2. STRATEGIC CASE

INTRODUCTION

This section defines the policy alignment, particularly the core objectives of the TCF:

- Invest in new local transport infrastructure to boost productivity
- Improve public transport and sustainable transport connectivity
- Improve access to employment sites, Enterprise Zones, development sites, or an urban centre that offers particular growth/employment opportunities.

Specifically, this section examines the existing characteristics of the SCR and the targeted corridors, sets out the transport barriers identified (both current and future), identifies the objectives and summarises the options that have been considered. It therefore demonstrates the case for change – that is, the rationale for investment.

It has been prepared with particular reference to the DfT's Strategic Case Supplementary Guidance: Rebalancing Toolkit (December 2017), which is designed to help authors of strategic cases assess how a programme or project fits with the objective of spreading growth across the country, and also introduces a framework for presenting the rebalancing case more consistently.

The key points from the Strategic Case are as follows:

- The SCR is polycentric city region, not a classic mono-centric conurbation in the manner of Greater Manchester, Bristol or Glasgow.
- The SCR LEP area is home to 1.8 million people, with 68,000 businesses, providing 847,000 jobs and an annual Gross Value Added (GVA) of around £34 billion.
- By 2040, the SCR could be a £55 billion economy with the right infrastructure, however, at a number of key locations, economic growth is constrained by a lack of appropriate infrastructure, particularly for public transport and active modes.
- Without future intervention, congestion and delays will increase, and journey time reliability will deteriorate, presenting further barriers to economic growth and potentially damaging the existing economy, as well as having a severe detrimental impact on the SCR's air quality and hence the health of its residents.
- There is a clear need to take action now to improve the opportunities for people to use public transport and active modes and to make these modes the preferred choice of travel for increasing numbers of people across the SCR, linked to the identified growth and employment opportunities..
- The biggest opportunity for return on future transport investment, including this TCF bid, is to better connect the areas of transport poverty with those areas of opportunity by public transport and active modes, allied to achieving significant mode shift away from the private car on key corridors that could stifle future growth ambitions.

SETTING THE CONTEXT

The SCR is polycentric city region, including the city of Sheffield, the fourth largest in England, and the surrounding towns of Barnsley, Rotherham and Doncaster (the largest metropolitan authority in the country). It is not a classic mono-centric conurbation in the manner of Greater Manchester, Bristol or Glasgow – this reflects the economic history and the dominance of industries such as coal mining which led to very strong local economies. The wider SCR Local Enterprise Partnership (LEP) area also includes Bassetlaw, Bolsover, Chesterfield, Derbyshire Dales, North East Derbyshire.

The SCR LEP area is home to 1.8 million people, with 68,000 businesses, providing 847,000 jobs and an annual Gross Value Added (GVA) of around £34 billion. With world-class specialisms in advanced manufacturing, the City Region is at the forefront of innovation and a major driver of economic growth as it develops its advanced manufacturing and engineering capabilities.

The nine SCR districts form a coherent and well defined functional economic area, and all of the places and districts, be they urban or rural, make an important and different contribution to the City Region's performance. The different economic roles of places in the SCR are illustrated in Figure 2.1, with the following paragraphs providing more detail on the roles of the four urban centres in South Yorkshire.

Barnsley: A well-established town with strong economic links to both Sheffield and Leeds City Region. Barnsley has a strong vision coupled with an ambitious adopted Local Plan. It is committed to focusing investment to achieve a thriving and vibrant economy, that people achieve their potential and that strong and resilient communities are created. Significant new land supply in strategic growth areas has helped to improve the recent economic performance of the Borough. The town centre is undergoing significant transformation via the £180m Glassworks investment programme, and there are a number of economic and housing regeneration projects are well underway, including major investment in the strategic development sites around M1 Junction 36 to the south west of the town centre, and significant business and housing growth plans in the Dearne Valley to the east of the Borough.

Doncaster: A high quality urban centre with attractive retail opportunities and excellent rail links. To the south east of Doncaster is the SCR's international airport and the rapidly developing logistics centre, iPort, which is expected to create 5,800 jobs when fully developed. Doncaster also has several key regeneration and development opportunities, including Unity to the north east of the town centre (which includes Don Valley power station and potential low carbon business parks).

Rotherham: Closely linked to Sheffield, with a strong economic and employment base, and benefiting from a large employment boost in the last growth period, Rotherham is divided into three major economic areas – the town centre, with an economic corridor running through the Don Valley toward Sheffield, which is a key employment centre; the Dearne Valley to the north, which has seen the growth and development of a new business community; and the rural hinterland to the south east.

Sheffield: The UK's fourth largest city, home to two Universities with over 60,000 students, is the only major city in the UK with a national park within the city boundary. It is the City Region's hub for Knowledge, Creative and Digital Industries, Leisure, Higher Education, Culture, and Financial & Professional Services sectors. Heart of the City II is a key regeneration project underway in the City Centre – the 7 hectare development will provide further Grade A office space, two 4 or 5-star hotels, residential developments, restaurants

and cafés, leisure destinations, parking and stunning public realm. The Advanced Manufacturing Innovation District connects Sheffield, Rotherham and the Lower Don Valley and is a 2,000 acre centre of excellence in metals and materials manufacturing and home to two of the UK Government's High Value Manufacturing Catapult centres.

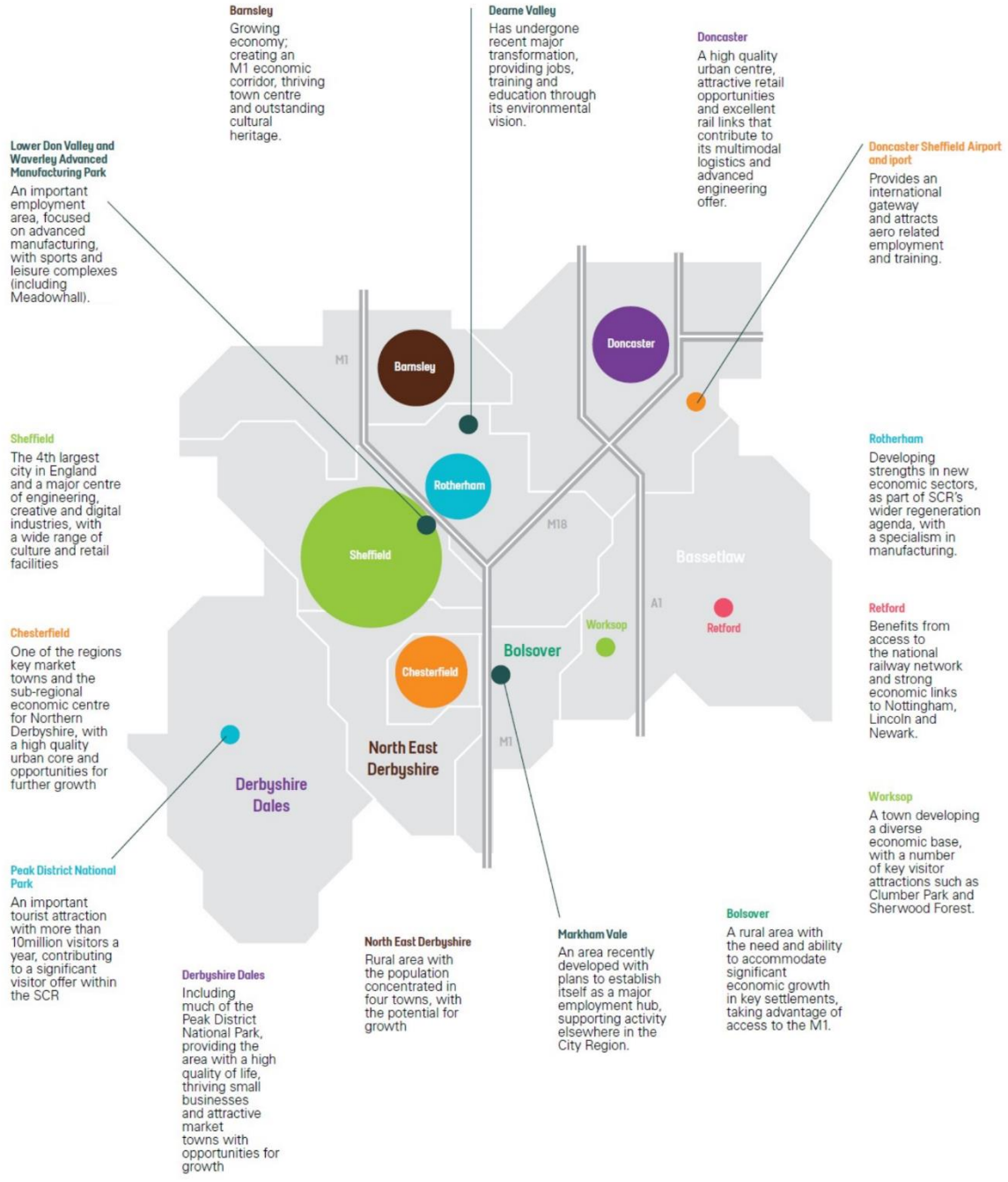

Figure 2.1 – Sheffield City Region

Other significant economic strengths in the SCR include:

- Strategic central location – at the heart of the UK with connectivity via the M1 and A1(M) motorways and mainline stations on the East Coast and Midland Mainlines to regional and national markets, and international markets from Doncaster Sheffield Airport (DSA)
- Two Universities with world class research capabilities and the country's largest engineering department and a state-of-the-art High Speed Rail College in Doncaster
- Home to the Advanced Manufacturing Innovation District (AMID) in Rotherham and Sheffield, a 2,000 acre centre of excellence for innovation-led research and industrial collaboration, boasting exemplar models of university and industry collaboration in metals, materials, health technology and wellness
- A potential workforce of 950,000, with more than 120,000 jobs in the knowledge and data driven economy
- A flexible and adaptable base of SME companies focused on business to business supply chain
- A proposed HS2/Northern Powerhouse Rail (NPR) station, with two others proposed on the NPR corridor between Sheffield and Leeds (at Rotherham and Barnsley Dearne Valley)
- A significant visitor economy including the Peak District National Park, Chatsworth, Wentworth Woodhouse and several acclaimed cultural venues including the Crucible Theatre
- Capacity for additional development of employment and housing land.

These strengths provide solid foundations for further growth. The current Strategic Economic Plan (SEP) identifies that by 2040, the SCR could be a £55 billion economy with the right infrastructure, driven by the creation of 70,000 new private sector jobs and 6,000 new businesses. The SCR has shown a gain of 37,000 jobs between 2014 and 2017, and by 2017, activity led by the SCR LEP and the Combined Authority had already contributed 16,000 new jobs to the economy and leveraged approximately £318 million of private sector investment. Therefore, the targets within the SEP are seen as robust and realistic.

However, despite the strengths and progress made, the SCR Independent Economic Review, produced in 2013, highlighted the stark nature of the challenges the City Region faces due to its industrial legacy and the ongoing transition from an economic base previously dominated by coal and steel. During the growth cycle of 1998 to 2008, the SCR was the only City Region to experience a net decrease in private sector employment. The recession and relatively flat performance of the UK economy since 2008 have not helped the SCR achieve the transformation that it needs.

The City Region needs an outward looking and restructured inclusive economy which contains a greater number of businesses and which generates more exports and better employment opportunities. The SEP identified that the SCR needs a bigger and stronger private sector, which will lead to a growth in the number of jobs in City Region, a higher level of GVA and a restructured economy. Realising these ambitions will transform performance and thus the contribution of the SCR to the UK economy.

Overall, each of the local economies and the identified growth areas has a role to play within the City Region and each will make an important contribution to future growth. Making further progress in addressing the challenges and issues which are specific to local areas will help to boost the overall economic resilience of the City Region and its attractiveness as a place to live, work, play and visit. The following paragraphs explore some of the key economic and connectivity challenges for the SCR, with a focus on the four South Yorkshire Districts that form the basis of this TCF bid.

The SCR has low productivity despite a sizeable economy ...

Despite being the 10th largest LEP area by population and 16th largest LEP economy, in 2016 SCR ranked 34th out of 38 LEP areas in England for GVA per head and GVA per filled job. GVA per head in the SCR is currently £18,370, which is well below the UK average (£26,580) and £5,000 lower than the UK average even when excluding London (£23,774). SCR's productivity is lower than comparator Northern LEPs such as Derby, Derbyshire, Nottingham and Nottinghamshire, Liverpool City Region and Tees Valley, as shown in Figure 2.2.

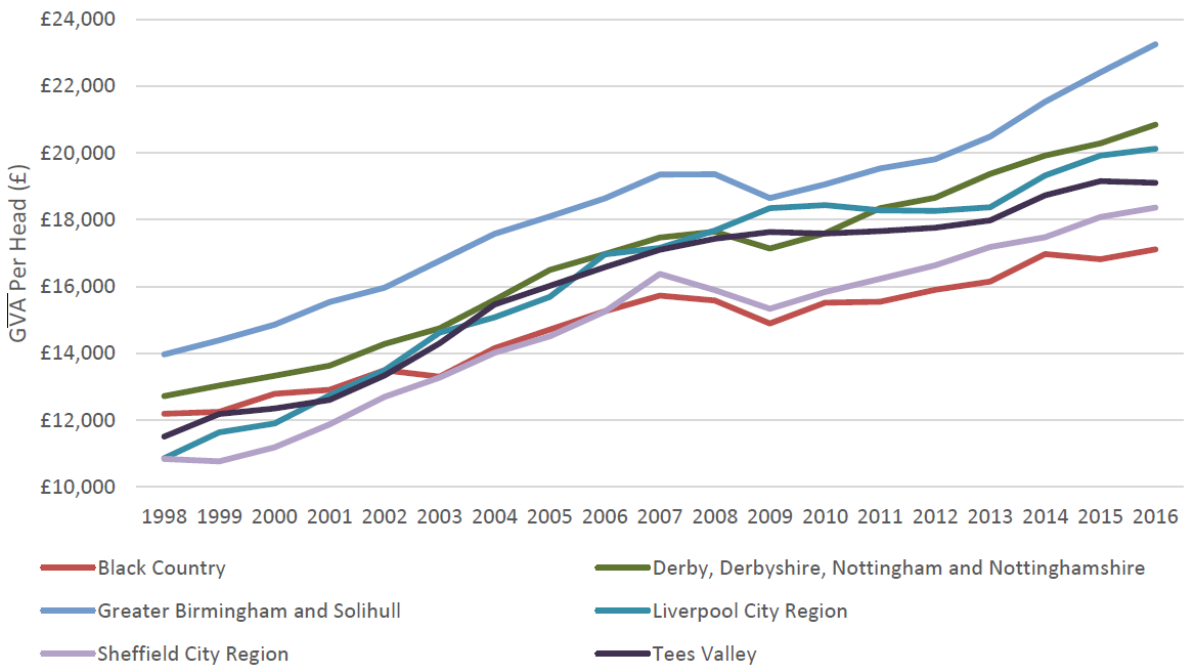

Figure 2.2 – GVA per Head for Comparator City Regions

GVA per employee and mean earnings are 18% and 17% below the national average respectively.

The UK-wide productivity challenge affects all SCR sectors and reflects the low proportion of people employed in higher skilled occupations in the City Region and the need for a wider range of people to access such jobs.

This shows that there is still much to do to address the failures of our current transport system that limits the flow of ideas, people and business between the urban areas and major employment sites, and which acts as a drag on productivity, competitiveness and skills utilisation.

There is a high economic inactivity, unemployment and NEET rate in the SCR …

The overall employment rate in the SCR is 1.8% below the national average. There are 47,900 residents in the SCR who are unemployed. Of more concern than the absolute employment figure is economic inactivity – the SCR has the 11th highest economic inactivity rates across all LEPs. This is, and has been, a persistent and pernicious challenge for the City Region since de-industrialisation in the 1980s. By September 2018, SCR had 260,200 economically inactive residents. Of this total, 82,600 people (31.7 compared to 21.4%

nationally) want a job, an indication of the opportunity available if the economic conditions can be improved.

Within this, the most immediate concern for the City Region is the emergence of youth unemployment – approximately 16,300 16-24 year olds in the SCR are unemployed, which is 40.1% of the total working age unemployment. Not only is the cost to the local economy significant, but the cost to the individual young person can be considerable with long periods of unemployment in the early years of adulthood correlating to a pattern of 'wage scarring' (reduced lifetime earnings), further periods of worklessness and reduced life chances as represented by almost all key social and health indicators.

In part, the origins of youth unemployment can be found in the high level of 16-18 year olds in the SCR who are Not in Education, Employment or Training (NEET) – at present this is some 3,700 people. 44% of young people leave school without five good GCSEs (including English and Maths). The NEET level for the SCR continues to exceed the national average.

This converts into unacceptably high levels of unemployment for 18-24 year olds. Since 2008, youth unemployment has more than doubled and 18-24 year olds are more than twice as likely to be unemployed than their older counterparts. However, since its peak in September 2012, the number of long term benefits claimants in that age bracket has decreased.

For young people, a lack of affordable transport options can act as a significant barrier to finding employment, and our transport system needs to ensure that we provide real and affordable choices for all of our residents, especially given the SCR's local sectoral/industry specialisms in transport that provide the opportunity for greater innovation and should appeal directly to young people.

There are pockets of high deprivation across the SCR …

There are significant areas of deprivation across the SCR and also significant disparities between the levels of deprivation in different parts of the City Region, as illustrated in Figure 2.3. Too many of the SCR's citizens are distant from the labour market and everyday services, given the dispersed settlement pattern across the SCR, not in employment or training, are experiencing poor physical or mental health, or have low or no skills to help them get better jobs. Low productivity, health and deprivation are related.

Deprivation is also compounded by:

- The disproportionate number of low skilled residents in low paid, fragile and often part-time work
- Levels of economic inactivity above the national average
- A growing problem of long term unemployment
- A cycle of intergenerational unemployment and poverty and poor health.

A Resolution Foundation study has found that SCR has the highest proportion of people in low paid work and below the recommended living wage (24%).

Again, we need to ensure that nobody is preventing from becoming economically active as a result of our transport network, with a focus on improving those connections between the areas of greatest need and those of new opportunities across the SCR.

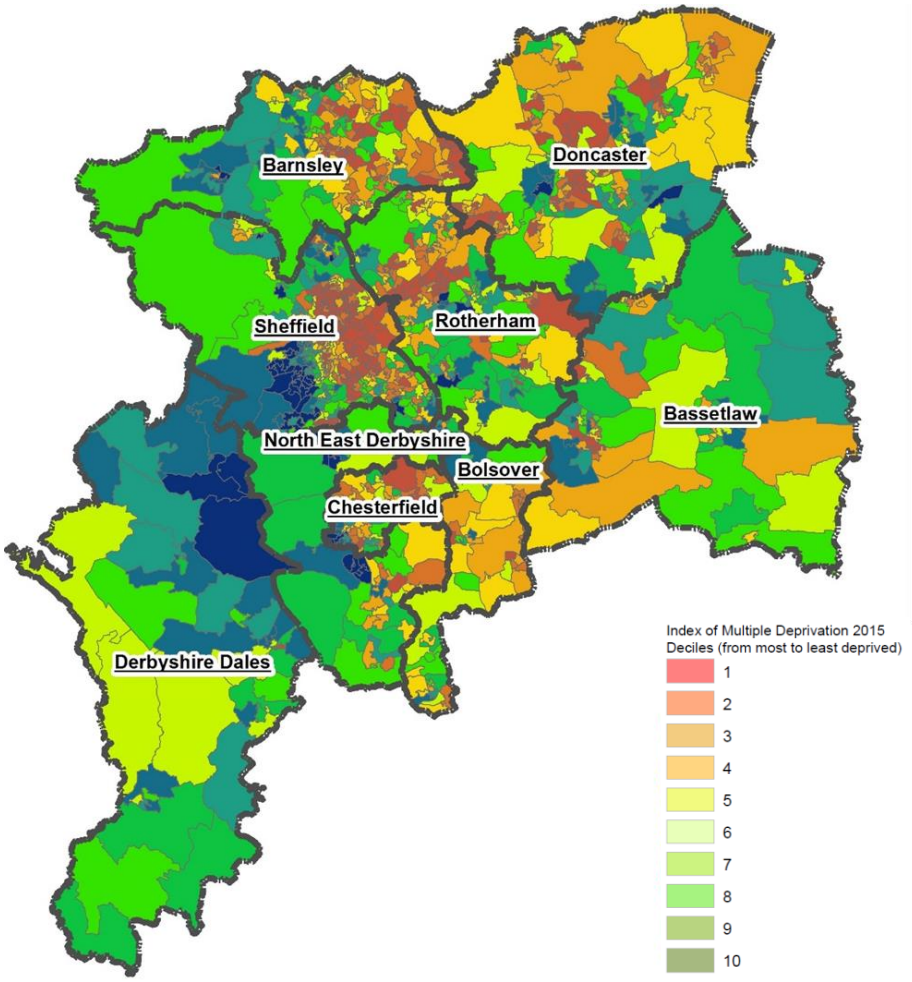

Figure 2.3 – Current Levels of Deprivation across the SCR

Population growth is expected to see an ageing population profile …

The population of the SCR is forecast to grow by 136,600 between 2018 and 2041. The following table provides a breakdown of population by South Yorkshire districts and the total, combined, population of districts outside of South Yorkshire.

	2018	2021	2031	2041
Barnsley	245,500	250,900	264,700	275,400
Doncaster	308,700	310,800	314,600	317,300
Rotherham	263,800	266,400	272,700	277,800
Sheffield	581,900	590,600	620,500	643,800
Bassetlaw	115,900	117,100	120,000	121,800
Bolsover	79,000	80,100	83,200	85,400
Chesterfield	104,800	105,300	107,000	108,300
Derbyshire Dales	71,500	71,700	72,700	73,300
North East Derbyshire	100,900	101,700	104,000	105,500
South Yorkshire	1,399,900	1,418,700	1,472,500	1,514,300
Non-South Yorkshire districts	472,100	475,900	486,900	494,300
SCR LEP area	1,872,000	1,894,600	1,959,400	2,008,600

Along with an overall growth in population, the City Region, like the rest of the UK, is forecast to experience an ageing population, as shown in Figure 2.4. Over the next 25 years, the old age dependency ratio (people of pensionable age per thousand people of working age) will increase by 19%. Between 2018 and 2041 the number of young people aged 0-15 is forecast to grow slightly by around 2,600 (0.8%) in the City Region, but the population aged 65+ will increase by 146,860 (41.9%).

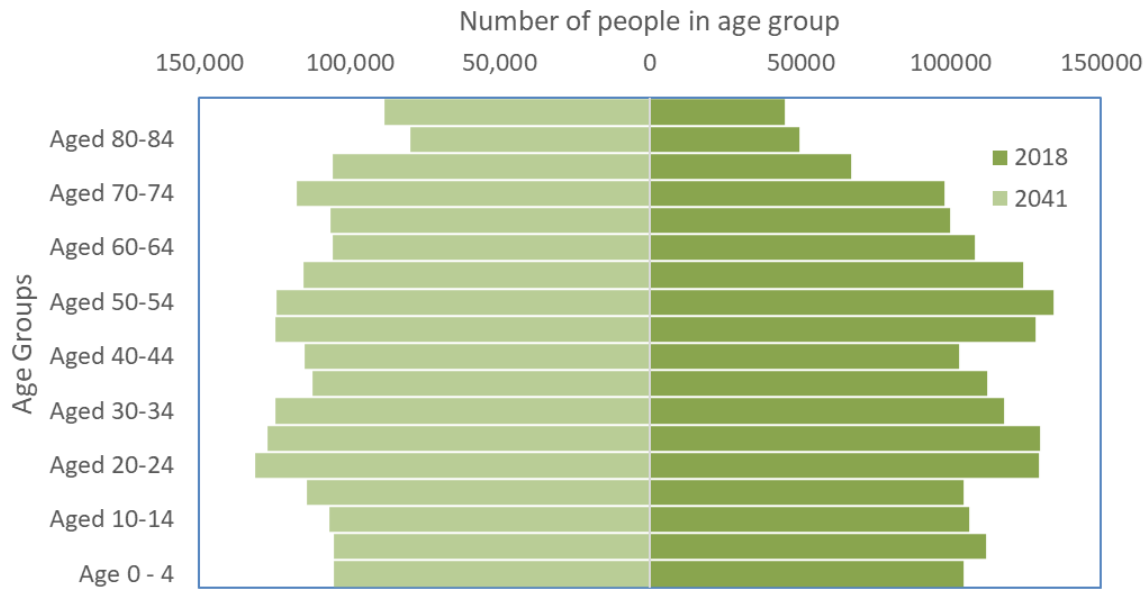

Figure 2.4 – Forecast Population Changes

These demographic changes will have implications for transport, particularly as older people tend to have different travel patterns and travel needs to younger generations and are generally less digitally connected, but at the same time older residents may continue to work longer and more flexibly in the future, altering current travel patterns.

Health is an issue in the SCR too …

The majority of SCR Local Authorities have physical inactivity levels higher than the national average for the adult population (aged 16 and above), as shown in Figure 2.5.

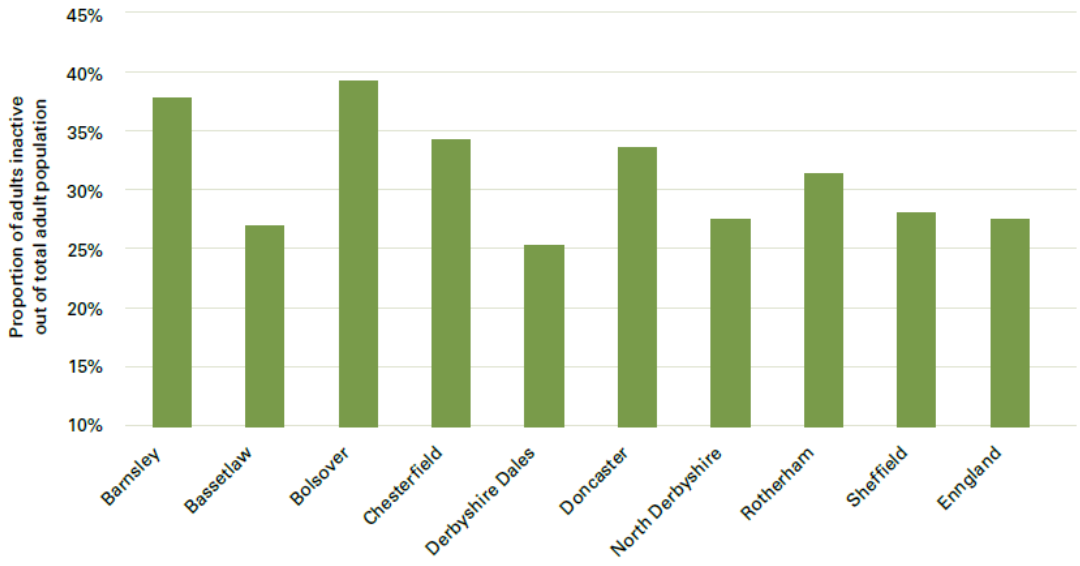

Figure 2.5 – Proportion of Physically Inactive Adults

The way that we travel and the transport we use impacts on our health, our environment and our societal wellbeing and our health and wellbeing have a huge impact on our everyday lives – if we are unwell it can affect our ability to work and work productively, to study and learn and to care for others.

The national obesity survey shows that although the obesity levels in the SCR of 10-11 year olds have decreased to meet the national average (19%), there are a number of areas within the City Region that have higher than average, and growing, obesity levels. Being overweight or obese can lead to serious health consequences such as cardiovascular disease (mainly heart disease and stroke), type 2 diabetes, musculoskeletal disorders like osteoarthritis, and some cancers (endometrial, breast and colon).

However, the issues with obesity are largely preventable. The key to success is to achieve an energy balance between calories consumed on one hand, and calories used on the other hand. To reach this goal, people can limit energy intake and to increase calories used, people can boost their levels of physical activity, to at least 30 minutes of regular, moderate-intensity activity on most days. This could easily be built into a daily commute.

Although health is affected by many different factors, being physically active can have a huge positive impact on both our physical and mental health. Not only does being active help contribute to maintaining a healthy weight for children and adults, there is good evidence that it also significantly reduces the risk of several different diseases. The outcomes of such an increase in physical activity will include a reduced call on health services locally and nationally, as well as contributing to an increase in workforce productivity.

Creating environments and transport networks systems which promote active travel as part of normal everyday life can not only help create, active, healthier and more liveable communities but can also have significant economic benefits and should be a fundamental part of our future transport plans.

The SCR labour market is fairly self-contained …

Three quarters of the SCR's residents live in the four main urban areas and this figure has been steadily growing. Between 2007 and 2017 the population of these areas grew by almost 87,000 (6.67%). Planned housing growth in the immediate term will likely see this trend continue, but over time, more residents may live away from the main urban centres in line with growth plans within the Dearne Valley, for example.

However, as Figures 2.6 and 2.7 show, regardless of where they live, people travel throughout the SCR to access jobs, putting pressure on the existing transport system. The latest census Journey to Work data shows that the majority of SCR's residents (85.3%) commute within the City Region boundaries and around 70% travel within their own Local Authority area – 56% of SCR commuters travel less than 10km to get to their place of work and 36% travel less than 5km. Sheffield is a net provider of jobs with the other districts being net providers of labour.

Whilst it is recognised that there may be changes in commuting patterns in the long term, the locations of planned growth in the SCR and the types of growth envisaged at these locations is likely to mean that this situation will continue in the near term.

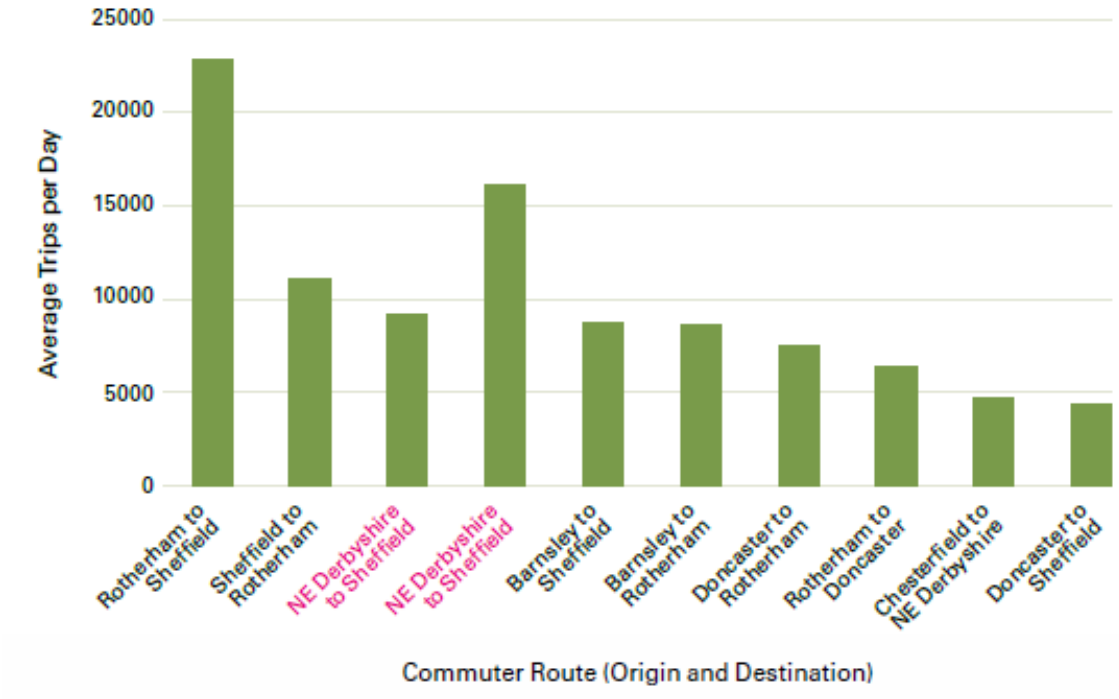

Figure 2.6 – Current Travel to Work Patterns within the SCR

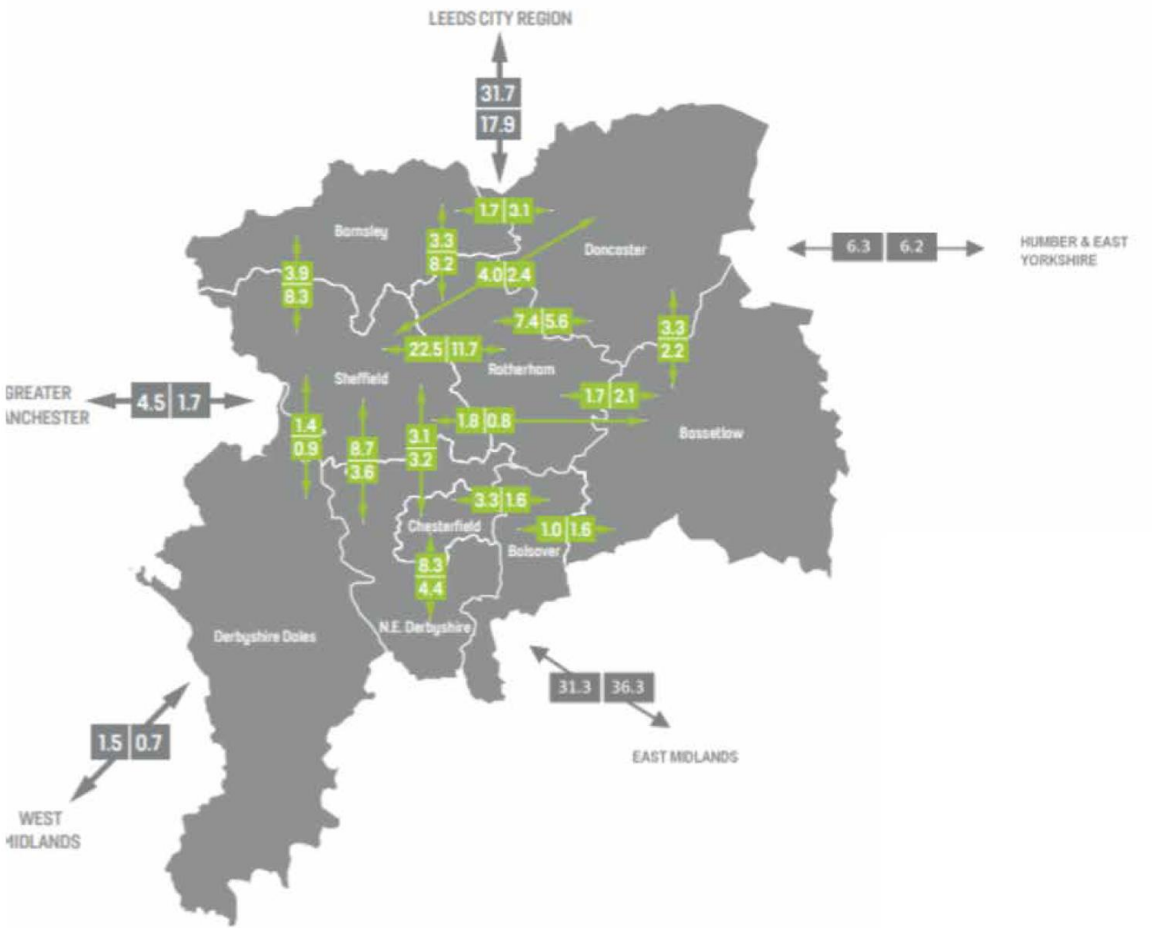

Figure 2.7 – Current Travel to Work Patterns Within and Outside the SCR (thousands of trips)

The levels of commuting between Rotherham and Sheffield are particularly high and coupled with additional demand generated by further development at AMID, would indicate that this is an important area for future transport investment. The lack of existing commuting between Barnsley and Doncaster is also evident and is likely to be related to the lack of effective connections between these two centres, by both public and private transport.

Yet in the SCR there is a reliance on cars when travelling to work …

A high proportion of residents (71%) of SCR residents travel to work by car, and this trend has increased since 2001, which is contrary to the general UK trend of decreasing car use and has resulted in increased congestion, longer journey times and has impacted detrimentally on health and air quality.

Despite this apparent reliance on cars, 29.5% of households in SCR do not have access to a car – the national average is around 26% – meaning these residents are reliant on public and sustainable transport modes to meet their transport needs, and with relatively short commuting distances, this would seem a realistic aim, assuming the right quality of transport infrastructure, facilities and services are provided to meet their needs.

Not having reasonable access to the transport system is a key factor in social exclusion and has a detrimental impact on people's day to day lives and future opportunities through a reduced participation in the wider economy of an area.

A low proportion (12%) of commuters travel to work by public transport in the SCR, and bus usage in particular has been falling since 2008. Funding for bus services has reduced, which particularly impacts on areas where commercial services are not viable, potentially isolating communities, especially rural communities, even further and can impact on the rural and visitor economies. Analysis has shown that a little over half of the fall can be explained by changing customer needs such as home working, internet shopping, home entertainment and competitive taxi fares. The remainder can be explained by increases in bus fares and service quality as congestion reduces the reliability and thus attractiveness of buses.

The numbers of people travelling in the City Region by rail has increased between 2005 and 2016 and seven out of the top ten stations in the SCR have recorded more than 50% growth over this time. 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 & Humber region, whilst Doncaster had around 3,900,000 entries and exits. Many of the main and local rail stations have park and ride facilities, which are often full on weekdays.

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 crowded over capacity by 1.2% in 2017, while in the afternoon peak the figure was 0.8%.

The current mode share breakdown for travel to work trips is shown in Figure 2.8.

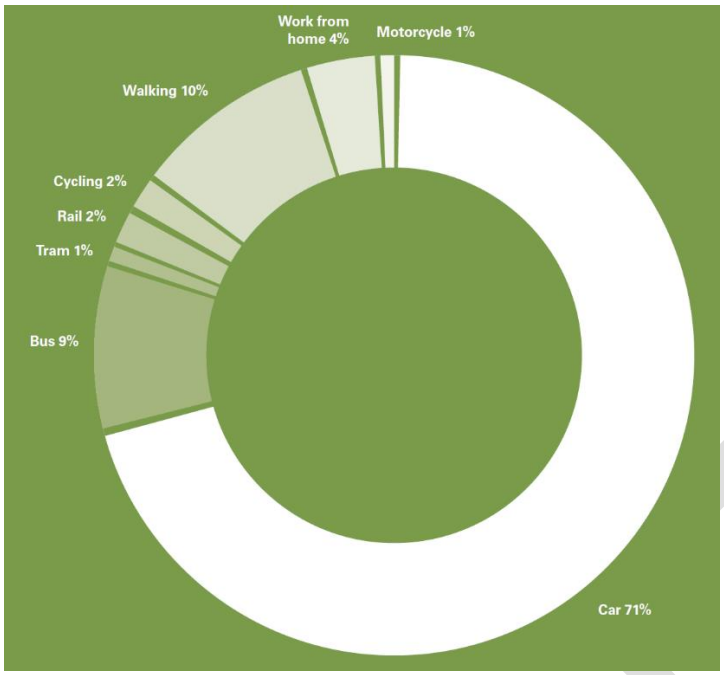

Figure 2.8 – Current Mode Share across the SCR

Cycle mode share remained fairly constant between 2001 and 2011 at 1.5% but counts taken around the four main urban centres indicate that there was an overall increase by 7% between 2016 and 2017. Cycle mode share for trips less than 5km (considered to be the average commuting trip length for cycle trips) is between 2-3%, with car use dominating this commuting distance. Although walking is the predominant mode for trips less than 1km in length, the reliance on car travel for short trips is still high, especially as 36% of SCR commuting trips are less than 5km in length.

The low mode share for walking and cycling is predominantly as a result of a lack of infrastructure, but also through a perception of a lack of safety resulting from large volumes of traffic and high speeds.

The continued reliance on the private car cannot continue – if the plans for significant economic growth within the City Region are to be realised, then it is forecast that there will be up to half a million extra highway trips per day across our transport network if current trends continue. There is a clear need to make more of our public transport networks and develop our active travel network to give people a real choice in how they travel around the SCR whilst improving air quality, reducing our carbon footprint and cutting congestion.

OPPORTUNITIES AND CHALLENGES, INCLUDING TRANSPORT BARRIERS

A summary of SCR's key challenges and opportunities was presented in the TCF Prospectus and a number of these have been evidenced in the preceding sub-section. Transport has a key role to play in supporting economic growth, ensuring businesses can function and local people can access employment opportunities in the SCR.

Economic growth in the City Region is dependent on attracting and retaining high value businesses, and therefore jobs, ensuring people have the skills and education needed to fill

them, and then ensuring all parts of the SCR are connected effectively to the areas of opportunity. Figure 2.9 shows the location of the growth areas across the SCR and the main urban centres.

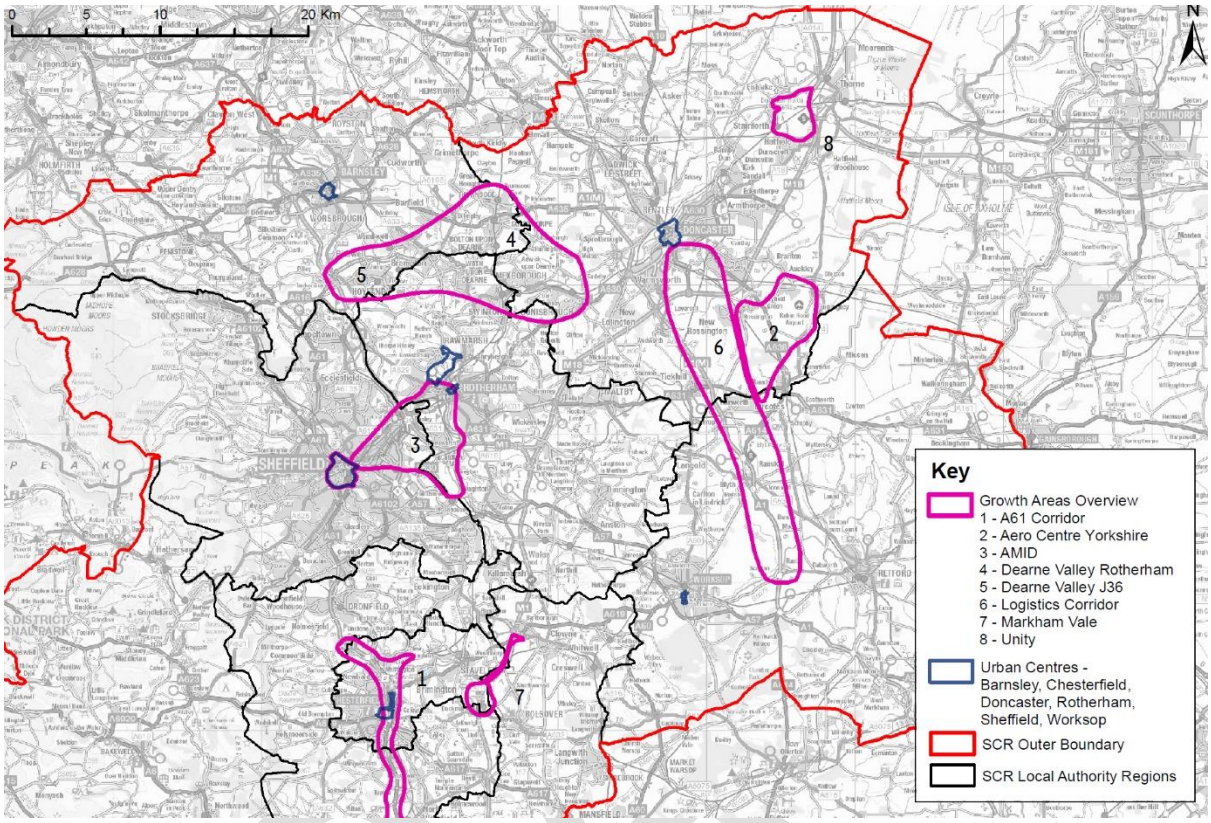

Figure 2.9 – SCR Growth Areas

External connectivity to the SCR is relatively good. The M1 and A1(M) motorways provide North and South connectivity, with connectivity to the East via the M18 to the Humber. The A628 'Woodhead Pass' and the Hope Valley rail line providing connectivity to the West towards Liverpool and Greater Manchester City Regions, with ongoing investigations into improved strategic links by TfN and Highway England being welcomed. The East Coast and Midland Mainlines rail routes connect the SCR to London and the rest of the North and DSA gives the City Region an international reach.

The SCR's connectivity is currently emphasised by the clustering of employment centres, not only in urban areas, but along the strategic road network. In particular, the M1 and M18 corridors are home to a large number of major employers. There is evidence of clustering along the Supertram network in Sheffield and towards Meadowhall, however a number of the growth areas are starting from a very low base in terms of public transport and active mode connectivity.

All of the major centres have well developed economic and spatial plans to support growth and regeneration, although all have been affected by the economic downturn. The majority of the plans highlight strategic locations based on strong transport linkages. For example, Chesterfield Waterside at Junction 29 of the M1, development sites at Junctions 36 and 37 of the M1 in Barnsley and the Aero Centre Yorkshire proposals in Doncaster, building on the newly opened Great Yorkshire Way road link.

However, with the changing nature of employment and company preference for certain locations, this is likely to mean that more people will have to travel further to work, compared to the past. This will particularly be the case for higher skilled and higher paid jobs.

At a number of key locations across the SCR, economic growth is constrained by a lack of appropriate infrastructure, which makes development not viable both physically and financially.

The key transport infrastructure challenge is therefore to ensure that the good national connectivity is matched by peerless connectivity within the City Region itself. A quantum leap in transport infrastructure investment is required to remove constraints to development and connect all people across the SCR efficiently and sustainably to the high quality, attractive sites that will support new and inward investment.

Based on the contextual description included previously, the target of this investment should be to address the existing areas of “transport poverty” across the SCR. Around 146,000 people within the SCR are currently living in areas of transport poverty – this is defined as an area of high deprivation where both public transport uptake and car ownership are low. Some 108,000 residents that experience transport poverty currently live in the areas defined by the three priority corridors included in the TCF Prospectus and Figure 2.10 shows the identified areas of transport poverty across the three corridors.

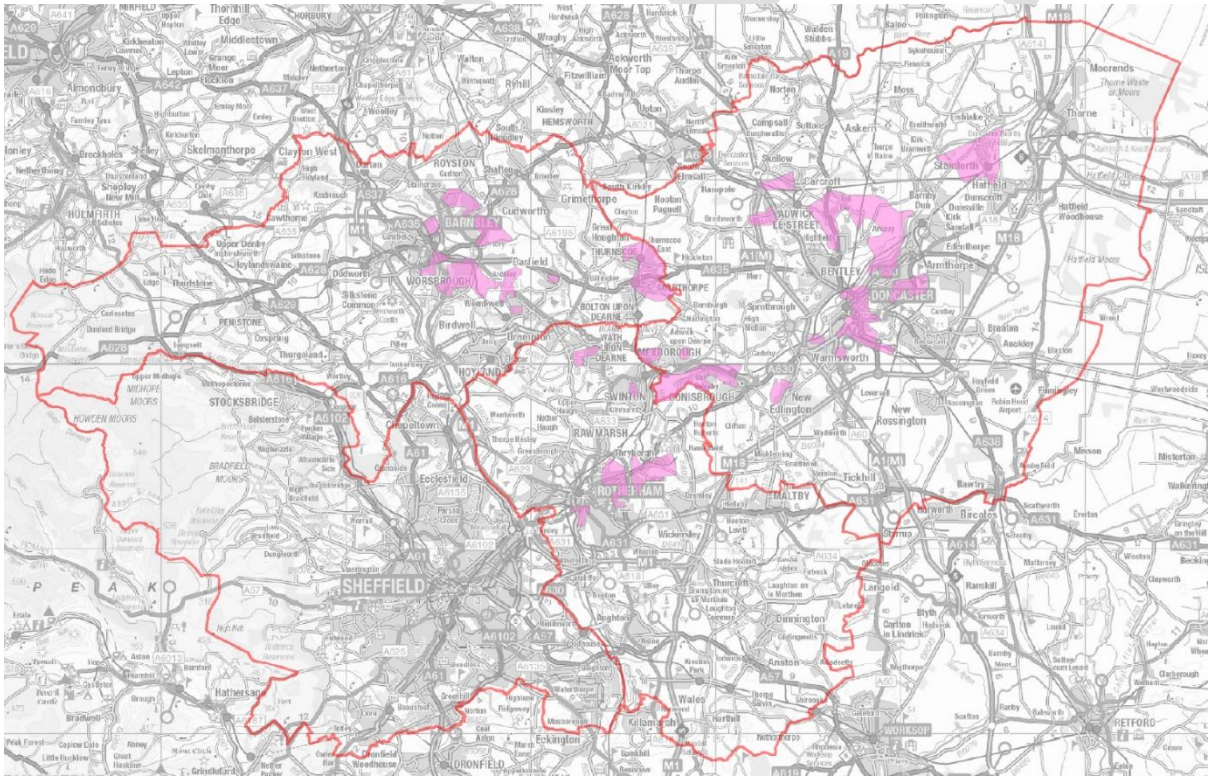

Figure 2.10 – Areas of Transport Poverty in the TCF Priority Corridors

Put simply, the biggest opportunity for future transport investment, including TCF, is to better connect the areas of transport poverty, with those areas of opportunity by public transport and active travel modes, allied to achieving significant mode shift away from the private car on key corridors that could stifle future growth ambitions, thereby achieving growth in a sustainable way that addresses current health issues and improves air quality.

The Sheffield City Region Integrated Investment Plan (SCRIIP) identified the top 20 highway corridors forecast to experience increased delay resulting from population and economic growth by 2025, as shown in Figure 2.11. Analysis shows that travel times at peak periods can be over 30% greater than at off-peak periods on these corridors, meaning that such unreliable journey times also have an adverse impact on the key bus services using these routes. This requires both short term and longer term interventions so as to avoid continuing and additional delays that adversely affect the attractiveness and viability of our bus network.

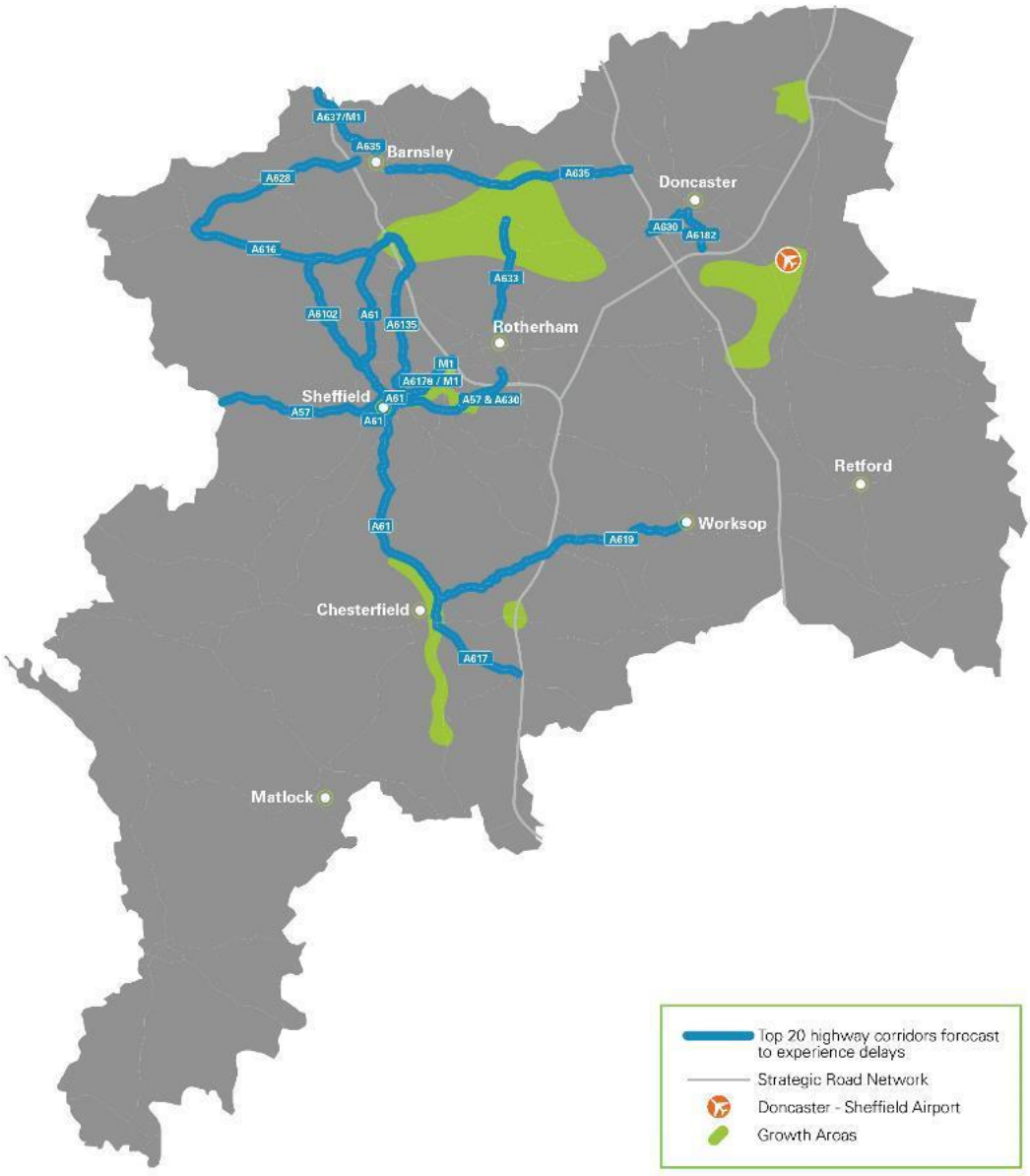

Figure 2.11 – Top 20 Corridors Forecast to Experience Delay by 2025

A number of these routes overlap with the priority corridors identified in the TCF Prospectus, most notably the link between Barnsley and Doncaster, where there is currently no direct rail connection alternative. The analysis also shows the forecast congestion on radial routes around Sheffield City Centre and the City's Inner Ring Road, recognising the ongoing importance of the core city within the SCR where there is also significant opportunity to alleviate congestion and support economic and housing growth through modal shift to public and sustainable transport modes.

Without future intervention, particularly in terms of public transport and active modes, congestion and delays will increase, and journey time reliability will deteriorate, presenting further barriers to economic growth and potentially damaging the existing economy.

Increasing congestion means that the City Region faces significant air quality issues, with 28 Air Quality Management Areas (AQMAs) across the SCR, including 6 in Barnsley, 7 in Doncaster and 8 in Rotherham and high levels of carbon emissions around the centre of Sheffield, which has a city-wide action plan, including the motorways and A Roads (see Figure 2.12).

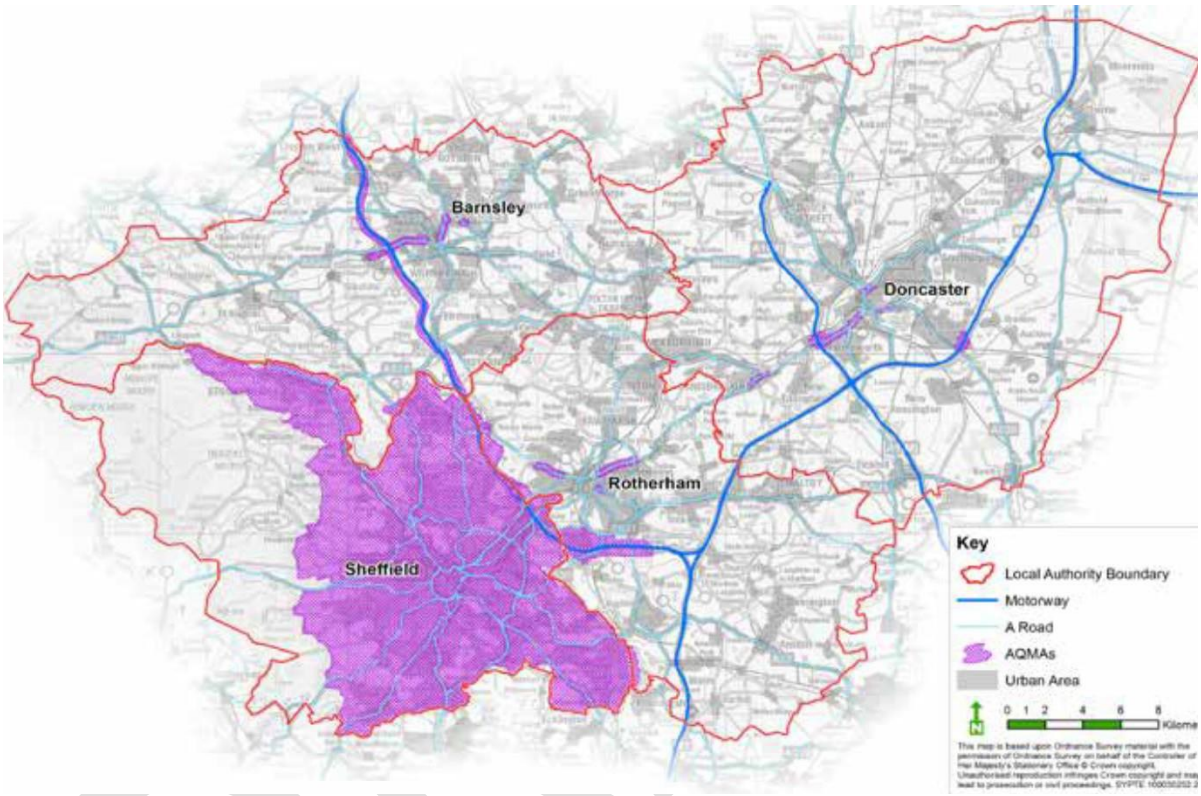

Figure 2.12 – AQMAs in the SCR

Across Sheffield alone, there are 51 locations where the European Union's annual average limit value for NO_2 has been exceeded in one or more of the three year periods (2010-2012). Analysis indicates that road transport is the single most significant contributor to Sheffield's NO_2 emissions at these locations.

Sheffield City Council (SCC) and Rotherham Metropolitan Borough Council (RMBC) are have undertaken a Clean Air Zone (CAZ) Feasibility Study, to ensure compliance with legal thresholds. To address the particular challenges in Sheffield, which needs to bring NO_2 emissions within legal limits as quickly as possible, a range of options have been considered with the preferred solution to introduce a 'Category C' CAZ covering the Inner Ring Road and the City Centre. The proposed zone is not final and may be subject to minor changes through feedback from the current consultation process

The current proposal means that buses, taxis, vans and lorries that do not meet necessary emissions standards will have to pay to drive in and around the zone. The zone will discourage the use of high polluting vehicles from the City Centre and encourage upgrades to cleaner, low or no emission vehicles. The impact of the zone will be much broader than the City Centre and it should reduce pollution across adjacent neighbourhoods and communities.

Congestion and air quality are clearly linked, and the SCR's public transport system and infrastructure for walking and cycling need to offer a real and affordable alternative to the private car if mode shift is to be achieved. This is particularly true for shorter distance trips that could be undertaken by sustainable modes and for short distance connections to longer trips. The public transport system itself also needs to deliver reductions in emissions over time, either through new investment or by interventions to reduce emissions from existing public transport vehicles and rolling stock.

As economic opportunities increase within the SCR, it is likely that commuting distances themselves may well also increase, both within the City Region and to neighbouring city regions. This means that the rail network will play an increasingly important role in the future transport system. Figure 2.13 shows the existing rail network in the SCR and the surrounding area.

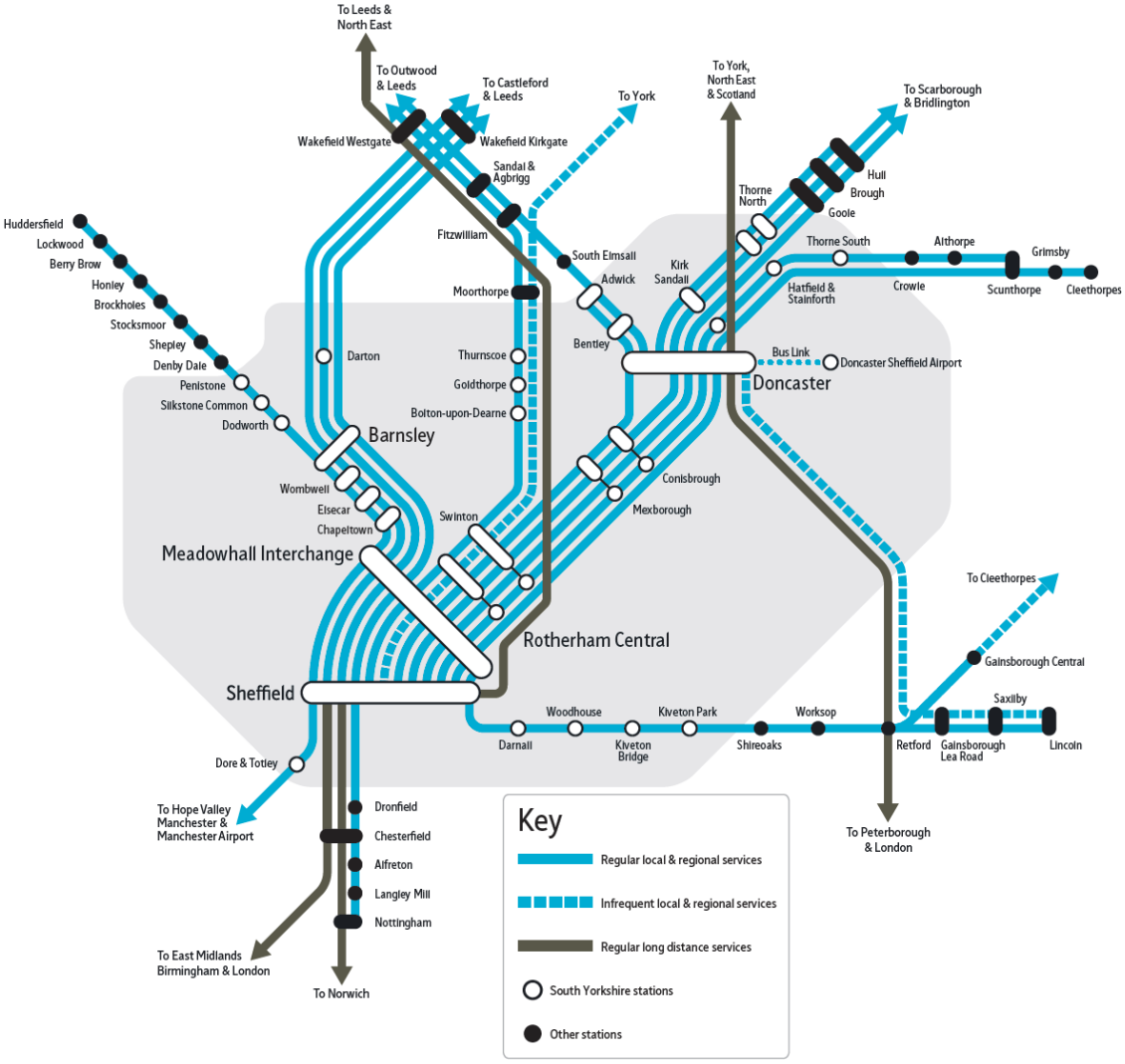

Figure 2.13 – Existing SCR Rail Network

The opportunity for the rail network to support the planned growth of the SCR is illustrated in Figure 2.14, showing the existing network against the larger housing and employment growth sites and the catchment areas of each of the existing rail stations.

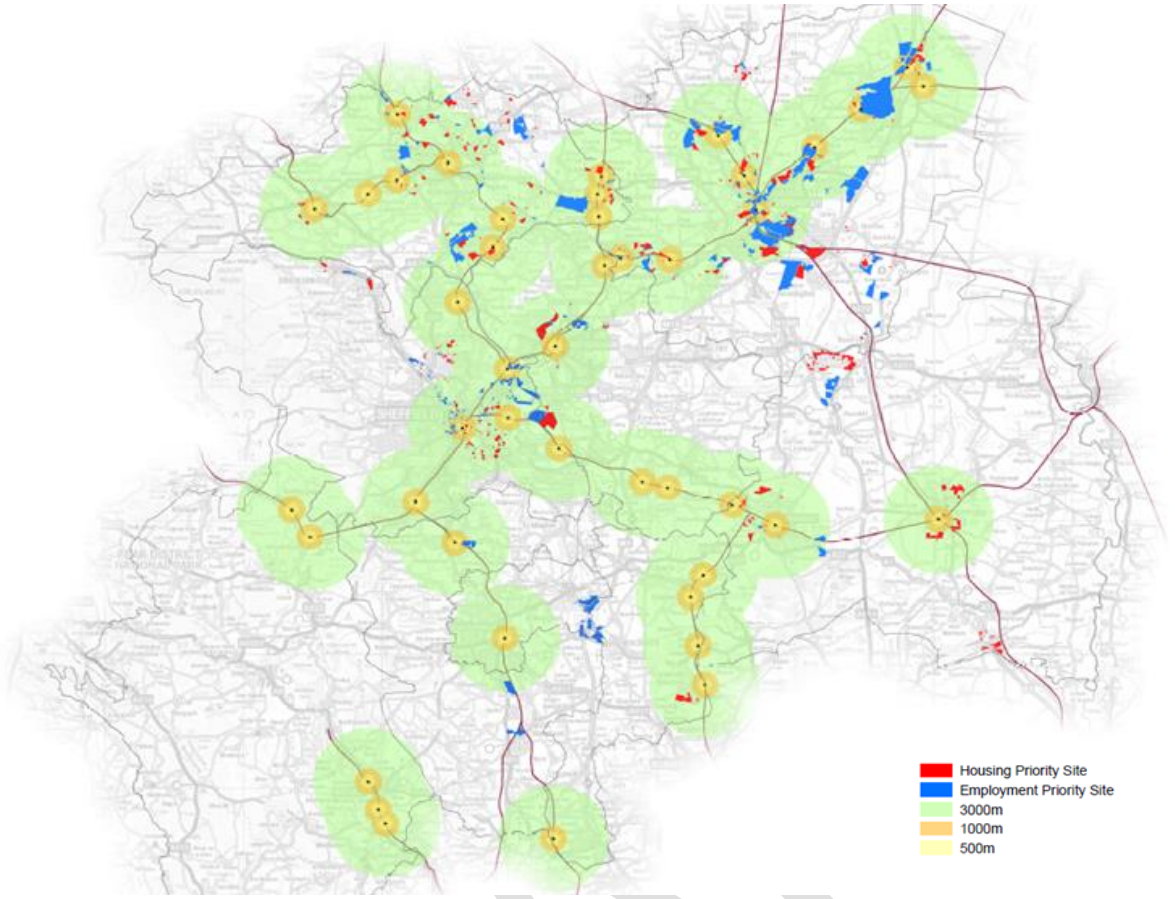

Figure 2.14 – SCR Rail Network and Planned Growth Sites

The quality of the rail stations across the SCR varies considerably. Whilst investment has been made in the rail stations in the main centres and at the principal park and ride stations, many of the SCR's rail stations are either inaccessible for some residents, or are not perceived as safe, particularly during hours of darkness, or both.

The SCR is seeking to define a consistent set of standards at each of the City Region's rail stations that provides customers with safe and secure facilities that are accessible, gives readily available service information, and offers a pleasant waiting environment with appropriate amenities. This approach is aimed at acknowledging the role of many stations as a community facility, and not just a node on the transport network, and also move towards the situation where nobody is excluded from using the SCR's rail stations.

As the recently completed refurbishment of Rotherham Central station has demonstrated, patronage growth at improved stations typically outstrips that where on investment has taken place, supporting the case for more widespread improvements at local stations across the SCR.

The role that the rail network can play in joining up areas of transport poverty with areas of opportunity can be seen, but it is only an effective option for travel if the facilities are suitable for all to use. Effective and safe connections to rail stations, principally by active travel modes, will also be critical to support new economic opportunities, especially given the relatively low commuting distances across the SCR and the areas of transport poverty that have been identified.

Drawing all of this together, the key aims of this TCF Tranche 2 bid are:

- To better connect the areas of transport poverty with areas of opportunity in a safe and sustainable way
- To affect a mode shift away from the private car on those corridors where new opportunities are likely to see an increase in demand or where growth could be stifled
- To create a cultural shift towards making cycling and walking the natural choice for shorter journeys, and
- To achieve the above in ways that address current health issues and improve air quality across the SCR,

all focused on the three priority areas identified in the TCF Prospectus and described below. These aims are designed to underpin the overall TCF objectives of supporting the local economy and boosting productivity whilst reducing emissions and improving air quality. The SCR's new housing locations will be boosted by a range of transport choices and the inclusion of a significant active travel element will have social inclusion and health benefits.

River Don Corridor

This corridor connects two of the City Region's key growth areas running from Sheffield City Centre to the Unity site to the north east of Doncaster.

Sheffield City Centre is a regional hub and home to 20,000 jobs in the digital industry, whilst Unity is set to deliver 3,100 houses and 8,000 jobs. In between lies Doncaster Sheffield Airport (DSA) and the proposals that include a vision for a 1,600 acre employment site at Aero Centre Yorkshire, which has the potential to add £3.2 billion in GVA per annum, connecting with deprived areas on the outskirts of Rotherham, Sheffield and Doncaster. In addition, the Aero Centre site has the capacity for a further 8,500 new homes, confirming the importance of improving intra-regional connectivity.

Adjacent to the Aero Centre site is iPort, a £400 million inland port project and one of UK's largest logistics developments, which is delivering more than 570,000 sq m logistics warehousing linked with a high specification rail freight intermodal container facility

The A6109 and A6178 routes connect Sheffield and Rotherham via Junction 34 of the M1, one of the main points of congestion on both the strategic and local road networks. The A630 corridor connects Rotherham and Doncaster and on to the Unity site via the A18.

There is a two year tram-train trial underway connecting Sheffield, Rotherham and further to the Parkgate retail park, and there are existing local rail and bus connections along this corridor, with bus connections onwards to the north east of Doncaster.

Much of this corridor is located within AQMAs, including the city-wide AQMA in Sheffield, and the corridor is affected by congestion issues around Sheffield city centre, Meadowhall, Parkgate, Warmsworth and Armthorpe. The A6178 corridor between Sheffield and Rotherham showed year-on-year increases in delays of between 7% and 16.5% (depending

on the section measured) in 2018. Delays on the section of the A6109 within Rotherham increased by 26% between 2017 and 2018. In Doncaster, delays on the A6182 (linking the town centre to the M18 at Junction 13) showed an increase of 5% and the A630 in Rotherham showed an increase in delays of 6.3% over the same period.

These delays particularly impact bus services on the approaches to the centres of Sheffield and Doncaster, as well as in the Meadowhall area.

Figures 2.15 and 2.16 show information provided by Prospective on behalf of one of the two major bus operators in the SCR to illustrate these delays – the former showing morning peak hour passenger weighted delays and the latter congestion-related delays in the evening peak period.

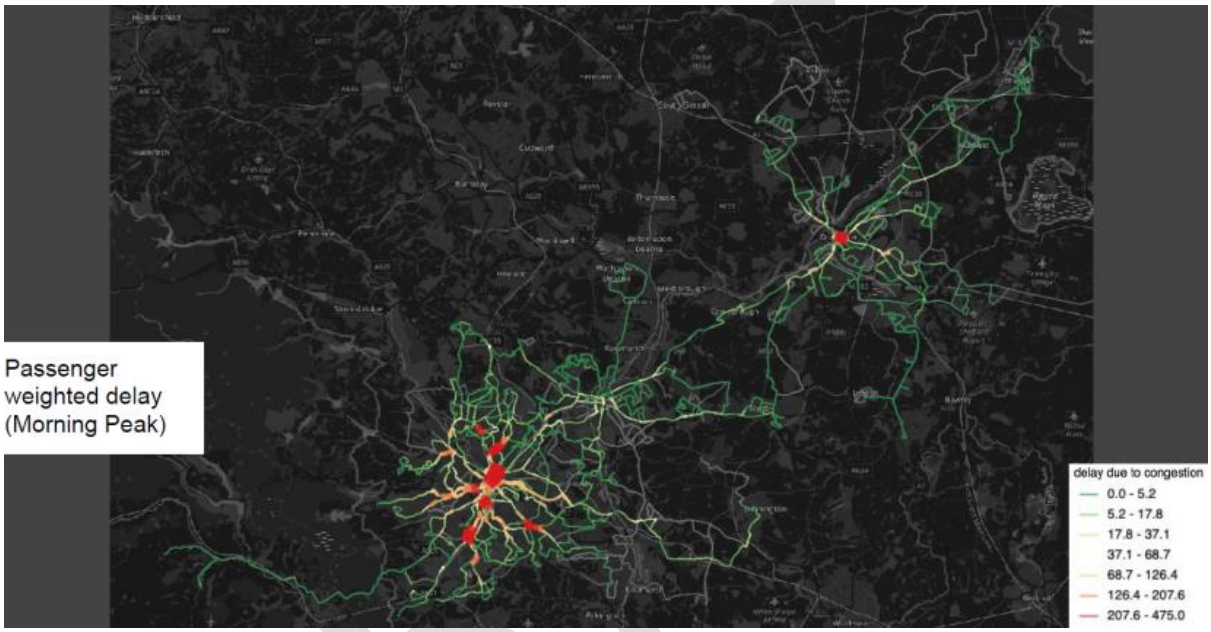

Figure 2.15 – Existing Bus Passenger Delays in Sheffield, Rotherham and Doncaster

Figure 2.16 – Existing Bus Vehicle Delays in Sheffield, Rotherham and Doncaster

Figure 2.17 shows the hotpots identified in Sheffield City Centre in more detail.

Figure 2.17 – Existing Bus Hotspots in Sheffield

Dearne Valley Corridor

The Dearne Valley Economic Corridor permeates through the Barnsley, Doncaster and Rotherham borough boundaries, providing significant employment and housing growth opportunities.

The area has undergone recent major transformation, providing jobs, particularly in logistics and distribution through key employers such as XPO Logistics (ASOS) and the Aldi Regional Distribution Centre. The Barnsley Dearne Valley area alone is earmarked for further local investment, which will lead to the unlocking of 2,000 new jobs together with 6,000 new homes by 2024. However, the corridor still suffers from poor connectivity driven by a dispersed settlement pattern.

The A635 provides the main east-west connection on the northern part of this corridor between the M1 motorway and the A1(M), although this route is of variable standard and reliability. The A635 connects Barnsley and Doncaster via Darfield, Goldthorpe and Thurnscoe, and is one of the main bus corridors. Whilst the A635 corridor has some free-flowing rural sections, between the dispersed settlements there are a number of locations where buses are delayed, including within the settlements themselves. Delays on the section of the A635 within Barnsley increased by 25% between 2017 and 2018.

The A633 also provides an east-west link between Barnsley and Doncaster to the south of the corridor, as well as a north-south link towards Rotherham through the deprived communities of Wombwell, Wath upon Dearne, Mexborough, Denaby and Conisbrough. The A633 corridor is more built-up than the A635 route, and buses experience significant delays at a number of locations. This poor connectivity limits the ability of existing and future residents to access a number of the planned employment sites. Delays on the section of the A633 within Barnsley increased by 7.1% between 2017 and 2018.

Both routes connect to the A6195 Dearne Valley Parkway, which links to the major employment site at M1 Junction 36, and merge to continue along the A6133 into Barnsley town centre. Delays on the section of the A6195 within Barnsley increased by 6.2% between 2017 and 2018. The A61 corridor connects Barnsley north towards the neighbouring boroughs in the Leeds City Region.

To illustrate some of the issue facing public transport services in this corridor, Figures 2.18 and 2.19 illustrate recent trends in the reliability and punctuality of services within the existing Barnsley Bus Partnership. For example, Service 1, which uses the A61 corridor, has experienced a decrease in punctuality from 89% in January 2017 to 81% in April 2019, whilst Services 218 and 219, both of which use the A635 corridor, have experienced reductions in punctuality from 85% and 84% respectively to 80% in both cases over the same time period.

Whilst the Dearne Valley corridor has good north-south rail connectivity (Sheffield – Rotherham – Barnsley Dearne Valley – onwards towards the neighbouring boroughs contained within the Leeds City Region), bus services provide the main form of public transport in the absence of a direct heavy rail link east-west between Barnsley, the Barnsley Dearne Valley and Doncaster. The increasing delays noted above on those routes used by the main bus services will increase further without interventions given the growth plans, further undermining the attractiveness of public transport and highlighting the need to improve east-west connections.

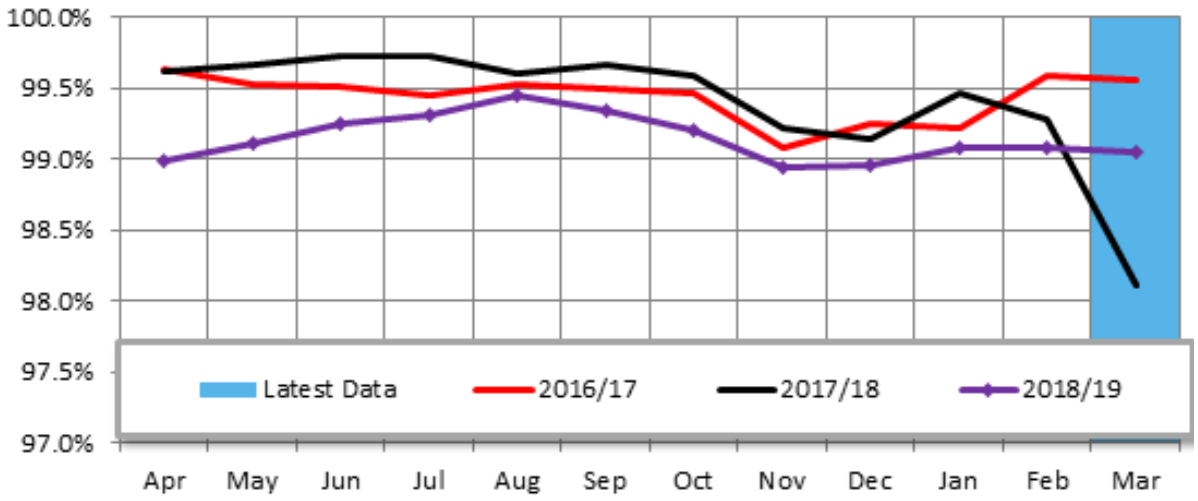

Figure 2.18 – Reliability of Barnsley Bus Partnership Services

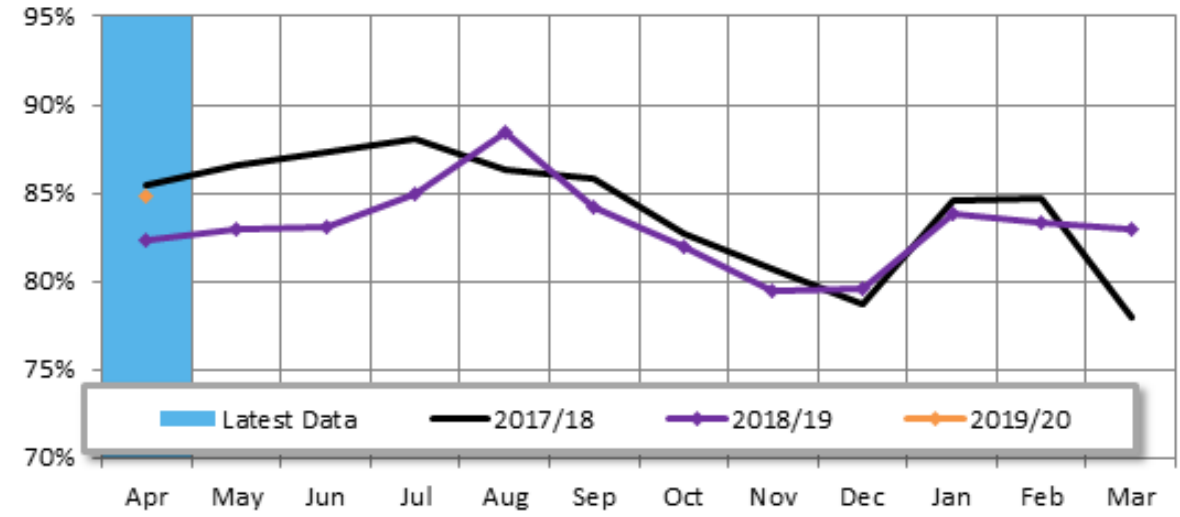

Figure 2.19 – Punctuality of Barnsley Bus Partnership Services

Advanced Manufacturing and Innovation District (AMID) Corridor

This corridor connects Sheffield and Rotherham and is an employment growth area which is now home to high profile employers such as Boeing, McLaren, Rolls Royce, Aloca, Tata, Outokumpu and Forgemasters. AMID is home to the University of Sheffield's world-leading Advanced Manufacturing Research Centre (AMRC), its sister centre, the Nuclear AMRC and its award-winning apprentice training centre. Sheffield Hallam University's Advanced Wellbeing Research Centre (AWRC), also within AMID, is set to become the most advanced research and development centre for physical activity in the world. The corridor also includes the Olympic Legacy Park (OLP) – delivering a tangible legacy from the London 2012 Olympic Games through a combination of world class sports facilities, education, new skills, research and innovation, environmental improvements and opportunities for the local community.

Growth in the AMID is estimated to provide 6,330 jobs and be worth £351 million in GVA uplift. The AMID is located adjacent to several areas of deprivation on the outskirts of Rotherham and Sheffield, but those communities are poorly connected to the employment, training and apprenticeship opportunities on their doorstep. Many of the key facilities within the AMID are also heavily car-dependent at present, which not only presents environmental and congestion problems, but, left unchecked, could present a further barrier to local people taking advantage of the huge opportunities in the future in an area that is already serving as a national example of industrial transformation.

The area is also estimated to deliver 3,900 new houses at Waverley, which is Yorkshire's largest-ever mixed-use brownfield redevelopment. However, much of the AMID is within the CAZ covering Rotherham and Sheffield and there is regular congestion on the network around the M1 and along the A630 Sheffield Parkway route, with delays on the section of the A630 within Sheffield showing an increase of 22% between 2017 and 2018. This is partly a result of the lack of effective public transport connections to the new areas of employment within the AMID.

Congestion is also notable around the Inner Ring Road in Sheffield, and on the radial routes to the west and south of the City, where bus services are often delayed on these corridors at peak times, as shown in Figures 2.15, 2.16 and 2.17 previously.

EXPLORING OPTIONS AND STRATEGIC ALTERNATIVES

Based on these more specific opportunities and challenges, the three principal components of this TCF Tranche 2 bid are as follows:

- **Public Transport** – infrastructure improvements on corridors identified in the SCRIPT study and the TCF Prospectus aimed at improving the performance of the public transport network, principally journey time, punctuality and reliability, within and between the main urban centres and the identified growth locations.
- **Active Travel** – drawing on the draft Local Cycling and Walking Infrastructure Plan (LCWIP) and the appointment of an Active Travel Commissioner to develop further a coherent network of active travel routes across the SCR, but focusing initially between the areas of transport poverty and the areas of opportunity, the main urban centres and those corridors with the greatest opportunity for mode shift, taking advantage of the relatively low commuting distances across the SCR at present.
- **Rail** – enhancing accessibility to/from and at rail stations within the SCR and interventions that support connectivity to HS2/NPR touchpoints so that the rail network can become a viable alternative to the private car for those taking advantage of the significant economic growth opportunities.

Options for the bid have been identified and prioritised by considering the challenges and opportunities for each of the three priority corridors and by utilising the evidence and findings of the SCRIPT study and the draft LCWIP.

Both the SCRIPT and the LCWIP work have used a robust evidence led, multi-criteria analysis approach, as well as collaborative workshops with Local Authority Partners, transport providers and interested parties.

In the SCRIPT work, an initial list of 255 options was generated from local transport studies and infrastructure plans, feedback from stakeholder sessions and bespoke options to address specific issues or connectivity gaps. 217 localised options were then grouped into 38 policy or strategy-led interventions that:

- Contribute to managing or reducing demand for travel
- Improve overall efficiency and operation of public transport services
- Enhance sustainable travel connectivity across the SCR and beyond.

These illustrative interventions have formed the starting point for the development of the public transport infrastructure options within this TCF bid. However, mindful of the objectives of the TCF and the timescales, any interventions that involve major rail investment, or new rail facilities, were not taken forward at this stage given the relatively long lead-in times.

The LCWIP work developed an indicative programme of cycling and walking improvements across the SCR by identifying key cycle desire lines and two corridor level maps per local authority area, highlighting the preferred route and feeder areas for further development. This work was used to develop the initial options for the active travel elements of this bid where they overlap with the three priority corridors and/or provide connections to the rail network.

South Yorkshire Passenger Transport Executive (SYPTE) has an audit of existing facilities at all of South Yorkshire's rail stations and this audit has been used to prepare the initial options for the rail elements of this bid, based on a 'gap' analysis of the facilities that would

be needed at each station to increase the perception of safety and encourage greater usage of the local rail network.

Once these initial lists of options had been developed, an initial two stage sifting exercise was undertaken to provide greater focus for this TCF bid:

- A high level sift, primarily around geographical fit and deliverability within the TCF timeframe
- A more detailed sift, using the Department for Transport's Early Assessment Sifting Tool (EAST).

This approach was felt to provide transparency within the assessment of options.

The outcome of the second stage of the sifting exercise was then reviewed to ensure that the individual elements of the proposed programme provided a coherent package and linked back to the objectives of the TCF itself and the particular aims of this bid described previously.

Further development work was then undertaken on each of the components of the package, allowing a more refined assessment of the benefits of each element (described later in this section and also in the Economic Case), but also the identification of key delivery issues such as land requirements and stakeholder acceptability.

The latter process involved working with bus operators to develop the public transport elements of the bid, providing them with visibility of the aims of individual schemes and the reasoning behind the proposal from an early stage. Input from the two principal operators has further refined the schemes included within this TCF bid.

The Active Travel Commissioner has set out their aspirations for all of our active travel infrastructure to meet or exceed minimum standards and be fully accessible. The Active Travel Project Director has worked with the Local Authorities to review how each of the elements of this bid meet these aspirations to ensure that the highest quality facilities will result from any TCF and complementary investment. This has prioritised those elements that clearly meet the suggested standards and provide significant elements of a coherent active travel network for the SCR.

The further development work also allowed the components of the bid to be divided between the three funding scenarios described in the Financial Case – in some instances, schemes with a higher level of perceived risk of deliverability were identified and allocated to the 'High' funding scenario, whereas on some corridors, the proposed improvements have been scaled across the different funding scenarios to accommodate the response to this TCF bid. This approach ensures that, whatever the outcome of the bid, some improvements on a particular corridor can be delivered, recognising the clear need for intervention to support future plans.

All of the further option development has taken place alongside the development of a series of implementation plans that support the SCR Transport Strategy. Each of these implementation plans sets out a 10-15 year investment programme across rail, active travel, public transport and major roads, and the components of this TCF bid form an essential element of the first four year period of investment across each of these plans.

INTERDEPENDENCIES

There are independencies between the package of schemes identified within this bid and those included within the £10 million Tranche 1 bid submitted in January 2019. The Tranche 1 schemes are summarised below:

- Don Active Travel Package – improving cycle routes and pedestrian areas along key routes including the area between Ten Pound Walk and Doncaster rail station, between Thorne and Moorends and between Conisbrough, iPort, Rossington and Doncaster town centre
- Transforming Active Travel to Rotherham Town Centre – a direct cycle route linking Greasbrough, Kimberworth and Wingfield to Rotherham town centre, as well as providing an early phase of a sustainable transport link to the planned Bassingthorpe Farm housing development, which comprises around 2,400 houses
- Sheffield Active Travel Package – a City Centre West cycle route extending existing facilities on Charter Row through to Hanover Way, new crossings on the Portobello cycle route at Mappin Street and Holly Street and the purchase of 200 e-bikes and accessories which will be made available to employers for their staff to use
- Barnsley Active Travel Link – an off-road direct cycle route along the A635, linking Ardsley and Darfield to employment opportunities in the Dearne Valley
- Emissions Reduction Package – retrofitting buses with reduction systems to make them cleaner and greener
- Public Transport Information Package – a city region-wide scheme to install real time information at 45 bus stops to provide passengers with up to date public transport information

Confirmation was received in March 2019 that only the first three of these packages had been selected for funding under Tranche 1, with a total value of around £4.2 million. These interventions are therefore considered as part of the baseline transport network.

There is also a range of other transport schemes that link to the proposals within this business case, including:

- STEP Local Transport Provision – this £19 million investment delivers a series of transport interventions developed to provide enabling infrastructure to support SCR's growth ambitions and enhance the quality of life of residents, employees and employers, whilst also adding to the attraction for potential movement and investment into the area; the primary focus of STEP is active travel, delivered by new or improved dedicated walking and cycling routes and enhanced public transport provision
- Supertram Rail Replacement Phase II – this project is to replace life expired sections of rail within street running sections of the Supertram network; the scheme covers 9.0 route km and prevented full network closure on safety grounds in 2018/19, allowing Supertram to continue to contribute to the SCR's economic growth and regeneration.
- M1 Junction 37 Phases 1 and 2 Claycliffe – the project aims to provide capacity to unlock additional development near Capital Park, improving access to/from the M1 from Barnsley, relieving congestion in the immediate area and on the southbound exit from the M1 and alleviating air pollution; Phase 2 of the project will deliver a significant mixed-use development on 122 hectares of land, comprising 43 hectares of employment land and 1,700 new homes
- M1 Junction 36 Economic Growth Corridor – this £7.34 million road improvement scheme in Goldthorpe, will facilitate 73 hectares of new employment land; highway Improvement works will take place on three existing roundabouts, at

Cathill, Broomhill and Wath Road, while a new roundabout will also be created off the A635 to provide access into the employment site

- DN7 Unity Hatfield Link Road – this project delivers a 2.9km road from M18 Junction 5 to unlock the Unity mixed use development, comprising 3,100 houses, commercial floor space and local centre, retail and educational facilities; the road will also provide better connectivity for existing settlements.

The SCR is currently developing OBCs for two Large Local Major Transport Schemes that have some interaction with the schemes within this bid as follows:

- The Sheffield City Region Innovation Corridor project is seeking to reduce pressure on Junctions 33 and 34 of the M1 by exploring options to provide alternatives to the M1 for local traffic, and potentially provide additional routes between Sheffield and Rotherham without the need for drivers to pass through existing motorway junctions; the scheme is aimed at reducing congestion and improving connectivity between Sheffield and Rotherham to maximise the potential for growth of the AMID
- The SCR Mass Transit project is developing the business case for the renewal of track and vehicle infrastructure on the Supertram network so as to ensure the continuation and expansion of a high quality mass transit system across the SCR; a consultation on the scope of the project in late 2018 identified that respondents are overwhelmingly in support of renewing and modernising the Supertram network, with 88% in favour of this option and also found that if the tram was no longer available the majority of respondents would use the bus or their car to travel, indicating that a potential shift of existing public transport users to the private car.

Working with bus operators and SYPTE, SCC was awarded £1.947 million from the Government's Clean Bus Technology Fund (CBTF) in Spring 2018. 117 non-Euro 6 diesel buses operating in Sheffield (93 First buses and 24 Stagecoach buses) are being retrofitted with technology which will improve their engine performance and reduce emissions to a compliant Euro VI standard. The operators are delivering the retrofits to their buses, with SCC providing the grants to pay for them from the CBTF.

Reference has been made to the CAZ proposals promoted by SCC and RMBC, and this bid is aimed firmly at supporting the mode shift required to deliver the required reductions in emissions in the shortest possible time. Additional funding is being sought by SCC and RMBC to implement the CAZ and this would be complementary to this TCF bid, providing the opportunity to go further in some areas in delivering infrastructure to support mode shift. The CAZ proposals include changes to the current controlled parking zones in Sheffield which are likely to provide the most cost effective reduction in emissions within the areas at most risk of having non-compliant air quality, but will also help support the mode shift envisaged by the interventions in this TCF bid.

SCC is working towards Sheffield becoming a zero-carbon city in short order to make their full contribution to the Paris Climate Change agreements and a dedicated piece of analysis has been produced by the Tyndall Centre for Climate Change Research that establishes a carbon 'budget' for Sheffield. The report recommends that, for Sheffield to make its fair contribution to global climate goals, the City must not exceed a 'budget' of 16 million tonnes of carbon emissions over the next 80 years. At current rates of energy consumption, Sheffield would use this entire budget in less than six years, and so to meet this 'budget' requires annual reductions in CO_2 emissions of 14% per annum – broadly equivalent to becoming nominally 'carbon neutral' by 2038. The TCF schemes within Sheffield (and Rotherham) will help contribute to this reduction, in line with the overall objectives of TCF.

The SCR is currently undertaking a Bus Review to understand the complex challenges behind declining bus patronage – outside London, annual bus journeys in cities have fallen per person by 40% over the last 25 years and this patronage decline is replicated in the SCR.

In February 2019, the Mayor announced Clive Betts MP as the independent chair of a commission, who in turn appointed a panel of commissioners to support him, that will review bus services in South Yorkshire and put forward recommendations for improvements – including how to best make use of the new powers in the Bus Services Act 2017.

The review will provide the Mayor with an independent assessment on:

- The current condition of the commercial bus and community transport sector in South Yorkshire, including the reasons for the decline in both registered bus services and bus passenger numbers
- The social, environmental and economic impacts of this decline in bus services and passenger numbers
- The steps which should be taken to ensure commercial bus and community transport services meet the needs of South Yorkshire residents.

The latest part of the review was a call for evidence that ran until September 2019, based around the following key lines of enquiry:

- Trends in bus use and factors contributing to these trends
- How to increase bus patronage – generally as well as in relation to different demographic groups including young people, the elderly, minority ethnic groups; key workers; those on low incomes, those with mobility issues
- How to improve accessibility – including provision for potentially isolated residents and communities
- How to improve 'quality' of services with an emphasis on the bus user experience
- The relationship between the bus system and other modes of transport and travel such as the tram network and active travel
- The implementation of bus priority measures by local leaders in South Yorkshire
- The environmental impact that buses can have on congestion, pollution and air quality
- The commercial operation of the bus sector including the responsibilities of bus operators, strategic planning and regulatory matters
- Adequacy of funding and best approaches to securing future investment in the sector and ensuring sustainability
- What can be learnt from other towns, cities and/or city regions about any of the review's key lines of enquiry.

Final business case to include any key outcomes from the call for evidence that will support the TCF programme.

The outcome of the Bus Review will help to maximise the value gained from any future public transport investment across the City Region, by addressing the issues that are currently contributing to patronage decline and identify areas for improvement to attract non-bus users. The aim of this TCF bid, in connecting areas of transport poverty to areas of opportunity by public transport and active modes is entirely consistent with the aims of the Bus Review.

SCR has recently commissioned a review of future mobility services across the City Region to help develop the implementation plans that will support the SCR Transport Strategy, reflecting that technology is constantly advancing and this is driving an unprecedented pace of change that will impact our cities, environment and way of life.

This review has considered these changes by analysing global transport trends and emerging technologies (grouped into key themes), interpreting the principles set out in the DfT's Future Mobility: Urban Strategy (2019) and benchmarking where the SCR is now in relation to these principles, and providing a set of recommendations and actions which the SCR should seek to implement to help propel the City Region to the forefront of future mobility.

A spatial portrait of existing SCR Future Mobility assets and capabilities has been developed in collaboration with stakeholders within the region, to understand where the City Region is currently with regards to future mobility technologies and capabilities. From this review, it is apparent that there is already lots going on in SCR, both in terms of physical assets and intellectual effort, which can be built upon, as shown in Figure 2.20.

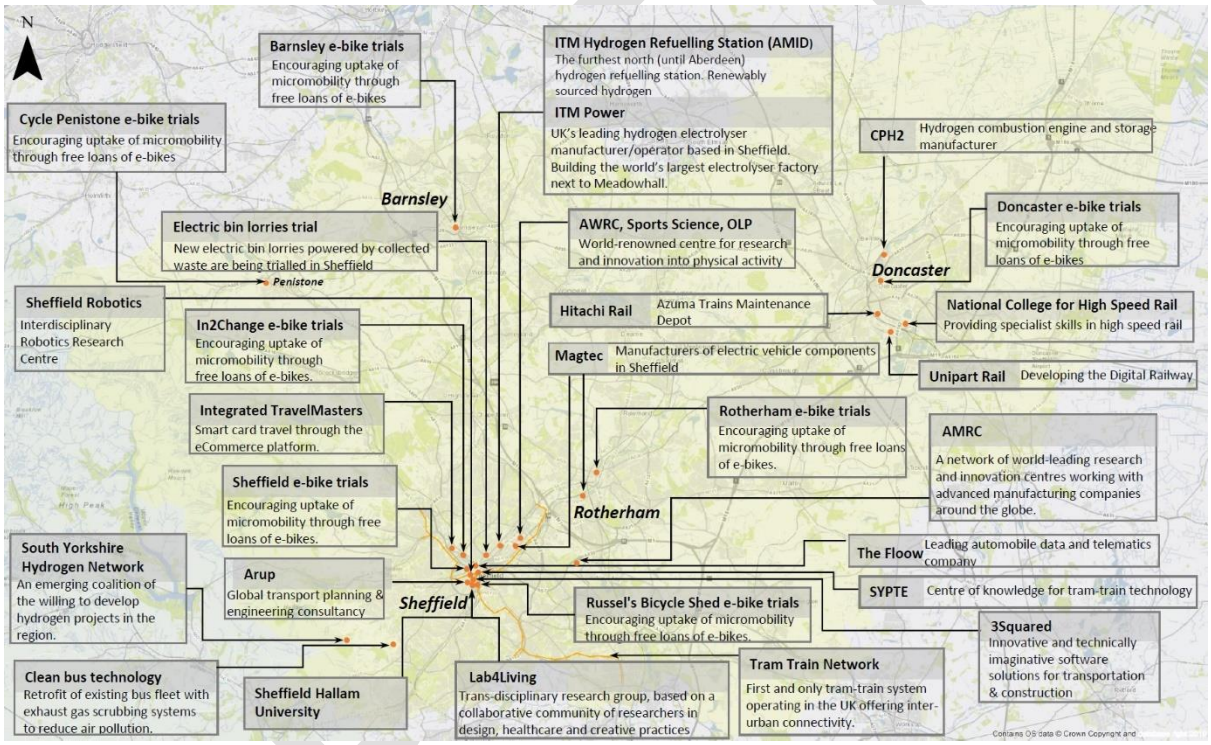

Figure 2.20 – Existing Future Mobility Assets and Capabilities in the SCR

The review identifies that the opening up of data has significant potential for the development of new services and solutions and that the SCR has the opportunity to explore how data can be made more open. Working with the Open Data Institute and local digital companies should be a key step in exploring the potential, learning from others and helping to ensure the opportunities are developed to comply with GDPR. The unlocking of data can also support better city region-wide planning, not just from a mobility perspective, but also to look at the whole system of planning to support better and more predictable outcomes.

SCR's participation in Transport for the North's (TfN's) Integrated and Smart Ticketing (IST) programme is a first step in understanding and harnessing the power of data to achieve a range of policy objectives. Phase 2 of the IST programme, currently being implemented, will deliver improved customer information, collaboration and innovation meaning that the same

kind of information currently enjoyed by most rail passengers will be made available to bus and light rail passengers across the North.

There is an important role for the SCR to mitigate against any risks of new mobility models. It must take this responsibility pro-actively and boldly, specifying up front what the Combined Authority and the Local Authorities want from service providers and ensuring these parameters are operated within. This is reflected in the Government's Urban Mobility Strategy principles, for example the emphasis on safety and integration.

The review concludes with a series of five 'key moves' and a number of more detailed recommendations over the short, medium and long term. A number of the short and medium term recommendations, such as:

- Ensure all new cycle routes are designed so that they are inclusive for all
- Explore provision of more feeder services to public transport hubs to create a more integrated system
- Improve integration of active travel modes with public transport, for example by creating cycle routes and providing safe and secure cycle parking which are well integrated with tram and bus stops
- Progress further work on zero emission buses
- Identify opportunities for trialling the TfN IST programme in the SCR and simplify the existing ticketing and payment offer
- Encourage greater uptake of e-bikes,

are all fully aligned with this TCF bid and the schemes described previously as being delivered in TCF Tranche 1.

As noted previously, the known locations of growth and the known locations of deprivation are unlikely to change considerably over the lifetime of the TCF programme and so, whilst mindful that there will be some changes in future trends, this is unlikely to have a significant impact in the SCR in the next four years.

Therefore, the aim of this TCF bid about providing more choice in transport options to drive mode shift and improved productivity, but future investment programmes across all transport modes will take account of uncertainty and will reflect the review's assertion that the SCR takes a pro-active role in driving the future mobility offer.

EXPLORING IMPACTS OF INTERVENTIONS

The proposed package of interventions within the SCR's TCF programme in each of the three priority areas are described below.

River Don Corridor

The significant schemes promoted in this corridor include:

- Improved access between Mexborough town centre and the rail station and Doncaster college and the rail station
- Rail station (and station access) improvements across the district (including Adwick, Bentley, Kirk Sandall, Conisborough, Hatfield and Stainforth), including the access

to/from the stations by active travel modes and improvements to facilities improved signing and information, accessible bench seating, CCTV and lighting enhancements

- Addressing locations of existing public transport delays between Doncaster urban centre and the iPort site and DSA
- Connecting outlying settlements to the growing economic opportunity by providing a new connection into the iPort site from Rossington for buses and active travel modes and Thorne and Moorends to Unity by active travel modes
- Improving accessibility and connectivity by providing better walking and cycling routes in a number of local communities including Armthorpe, Balby, Wheatley, Long Sandall and Edlington
- Interventions at key junctions on the A18 corridor between Doncaster urban centre and the Unity growth area
- Addressing locations of existing public transport delays within the Doncaster urban centre by providing bus priority measures at key junctions and improving on-street facilities
- Improving accessibility and connectivity by providing better walking and cycling routes through Doncaster town centre, including St Mary's Gyratory, North Bridge Road, Cleveland Street and Bennetthorpe
- Connecting Maltby to the main urban centre of Rotherham and addressing a location of existing public transport delays through bus lanes and junction improvements, along with localised enhanced active travel routes within the corridor.

In particular, the proposed interventions around Mexborough will provide active travel connectivity from the employment hub at Manvers to Mexborough town centre and then onto the rail station – Mexborough is among the most deprived communities in Doncaster. The interventions will also provide a high quality active travel connection linking the deprived community of Balby with employment opportunities within the town centre.

Improvements at M18 Junction 3 will resolve one of the most significant locations of delay and unreliability for bus services in Doncaster, enhancing the attractiveness of the public transport connections between the strategic growth hubs of the urban centre, iPort and DSA. This will be complemented by new bridge for public transport and active modes that allows the deprived community of Rossington more direct accessibility to employment and education opportunities.

Improvements to the public transport and active travel networks within the core of Doncaster's urban centre will allow complete connectivity from the rail station gateway to employment hubs within the town, whilst the North Bridge Road to Bennetthorpe interventions will see a cross-town connection of a high standard active travel corridor, that completes the missing link in the current network, enabling a continuous route to be provided from east to west of the urban centre.

Dearne Valley Corridor

The significant schemes promoted in this corridor include:

- Addressing a location of existing public transport delays on the A61 Wakefield Road, Barnsley by a combination of bus lanes and junction improvements, linked to complementary corridor proposals in the Leeds City Region, along with active travel improvements along the corridor
- Bus Rapid Transit (BRT) between Barnsley and Doncaster – connecting the only remaining two main urban centres in the SCR which do not have a high quality public transport link, via the housing and employment growth area in the Dearne Valley

- New cycling route linking Barnsley town centre to the housing growth area in Darfield and on to the housing and employment growth area in Goldthorpe and the wider Dearne Valley
- Rail station (and station access) improvements across the corridor, including the access to/from the stations and improvements to facilities improved signing and information, accessible bench seating, CCTV and lighting enhancements
- Contributing to the new fully accessible bridge (including cycle use) linking Barnsley rail station and the town centre
- Connecting the housing growth areas in Staincross and Royston to the urban centre of Barnsley by providing improvements for active travel modes
- Improving walking routes into Barnsley town centre from the Hospital, including along Huddersfield Road
- Providing better active travel routes to enable more walking and cycling into local town centres within the Dearne Valley
- Addressing locations of existing public transport delays on the A630 corridor
- Connecting the housing and employment growth area in the Dearne Valley to the local centre in Wath for active travel modes
- Addressing locations of existing public transport delays around the A633 corridor – the main intervention being the provision of a new second access to Parkgate Retail Park, as well as a new 300 space park and ride site for the tram-train terminus.

The A61 is an important cross-boundary corridor and the proposed bus priority measures are intended to deliver journey time savings that will improve the financial viability of the bus market as a whole and in particular for services along the corridor, allowing the opportunity to examine to unlock additional investment from the principal bus operator.

A number of the active travel interventions are interlinked so as to result in a continuous active travel route stretching from Royston to Goldthorpe via the town centre. The particular section of this continuous route from Stairfoot to Goldthorpe also runs adjacent the existing settlements of Ardsley and Darfield and will be within close proximity to some of the housing growth in the Local Plan. This active travel route will run past sites which are allocated for 630 new dwellings and at the end of the route lies another proposed housing site which has been allocated for 194 dwellings.

There is a large employment site proposed off the A635 which incorporates 73 hectares of employment land, the largest employment allocation within the Local Plan – this site lies adjacent to the planned BRT route between Barnsley and Doncaster.

Many of the station access improvements are also aimed at developing coherent active travel networks. The proposed interventions will link Bolton upon Dearne station to the existing Trans Pennine Trail, providing a continuous link to the Manvers Way Industrial Estate. Elsecar station is the closest to the Hoyland Masterplan area, a substantial employment and housing growth site totalling an additional 1,881 new dwellings and over 107 hectares of new employment use by 2033 – the aim is to link the station to the Trans Pennine Trail (which crosses the masterplan area) to provide easier access to this growth site, resulting in fewer journeys into Hoyland itself and encouraging more rail-based park and ride journeys.

Goldthorpe is another area with significant planned housing growth – the Local Plan envisages just under 1,000 additional dwellings to be built by 2033. The proposals include another spur into the wider east-west active travel route connecting Royston to Goldthorpe, allied to a similar proposal at Thurnscoe station, thereby linking Thurnscoe and Goldthorpe to Barnsley town centre and nearby industrial estates.

The proposed scheme to improve access to Wombwell station will improve active travel links between the station and Cortonwood and Manvers Way Industrial Park. The existing park and ride facility is well used and often over capacity during the week, therefore improved active travel links to the station could potentially reduce levels of parking demand. In the longer term, this is important due to an additional 150 dwellings coming forward within the Local Plan with 18.2 hectares of safeguarded land coming forward beyond the Plan period that will envelop the proposed active travel route.

A package of complementary measures is proposed in the Parkgate area of Rotherham to address significant congestion in the area particularly along the A633 which is a key bus route linking major employment and retail opportunities in Rotherham town centre, Parkgate, Rawmarsh and the Dearne Valley. The congestion is mainly due to the large retail park at Parkgate which generates large volumes of traffic, has only one entrance and exit from the A633 and is in close proximity to the major A633/ A6123 roundabout. This has a major affect on bus journey times and reliability and has been raised as a major concern by bus operators. It is proposed to transform this corridor by introducing a new link road into the retail park which will form an alternative entrance and exiting from the A6123. This will relieve traffic on the A633. A complementary park and ride site will also be introduced in the retail park to serve the successful tram-train service between Parkgate, Rotherham and Sheffield and to further reduce the number of vehicles travelling along the A633 through Parkgate. These measures will also enable amendments to the major A633/A6123 roundabout to benefit public transport. The package of measures will result in much more reliable bus services along the key A633 corridor and improved bus journey times during peak periods. The measures will also encourage economic growth at Parkgate and provide improved access to the tram-train and major urban centres of Rotherham and Sheffield.

AMID Corridor

The significant schemes promoted in this corridor include:

- Promoting active travel use for accessing employment opportunities at the AMID and AMP from Rotherham town centre
- Providing better active travel routes to enable more walking and/or cycling through Rotherham town centre, including links to Forge Island – this will complement the current TCF Tranche 1 scheme
- A new tram-train stop at Magna, facilitating a new 150 space park and ride site – this will help transform strategic connectivity to the Magna area and provide growth opportunities in the Templeborough/Sheffield Road area
- A new high quality segregated cycle route along the A6178 Sheffield Road to help support active travel links between Rotherham, Meadowhall and Sheffield
- Addressing locations where existing public transport delays limit access to employment opportunities from south west, Kelham/Neepsend and the east end of Sheffield to Sheffield City Centre, and across the City Centre onto the AMID and Rotherham
- Promoting active travel for accessing employment opportunities in Sheffield City Centre, AMID and Rotherham, to improve access to opportunities in particular from areas of deprivation, and constrain car trips (and so congestion and emissions) in the City Centre and on some of the busier roads
- Improving public transport journey times and reliability within Sheffield City Centre
- A trial of low emission buses to reduce emissions within the CAZ, providing the groundwork for future roll-out of electric buses.

It is proposed to introduce a new tram-train stop at Magna on the Parkgate/Rotherham to Sheffield line with a new park and ride site. The tram-train has been very successful and has

proved that there is a high demand for this service – this ambitious project will help to relieve congestion and poor air quality within the Lower Don Valley and A6178 corridor by encouraging drivers to park at the new tram train stop and travel on the tram-train service into Sheffield. This will help to address major congestion between Rotherham and Sheffield particularly at the Junction 34 of the M1 and also help to improve air quality. The project will also link with the proposed A6178 segregated cycle route and encourage cyclists traveling longer distances to use the tram-train service.

The high quality segregated cycle route along the A6178 will provide a direct route for all between Rotherham town centre and Tinsley/Meadowhall in Sheffield linking large residential areas in Rotherham and Tinsley to major employment and retail in the Lower Don Valley and the AMID. The largest traffic flows in South Yorkshire are between Rotherham and Sheffield resulting in major congestion in the Lower Don Valley between these major urban centres particularly at Junction 34 of the M1 which is affecting economic growth. There is also poor air quality in the area due to the large volumes of traffic and a high proportion of HGVs using the A6178. Despite this, there is demand to use this route from cyclists and so a high quality, segregated cycle route will help to address these issues by encouraging modal shift and by providing a comfortable environment for new and existing cyclists.

The aim of the proposals within Sheffield is to enable existing trips into the City Centre to be shifted towards more space-efficient modes, to enable trips to be 'banked' to allow for future expansion of activity in the City Centre. The 'Nether Edge Wedge' in the south west has been prioritised on the basis of the DfT Propensity to Cycle tool indicating that interventions in this part of the City affords the greatest opportunity for abstraction from car trips, and has been also identified in the draft LCWIP as a priority on this basis. The South West Sheffield bus corridors have similarly been identified, working with bus operators, as areas where buses suffer significant delays on corridors experiencing high levels of car use for trips into the City Centre.

The interventions should also ensure that the City Centre provides a safe, attractive hub to facilitate cross-city movements by public transport and active modes, including improvements to cross-city public transport speed and reliability as well as improving the ease of interchange between radial services, thereby creating an attractive environment to support economic growth and housing delivery. The proposals in the City Centre have been aligned to SCC's emerging Future High Streets Fund bid and to wider development opportunities, to deliver a City Centre that facilitates public transport and active modes use in preference to private car use.

Improving public transport journey times and reliability, and the active travel experience, within and between areas of housing growth and employment areas, to encourage residents of new homes to be delivered in and around the City Centre to take up sustainable modes as the default option has influenced the option development process.

This is the principal driver for the Sheffield Housing Zone North works (which are aligned to the Housing Infrastructure Fund bid in this area), as well as works on the City to AMID corridor which align with identified housing sites around Attercliffe. The scope of these projects have been set out to improve social inclusion, in areas amongst 10% most deprived in the country, by ensuring access to employment opportunities in the City Centre and AMID, and also to existing public transport services (in particular Supertram) is improved for existing communities, and by improving the safety and attractiveness of local communities for active travel more generally.

Proposals have also been identified to support connectivity to the AMID, given that the area is poorly served by public transport and active modes at present, as well as to support interurban bus services between Sheffield, AMID, Rotherham, Doncaster and the iPort – in particular improvements in the City Centre, at Attercliffe and at Meadowhall supporting the X1 Sheffield – Rotherham service. The improvements in Attercliffe and Darnall are also anticipated to provide an alternative for long distance services presently delayed by significant peak hour congestion on A630 Sheffield Parkway (notably the X6 connecting Sheffield with the AMRC, the iPort and Doncaster), improving public transport reliability between key regional hubs and employment centres.

Overall, the three packages of work within this TCF bid will a provide range of wider economic, environmental and social benefits.

In economic terms, without investment, the existing levels of congestion will worsen and constrain the growth potential of the SCR's development assets. By creating public transport and active travel networks that work for users, the SCR can begin to accommodate the significantly increased demand for travel between key urban centres and unlock new housing and employment sites in the City Region (as well as boost existing sites that are poorly connected).

Unlocking these sites and connecting people to the economic opportunities, particularly high value jobs, will help improve productivity, reduce deprivation, increase public transport mode share, reduce emissions and improve health outcomes.

The packages will better connect homes, transport interchanges, employment, education and recreational opportunities using safer, direct and convenient routes. This investment will be particularly important for those existing and new workers and apprentices with jobs that have shift patterns that do not align with public transport timetables. There will be a particular focus on ensuring new journeys stimulated by investment in the SCR are targeted to reduce the reliance on private transport and offer users affordable, sustainable and healthy travel choices. Business will also benefit as their employees will be better able to commute to work in a way that can increase productivity through a reduction in lateness as well as absenteeism due to ill-health.

The active travel packages in this TCF bid will target existing as well as prospective workers, apprentices and students and those wishing to access vital local services. The cycling and walking infrastructure improvements will enable people to access jobs, education/training opportunities and local services through choosing affordable, greener and healthier forms of travel.

In terms of environmental benefits, a move towards a zero carbon public transport network not only has direct benefits in terms of reducing emissions, but will also allow the SCR public transport network to be a trailblazer, shed its image of being highly polluting and be a key part of the AQMA/CAZ measures that will reduce emissions from a variety of sources. The three priority corridors include 19 AQMAs, amounting to 63% of all AQMAs within the City Region as well as the CAZ in Rotherham and Sheffield. Investment in active travel will also assist in enhancing the attractiveness of the built environment where people live and work.

Ultimately, attractive places that show joined up thinking between town and transport planning will help to retain graduates, attract new investment, and improve its outdoors to the advantage of the SCR. The SCR's future transport proposals will also seek to protect and enhance green spaces (including parks) and public rights of way, such as riverside footpaths where they provide alternative opportunities for active travel and in this way will have benefits for the water environment and biodiversity.

In terms of social benefits, investment in the priority corridors through the TCF will benefit around 108,000 people living in the identified areas of transport poverty. Investment in cycling and walking infrastructure will provide affordable and inclusive transport options, allowing people to access employment and services easily and cheaply whilst encouraging more active lifestyles, offering health benefits. It will also assist in reducing pedestrian and cycle related accidents (particularly amongst high risk groups). The provision of coherent and continuous cycling and walking infrastructure will also address security and severance issues where these exist. Improved public transport connectivity will also encourage modal shift from private vehicles, leading to a number of decongestion benefits.

There are disbenefits from a loss of indirect taxation due to trips being made by sustainable modes at the expense of car trips, but these are more than outweighed by the value of the health and social benefits associated with this.

ALIGNING WITH WIDER LOCAL PLANS AND OBJECTIVES

The Mayor's Vision for Transport and the SCR Transport Strategy contains a series of goals, Mayoral commitments and policies as set out in the following table.

These goals, commitments and policies were developed to guide future investment in transport across the SCR, and so the TCF proposals have been developed with these in mind.

Transport Strategy Goals	Mayoral Commitments	Transport Strategy Policies
Residents and businesses connected to economic opportunity	I will invest in tram, tram-train, bus rapid transit, bus networks, active travel and tackle our congestion hotspots. I will develop a plan for road investment that takes a co-ordinated long-term perspective I will ensure that local, regional and national road and rail investment delivers for this region I will ensure that new technology improves the customer experience of travelling in and around the Sheffield City Region I will actively support improved public transport connections to Doncaster Sheffield Airport and ensure that regional rail investment delivers fast and efficient rail links to major airports	1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this 2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this 3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision
A cleaner and greener Sheffield City Region	I will work with partners to deliver a zero-emissions public transport	4. Improve air quality across our City Region to meet legal

Transport Strategy Goals	Mayoral Commitments	Transport Strategy Policies
	network and we will eliminate the need for AQMAs I will undertake a review of the bus network in South Yorkshire, to look at all options for improving local bus service	thresholds, supporting improved health and activity for all, especially in designated AQMAs and CAZs 5. Lead the way towards a low carbon transport network, including a zero-carbon public transport network 6. Work in tandem with the planning and development community to create attractive places
Safe, reliable and accessible transport network	I will invest in services to ensure that residents with disabilities, young people, the elderly and those who are isolated economically and geographically are able to travel easily, confidently and affordably I will put pedestrians and cyclists at the centre of our transport plans I will ensure that safety is planned into all future transport investment and that road safety education initiatives are prioritised	7. Ensure people feel safe when they travel and invest in our streets to make them more attractive places 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 9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces

The Mayoral commitments that *"I will invest in tram, tram-train, bus rapid transit, bus networks, active travel and tackle our congestion hotspots"* and *"I will put pedestrians and cyclists at the centre of our transport plans"* are of particular relevance to this TCF bid.

There is close alignment between the goals and policies and the specific proposals in this bid as set out in the following table.

Goal	Policy	Link to TCF Proposals
1	Policy 1	Enabling people to access opportunities through choosing greener and healthier forms of transport by sustained investment in high quality public transport, cycling and walking infrastructure both for existing journeys and new journeys stemming from investment in the City Region.
1	Policy 2	Targeted investment, including new technology, in public transport infrastructure on key corridors will make journeys on faster and more reliable.

Goal	Policy	Link to TCF Proposals
1	Policy 3	The priority corridors identified for investment and the existing rail network are intended to connect areas of housing growth, eg in the Dearne Valley, to areas of economic opportunity.
2	Policy 4	Encouraging people to adopt sustainable travel modes over private cars to reduce the number of vehicles that use the SCR road network and hence reduce the negative effects of congestion.
2	Policy 5	Delivering a zero-carbon public transport network requires investment the bus fleet.
3	Policy 7	Ensuring that public transport stops and interchanges are perceived as safe, alongside the principle routes connecting them to housing and job opportunities.
3	Policy 8	Reducing the reliance on private transport, encouraging people to choose greener and healthier forms of transport both for existing journeys and new journeys stemming from investment in the City Region. Investing over a sustained period in high quality public transport, cycling and walking infrastructure that better connects homes, transport interchanges, education, employment and recreational opportunities using safer, direct and convenient routes. Developing an investment plan from the LCWIP that removes barriers to walking and cycling and identifies the infrastructure required to encourage more trips by bike or on foot.
3	Policy 9	Investing in clearer wayfinding, travel planning for residents and visitors, and the maintenance of walking and cycle paths.

This confirms that the TCF programme is a vital element of the SCR Transport Strategy and key to its successful delivery. The TCF also aligns to the policies of the South Yorkshire Local Authorities, particularly the Sheffield Transport Strategy.

All the interventions will focus closely on improving public and sustainable transport modes in preference to private cars, to make these fit for the 21st Century and to meet the SCR's economic growth ambitions.

Within the three priority corridors, there are internationally significant assets including the National High Speed Rail College, AMID, Sheffield City Centre, the Digital Campus at Barnsley and DSA. Improving connectivity between these assets will improve productivity and competitiveness and move towards the Mayoral ambition to significantly increasing the number of economically active people living within 30 minutes of key employment locations and universities by public transport and active modes.

The packages will also directly tackle air pollution and reduce the level of carbon emissions in line with UK targets by driving forward the desire to deliver a zero carbon public transport system in the longer term and eliminate AQMAs in the City Region, aligned with the emerging CAZ proposals.

The SCR Transport Strategy also states that any schemes brought forward, including through the TCF programme, will also be judged against these three goals and the success criteria that flow from them. These are set out in the following table.

Goal	Success Criteria (by 2040)
Residents and businesses connected to economic opportunity	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 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 c) Increase productivity through reducing delays on our transport network 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% e) 95% public opinion that our local transport choices feel safe f) Reduction in reported casualties of 4% per year g) Eliminate AQMAs in our City Region and comply with legal thresholds to achieve compliance in the shortest possible time h) Reduce tailpipe carbon emissions in line with targets for the UK and have a zero-carbon public transport network by 2040
A cleaner and greener Sheffield City Region	
Safe, reliable and accessible transport network	

SCR's SEP articulates a clear vision for economic growth, which is to create a bigger and stronger private sector. Strong economic performance in recent years has meant that the SCR is ahead of the growth targets set in 2014, but there is a clear desire to go further, by unlocking the potential to grow faster.

The LEP is more than half way through the delivery of its six year transformative Local Growth Fund (LGF) programme – this includes £283 million spent on transport and infrastructure, prioritised to deliver economic growth, which in turn is leveraging £553 million in wider investment, helping to unlock 71,846 jobs and 6,835 homes.

More broadly than LGF, the SCR Combined Authority is investing a further £178 million in transport between 2015/16 and 2020/21 through a range of initiatives. This will be aligned with funding through the TCF programme to deliver the plan for growth and to achieve the SCR Transport Strategy goals.

The TCF programme therefore directly supports the objectives of SCR's ongoing refresh of the SEP, where transforming internal connectivity is central to the vision for growth.

The packages of interventions that have been developed for this Tranche 2 bid also align directly with the objectives of the overall TCF programme and wider regional and national plans and policies.

The SCR Transport Strategy sets out a need to develop a series of implementation plans and this process is underway. The Integrated Rail Plan, which aims to ensure that the SCR fully benefits from transformational national projects such as HS2 and NPR, was published in July 2019.

The draft LCWIP is being developed into an Active Travel Implementation Plan and a Roads Implementation Plan is also being prepared that focuses on the roads that we have rather than building new ones, recognising that almost all journeys start and finish on local roads and they play a major part in everyone's life, whether as a pedestrian, cyclist, bus passenger, freight operator, driver or passenger, and that our plans for the road network need to help the public transport services that use it and help support active travel where possible, whilst not severing communities or wildlife habitats. There will also be an implementation plan focuses on public transport timed to coincide with the completion of the SCR Bus Review.

The SCR also is positioned within three of the Strategic Development Corridors identified in TfN's Strategic Transport Plan, where investment in multi-modal connectivity is required to support planned economic growth.

Finally, the TCF Tranche 2 proposals within this bid also align closely with the ambitions and objectives of the Northern Powerhouse, the Stronger Towns agenda and the Government's Industrial Strategy, particularly the Infrastructure, Place and People pillars of the latter.

CONSIDERING WIDER EVIDENCE AND STAKEHOLDER VIEWS

A public consultation on the Draft SCR Transport Strategy was undertaken in the first three months of 2018. An online survey was conducted, consisting of nine questions that combined open and closed formats. The survey was completed 286 times online and five hard copies were also received via post. Written submissions were received from 22 organisations via a dedicated inbox and two handwritten responses submitted by post from members of the public.

The consultation generated a large amount of data and suggestions for refining the Strategy. Overarching support was expressed for the proposed goals and policies in the Strategy and the issues drawing the greatest attention involved local bus services, the environment and cycling. This feedback has helped shape this Tranche 2 bid.

Consultation in relation to individual elements of the packages themselves has been considered since an early stage in the SCRIPT work. Through interactive workshops, interviews and questionnaires, key challenges were identified affecting the network and the same stakeholders were then involved in the development of the interventions that address these challenges.

Stakeholders involved in the SCRIPT work included:

- South Yorkshire District Authorities
- Other SCR District Authorities
- South Yorkshire Passenger Transport Executive
- SCR LEP
- West Yorkshire Combined Authority
- TfN
- Delivery partners – including Network Rail, HS2 Ltd and Highways England
- Rail operators – including East Midlands Trains, Northern Rail, First TransPennine Express, Stagecoach Supertram
- Bus operators – including Stagecoach Yorkshire, First South Yorkshire, TM Travel, Powells

- Other interested parties – including Living Streets, Cycle Sheffield, Sheffield Community Transport, Age UK

The development of the draft LCWIP involved significant input from the South Yorkshire Local Authorities and is the basis for further development work under the remit of the SCR's Active Travel Commissioner. There is a high degree of community involvement in developing detailed plans for active travel infrastructure through the TCF programme.

In Sheffield, SCC's production of a local Transport Strategy involved a public consultation exercise in 2018 which informed SCC's priorities within this TCF bid and demonstrates a high level of political buy-in at this early stage in the programme's development.

In Barnsley, Council Officers are discussing active travel issues with the Health & Wellbeing Board and hospital clinical forums to inform the development of the walking and cycling implementation plans.

Discussions have also been held with the Leeds City Region around inter-regional connectivity between Sheffield and Leeds, via Barnsley and Wakefield.

This bid is fully supported by the LEP, having been presented to the LEP Board meeting on 20 May 2019, and key private sector partners across SCR, including public transport operators.

Further details are provided in the Management Case, along with a Stakeholder Management Plan which summarises the high level of engagement already undertaken, as well as planned in the future. There has therefore been strong and widespread stakeholder input to the development of the principles of this TCF bid and also of the individual elements include within it, as well as a high level of support.

SUMMARY OF THE RATIONALE FOR INVESTMENT

The SCR is polycentric city region, not a classic mono-centric conurbation in the manner of Greater Manchester, Bristol or Glasgow. The SCR LEP area is home to 1.8 million people, with 68,000 businesses, providing 847,000 jobs and an annual GVA of around £34 billion.

However:

- The SCR has low productivity despite a sizeable economy
- There is a high economic inactivity, unemployment and NEET rate in the SCR
- There are pockets of high deprivation across the SCR
- Population growth is expected to see an ageing population profile
- Health is an issue in the SCR too, with the majority of districts having physical inactivity levels higher than the national average for the adult population
- At a number of key locations across the SCR, economic growth is constrained by a lack of appropriate infrastructure, which makes development not viable both physically and financially
- The SCR labour market is fairly self-contained, with 36% of SCR commuting trips being less than 5km in length
- There is a reliance on cars when travelling to work in the SCR and there could be up to half a million extra journeys on our network every day by 2026

- Not having reasonable access to the transport system is a key factor in social exclusion and has a detrimental impact on people's day to day lives and future opportunities
- Air quality is poor in a number of areas, with 28 AQMAs identified across the SCR and a CAZ has been mandated in Rotherham and Sheffield.

Each of the local economies and the identified growth areas has a role to play within the City Region and each will make an important contribution to future growth. Making further progress in addressing the challenges and issues which are specific to local areas will help to boost the overall economic resilience of the City Region and its attractiveness as a place to live, work, play and visit.

But the SCR's transport system and its supporting infrastructure is not fit for the 21st century – there is existing and future trend of car commuting meaning that some major employment sites and land available for development is constrained by congestion.

If left unchecked, congestion and delays will increase, and journey time reliability will deteriorate, presenting further barriers to economic growth and potentially damaging the existing economy, resulting in a drag on productivity, competitiveness and a great underutilisation of talent and skills. Increased congestion will also have a severe detrimental impact on the SCR's air quality and hence the health of its residents.

Therefore, there is a clear need to take action now to improve the opportunities for people to use public transport and active modes and to make these modes the preferred choice of travel for increasing numbers of people across the SCR, linked to the identified growth and employment opportunities.

Drawing together the stated objectives of the TCF and the wider social and economic objectives of the SCR, there is a number of areas across the SCR where the economic opportunities that have been identified could have the greatest impact on existing deprivation – these are the areas that currently experience transport poverty.

Put simply, the biggest opportunity for future transport investment, including TCF, is to better connect the areas of transport poverty, with those areas of opportunity by public transport and active travel modes, allied to achieving significant mode shift away from the private car on key corridors that could stifle future growth ambitions, thereby achieving growth in a sustainable way that addresses current health issues and improves air quality.

Therefore, the overall aim of this TCF bid is to promote a series of interventions that contribute towards the SCR's local aim to improve intra-city region connections that either:

- Connect areas of deprivation/transport poverty to areas of economic opportunity by public and sustainable transport modes; or
- Seek to achieve significant mode shift away from the private car on key corridors that could stifle future growth ambitions.

These aims are entirely in line with the overall TCF objectives of supporting the local economy and boosting productivity whilst reducing emissions and improving air quality. They are also in line with the Mayor's Vision for Transport, the SCR Transport Strategy and the policies of the South Yorkshire Local Authorities. Improving these intra-city region public transport and active travel connections will allow the SCR to realise its potential but to do this in a sustainable way that addresses current health issues and improves air quality.