# Sheffield City Region Response to the National Infrastructure Commission Call for Evidence

## 1. Executive Summary

1.1 Transformational investment into the North's existing transport and electricity network is absolutely essential to help assist business growth in the Sheffield City Region and help provide a step change in economic productivity and prosperity. Through dialogue with the Transport for the North Partnership, Highways England, Network Rail and HS2 ltd, there are a series of improvement to specific pieces of infrastructure and key corridors to unlock labour markets and increase economic interaction. There are evidenced throughout the response but are as follows;

- Trans-Pennine Rail and Road Connectivity
- HS2/Transport for the North strategic and local connectivity
- Robin Hood Airport Surface Access
- North South Links (M1 connecting key SCR Growth Areas at the Advanced Manufacturing Innovation District, Markham Vale, M1 Junction 36 Business Parks.

## 2. Background

*2.1 Please see below the Sheffield City Region (SCR) response to the National Infrastructure Commission's Call for Evidence. This is a draft submission that has not been formally ratified by political representatives.*

2.2 For many decades, there has been an economic imbalance in the UK between the north and the south of England (particularly London and the Southeast)[1]. The SCR strongly believes that improvements to transport infrastructure between the North's Core Cities and their City Regions will facilitate a greater level of economic interaction, allowing the North to operate as a cohesive economic unit, and contribute significantly to the rebalancing of the UK economy. This will subsequently improve the long term economic sustainability of the North and deliver improvements to the UK PLC as a whole[2].

2.3 Over the last decade, SCR has established itself as a growth hub for Advanced Manufacturing, and diversified its industrial base with key strengths in Creative and Digital Industries, Biomedical and Healthcare, alongside key job growth sectors in Business, Professional and Financial Services and Logistics and Distribution. SCR experienced significant growth in employment and Gross Value Added output in the period from 2000 to 2008[3]. Like most Northern City Regions, growth plateaued during the recession but has now recovered. However, the aforementioned industry sectors remain important assets for the SCR economy and remain a priority for investment[4] and this has been the kick start to increasing the productivity of the SCR economy.

2.4 Through the development of the SCR Strategic Economic Plan[5] and the Northern Transport Strategy[6], the SCR believes that improving rail, road and international connectivity is critical in supporting the ongoing economic transition within the City Region and enabling economic growth via enhancing business

[1] Centre for Cities (2015a), Cities Outlook 2015, http://www.centreforcities.org/wp-content/uploads/2015/01/15-01-09-Cities-Outlook-2015.pdf

[2] IPPR North (2015), Transport for the North: A Blueprint for Devolving and Integrating Transport Powers in England, http://www.ippr.org/files/publications/pdf/transport-for-the-North_140305.pdf?noredirect=1

[3] Sheffield City Region (2013), Sheffield City Region Independent Economic Review, http://sheffieldcityregion.org.uk/wp-content/uploads/2013/10/Independent-Economic-Review.pdf

[4] University of Sheffield (2013), Sheffield City Region: Sector Specialisms, http://sheffieldcityregion.org.uk/wp-content/uploads/2013/10/SCR-Sector-Specialisms.pdf

[5] Sheffield City Region (2014), Strategic Economic Plan: A focused 10 Year Plan for Private Sector Growth 2015 – 2025, http://sheffieldcityregion.org.uk/wp-content/uploads/2014/03/SCR-Growth-Plan-March-2014.pdf

[6] Department for Transport and Transport for the North (2015), The Northern Powerhouse: One Agenda, One Economy, One North, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/427339/the-northern-powerhouse-tagged.pdf

productivity, improving competition, unlocking development sites and widening labour markets. The SEP anticipates aims to deliver a stronger, bigger private sector which support the establishment of 6,000 new businesses and deliver 70,000 new private sector jobs over a 10 year period. On a City Region level, the provision of new infrastructure should also seek to relieve existing congestion issues and avoid exasperating these by attracting more traffic onto infrastructure which cannot cope with demand.

2.5 The benefits that improved connectivity could bring to business and local communities across the whole of the north are essential to drive economic growth. HM Treasury analysis shows that realising the ambition to rebalance the UK economy would be worth an additional £56 billion in nominal terms to the northern economy, or £44 billion in real terms equal to £1,600 per individual in the North[7].

2.6 The Transport for the North Autumn Report[8] recognises that the North of England has a number of large cities and areas of economic activity that perform well individually, but due to the poor transport connectivity both between and within city regions agglomeration benefits are not being achieved. Improvements to rail and road infrastructure is essential to creating a single cohesive and well-connected economy in the North, which is a key objective of the Northern Powerhouse.

2.7 The SCR has provided input into the Transport for the North response to this consultation, providing evidence to support the ambition outlined in the Northern Transport Strategy and the emerging evidence base. This response therefore provides a more SCR specific evidence base, highlighting local priorities.

2.8 SCR partners (Local Authorities) will be submitting a response to this consultation.

2.9 The NIC must recognise the importance of local growth opportunities and connecting these beyond the Core City to other key northern centres is important to achieve a balanced economy. Connectivity needs and transport investment is a strategic, cross boundary issue which needs to consider other existing transport corridors, so a whole network is created rather than a series of city to city links. The NIC also needs to maximise the use of existing resources to ensure connectivity from existing assets is utilised.

## 3. Response to the Call for Evidence

3.1 The SCR welcomes the opportunity to make a submission to the National Infrastructure Commission's (NIC) call for evidence and engage with the relevant government departments, regulators and delivery organisations, including Network Rail, TfL and the National Grid. The SCR recognises that engagement with these organisations will lead to informed decisions and help the NIC to develop an evidence based investment programme. For ease of interpretation, this response has been structured around the questions outlined in the consultation document (published 13 November 2015) and the most robust and up to date evidence has been provided where available. Given the relevance of the various questions to the SCR, only Question 1; Connecting Northern Cities, and Question 3; Electricity Interconnection and Storage have been answered as part of this consultation.

## 4. Section 1 - Connecting Northern Cities

**To what extent are weaknesses in transport connectivity holding back northern city regions (specifically in terms of jobs, enterprise creation and growth, and housing)?**

[7] If the northern economy grows in line with the OBR's forecast for the average across the UK between now and 2030: https://www.gov.uk/government/news/northern-powerhouse-chancellor-sets-out-pathway

[8] Department for Transport and Transport for the North (2015), The Northern Transport Strategy: Autumn Report, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/480711/northern-transport-strategy-autumn-report.pdf

4.1 Based on the aspirations and evidence base of the SCR Transport Strategy[9], SCR Strategic Economic Plan and the Northern Transport Strategy/Transport for the North, the following areas have been highlighted as a priority for investment to address weaknesses in transport connectivity;

- Trans-Pennine Rail and Road Connectivity
- North – South Rail and Road (Derby, Leeds, Nottingham)
- Improved Links to London
- Local Connectivity Enhancement
- Robin Hood Airport Surface Access

**4.2 Trans-Pennine**

4.2.1 The Northern Way[10] study of the road and rail connectivity across the Pennines concluded that existing transport constraints have a negative impact on the economic interaction between Northern cities. The report states "there is a strong recognition that the current links across the Pennines are restricting business interaction and severing links to international gateways. Northern Way evidence suggests that faster links would increase commuting between Manchester and Sheffield by 40%".

4.2.2 In addition to this, the Industrial Communities Alliance[11] has produced a report which highlights the importance of improving connectivity between non-core city Towns and Cities. This highlights the requirement to give proper recognition of the role that the smaller towns and rural economies in the build-up of the wider northern economy and how improvements to the transport network between these locations would also benefit the economy.

4.2.3 Existing connectivity between SCR and Manchester City Region is poor, with existing road links (A57, A628/A616, M1 and M62) all constrained by congestion, unreliability, resilience and unattractive journey times[12]. Specifically, in the AM peak from Sheffield to Manchester city centres, the A628, A57 and A623/A6 provide a minimum journey time of about 1 hr 10 minutes for a 40 mile journey but it can take as long as 2 and a half hours[13]. All of these routes have substantial single carriageway sections and all are impacted by adverse weather in winter due to having to negotiate the Pennines. Alongside this, there is a poor rail offer, consisting of long journey times, over capacity trains at peak times and low frequency. Sheffield to Manchester currently has two "fast" trains per hour with journeys taking a minimum of 52 minutes.

4.2.4 These constraints have subsequently been identified as a priority by both the Department for Transport with Highways England[14] and the Transport for the North partnership. TfN has identified a 30 minute rail journey time with 6 trains each hour as an ambitious but realistic target for rail journeys. In addition, through Highway England's Road Investment Strategy, there is a commitment to investigate the feasibility of a high performance tunnelled link to provide resilience and capacity enhancement to the existing trans-Pennine road network.

4.2.5 The constraints on the existing trans-Pennine road network have led to a commuter deficit between the Sheffield and Manchester City Regions, leading to lower than expected levels of economic interaction

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[9] Sheffield City Region (2011), Sheffield City Region Transport Strategy, http://www.syltp.org.uk/documents/scrtransportstrategy.pdf

[10] Steer Davies Gleave (2010), WP3: The Trans Pennine Corridors & the Northern Economy, for The Northern Way Study, http://www.northernwaytransportcompact.com/downloads/Delivery%20Gaps/Trans%20Pennine/Trans%20Pennine%20Working%20Paper%203%20-%20Evidence%20Review.pdf

[11] Industrial Communities Alliance (2015), Growth Beyond the Big Cities, The role of Britain's industrial towns in delivering jobs and prosperity, http://www.industrialcommunitiesalliance.org/uploads/2/6/2/0/2620193/growth_beyond_the_big_cities_report.pdf

[12] Department for Transport and Highways England (2015a), Trans-Pennine Routes Feasibility Study - Stage 1 Report, March 2015, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409034/trans-pennine-stage-1-report.pdf

[13] Google Maps – Journey Time Calculator

[14] Department for Transport (2014), Road Investment Strategy: Investment Plan, https://www.gov.uk/government/collections/road-investment-strategy

(commuting and labour market catchment)[15]. The SCR has conducted an initial investigation[16] into latent demand for trans-Pennine trips and the economic impact of new/enhanced connections. A key conclusion is that the achievement of a 30 minute journey time by rail would increase demand for rail services by 55%. This figure increases further if a quicker journey time is achieved.

4.2.6 The Department for Transport Trans-Pennine Tunnel Study Interim Report[17] has carried out a very high level illustrative scenario modelling of productivity effects on business from better links between Sheffield and Manchester. These scenarios show productivity benefits of between £171m and £421m per annum, with further potential gains to productivity arising from increased competition across markets. There are also potential benefits from increasing the attractiveness of the North to inward investment arising from improved access to labour markets, suppliers, business accommodation, distribution centres and warehousing.

4.2.7 The trans-Pennine tunnel also presents the opportunity to extend a trans-Pennine link. This study should not be focused solely on Sheffield and Manchester at the regional level but include the impacts on the wider city regions, taking into account the economic benefits of a strategic link across the North and through to the shipping ports.

### 4.3 High Speed Rail

4.3.1 High Speed Rail (HS2) is an essential piece of infrastructure that will ensure that the SCR will maintain competitive levels of connectivity to all Core Cities, not just Northern Cities. The continued recognition of SCR within the HS2 proposals will safeguard any potential future gap in connectivity.

4.3.2 The development of a HS2 network that is fully integrated into the existing rail network will provide much needed capacity and will significantly enhance journey times to London, the West Midlands, East Midlands, Leeds and the North East. The Eastern Network Partnership forecasts that HS2 will deliver wider economic benefits of £400m direct to the SCR[18]. This comprises productivity benefits of bringing businesses closer together, imperfect competition benefits and the economic benefits of enabling workers to access more productive jobs by releasing capacity on existing rail routes.

4.3.3 As Sir David Higgins has stated in the suite of HS2 publications, there is a need to emphasise the use of HS2 as a catalyst to improve strategic links (road rail tram bus) around the local region. This will ensure that benefits are not limited by geography (proximity to HS2 stations) or constrained by existing transport capacity. A full connectivity package that supports HS2 and connects to the wider City Region would help ensure that economic benefits are resonated across the City Region and benefits are maximised.

4.3.4 The decisions being made on HS2 will have a fundamental impact on the achievement of the conditional outputs of the Transport for the North rail ambition. For the SCR, the key issue is that the Transport for the North conditional outputs is City Centre to City Centre focused. Under the current proposals for HS2 route alignment and station location would require a new suitable high speed connection from Sheffield City Centre to the HS2 network at Meadowhall. In addition, the work carried out by Network Rail, HS2 and Transport for the North suggests that the use of HS2 services and infrastructure will need to be part of the rail solution between Sheffield and Leeds (whilst maintaining/improving current journey times on the Hallam Line (Sheffield to Leeds via Barnsley)). However, it has been highlighted that there are potentially capacity issues in meeting the conditional outputs of TfN and HS2, meaning that Transport for the North target frequencies may be challenging.

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[15] KPMG (2014), The Case for Improving City to City Connectivity in the North (Not Publically Published)

[16] Sheffield City Region (2015), The 'Latent Demand' for Travel across the Pennines, (Not Publically Published)

[17] Department for Transport and Highways England (2015b), Trans-Pennine Tunnel Study Interim Report https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/480668/trans-pennine-tunnel-interim-report.pdf

[18] Arup (2011), Eastern Network Partnership [Not published publicly]

4.3.5 To unlock the full potential of the HS2 station at Meadowhall, the station will need to be fully integrated into the Classic Rail network. Under current proposals this is not the case so further would need to be investigated as part of the NIC. The integration of rail services will enable a better intra City region connectivity which is essential to the SCR's growing economy.

4.3.6 Given the location of the proposed HS2 station at Meadowhall, there is an opportunity to use the masterplanning exercise and investment proposals to address the longstanding capacity and maintenance problem of the Tinsley Viaduct (between M1 Junction 34S and 34N).

### 4.4 M1 North/South Axis

4.4.1 The reliable and efficient operation of the M1 motorway northbound to Leeds and southbound to Nottingham/Derby from the SCR is paramount to attracting and retaining investment. Businesses routinely note[19] that a highway network which incurs limited delay and is resilient to congestion is an attractive business location. The Highways England improvement programme to upgrade M1 to Smart Motorway Standard between the SCR and Leeds/Nottingham (as stated in the Road Investment Strategy) will have significant benefits in terms of user journey time benefit but will also improve reliability of all freight trips using the M1. This is particularly relevant to the SCR as many Enterprise Zone sites are located on the M1 at Junction 36, Junction 33 and Markham Vale Logistics Hub at Junction 29a as well as a number of housing sites. Improvements to the M1 would also increase access to East Midlands Airport.

4.4.2 The M1 between Junction 33 to 35 (including the Tinsley Viaduct) is an important section of the motorway for local SCR movements but also for strategic North-South traffic. The motorway network in this location suffers from slow average peak time speeds (41mph), significant volumes of cross junction traffic, within the top 250 accident locations and general junction capacity issues[20]. There is a need to investigate a solution to this section of motorway to rectify these problems and enable the M1 to operate more efficiently. The SCR is currently working with Highways England to develop a solution in line with the Road Investment Strategy Investment Plan.

4.4.3 Through J34S and J34N (the Tinsley Viaduct) there are significant bottlenecks and peak times and this has implications on the reliability and punctuality of many private and freight journeys. To put the level of reliability into perspective, DfT statistics[21] evidence that reliability along the Tinsley Viaduct is 67.8% northbound and 68.9% southbound (annual average from Sept 2013 – Sept 2014). When compared to the same period, the M1 average is 79.1%, this is a significant drop in performance. The impact of the Tinsley Viaduct does not only impact on the SCR, but also has considerable effect on providing access to the Leeds City Region. This point needs to be emphasised as the growth of both city regions will depend on efficient journeys on the north and south motorway network.

4.4.4 J34 provides one of the key strategic highway access points to Sheffield City Centre, the Advanced Manufacturing Innovation District, Lower Don Valley, Meadowhall and Rotherham – key growth areas for the SCR Strategic Economic Plan. Access to and from these locations via the highway network is essential to their growth and the prosperity of the SCR as a whole. The SCR SEP currently estimates that the districts of Sheffield and Rotherham will create approximately 35,000 jobs over the next 10 years. These are focuses the logistics, professional/financial and advanced manufacturing sectors – all of which rely on a reliable highway network.

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[19] Centre for Economics and Business Research (2014), Future Economic Costs of Gridlock, http://inrix.com/press/traffic-congestion-to-cost-the-uk-economy-more-than-300-billion-over-the-next-16-years

[20] Highways England and AECOM (2015), M1 J33 to J35 Infrastructure Study, (Not Publically Published)

[21] Road Congestion Statistics (2014), Table CGN0206, 2014

### 4.5 A1 to M62

4.5.1 The Road Investment Strategy has outlined improvements to the A1 from Doncaster Junction 35 to the M62 interchange. The current standard of this stretch of highway is currently Dual Carriageway which limits capacity and can cause delay at peak times. The enhancement of this route to motorway standard will tackle existing traffic problems around Redhouse and make the area around Doncaster attractive to road hauliers and distribution/warehousing companies. Growth in this section is very important for the SCR with the SCR Strategic Economic Plan highlighting that a total increase of 13,000 jobs in this sector over the next 10 years, most of which located around the A1/M18 area of Doncaster.

### 4.6 Links to London

4.6.1 Continued links to London via the Midland Mainline and East Coast Mainline are essential for the SCR. Improvements are needed to the infrastructure of both routes in the short and medium terms in addition to development of the HS2 Scheme. The SCR would like to see the Midland Mainline Electrification confirmed with improved rolling stock to ensure that direct services from Sheffield and Chesterfield are as attractive as possible. The recent "pause" to the electrification scheme has put back the completion date for electrification to Sheffield to 2023, several years after the projected completion date when electrification was first authorised in 2013. The East Coast Mainline requires continued investment and capacity improvements to ensure that Doncaster and Retford continue to benefit from electrified services to London and Edinburgh, recognising that the ECML will still provide the main strategic links for these stations.

### 4.7 Local Connectivity

4.7.1 The SCR understands the focus on connecting the main cities of the North, however, in order to maximise the benefits of improved city to city connections, local connectivity from the main cities to the other economic areas within the respective city region is vitally important.

4.7.2 SCR's national interface must be locally connected. The Advanced Manufacturing and Innovation District in Sheffield/Rotherham, HS2 and the Doncaster Engineering and Logistics Gateway must be connected by strong public and private transport links. Improvements to city to city links must be supported through a fully integrated and multimodal connectivity package.

4.7.3 Highway access capacity constraints and related air quality concerns are potentially limiting future economic growth and employment in important locations such as Sheffield City Centre, the Advanced Manufacturing Innovation District, the HS2 Hub, Robin Hood Airport, the Dearne Valley and the SCR Enterprise Zones. Key areas for new housing growth must be driven by the provision of new high quality public transport infrastructure in the form of light rail and/or tram/train linking these areas to employment locations in city and town centres.

4.7.4 The SCR is developing an integrated plan covering economic infrastructure (including transport) that will form the basis of future commissioning for local schemes. The SCRIIP highlights key gaps and opportunities based on spatial economic priorities. From a transport perspective the SCRIIP highlights a potential loss of £40bn (over a 60 year appraisal period) should the SCR fail to tackle local road congestion[22].

### 4.8 Robin Hood Airport (RHADS) Surface Access

4.8.1 Surface access to Robin Hood Airport is vitally important for both the local SCR economy and the North as a whole. The growth ambitions for the airport, including the ability for RHADS to take capacity from other over capacity airport will be greatly boosted if there is an improvement to existing surface access options.

[22] **Sheffield City Region (2016), Integrated Infrastructure Plan (Not Publically Available)**

The Finningley and Rossington Regeneration Route Schemes (FARRRS) is nearing completion of Phase 1 with a second Phase including a direct link to the airport terminal is a local priority scheme. The FARRRS phase 2 would ultimately complete a link from the airport to the M18, allowing reduced journey times for freight and air passengers. The airport business park and growth area would also benefit from improved connectivity and localised growth in this area will be supported through improved links.

4.8.2 In addition to this, there is an aspiration for a Robin Hood Airport Railway Station to provide an alternative link to airport by non-car modes. There are also a number of regional aspirations for improved bus and potential tram train options.

**What cost-effective infrastructure investments in city-to-city connectivity could address these weaknesses? We are interested in all modes of transport.**

### 4.9 Rail

- SCR and Transport for the North have an aspiration to secure 30 minute journey times between Sheffield and Leeds and Manchester City Centres with a service frequency of 6 trains per hour. Local evidence suggests 30 minutes between Sheffield and Manchester will increase travel to work demand for rail services 55% with this figure increasing further if a quicker journey time is achieved.
- Using evidence outlined in the Northern Way Study, it is reasonable to conclude that the performance of the links between Manchester and Sheffield are poor in comparison with links between Sheffield and Leeds and between Leeds and Manchester. The SCR consider the uplift of service frequency and journey times to an equivalent standard to be essential and overdue.
- Electrification of Midland Mainline, Hope Valley Line and Doncaster to Sheffield Line (potential Sheffield to Hull) are key to a more efficient, attractive railway[23]. Also included are a number of improvements to the Hallam Line including electrification[24].
- Integrating enhancements to connectivity across SCR with improved links to a future HS2 station and TransNorth rail hub would drive synergies and achieve dual benefit.
- Existing station improvements to maximise 'local train services' and potential tram train technologies.
- Capacity constraints at Doncaster and Sheffield railway stations.
- Extension of tram/train connections from HS2 station through to Barnsley, Doncaster, Rotherham (potential other city region locations).

### 4.10 Road

- Trans-Pennine road links are poor, with congestion and reliability issues. The Northern economy needs a resilient high performance link over the south Pennines through to international gateways at Manchester Airport and Freight Ports. This could be delivered through the Trans-Pennine tunnel.
- The connecting road links to the trans-Pennine Tunnel are vitally important as this presents the opportunity for additional road building projects to improve the journey time of East West movements. For example, if the tunnel portal is located at Junction 36 of the M1, there is the opportunity to develop a new road alignment between the A1/M18 enabling alternative connections to Hull, Grimsby and Immingham.
- Northern Transport Strategy and Road Investment Strategy cite the routes across the Pennines between Manchester and Sheffield City Regions as one of the main connectivity constraints in the North of England. Addressing trans-Pennine challenges would deliver economic benefits across South

23 Rail North (2015) Northern Sparks: Report of the North of England Electrification Task Force, http://www.andrewjonesmp.co.uk/wp-content/uploads/2015/03/EFT_Final_Report_FINAL.pdf

24 Barnsley Rail Vision (2015), (Not Publically Published)

Yorkshire and the wider city region. Releasing additional capacity on the M62 would deliver further economic opportunity to central and northern Yorkshire regions.

- The M1 J34 (Tinsley Viaduct) forms a bottleneck on the key national north south link as well as Smart Motorway and capacity improvements to the M1 northbound towards Leeds and southbound to Nottingham, Derby and the M42.
- Development of the A1 to motorway standard between Doncaster and the M62 will improve the resilience of the road network and build in future capacity.

### 4.11 Freight

- SCR is a key national location for multi modal freight, with significant inland port and freight interchanges at Rossington and Markham Vale. The benefits from an advantageous strategic location on the M1, M18 and A1 as well as direct rail connectivity. These facilities should be enhanced through stronger links to Humber ports (as the UK's busiest port) and the Liverpool.
- Doncaster International Rail Port's fast, frequent services to the Port of Felixstowe provide SCR's importers and exporters with an essential link to world trade. Felixstowe is the UK's largest and busiest container port, handling more than 3.4 million TEU's (Twenty-foot Equivalent Units) per year and providing around 90 services per week to and from 365 ports around the world[25]. Between Monday and Friday, Freightliner and GB Railfreight currently operate a total of 5 daily round-trip services between Doncaster and Felixstowe, totalling 20 southbound (export) and 20 northbound (import) services per week[26], it is important that these links are maintained and enhanced.

### Which city-to-city corridor(s) should be the priority for early phases of investment?

4.12 Improvements to trans-Pennine links are significantly important on a national scale, with this being the single biggest gap in transport connectivity in the North. The Northern Transport Strategy has highlighted improvements to the road and rail network across this corridor as being important to releasing benefits for the whole of the region and transform the economy in the North. There are also wider socio-economic needs and improved connectivity will provide better access to labour markets, wider employment opportunities, better land use, and a more balanced Northern economy.

4.13 Improvements to the existing trans-Pennine connectivity are essential and needs to be addressed to enable a greater economic interaction. The census travel to work data[27] shows that between Sheffield and Manchester, there are a combined number of trips of 763 across all modes per day. The figure increases when taking the wider city regions into account but is still only 6,251 trips per day. This shows that the existing transport links are not attractive and would benefit significantly from improvement, therefore encouraging interaction and addressing the single biggest connectivity in the North.

4.14 SCR to Leeds City Region has close to 50,000 commuting trips per day across all modes in each direction. This is therefore a significant commuting corridor which will benefit from improvement. Capacity on peak trains is an issue and passenger growth is expected to increase in the future[28]. This is further justification for improvements to the existing line, both in terms of capacity and journey times (electrification of the Hallam Line). The Yorkshire Rail Network Study[29] considers the benefits of train service enhancements (frequency improvements) within Yorkshire and concludes the following, "A WebTAG compliant 60 year

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[25] Department for Transport (2014), UK Port Freight Statistics: 2014, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/465439/port-freight-statistics-2014.pdf

[26] UK Logistics Hub (2016), Freight Fast Market Access from Doncaster to Felixstowe, http://www.logisticshubuk.com/p/fast-market-access.html#ByRail

[27] ONS (2014), WU03UK - Location of usual residence and place of work by method of travel to work

[28] South Yorkshire PTE and METRO (2013), Leeds and Sheffield City Regions' High Speed Future, http://www.syltp.org.uk/uploadedFiles/High_Speed_Rail/High%20Speed%20Rail%20Green%20WEB%20Spread%20sept%2013.pdf

[29] Steer Davis Gleave (2012), Yorkshire Rail Network Study (Phase 1) – Benefit Forecasting, https://www.sypte.co.uk/uploadedFiles/Corporate/Projects_and_awards/Yorkshire_Rail_Network_Study/YRNS%20Benefit%20Forecasting%20Report%20final.pdf

appraisal of the economic benefits generated by the Test Timetable compared to the Do Minimum has been undertaken. This assumes that the Test Timetable would be delivered in 2019. The appraisal suggests that potential benefits of the Test Timetable could be £10.5bn under the Trend scenario and £12.2bn in the Trend Plus scenario".

4.15 It must be noted that other non-Northern routes are important. SCR to Nottingham and Derby either via the M1, A38, A1 or A60 are all still very important routes that would benefits from investment. Although it is likely that there will be a priority on certain corridors, SCR would like to highlight the importance of the need to deliver improvements to the whole network to maximise benefits. If this doesn't happen, the gaps will get bigger and economic disparity will grow.

**What are the key international connectivity needs likely to be in the next 20-30 years in the north of England (with a focus on ports and airports)? What is the most effective way to meet these needs, and what constraints on delivery are anticipated?**

4.16 The Northern Freight and Logistics Strategy[30] notes that the SCR is a nationally significant location for multi modal freight interchange. Improved connections to key freight facilities at Doncaster, Humber and Liverpool should be enhanced to improve the competitive advantage of northern manufacturers and distribution companies. This builds upon the Trans-European Transport Network[31], which recognises that trans-Pennine connectivity is a key part of a trans-European freight network. The resilience and reliability of the network as well as capacity improvements is important to an efficient freight network.

**4.17 Airports**

4.17.1 The main international gateway to the SCR at present is Manchester International Airport (MIA). Given the existing range of long haul flights not available elsewhere in the North, and the airport's future plans, this is likely to continue over the next 30 years. Connectivity to MIA by rail and road is already constrained (as for the reasons previously explained) so improvements to trans-Pennine connectivity will have a direct benefit for access to the Airport. In 2012, 5% of passengers using MIA originated in South Yorkshire[32], roughly equating to 1,000,000 trips per annum. This compares to 220,000 at Robin Hood Airport Doncaster Sheffield (RHADS) and 165,000 at Leeds Bradford[33]. Surface access improvements to MIA via road and rail provision will be essential over the next 30 years to ensure that the SCR maintains access to a growing international gateway.

4.17.2 RHADS has ambitious growth aspirations. There has been a recent increase in the commercial passenger services, including a series of new routes to other UK cities (Berlin, Amsterdam, Paris and Dublin). This is an important milestone to achieving the total annual passenger traffic throughput forecasts, which are set to reach between 7.21 (Low Case) and 10.76 (Base Case) mppa by 2030. Low Cost Scheduled operators are predicted to be the main source of growth with annual throughput rising from its current level to between 4.65 and 6.87 mppa in 2030[34].

4.17.3 RHADS benefits from existing and expanding business parks alongside this, and is located within the SCR Enterprise Zone, the airport can capitalise on new opportunities associated with business and general aviation, as well as delivering freight and logistics inter modal hub. RHADS can play an important role within a range of strategies for delivering future growth. Surface access enhancements to transport

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[30] Transport for the North (2014), Freight and Logistics Strategy Baseline Report [Not Published Publically)

[31] Trans-European Transport Network (2011), European Freight Route, http://ec.europa.eu/ten/transport/maps/doc/axes/pp26.pdf

[32] Civil Aviation Authority (2012), A Passenger Survey Report 2012, *in* Transport for Greater Manchester (2014) Greater Manchester Growth and Reform Plan, http://www.tfgm.com/ltp3/Documents/GMGRP-Transport-Strategy.pdf

[33] Civil Aviation Authority (2014), A Passenger Survey Report 2014, https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Passenger_survey/CAA%20Passenger%20Survey%20Report%202014.pdf

[34] Robin Hood Airport Doncaster Sheffield (2013) RHADS Airport Masterplan (Refresh), http://www.robinhoodairport.com/uploads/documents/peel__1307607395_RHADS_Airport_Masterplan_p044-.pdf

connectivity will help RHADS become an asset to the Northern Powerhouse. This will mainly take the form of the extension of the Finningley and Rossington Regeneration Route Scheme directly into the airport complex and the development of a specific RHADS railway station on the Lincoln Line.

4.17.4 East Midlands Airport is a significant location for air freight with well-established distribution centres for worldwide logistics firms. There is a need to ensure that the Smart Motorway improvements to the M1 are completed to improve access for freight and logistics firms to access East Midlands Airport.

**4.18 Ports**

4.18.1 Future connections to the Humber Ports from Doncaster and the SCR will help develop and ensure that the SCR freight aspiration is achieved. In addition to rail connections with deep sea ports in the south of England, and unlike other inland UK deconsolidation and distribution hubs, the SCR (specifically Doncaster) offers fast road access to local ports on the Humber, effectively providing businesses with a location that is both 'UK central' and 'portcentric'. Each of the Humber Ports (Hull, Immingham, Grimsby and Goole) can be accessed in under 1 hour's HGV drive time and benefit from rail connectivity, providing companies located in SCR with direct access to the UK's largest ports complex by tonnage and specialist capabilities. The current level of surface access to the Humber Ports will need to be maintained and improved.

4.18.2 Given the demand for passenger rail services across the Pennines, extra capacity is required on the east/west railway alignments to ensure that rail freight movements remain viable. Failure to do this will result in more freight being transferred by road across already congested sections of the east/west alignments, the M62 and A628. Given the proposed development of Liverpool 2 to accommodate additional Panamax ships, there could be a significant increase in freight entering the UK (bound for the SCR) via Liverpool. Therefore improved connections from Liverpool Docks to the SCR are required.

4.18.3 It must be recognised that the Southern Ports (Felixstowe and Southampton in particular) will continue to be an important international gateway for freight. The capacity for Deep Sea Containers and the practices of International Shipping Companies at these Ports will mean that these locations will grow in the future with more freight likely to be passed through these locations. It is therefore essential the multimodal freight interchanges are encouraged in locations such as Doncaster and Markham Vale to encourage freight to efficiently switch to the most effective mode.

**What form of governance would most effectively deliver transformative infrastructure in the north, how should this be funded and by whom, including appropriate local contributions?**

4.19 Under the proposed amendments to the '*Cities and Local Government Devolution Bill*', the Government is committed to establish Transport for the North as a statutory body. SCR believe that this governance structure will be suitable to effectively deliver the transformative infrastructure required to maximise the North's economic potential. However, these arrangements must continue to include representatives from the North's City Regions from a political, officer and private sector perspective to ensure each decision being made has been subject to debate and decisions can be agreed democratically.

4.20 In addition, through close partner working relationships within the SCR, the SCR has developed governance structures which enable decision making to take place on a City Region level. This has been demonstrated by the recent Devolution Agreement[35] with the potential for an elected Mayor to chair the SCR Combined Authority and make decisions though a locally agreed process. The governance arrangements of the SCR CA therefore reinforce the SCR's ability to make decisions collectively. Any Northern Body would need a similar arrangement to be established.

[35] HM Treasury and Sheffield City Region (2015), SCRCA Devolution Agreement, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/466616/Sheffield_devolution_deal_October_2015_with_signatures.pdf