets will also be met by moving heavy goods vehicles off our roads, particularly in the Peak District National Park, whilst supporting our growing logistics economy in the SCR. Success will be the continued investment in the SCR by companies such as Amazon whilst at the same time reducing the volume of goods moved in, from and around the City Region by road.



Finally, delivering the interventions included within this Plan will move us towards the achievement of the aspirational journey times set out in the Mayor's Vision for Transport and the minimum standards set out in TfN's Long Term Rail Strategy. The estimated minimum journey times and frequencies across the SCR that these interventions will deliver are set out below:

Service	Frequency (Trains per hour)			Journey Time (Hours : Minutes)		
	Now		Aspiration	Now		Aspiration
<b>London (via ECML/MML) to...</b>						
Chesterfield	2	→	2	1.44	→	1.37
Doncaster	4	→	6	1.36	→	1.30
Sheffield	2	→	2	2.00	→	1.50
Barnsley	0	→	1	--		2.10
Rotherham	0	→	1	--		2.00
<b>Barnsley to...</b>						
Leeds	2	→	2	0.35	→	0.30
Nottingham	1	→	2	1.15	→	1.10
Huddersfield	1	→	2	0.47	→	0.40
Sheffield (semi-fast)	2	→	2	0.22	→	0.20
Sheffield (stopping)	2	→	4	0.26 - 0.30	→	0.25
<b>Doncaster to...</b>						
Sheffield (fast/semi-fast)	3	→	4	0.22 - 0.28	→	0.20
Sheffield via Rotherham	2	→	2	0.38 - 0.40	→	0.35
Leeds	2	→	3	0.33	→	0.25
Leeds (stopping)	1	→	2	0.46	→	0.40
Lincoln	5 per day	→	1	0.50	→	0.45
Manchester	1	→	1	1.20		1.00
Hull	2	→	2	0.50 - 1.00		0.30
<b>Rotherham to...</b>						
Sheffield	3	→	3	0.15	→	0.10
Doncaster	2	→	2	0.25	→	0.15
Leeds	1	→	3	1.02	→	0.23
<b>Sheffield to...</b>						
Barnsley (semi-fast)	2	→	2	0.22	→	0.20
Doncaster (fast/semi-fast)	3	→	4	0.22 - 0.28	→	0.20
Doncaster via Rotherham	2	→	2	0.38 - 0.40	→	0.30
Leeds (fast)	1	→	2	0.40	→	0.28
Leeds via Rotherham	1	→	2	1.15	→	1.00
Manchester (fast)	2	→	4	0.48 - 0.51	→	0.40
Worksop	2	→	2	0.30	→	0.20
Lincoln	1	→	1	1.19	→	1.00
Hull	2	→	2	1.26	→	0.50

As mentioned previously, these improved journey times and frequencies will make rail more attractive for everyday use, whether for business or leisure, reducing the continued reliance on the private car to get around the City Region, and helping to improve our environment.

The SCR Transport Strategy states that, to realise our ambitions, we must set out a united vision which makes clear our regional aspirations and our requirements, and how they will integrate with these major national developments. Our rail network plays a key role in delivering the Strategy and the Mayor's Vision for Transport, and this Integrated Rail Plan sets out clearly and concisely how and when we intend to achieve those ambitions. Through its implementation, we will help develop a transport system which improves the lives of local people and ensures that our City Region maximises its contribution to the success of our country.



**Table 1 (Map 1) – Interventions in the next Five Years 2019-2024**

\*Low &lt; £50m, Medium £50m-100m, High &gt; £100m

Intervention	Rationale	Delivery Lead	Indicative Cost (Low/Medium/High)*	Scheme status / Expected or indicative completion date
Doncaster – Leeds ECML upgrade	To improve capacity and journey times on this busy corridor	Network Rail	M	Being investigated as part of CMSP process.
ECML power supply upgrade	Increased power supply to facilitate additional electric train services on the ECML	Network Rail	M	Control Period 6 (2019-2024)
New Inter-City Express Azuma trains on ECML	To improve the passenger experience / journey time / capacity on ECML	LNER	H	Roll-out from mid-2019
New Northern Rail train fleet	To improve the rolling stock quality / passenger experience / journey time / capacity / emission and operating cost	Northern	H	Roll-out from mid-2019, starting with new electric trains on the Doncaster – Leeds route
Northern Connect services	A new brand for fast regional Northern services – Northern Connect. This will include re-routeing the Nottingham – Leeds service via the Dearne Valley, saving 8 minutes between Sheffield and Leeds, and extending it to Bradford.	Northern	L	Roll-out from December 2019
Line speed improvements between Doncaster and Cleethorpes	To improve journey times between SCR and Northern Lincolnshire, which are currently relatively slow	Transport for the North	M	Being investigated as part of Long Term Rail Strategy
Regular hourly service between Doncaster and Lincoln	To improve the frequency on this line from the current irregular 5 trains a day to a regular hourly service	Abellio East Midlands	L	Part of new East Midlands franchise Train Service Requirement, planned for 2021
Tram-Train pilot to be made permanent	To ensure the innovative Rotherham tram-train pilot becomes permanent following a successful trial and allow for further expansion of the network	SYLTE	L	Pilot to be extended to end of current Supertram franchise in 2024
Midland Mainline line speed improvements and electrification from Bedford to Market Harborough	To improve journey times between Sheffield / Chesterfield and London	Network Rail	H	Underway, with completion by 2021.
New bi-mode trains on Midland Mainline	To replace HSTs and Meridians and allow Sheffield trains to use partial electrification of MML	DfT	H	Roll-out from 2022
Hope Valley Line capacity upgrade	To improve the capacity and resilience of this line and facilitate the introduction of a third fast tph	Network Rail	M	CP6 (2019-2024)
Introduction of additional fast train per hour between Sheffield and Manchester	To increase capacity and frequency on this busy line which is currently under-served by fast trains	DfT / TfN / NR	L	Following completion of upgrade scheme
Introduction of 6-coach TPE trains between Sheffield and Manchester	To increase capacity from the current 3-coach trains which are often crowded	TPE	L	2019-2020
Line speed improvements on Hallam Line between Sheffield, Barnsley and Leeds	To improve journey times and capacity on this important line and increase rail's competitiveness with the car	Transport for the North	M	Being investigated as part of Long Term Rail Strategy
Barnsley Station level crossing closure and new footbridge	To improve safety and enable town centre redevelopment, and possible platform extensions	Network Rail / BMBC	L	2021
Community station improvements across SCR	To enhance station access and facilities and attract more people to use rail	SYLTE (TCF)	L	Ongoing
Park and Ride car park at Parkgate tram-train stop	To provide additional parking and attract more people to use rail	SYLTE (TCF)	L	2021
New tram-train stop at Magna in Rotherham	To improve public transport access to Magna and surrounding area	SYLTE (TCF)	L	2022
Renewal of Supertram Network	To renew the Supertram track and vehicles and expand the depot to ensure the continued operation of the network and permit future expansion	SYLTE	H	2024
Doncaster Station forecourt and access improvements	To improve the operation and appearance of this important ECML hub station and attract more people to use rail	DMBC	L	2020
Integrated Smart Ticketing	To introduce a modern multi-modal public transport ticket for the North which allows seamless travel between modes and areas and offers the best value fares	TfN	H	2022

Table 2 (Map 2) – Business Cases in the next five years 2019-2024

\*Low &lt; £50m, Medium £50m-100m, High &gt; £100m

Intervention	Rationale	Delivery Lead	Indicative Cost (Low/Medium/High)*	Scheme status / Expected or indicative completion date
Deame Valley Line upgrade and electrification for NPR/HS2	To create the capacity and line speed for the proposed NPR/HS2 services between Sheffield and Leeds/York	TFN	H	CP7 (2024-2029)
Capacity upgrade at Doncaster Station and approaches	To create the capacity and line speed for the proposed NPR service between Sheffield and Hull and tram-train	TFN	M	CP7 (2024-2029)
Expansion of Park and Ride car parks (incl. Meadowhall and Dore and Totley)	To provide additional car park capacity where it is needed to cater for demand and attract more people to use rail	SYPTTE	L	2024
Midland Mainline electrification from Clay Cross to Sheffield for HS2 Phase 2b and three-tracking from Dore to Sheffield to meet future NPR service aspirations	To allow HS2 electric trains to serve Chesterfield and Sheffield Midland via the Midland Mainline and provide additional capacity for NPR trains between Sheffield and Manchester alongside HS2 and existing trains.	HS2 Ltd	H	By 2033
Hope Valley Line capacity and line speed upgrade	To accommodate 4 NPR trains per hour between Sheffield and Manchester along with local and freight trains	TFN	H	CP8 (2029-2034)
Extension of London – Sheffield service to Barnsley and Leeds	To provide Barnsley with a direct inter-city service to London, with an extension north to Leeds to improve capacity and comfort on that route.	TFN	L	Late 2020s
Upgrade lines between Sheffield and Hull	To accommodate 2 NPR trains per hour between Sheffield and Hull with improved journey times can capacity	TFN	H	CP7 (2024-2029)
East Coast Mainline loop and station at Doncaster Sheffield Airport	To improve rail connectivity to the airport and significantly expand its catchment area, relieve capacity constraints at Doncaster station, and act as a regional park and ride hub.	DMBC	H	CP7 (2024-2029)
Extension of tram-train from Rotherham Parkgate to Swinton and Doncaster	To accommodate NPR trains between Sheffield and Leeds / Hull it is proposed to convert some local services to tram-train. This will enhance connectivity and service intervals at Rotherham Central, Swinton and Mexborough / Conisbrough.	TFN	M	Late 2020s
Barnsley Station capacity enhancements	To accommodate longer inter-city trains	TFN	L / M	Late 2020s
New Deame Valley Parkway station	To provide an HS2/NPR Parkway station to serve the northern part of SCR and enhance connectivity and journey times to the Dearne Valley including Barnsley, supporting economic regeneration.	TFN	M	Late 2020s
New Rotherham Mainline station	To provide an HS2/NPR station to serve Rotherham, significantly enhancing longer distance connectivity and supporting economic regeneration.	TFN	M	Late 2020s
New station at Waverley / AMID	To improve accessibility to the new Waverley housing development and Advanced Manufacturing Innovation District (AMID).	RMBC	L	CP7 (2024-2029)
Rolling programme of improvements at local stations	To enhance the region's local stations and attract more people to use rail	SYPTTE	L	Ongoing
Sheffield Midland station masterplan for HS2/NPR	Upgrade to station, improvement to transport interchange arrangements and development of the surrounding area as part of wider city centre masterplan.	SCC	H	By 2033
Chesterfield station masterplan for HS2	Upgrade to station, improvement to transport interchange arrangements and development of the surrounding area to maximise benefits from HS2.	CBC	H	By 2033

Table 3 (Map 3) – Further investigation in the next five years 2019-2024

\*Low &lt; £50m, Medium £50m-100m, High &gt; £100m

Intervention	Rationale	Delivery Lead	Indicative Cost (Low/Medium/High)*	Scheme status / Expected or indicative completion date
Potential new line between Sheffield and Manchester for NPR	To investigate the feasibility and business case of a new rail line (not the original Y shaped HS2 line) to provide additional high-speed capacity for NPR between Sheffield and Manchester.	TFN	H	Late 2030s
Feasibility of re-introducing rail services on the Barnsley – Wakefield line via Royston	To improve connectivity to this poorly connected part of Barnsley, which is undergoing regeneration and housing growth.	SCR	H	Early 2030s
Feasibility of improving Dearne Valley east-west connectivity	To improve connectivity between Barnsley and Doncaster which are not currently linked by rail. This may be a bus-based solution.	SCR	M / H	Late 2020s
Improvements to rail services from Thorne N&S, Hatfield & Stainforth and Adwick	To improve rail access to large new employment sites	SYPTTE	L	CP7 (2024-2029)
Feasibility of a second train per hour between Sheffield / Barnsley and Huddersfield	To improve rail frequency for the communities on this line and between these major towns and cities.	SYPTTE / WYCA	M	CP7 (2024-2029)
Feasibility of re-introducing passenger services on the Don Valley Line between Sheffield and Deepcar / Penistone with new stations	To improve public transport accessibility in the upper Don Valley and provide a faster route for services between Sheffield and Huddersfield	SCR	H	Early 2030s
Feasibility of re-introducing passenger services on the Barrow Hill Line with new stations	To improve public transport accessibility in the south east of Sheffield and North East Derbyshire and provide an alternative route for local services between Sheffield and Chesterfield	SCR	M	Early 2030s
Feasibility of tram or tram-train extensions	To extend the benefits of a tram service to other parts of SCR and attract more people to use tram/rail	SCR/SYPTTE	H	Early 2030s
Feasibility of new tram-train stops at Forge Way and Kilnhurst	To extend the benefits of a tram-train service to other parts of SCR and attract more people to use tram/rail	SCR/SYPTTE	L	Late 2020s
Feasibility of a new station at Askern and a new passenger service on the Doncaster to Pontefract line via Askern	To improve rail accessibility to this poorly served town which needs better links to employment opportunities and to re-connect this wider corridor to rail services.	SCR/SYPTTE	L	CP7 (2024-2029)

**By 2026 there will be up to half a million extra journeys on our road and rail network every day. Without action to tackle congestion travel times will get worse.**

**An integrated rail network that works for the City Region is essential to make this change.**

**Mayor Dan Jarvis MBE MP**  
Sheffield City Region

**Sheffield City Region**  
**Mayoral Combined Authority**

11 Broad Street West, Sheffield,  
United Kingdom  
S1 2BQ  
+44 (0)114 220 3400  
enquiries@sheffieldcityregion.org.uk  
sheffieldcityregion.org.uk

Publication Date: July 2019

**Sheffield**  
**City Region**

---

