High Speed Rail: Consultation on the route from the West Midlands to Manchester, Leeds and beyond

Sustainability Statement

Appendix C: Socio Economic Appraisal

A report by Temple-ERM for HS2 Ltd

TEMPLE ERM

July 2013

CONTENTS

APPENDICES

1. INTRODUCTION

1.1. Background

1.1.1. SKM Colin Buchanan (SKM CB) was commissioned by Temple-ERM to produce this Appendix to the Sustainability Statement (Volume 1) main report for Phase Two of High Speed 2 (HS2) Appraisal of Sustainability (AoS). Phase One of HS2 is the route between London and the West Midlands, which is anticipated open to passengers in 2026. The proposed Phase Two route would provide a link from the West Midlands along two northern legs: a western leg to Manchester and an eastern leg to the East Midlands, South Yorkshire and Leeds, with onward connections in both cases to the existing national rail network. Phase Two is expected to open to passengers in 2033.

1.1.2. The focus of this study is on defining and quantifying the potential development and employment impacts within the catchments of the proposed Phase Two HS2 stations. This is separate to the business case for HS2 and additional work is also being undertaken by HS2 Ltd to assess the proposed scheme's wider regional and national economic benefits

1.2. The proposed scheme

1.2.1. This report assesses Phase Two of HS2, which along with the new high speed railway includes the following:

- five new stations at: Manchester Piccadilly, Manchester Airport High Speed Station, East Midlands Hub (at Toton), Sheffield Meadowhall (South Yorkshire)) and Leeds New Lane;
- connections with the West Coast Main Line at Crewe and Golborne near Wigan, and with the classic rail network south of York, enabling high speed trains to serve nine out of the UK's ten biggest conurbations; and
- four depots (one rolling stock depot and one infrastructure depot on each of the western and eastern legs) – at Crewe and Golborne (Western leg); and at Staveley and New Crofton (eastern leg).

1.3. The opportunities of HS2

1.3.1. Phase Two of HS2 creates significant new rail capacity for the provision of fast and reliable services between London, the West Midlands and destinations further north. The benefits of high speed rail, in terms of faster rail journey times and better inter-city connectivity, would be experienced across a far wider area than just the new HS2 line of route due to the connections that would be provided to further destinations including nine out of the UK's ten biggest conurbations. In addition, the investment in a high speed rail network has the potential to deliver a mix of local development and regeneration opportunities, as well as wider intra- and inter-regional redistributive opportunities. For example, it could encourage firms and people to move closer to high speed rail stations and key locations on connected routes that benefit from improvements in commuter services. The extent to which this would occur depends on how any new high speed rail network and station developments are integrated with local and regional land use and transport planning strategies.

1.3.2. The size of the proposed scheme, its ability to provide major reductions in journey times, and the possibility of enhanced international connectivity, suggests HS2 may provide substantial economic and social benefits locally, regionally and across the wider UK economy.

1.3.3. The impacts of HS2 on employment assessed in this report are associated with development within 1km of High Speed stations at Leeds and Manchester Piccadilly, and 2km of Manchester Airport High Speed Station, Sheffield Meadowhall, and East Midlands Hub. This analysis provides a high level indication of possible employment impacts. It should be borne in mind that each local area has its own attributes and market dynamics, reflecting the different nature of the stations, which means it is difficult to accurately predict future market conditions. Given the many factors that impact on the property market, the effect of a particular transport scheme or regeneration initiative cannot be estimated with certainty.

1.3.4. A review of previous work has been undertaken to understand the potential scale of residential and commercial development that might happen within 10-15 years of completion of the stations. (Development impacts are anticipated to continue well beyond this timeframe.) This includes consideration of the amount of development that could occur in a less restrictive / more aspirational planning policy environment, for example, if higher densities or taller buildings are considered acceptable.

1.4. Purpose of the Socio-Economic Assessment

1.4.1. The main purpose of the socio-economic assessment is to provide detailed analysis of the potential impacts of Phase Two of HS2 on economic development around the core stations served by the proposed scheme.

1.4.2. The introduction of a High Speed Rail network can drive economic development through the following means:

- increased capacity and improved city performance – providing improved access to urban centres, leading to stronger economic performance;
- developments around High Speed Rail stations – the station is a driver of development within its catchment area, particularly for office and hotel developments;
- increased business to business interaction – reducing journey times leading to more competition and interaction between businesses which leads to improved economic performance;
- releasing capacity on the 'classic' network – leading to agglomeration benefits, larger labour catchments and increased labour force participation in city centre CBDs[1]; and
- maximising benefits through feeder services linking to HS2 stations.

1.4.3. Productivity gains from the above drivers would be translated into higher wages and profits, leading to more opportunities for attracting employment and investment. The productivity gains resulting from improvements in transport accessibility vary by sector, as shown in **Table 1.1** – by far the biggest gains are seen in the producer services sector consisting mainly of business and financial services.

[1] Central Business Districts

Table 1.1 – Elasticities of productivity with respect to density

	Elasticity
Manufacturing	0.021
Construction	0.034
Consumer services	0.024
Producer services	0.083

Source: Department for Transport Wider Economic Benefits dataset
http://www.dft.gov.uk/webtag/documents/expert/unit3.5.14c.php

1.4.4. Localities whose economies have a significant proportion of such services are likely to experience the greatest benefits from reduced passenger journey times.

1.4.5. This report examines the predicted changes in land use patterns and resulting development opportunities. It assesses the potential for localised development impacts around the HS2 stations, which are not captured in the main business case modelling and appraisal framework.

1.5. Assessment methodology

1.5.1. This report follows the same approach that was used for the socio-economic assessment[2] of Phase One of HS2. In undertaking the assessment, account has been taken of the socio-economic impact of transport schemes including other high speed rail schemes. The main impact on land use, of new stations or improved services, occurs within a 10-15 minutes walking distance of the station, which equates to a catchment area of 1km. For this assessment, a 1km catchment area has been considered for high population and employment density areas (Manchester Piccadilly and Leeds) while a 2km catchment area has been analysed for areas with lower density (Manchester Airport High Speed Station, Sheffield Meadowhall and East Midlands Hub) to take into account that in a lower density area the station serves a wider catchment partially taking on a park and ride function. The catchment areas have been adjusted to correspond to the nearest ward or output area boundary for which socio-economic statistics are published by the Office for National Statistics (ONS).

1.5.2. The socio-economic baseline examines existing demographic characteristics of the areas around the proposed stations: the density of employment and people, skill levels, economic activity, levels of deprivation, sectoral breakdown of the economy and the labour catchment area as shown by travel to work patterns.

1.5.3. The baseline also considers the existing and projected transport and land use characteristics: accessibility of the catchment area, the existing nature of the area in terms of land use and density, the health of the local economy and property market. Existing and aspirational planning policies have also been taken into account, through reviews of policies and discussions with local planning authorities, as well as competing sites in the area and the underlying demand for development.

1.5.4. The potential future level of development activity is also outlined, with employment estimates made by applying employment densities calculated for the Homes & Communities Agency (HCA). This enables an assessment of the scale, density and type of development that is likely to be attracted within the station catchment area and the potential impact on the local population in terms of jobs and housing.

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[2] Booz & Co, Temple and Colin Buchanan (February 2011), *HS2 London to the West Midlands Appraisal of Sustainability Appendix 3 – Socio-economic Report*

1.5.5. It should be noted that the numbers of jobs supported or displaced cited in this report were generated in 2011, for the purpose of comparison between station options. Having served this purpose, these results have now been reported here and in the Sustainability Statement, to provide a high level forecast for jobs associated with the Phase Two scheme in 2026[3].

1.5.6. The analysis provides an estimate of the scale and type of additional development that may be supported in the next 25 years and how much of this may reasonably be attributable to HS2, It is assumed that HS2 will be built in stages, Phase One (London to Birmingham) first and then Phase Two, providing the routes north to Manchester and Leeds, from 2026 onwards. Phase One will provide a marked improvement in journey times to Manchester. It is therefore assumed that the development impacts in Manchester would start to be seen before the full HS2 service to Manchester commences and would continue for a considerable, but indeterminate, period afterwards. Impacts in other locations would only tend to materialise once Phase Two is under construction as the market anticipates its arrival as is presently occurring in relation to Crossrail.

1.5.7. The methodology for establishing the amount of floor space, both currently in existence and to be supported in the future, has varied according to the level of information available in each of the proposed station locations but includes:

- local area knowledge / inspections;
- published policy and guidance;
- Unitary Development Plans;
- Core Strategies;
- Retail Studies;
- Employment Land Reviews;
- extant planning permissions (over a threshold of 10,000sqm commercial or 100 residential units);
- Regeneration and Development Frameworks / Masterplans;
- schedules of development sites provided by local planning authorities;
- discussions with local planning authorities;
- published property market information; and
- professional judgement and estimation.

1.5.8. The above sources of information help to establish the current pipeline of developments for the short to medium term (5-10 years), as well as development aspirations in the longer term – to around 2030-2035. We have used our judgement to broadly estimate the long term development potential attributable to HS2, particularly where information is limited, or where the longer term vision for development is not yet reflected in local planning policy or in the development pipeline.

1.5.9. The assumptions that underpin the uplift that is anticipated to be supported by the arrival of HS2 Phase Two are based on a number of factors, which are dependent on site location, existing use and perceived development potential. These include:

[3] Figures for Sheffield Meadowhall were updated in 2013 to reflect a slightly revised station location.

- the potential for HS2 to ‘unlock’ and support sites that would not otherwise be assumed to come forward during the next 25 year period. For example, this may include sites that would benefit from being at the new ‘front door’ of a HS2 station;
- the potential for higher density and tall building development – particularly around new HS2 Phase Two hubs; and
- the potential for uplift in capacity / density of existing proposal(s) due to the potential arrival of HS2 in a particular location.

1.5.10. The figures presented are the net impact of HS2 Phase Two. This comprises development that is anticipated to take place without HS2 and that is lost due to construction works, which is deducted from that which is facilitated by the proposed scheme.

1.5.11. This methodology is similar to that used in the assessment of Crossrail, which has subsequently been subject to the Parliamentary process.

1.6. Structure of the report

1.6.1. The remainder of the report presents the analysis and key findings for the anticipated socio-economic impacts of the proposed HS2 Phase Two stations, and is structured as follows:

- Chapter 2 states the HS2 objectives, outlines the design concept and presents the HS2 demand forecasts;
- Chapters 3 to 7 establish the socio-economic baseline for each of the five station areas, providing a qualitative and quantitative socio-economic assessment of the impacts of HS2 Phase Two, including potential development and employment opportunities around the HS2 Phase Two stations; and
- Chapter 8 summarises the main findings.

2. HS2 OBJECTIVES AND PROPOSED SCHEME DESCRIPTION

2.1. The HS2 Phase Two proposed scheme

2.1.1. The proposed route of HS2 Phase Two is shown in the two figures below, which represent the western and eastern legs respectively.

Figure 2.1 - HS2 Phase Two proposed route: West Midlands – Manchester (Western leg)

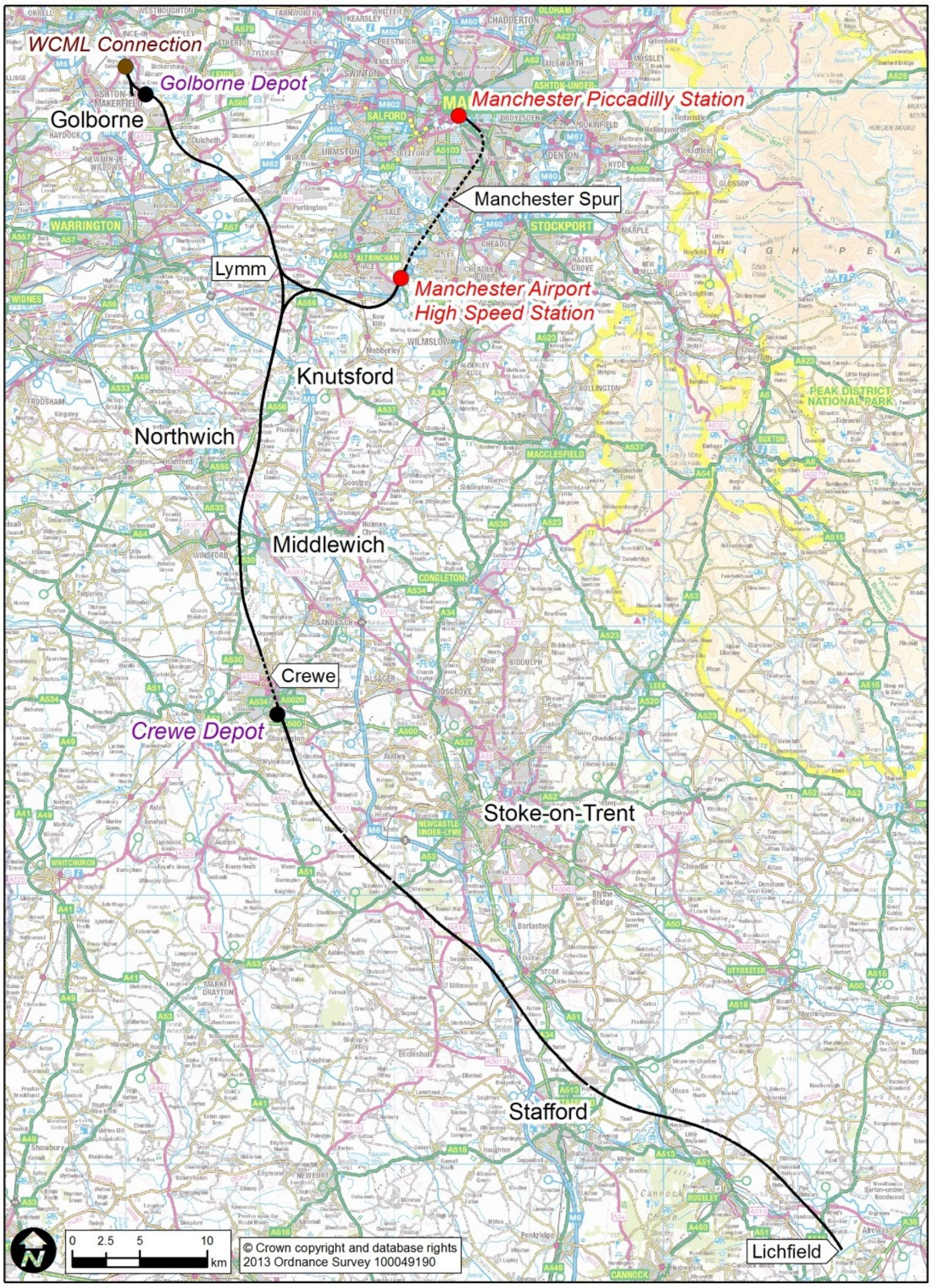
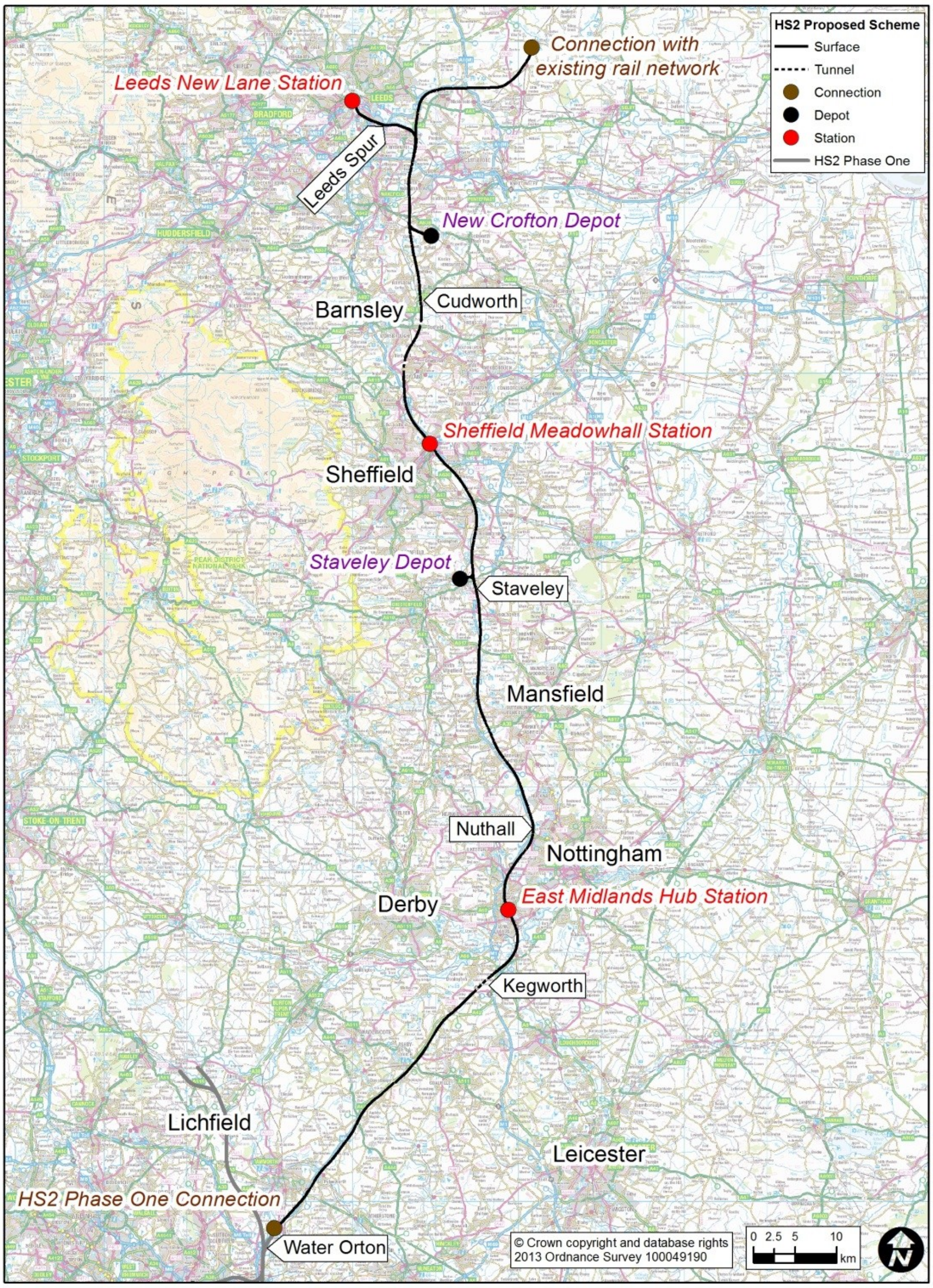


Figure 2.2 - HS2 Phase Two proposed route: West Midlands – Leeds (Eastern leg)



2.1.2. As of July 2013, the infrastructure assumptions underpinning the proposed HS2 Phase Two route included:

- a new station at Manchester Piccadilly, built alongside the existing station that is used for classic rail services, allowing easy connections with regional rail services and the Manchester public transport network;
- a new interchange station providing direct links to Manchester Airport, located between Junctions 5 and 6 of the M56;
- a new East Midlands Hub station at Toton, located between Nottingham and Derby and readily accessible to both by public transport, with the possibility to connect to much of the wider East Midlands region;

- a new station in South Yorkshire (Sheffield Meadowhall), with convenient access by road and connectivity to existing public transport networks;
- a new station in central Leeds New Lane, joined to the existing station via a dedicated pedestrian link;
- a connection with the West Coast Main Line at Crewe, enabling direct services to destinations such as Liverpool and Runcorn;
- further connections would be built at the northern end of each leg; on the western leg high speed trains would be able to provide direct services to destinations including Wigan, Preston, Carlisle, Glasgow and Edinburgh. On the eastern leg, the high speed line would continue almost as far as York, thus high speed trains would be able to continue directly to destinations such as Newcastle, Darlington and Durham;
- two rolling stock maintenance depots – at Crewe (western leg) and New Crofton, near Wakefield (eastern leg); and
- two infrastructure maintenance depots – at Golborne, near Wigan (western leg) and Staveley, near Chesterfield (eastern leg).

2.2. Direct employment as a result of HS2 Phase Two

2.2.1. The construction and operation of the proposed scheme would offer a number of direct employment opportunities. The operational employment opportunities, presently estimated to be 1,400, relate to the running of stations and depot as well as staffing trains[4]. Construction employment includes stations, interchanges, track and infrastructure in general with up to an estimated 10,000 jobs created during the peak of construction.[5]

[4] We are not able to estimate how many of these jobs may be additional; there may be some displacement of services and staff from existing classic services to HS2.

[5] The figure excludes jobs created in the supply chain and off site (e.g. prefabrication of construction materials or building rolling stock).

3. MANCHESTER AIRPORT HIGH SPEED STATION

3.1. Introduction

3.1.1. A new interchange station will provide direct links to Manchester Airport in Greater Manchester. This station will also give the wider Cheshire area access to the high speed rail network, both by public transport and by car.

3.1.2. The socio-economic characteristics of the 2km catchment area around the Manchester Airport High Speed Station location have been analysed and compared with the whole of Manchester and England. A 2km catchment has been chosen owing to the relatively low population density nature of this area and the fact that this station will serve a wider catchment area than the city centre stations.

3.2. The regional context: Greater Manchester

3.2.1. The Greater Manchester regional economy has been examined in the preceding chapter on Manchester Piccadilly. In summary, Greater Manchester is a region that is socio-economically deprived with relatively high unemployment and low GVA. See Chapter 3 for more detailed information.

3.3. The local context

Summary

In summary, the socio-economic statistics for Manchester Airport High Speed Station catchment area show relatively high levels of deprivation, with low levels of education, higher than average unemployment for England and a high proportion of social renting.

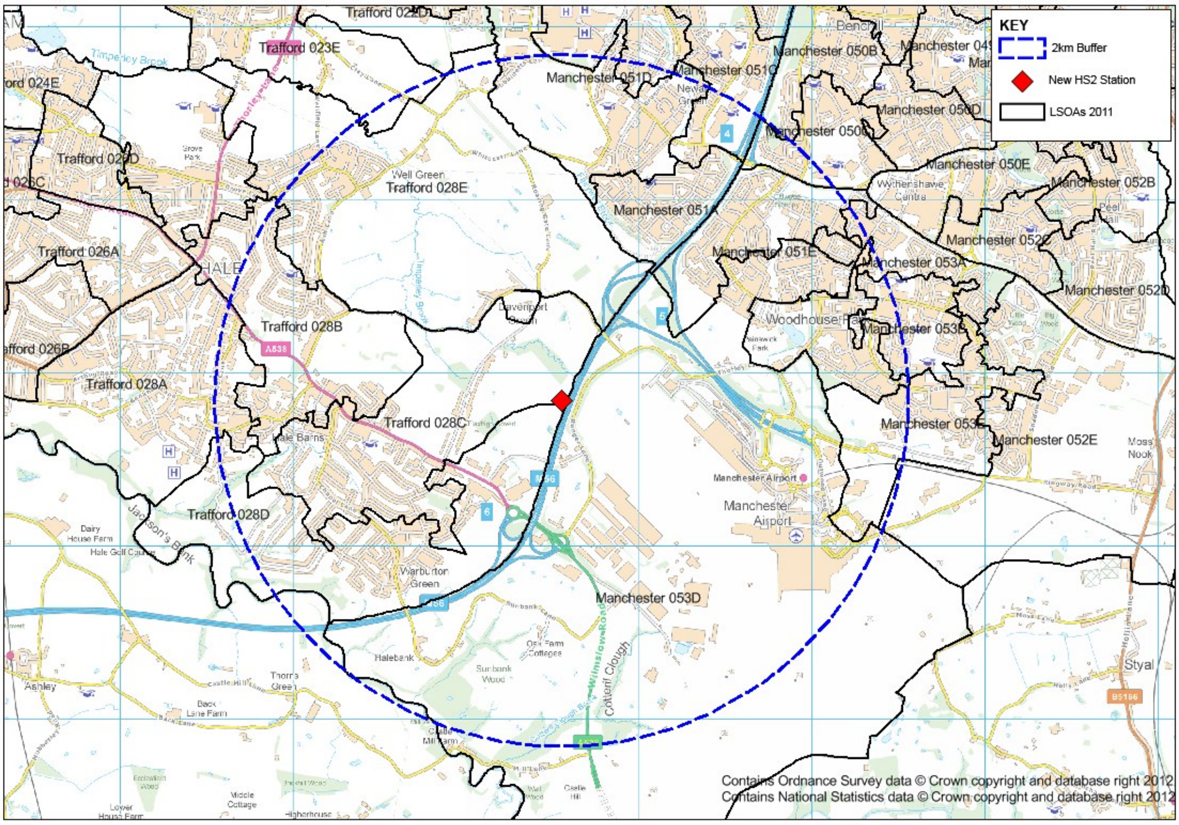
Manchester Airport and associated facilities are the main land uses within the catchment area, with other uses being residential in the Wythenshawe area to the north, and agricultural land in the green belt to the south. Substantial expansion of the airport is already being sought through local planning policy with large areas of land earmarked for airport facilities and other ancillary development. Manchester Airport High Speed station would increase development, resulting in a net commercial floorspace of between 5,000 and 10,000 sqm, equivalent to between approximately 300 and 700 jobs.

Historically, travel-to-work patterns have been very local in their nature, but the good existing transport links could provide benefits for the Greater Manchester region. As such, the wider socio-economic benefits of this option are likely to be far-reaching in terms of the additional jobs and commuter trips that would be generated as a result of introducing a station in this location adjacent to Manchester Airport, as a key regional transport hub. However, the additional local development impacts of HS2 at the airport are likely to be relatively limited.

The area

3.3.1. The 2km catchment area is shown in **Figure 3.1** and contains approximately 8 LSOAs, according to Census 2011 data.

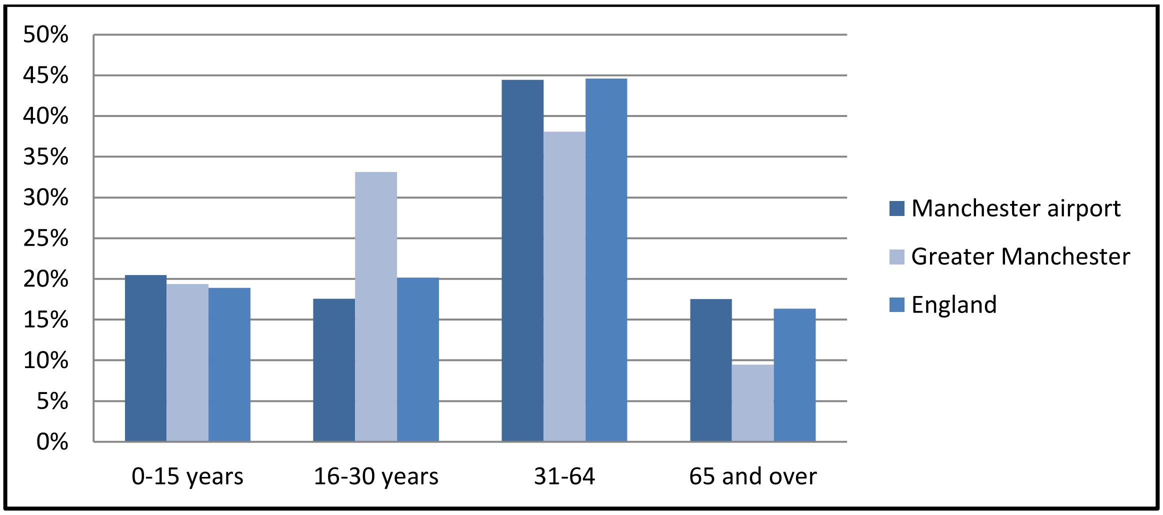
Figure 3.1 - Manchester Airport High Speed station catchment area



Population

3.3.2. Approximately 20,000 people live in the 2km catchment area of Manchester Airport. The age profile shows that it is roughly in line with the population in the whole of Greater Manchester and England (**Figure 3.2**), but with a lower proportion of 16-30 years and a higher proportion of 31-64 years and 65+ and over than the Greater Manchester region.

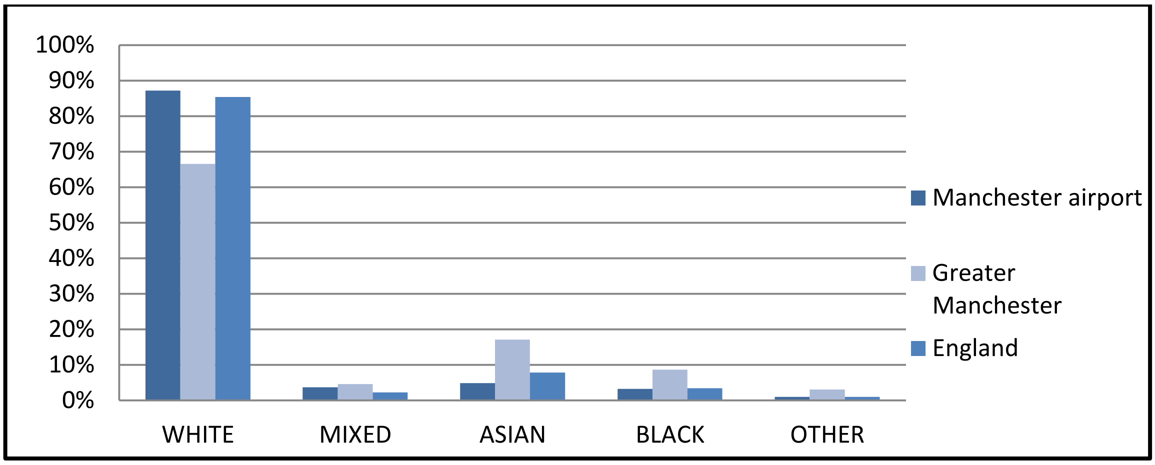
Figure 3.2 - Age structure - Manchester Airport High Speed Station catchment area



Ethnicity

3.3.3. The ethnic mix reflects that of the nation as a whole, but there is less diversity than is found generally in Greater Manchester, with 87% of the local population of 'white' ethnicity, compared to 68% in Greater Manchester.

Figure 3.3 - Ethnicity - Manchester Airport High Speed Station catchment area



Economic activity and employment

3.3.4. Economic activity rates show a higher proportion of economically active residents in the Manchester Airport catchment area, including a higher proportion of employed residents, a slightly lower proportion of unemployed and a lower proportion of full time students in the Manchester Airport catchment area compared to the Greater Manchester region (**Table 3.1**).

Table 3.1 - Economic activity rates - Manchester Airport High Speed Station catchment area

Economic activity rates (% of population aged 16 to 74 years) (Census 2011)	Manchester Airport catchment area	Greater Manchester	England
Economically active	68%	64%	70%
Econ. active – employed	60%	51%	62%
Econ. active – unemployed	5%	6%	4%
Econ. active – full time student	2%	7%	3%
Econ. inactive – looking after family	5%	5%	4%
Econ. inactive – permanently sick or disabled	6%	7%	4%
Econ. inactive – other (including retired)	21%	25%	22%

3.3.5. **Table 3.2** shows that, compared to the rest of Greater Manchester, there is a higher proportion of resident managers and workers employed in senior positions in the Manchester Airport High Speed Station catchment area compared to Greater Manchester, and there is a high proportion of people employed in caring, leisure and other services.

Table 3.2 - Occupations - Manchester Airport High Speed Station catchment area

Occupations (% of total residents in employment) (Census 2011)	Manchester Airport catchment area	Greater Manchester	England
Managers, directors and senior officials	12%	7%	14%
Professional occupations	16%	20%	17%
Associate professionals and technical occupations	10%	12%	12%
Administrative and secretarial occupations	12%	10%	11%
Skilled trades occupations	9%	8%	11%
Caring, leisure and other services	11%	10%	9%
Sales and customer service	10%	11%	8%
Process, plant and machine operatives	7%	6%	7%
Elementary occupations	14%	15%	11%

3.3.6. Owing to the presence of the airport, the number of workers employed in the transport and storage sectors in this area is twice that of Greater Manchester and of England as a whole. Otherwise, the industry structure is very similar to the national profile. This is shown in **Table 3.3**.

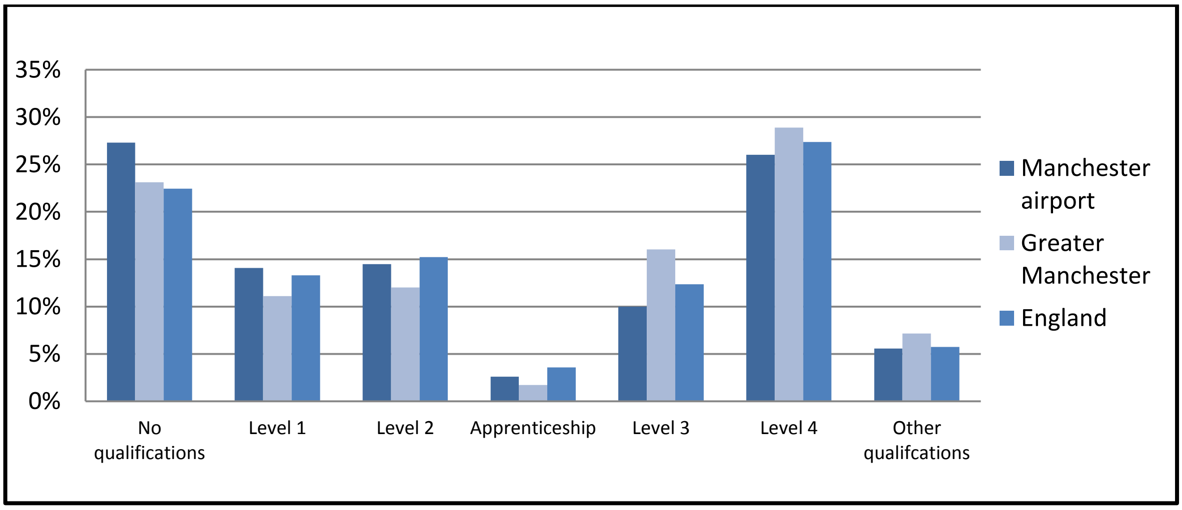
Table 3.3 - Employees by industry - Manchester Airport High Speed Station catchment area

Employees by Industry (% of total residents in employment) (Census 2011)	Manchester Airport Catchment area	Greater Manchester	England
Agriculture, forestry & fishing	0%	0%	1%
Mining, quarrying & utilities	0%	0%	0%
Manufacturing	6%	5%	9%
Energy & Water	1%	1%	1%
Construction	6%	5%	8%
Wholesale & retail trade; repair of motor vehicles and motor cycles	16%	16%	16%
Transport & storage	8%	5%	5%
Accommodation & food services	9%	9%	6%
Information & communications	4%	4%	4%
Financial & insurance	3%	4%	4%
Property	2%	2%	1%
Professional, scientific & technical	7%	7%	7%
Business administration & support services	8%	7%	5%
Public administration, education and health	27%	30%	28%
Arts, entertainment, and other services	4%	5%	5%

Education

3.3.7. The average level of qualifications around Manchester Airport is lower than the English average, with 27% of the residents in the area having obtained no qualifications and 26% of the residents having obtained Level 4 qualifications. Thus, education and skill levels are lower than in the rest of Manchester and England (**Figure 3.4**).

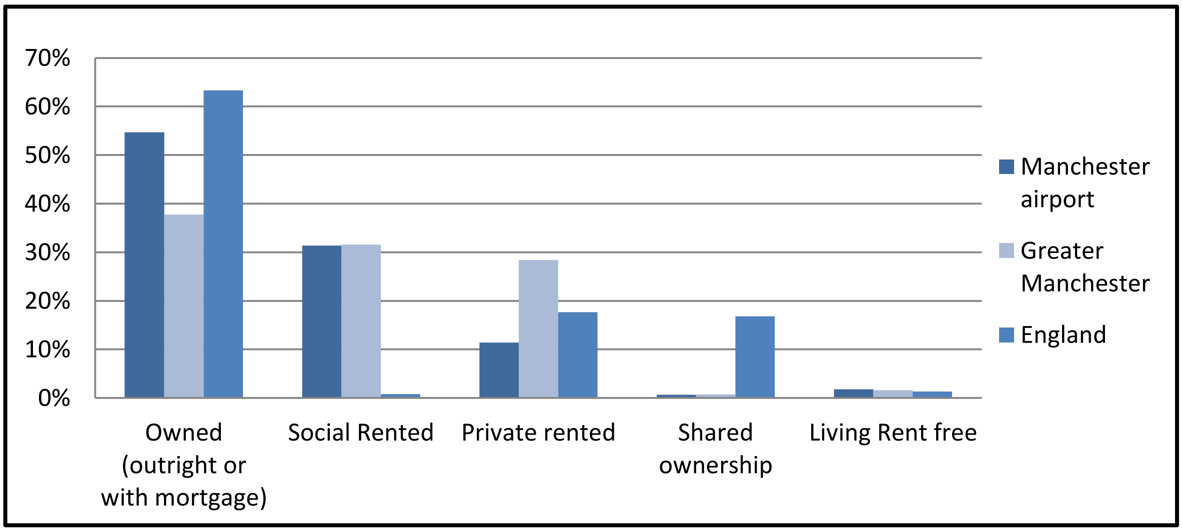
Figure 3.4 Qualifications - Manchester Airport High Speed Station catchment area



Household tenure

3.3.8. The percentage of residents living in rented social housing is considerably high (31%), which is generally understood to correlate with a high level of deprivation. In general, the level of renting in the Greater Manchester region is high compared to the rest of England, with the Manchester Airport catchment area having a particularly high proportion of rented social housing. This is presented in **Figure 3.5**.

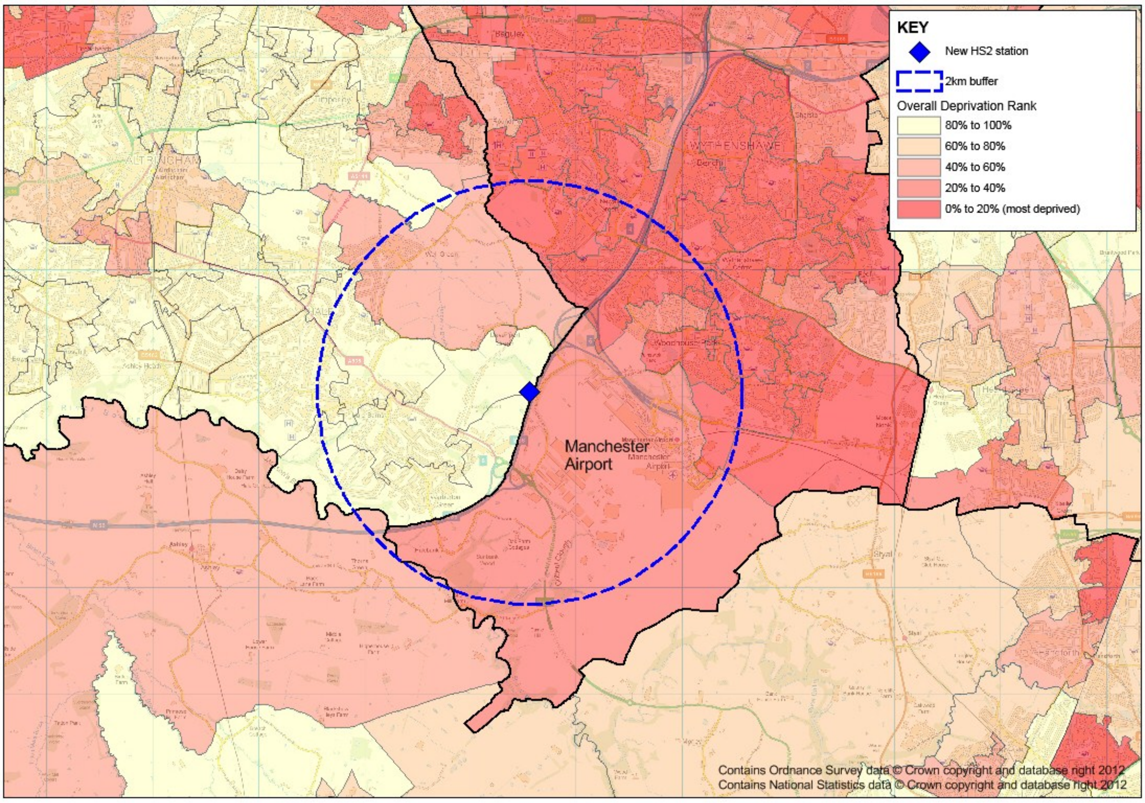
Figure 3.5 - Household tenure - Manchester Airport High Speed Station catchment area



Deprivation

3.3.9. The level of deprivation in the area shows a mixed picture, with signs of high deprivation in some parts of the catchment area, reflected by the previous statistics, and no signs of deprivation in other parts of the catchment area. This is shown in **Figure 3.6**, which plots overall deprivation indicators obtained from the Index of Multiple Deprivation (2010).

Figure 3.6 - Overall deprivation - Manchester Airport High Speed Station catchment area



3.3.10. Deprivation scores for the Manchester Airport catchment area show that this is an area highly deprived across all categories except housing, since the deprivation scores for the area are higher than the UK scores.

Table 3.4 - Deprivation scores - Manchester Airport High Speed Station catchment area

Deprivation scores (Index of Multiple Deprivation 2010)	Manchester Airport catchment area (LSOA score)	UK
Overall	150.81	100
Income	134.80	100
Employment	135.50	100
Education and skills	159.37	100
Housing	81.85	100

Land use characteristics

3.3.11. The proposed HS2 station sits on the southern edge of the Greater Manchester area, just south of the Woodhouse Park area of Wythenshawe. Manchester Airport itself is the main land use within the catchment area. To the north of the proposed station the Woodhouse Park area is predominantly residential, and incorporates various community infrastructure provisions including a primary school and the Wythenshawe Forum which contains leisure, health and learning facilities. To the south of the airport much of the land comprises fields in agricultural use, which forms part of the green belt. In proximity to the proposed station there are a number of hotels, plus other ancillary businesses and the World Freight Terminal. There is also a small trading estate to the north-east of the airport.

Strategic ambitions

3.3.12. The adopted Manchester Core Strategy Development Plan Document (July 2012) includes policy support for the growth of Manchester Airport, through designation as a Strategic Site and expanding the Airport area through development of adjacent areas for various operational and commercial uses. The green belt boundary in this area has been amended to exclude areas for airport development.

3.3.13. An area to the north of Manchester Airport is identified in the Core Strategy as a significant opportunity for employment development in Manchester, to be promoted as the core of a wider Airport City opportunity, promoting links with nearby parts of Wythenshawe to increase investment and economic activity. Uses identified include high technology industries, logistics, offices, warehousing and ancillary commercial facilities

3.3.14. The Wythenshawe area is identified in the Core Strategy as accommodating a small amount of new residential development, of around 1,830 units in total across the area.

Transport network

3.3.15. The proposed HS2 station will provide a new interchange station linking directly with Manchester Airport. The existing airport station is located between Terminals 1 and 2, and linked to both with a moving walkway. Present train services connect the airport to Manchester Piccadilly Station and other railway stations mainly throughout northern England, including Crewe, Wigan and Southport, plus some trains to Edinburgh.

3.3.16. The proposed station will connect with the existing surface transport interchange, with its large network of bus and coach services. Buses serve many locations throughout the Greater Manchester area, and a network of National Express coach services operate to destinations further afield.

3.3.17. The Manchester Metrolink light rail system is currently being extended to the airport, with the station at Manchester Airport planned to open in 2016.

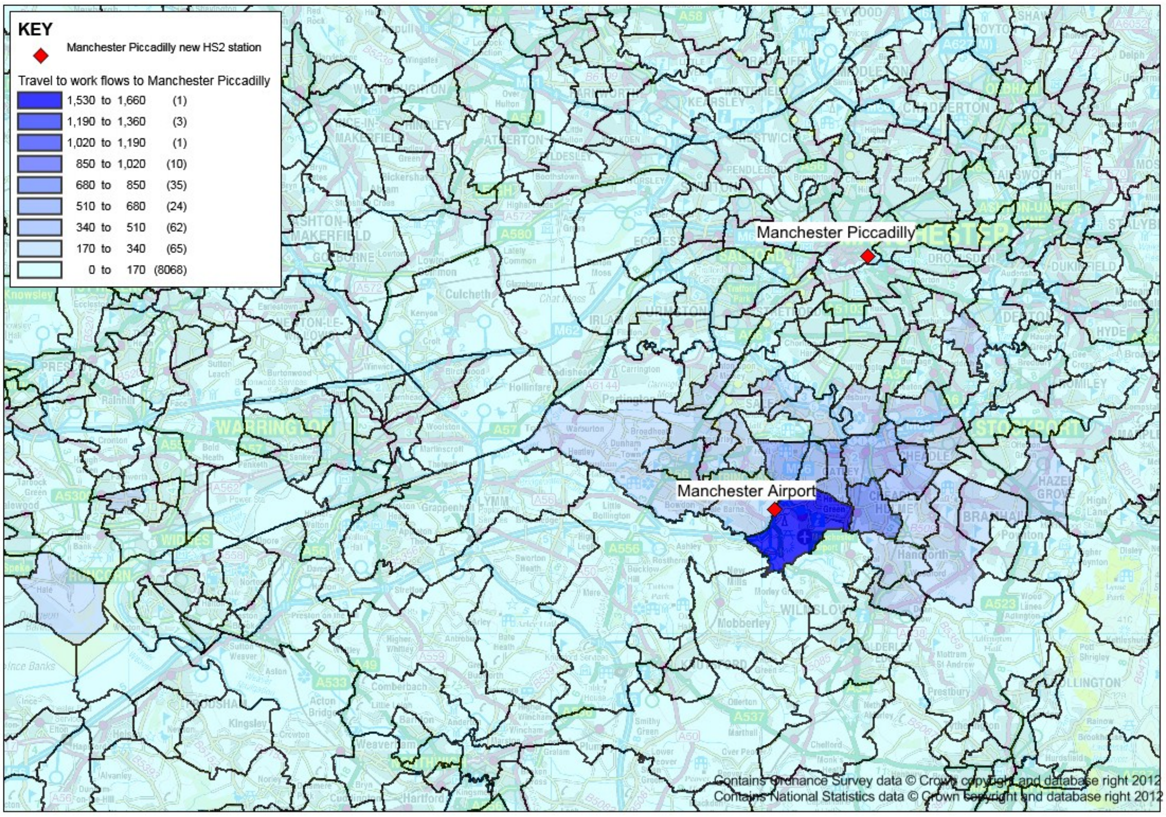
3.3.18. The primary highway access to the station is via a dedicated approach road from the M56, Junction 5. The M56 provides connections north, into central Manchester (a 20 minute drive), and west, towards Liverpool. The A538 Wilmslow Road provides an east-west connection from the M56 serving local towns of Altrincham and Wilmslow.

3.3.19. The airport has over 22,000 parking spaces in a total of 16 car parks across the airport site. These are for use by passengers, staff and service providers.

Travel to work

3.3.20. Travel to work patterns (Census 2001) show that people working in the Manchester Airport catchment area live in areas situated in the near surroundings. This is shown in **Figure 3.7**.

Figure 3.7 - Travel to work patterns to Manchester Airport



3.4. Impacts of Manchester Airport High Speed Station

Key factors

3.4.1. The site is located to the south west of Manchester Airport and key points to note are:

- the site is currently being promoted by Manchester Airport Group as ‘Manchester Airport City’, a scheme that has recently been awarded Enterprise Zone status by the Government. We have assumed that a large site would come forward as part of this scheme for a logistics and distribution park. The Airport City Masterplan currently being prepared states that c.130,000sqm would come forward for such uses, without HS2. We consider that the ‘with HS2’ scenario would deliver additional logistics and distribution floorspace as well as a limited amount of Office floorspace. This would result in a total floorspace of c.145,000sqm (an increase of approximately 10,000sqm of floorspace);
- in an aspirational policy environment, we assume that the logistics / office uses of this development site will be further intensified, and that additional floorspace could support leisure floorspace in the form of an hotel. Floorspace generated in this scenario would total c.155,000sqm. This would be dependent upon the removal of existing environmental restrictions that surround the site and currently restrict its outward development; and

- in addition, it is worth highlighting that the wider socio-economic benefits are likely to be far-reaching in terms of the additional jobs and commuter trips that would be generated as a result of introducing a high speed station in this location adjacent to Manchester Airport, as a key regional transport hub. This impact is excluded from this analysis.

Employment

3.4.2. The amount of development supported by HS2 is estimated to be between 5,000 and 10,000 sqm, equivalent to between approximately 300 and 700 jobs. No impact on residential floorspace is envisaged and no material impacts on existing jobs are anticipated.

Table 3.5 - Potential development impact around Manchester Airport Station

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Commercial	5,000	10,000

Source: DJD & SKMCB, High Speed 2 SIFT 3.0: Relative Development Impact Assessment (Manchester / Salford), December 2011

3.4.3. An indicative assessment of the make-up of the commercial space under both scenarios is given in the table below. All of the development is anticipated to be office space.

Table 3.6 - Potential development impact around Manchester Airport High Speed station by land use

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Office	5,000	10,000
Total	5,000	10,000

Opportunities

3.4.4. The wider socio-economic benefits of this option are likely to be far-reaching in terms of the additional jobs and commuter trips that would be generated as a result of introducing a station adjacent to Manchester Airport, as a key regional transport hub. However the additional local development impacts of HS2 in the 2km catchment area around the airport are likely to be relatively limited.

4. MANCHESTER PICCADILLY

4.1. Introduction

4.1.1. A new station would be built alongside the existing station at Manchester Piccadilly in the heart of Manchester city centre. This would allow better connections with regional rail services to places such as Salford, Stockport and Bolton. It would also allow access to the wider Manchester public transport network, such as Metrolink services to Bury, Altrincham, Eccles and Salford Quays, along with local and regional bus services. Connections will improve further as a result of the Northern Hub scheme.

4.1.2. The Greater Manchester regional economy has been analysed to provide a context of the socio-economic baseline, before a detailed analysis at a HS2 station level is presented. Some deprivation indicators and data on the economic structure of the region are presented.

4.1.3. Following the regional assessment, the socio-economic characteristics within a 1km catchment area from Manchester Piccadilly have been analysed and compared with the whole of Greater Manchester and England. These include demographics, economic activity rates, skills, and industry and housing characteristics. Land use and travel to work flows have also been analysed.

4.2. The regional context: Greater Manchester

Economic activity and employment

4.2.1. The largest industry sector in the Greater Manchester economy is the public administration, education and health sector, which, with almost 315,000 workers, accounts for more than 28% of employment in line with the rest of England (outside London). This is followed by wholesale, retail trade and repair of motor vehicles (16%); manufacturing (10%) and business administration and support services (9%). In total just over 26% of employment is within the financial and business services sector (FBS)[6] compared to 22% for England minus London. The results for all major industries at a NUTS3[7] level are shown in **Table 4.1**.

Table 4.1 - Employees by industry - Greater Manchester

Industry category (Annual Business Enquiry 2011)	Total employment	Percent	Percent (England - London)
Agriculture, forestry & fishing	400	0.0	0.8%
Mining, quarrying & utilities	13,300	1.2	1.3%
Manufacturing	110,300	9.6	10.2%
Construction	53,600	4.7	4.8%
Wholesale & retail trade; repair of motor vehicles & motor cycles	183,800	16.0	17.0%
Transport & storage	53,400	4.7	4.6%

[6] FBS includes Financial & insurance, Property, Professional, scientific & technical and Business administration & support services in the table

[7] Level three of Nomenclature of Territorial Units for Statistics; the standard reference for subdivisions of countries for statistical purposes, developed for the EU.

Industry category (Annual Business Enquiry 2011)	Total employment	Percent	Percent (England - London)
Accommodation & food services	71,000	6.2	6.7%
Information & communications	37,100	3.2	3.4%
Financial & insurance	49,000	4.3	3.1%
Property	18,600	1.6	1.4%
Professional, scientific & technical	90,300	7.9	6.4%
Business administration & support services	104,000	9.1	7.8%
Public administration, education & health	314,700	27.6	28.2%
Arts, entertainment, & other services	44,800	3.9	4.4%
TOTAL	**1,144,300**		

4.2.2. The claimant count at April 2013 for Greater Manchester at 4.8% is the lowest of all the metropolitan areas[8].

4.2.3. In terms of Gross Value Added (GVA), Greater Manchester contributes £18,113 per head according to the ONS[9], which is 15.2% lower than the UK average but around the median for UK counties.

Deprivation

4.2.4. The Index of Multiple Deprivation brings together the deprivation scores for income, employment, health, education and training, housing, crime and living environment. The higher the score, the higher the level of deprivation. The Index of Multiple Deprivation (2010) shows that Greater Manchester is significantly deprived, with a very high proportion of lower super output areas[10] positioned at the top of the deprivation rank, with the highest deprivation scores.

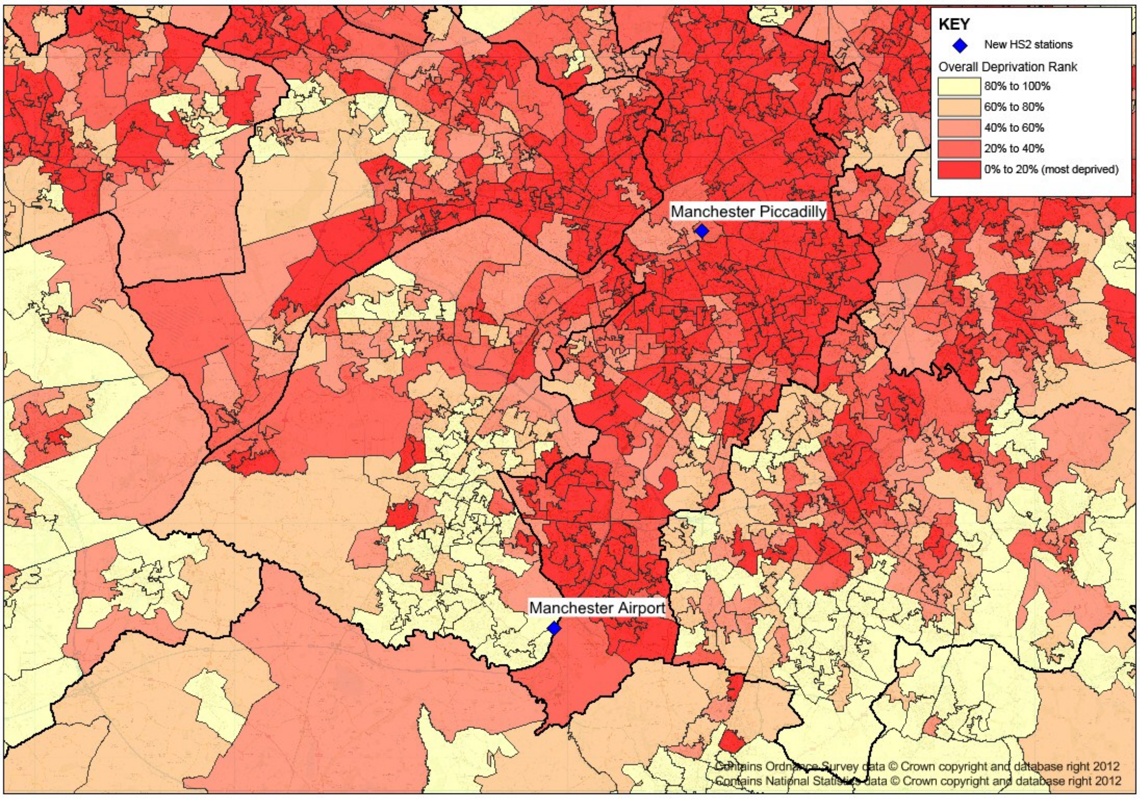
4.2.5. The majority of the most deprived areas are located in the centre of the city, close to where the new HS2 station at Manchester Piccadilly would be located. This can be seen in **Figure 4.1.**

[8] Metropolitan areas as defined by ONS are Greater Manchester, Merseyside, Greater London, South Yorkshire, Tyne and Wear, West Midlands, West Yorkshire.

[9] ONS Regional GVA NUTS 3 2011 Regional Gross Value Added (Income Approach), December 2012

[10] Lower super output areas are a definition of area boundaries which improve the reporting of small area statistics. Further detail can be found on the Office for National Statistics website (www.ons.gov.uk)

Figure 4.1 - Overall deprivation - Greater Manchester



4.2.6. This picture coincides with the income, employment and education deprivation results for Greater Manchester, showing that all these variables are very closely related. More detailed information on these variables is included in **Appendix A**.

The local context: Manchester Piccadilly

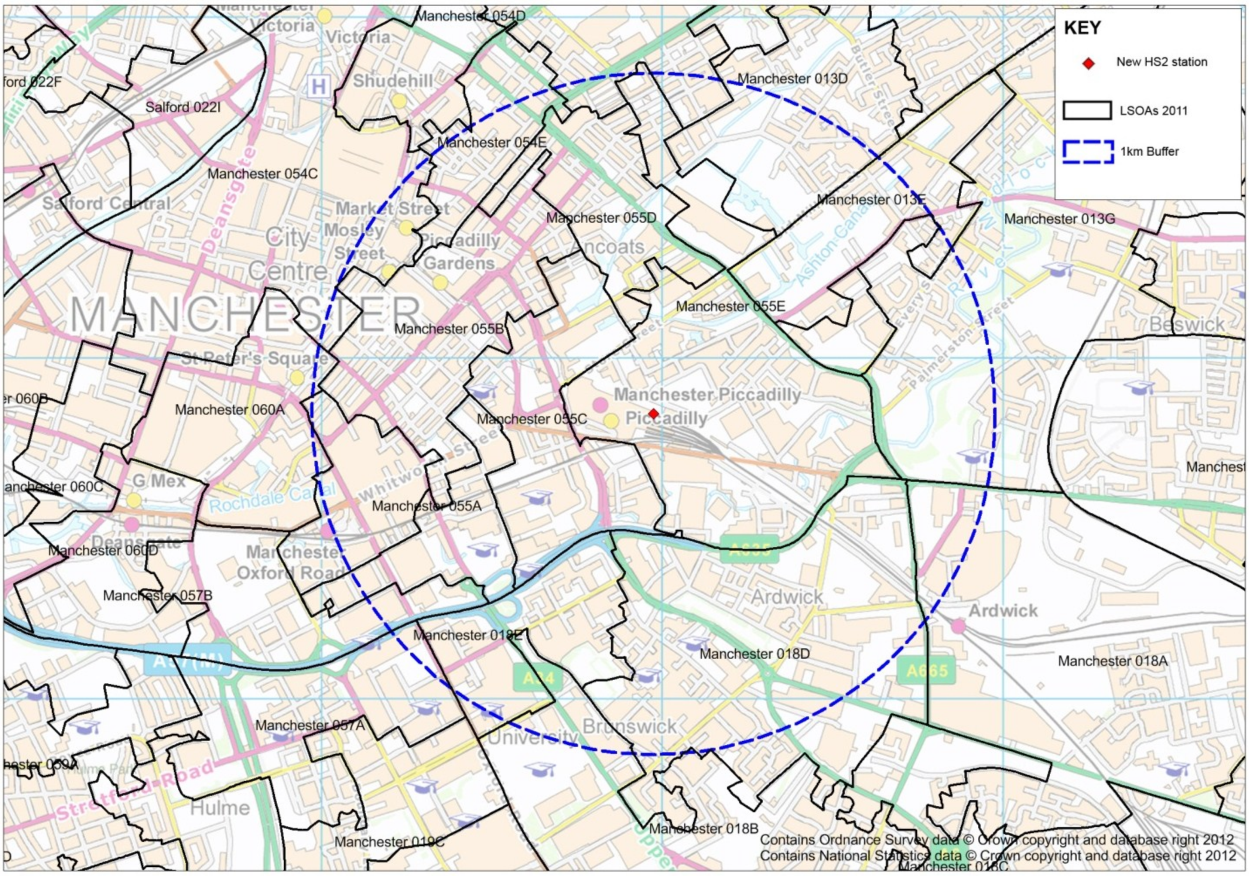
In socio-economic terms, the catchment area of the proposed new HS2 station at Manchester Piccadilly is an area with young population (including a high proportion of full-time students), diverse ethnicity, high levels of private renting and relatively high levels of qualifications and professional occupations. However, despite relatively good economic indicators compared to the Greater Manchester region, this area shows high deprivation according to the Index of Multiple Deprivation 2010 relative to the UK as a whole, with Manchester having the second highest proportion of deprived areas after Liverpool.

The land use in the catchment is a varied mixture typical of a large city centre and its fringe, including retail, office, leisure and hotel uses, plus large university campuses, residential and light industrial. Manchester city centre is already designated for development in the city's Core Strategy. HS2 Phase Two could increase net commercial floorspace by between 605,000 and 871,000 sqm, equivalent to between approximately 29,700 and 42,900 jobs. Residential floorspace is estimated to increase by at least 184,000 sqm and potentially up to 246,000 sqm. This equates to between 3,100 and 4,100 residential units.

4.2.7. A station in this area would be expected to support a very significant amount of development and consequently jobs, of significant benefit to the catchment area and the wider region, given the current higher than average levels of deprivation.

4.2.8. The 1km catchment area of the HS2 Manchester Piccadilly station and the Lower Super Output Areas (LSOAs) included are shown in **Figure 4.2**.

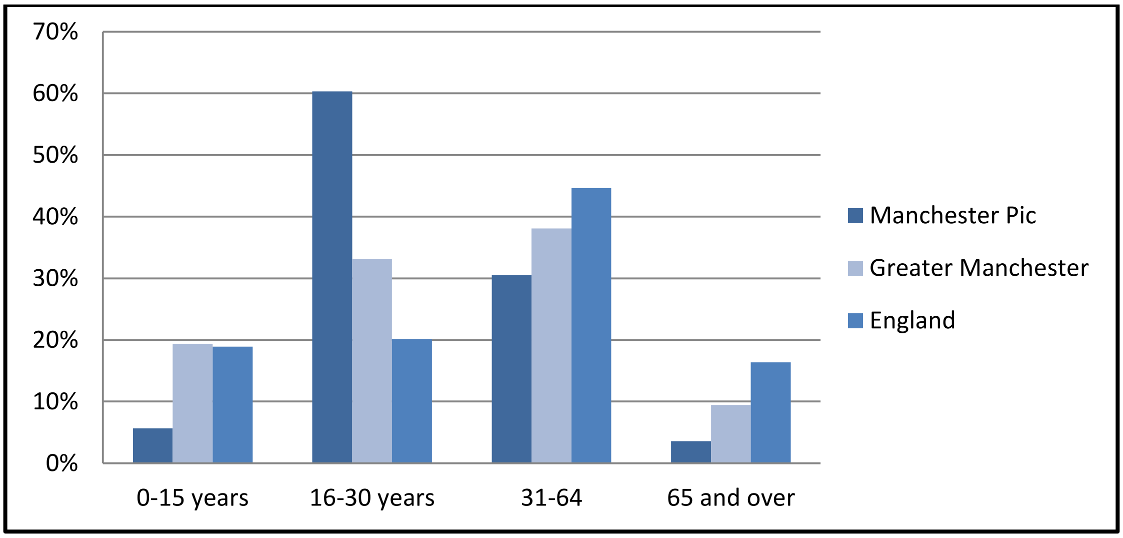
Figure 4.2 HS2 Manchester Piccadilly HS2 station catchment area



Population

4.2.9. A snapshot of the age of the population in the catchment area is presented in **Figure 4.3**. It shows that the population is heavily skewed, with 60% of residents in the 16-30 years age group, compared to 32% for Greater Manchester and 20% for England as a whole reflecting the presence of major university campuses in the locality.

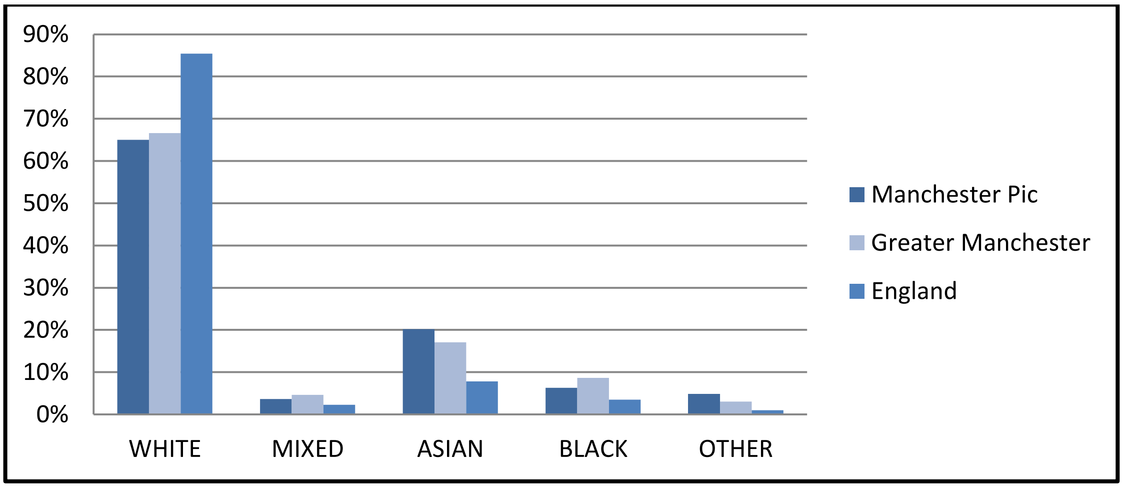
Figure 4.3 - Population size and age –Manchester Piccadilly HS2 station catchment area



Ethnicity

4.2.10. The breakdown of the population by ethnic groups is shown in **Figure 4.4**. It indicates a relatively diverse population with 35% of the residents in the catchment area belonging to a non-white ethnic group, compared to 15% in England as a whole. This ethnic mix is very similar to that for Manchester as a whole.

Figure 4.4 - Ethnicity - Manchester Piccadilly HS2 station catchment area



Economic activity and employment

4.2.11. Economic activity statistics show that the Manchester Piccadilly catchment area contains a lower proportion of economically active residents than England as a whole and of these a high proportion (11% of the population) is full-time students. The statistics are presented in **Table 4.2**.

Table 4.2 - Economic activity rates –Manchester Piccadilly HS2 station catchment area[11]

Economic activity rates (% of population aged 16 to 74 years) (Census 2011)	Manchester Piccadilly catchment area	Greater Manchester	England
Economically active	64%	64%	70%
Econ. active – employed	49%	51%	62%
Econ. active – unemployed	3%	6%	4%
Econ. active – full time student	11%	7%	3%
Econ. inactive – looking after family	1%	5%	4%
Econ. inactive – Permanently sick or disabled	3%	7%	4%
Econ. inactive – Other (including retired)	32%	25%	22%

4.2.12. **Table 4.3** shows the distribution of occupations for the residents in the Manchester Piccadilly catchment area. The data in this table shows that there is a very high proportion of residents in professional occupations, as well as associate professionals and technical occupations again reflecting the presence of universities in the area.

Table 4.3 - Occupations - Manchester Piccadilly HS2 station catchment area

Occupations (% of total residents in employment) (Census 2011)	Manchester Piccadilly catchment area	Greater Manchester	England
Managers, directors and senior officials	9%	7%	14%
Professional occupations	30%	20%	17%
Associate professionals and technical occupations	19%	12%	12%
Administrative and secretarial occupations	10%	10%	11%
Skilled trades occupations	3%	8%	11%
Caring, leisure and other services	5%	10%	9%
Sales and customer service	11%	11%	8%
Process, plant and machine operatives	2%	6%	7%
Elementary occupations	10%	15%	11%

4.2.13. The predominant sectors of employment in the catchment area are public administration, health and education (25%); wholesale and retail trade including repair of motor vehicles and motor cycles (16%) and professional, scientific and technical sectors (13%). All the sectors and their corresponding share of employment, relevant to Greater Manchester and England, are shown in **Table 4.4** (overleaf). It should be noted that these figures do not correlate exactly with those shown in **Table 4.3** as they are taken from different sources. However, they clearly show the high proportion of FBS employees in the central area, the sector that potentially will benefit the most from improved connectivity that HS2 Phase Two will provide.

[11] Note in this and subsequent tables numbers may not add up to 100% due to rounding.

Table 4.4 - Employees by Industry –Manchester Piccadilly HS2 station catchment area

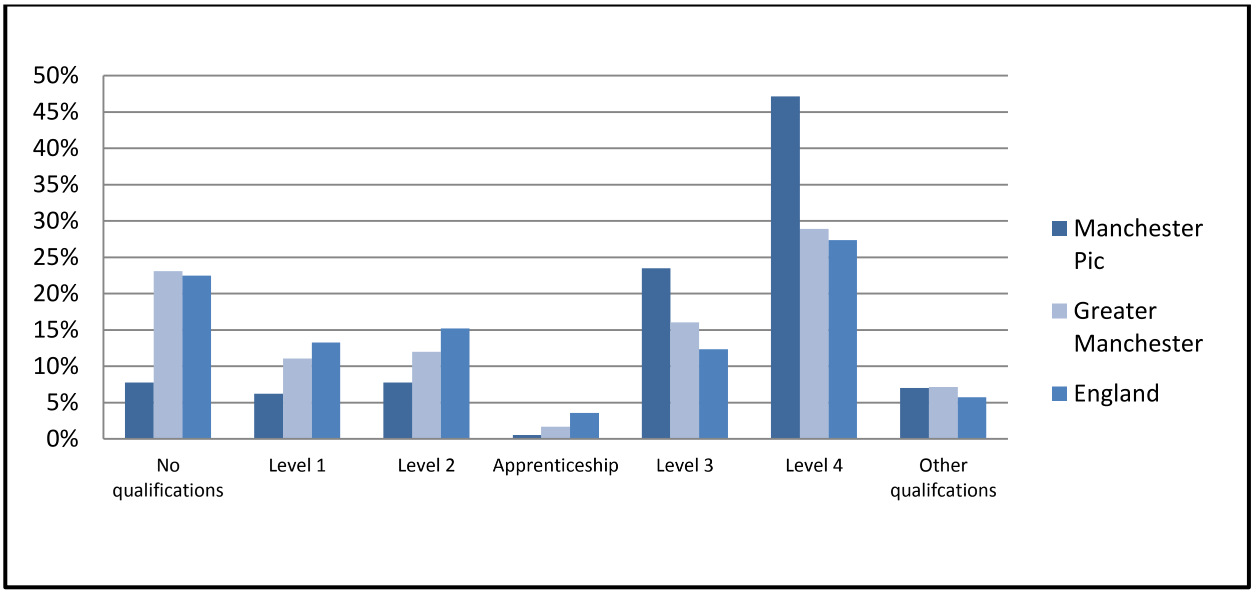
Employees by Industry (% of total residents in employment) (Census 2011)	Manchester Piccadilly catchment area	Greater Manchester	England
Agriculture, forestry & fishing	0%	0%	1%
Mining, quarrying & utilities	0%	0%	0%
Manufacturing	3%	5%	9%
Energy & water	0%	1%	1%
Construction	2%	5%	8%
Wholesale & retail trade; repair of motor vehicles & motor cycles	16%	16%	16%
Transport & storage	3%	5%	5%
Accommodation & food services	11%	9%	6%
Information & communications	7%	4%	4%
Financial & insurance	6%	4%	4%
Property	1%	2%	1%
Professional, scientific & technical	13%	7%	7%
Business administration & support services	6%	7%	5%
Public administration, education & health	25%	30%	28%
Arts, entertainment, & other services	6%	5%	5%

Education

4.2.14. The Manchester Piccadilly catchment area benefits from high levels of qualifications achieved by its residents, which corresponds with the high proportion of students and young professionals. Nearly half (47%) of the residents in this area have attained Level 4 qualifications[12] compared to only 27% in England as a whole. The proportions of residents by level of qualifications are shown in **Figure 4.5**.

[12] Level 4 qualifications are at a level equivalent to Certificates of Higher Education, as per the National Qualifications Framework for England, Wales and Northern Ireland.

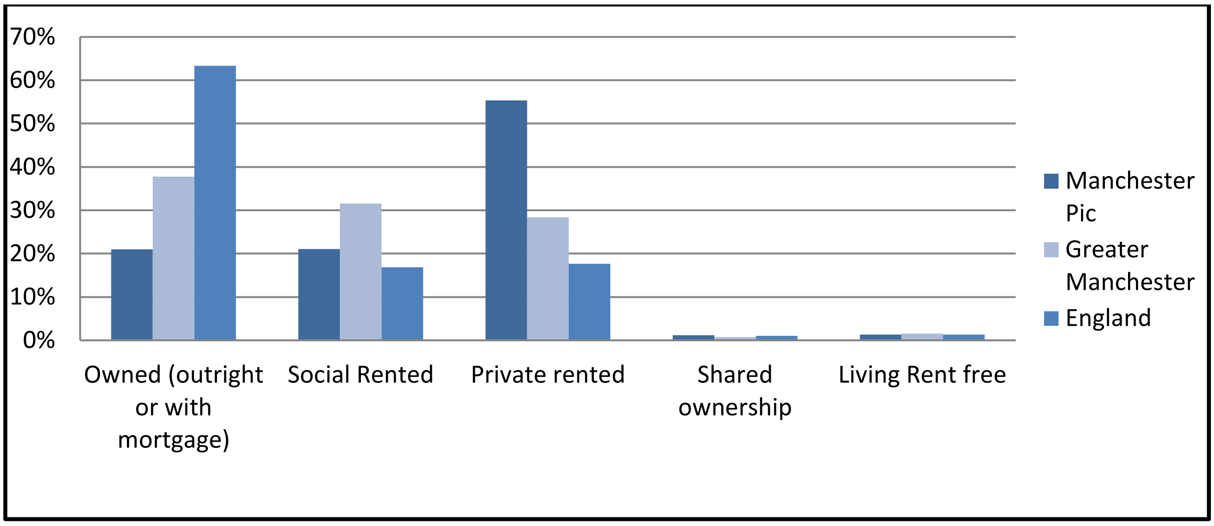
Figure 4.5 - Qualifications - Manchester Piccadilly HS2 catchment area



Household tenure

4.2.15. Household tenure figures are presented in **Figure 4.6**. They show a low percentage of home ownership and a high percentage of private renting, which corresponds with the high proportion of students and young professionals residing in the area. The proportion of residents in rented social housing is lower than Greater Manchester overall, but higher than for England overall.

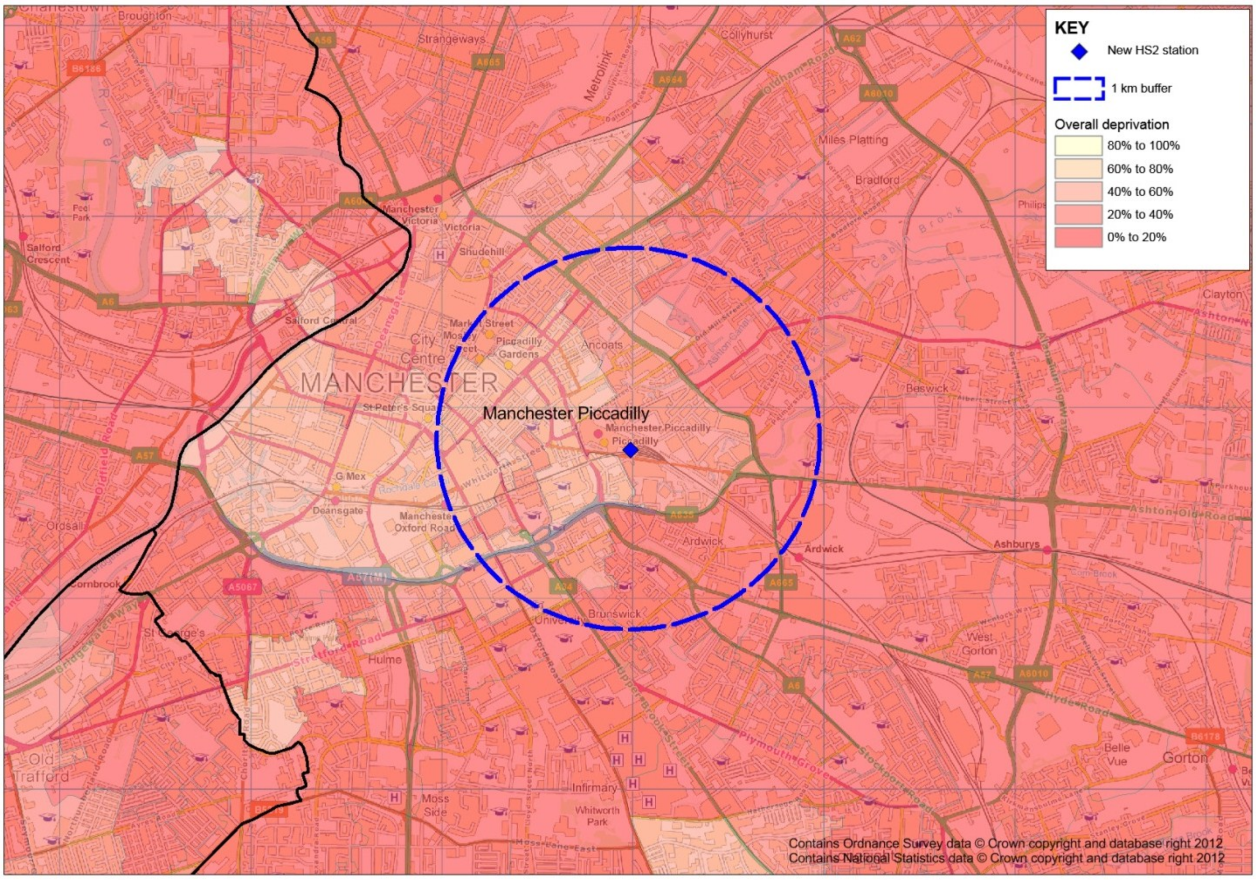
Figure 4.6 - Household tenure - Manchester Piccadilly HS2 catchment area



Deprivation

4.2.16. Overall, the deprivation indicators (taken from the Index of Multiple Deprivation, 2010) show a strongly negative picture for the Manchester Piccadilly area, illustrated in **Figure 4.7**. This contrasts with some positive economic indicators (such as high levels of young professionals) demonstrated in the previous sections.

Figure 4.7 - Overall deprivation in Manchester Piccadilly



4.2.17. Looking closely at the different deprivation categories, it can be seen that they actually offer a mixed picture; income, employment and education deprivation scores are in fact lower (i.e. better) than the UK average, but housing deprivation scores are much higher. The resultant overall score is worse than the UK overall deprivation score. The methodology employed to calculate deprivation scores is attached as an appendix.

Table 4.5 - Deprivation indicators –Manchester Piccadilly HS2 station catchment area

Deprivation scores (Index of Multiple Deprivation 2010)	Manchester Piccadilly catchment area	UK
Overall	144.15	100
Income	93.33	100
Employment	90	100
Education and skills	77.37	100
Housing	138.24	100

Land use characteristics

4.2.18. The area immediately around Manchester Piccadilly station contains a varied mixture of land uses typical of a large city centre. To the north east of the station is the heart of the city, with a dense mix of retail, office, leisure and hotel uses. The areas to the south west of the station are largely given over to education with University of Manchester campuses located here, and residential uses. South east and north east of the station site are typical of city centre fringe, with larger lower density sites given over to light industrial uses, warehousing, retail parks, and some residential. Significant local destinations within the 1km walking catchment include the University of Manchester, Manchester Metropolitan University, large department stores, and various civic facilities.

Strategic ambitions

4.2.19. The Manchester Piccadilly station catchment area is located within the city centre and city centre fringe areas as described in the adopted Manchester Core Strategy Development Plan Document (July 2012), and also includes some of the east Manchester and central Manchester areas. The Core Strategy identifies Manchester city centre as the established commercial core and economic driver of the wider City Region, and therefore a key location for major employment growth. The city centre is also the primary retail location across the Manchester City Region, to the extent that its catchment extends beyond these boundaries. It is a focus for visitors to the region, with various cultural and leisure activities available, and also provides core civic functions.

4.2.20. The Core Strategy provides an indicative figure of 33 hectares of employment land to be delivered in Manchester city centre (with priority to development in Piccadilly and Mayfield amongst other areas) and a further 25 hectares in the city centre fringe (including significant development in Ancoats as well as other areas). The focus for employment growth will be in B1a high density offices. A further 14ha of employment land is anticipated to be provided across the Central Manchester area, with a significant proportion of this within existing employment and economic development areas including Princess Parkway and along Stockport Road and Hyde Road.

4.2.21. The Core Strategy sets out requirements for around 16,500 new residential units to be provided from 2010-2027 in the city centre in various key locations including Piccadilly. A further 18,280 units will be provided in East Manchester, of which some will be through high density development within the station catchment, in Ancoats and New Islington. The central Manchester area is allocated 8,200 units, some of which will be in the higher education precinct to the south west of the catchment.

4.2.22. Approximately 70,000 sqm of new retail floorspace is to be provided in the city centre over the plan period, concentrated within the Primary Shopping Area, the southern fringe of which is within the station catchment. The description above highlights that the area is expected to support extensive development which can as discussed below be further enhanced by the arrival of HS2.

Transport network

4.2.23. Manchester Piccadilly HS2 station would be built alongside the existing station at Manchester Piccadilly in the heart of the city. Manchester Piccadilly station offers existing rail connections to various key destinations across the city and region including Manchester Airport, Salford, Stockport and Bolton as well as destinations further afield including London Euston, Birmingham New Street, South Wales, the south coast of England, Edinburgh and Glasgow.

4.2.24. Connections to local bus services are provided outside the Fairfield Street entrance. The Manchester Central Coach Station is a short walk away, and provides numerous regional coach services.

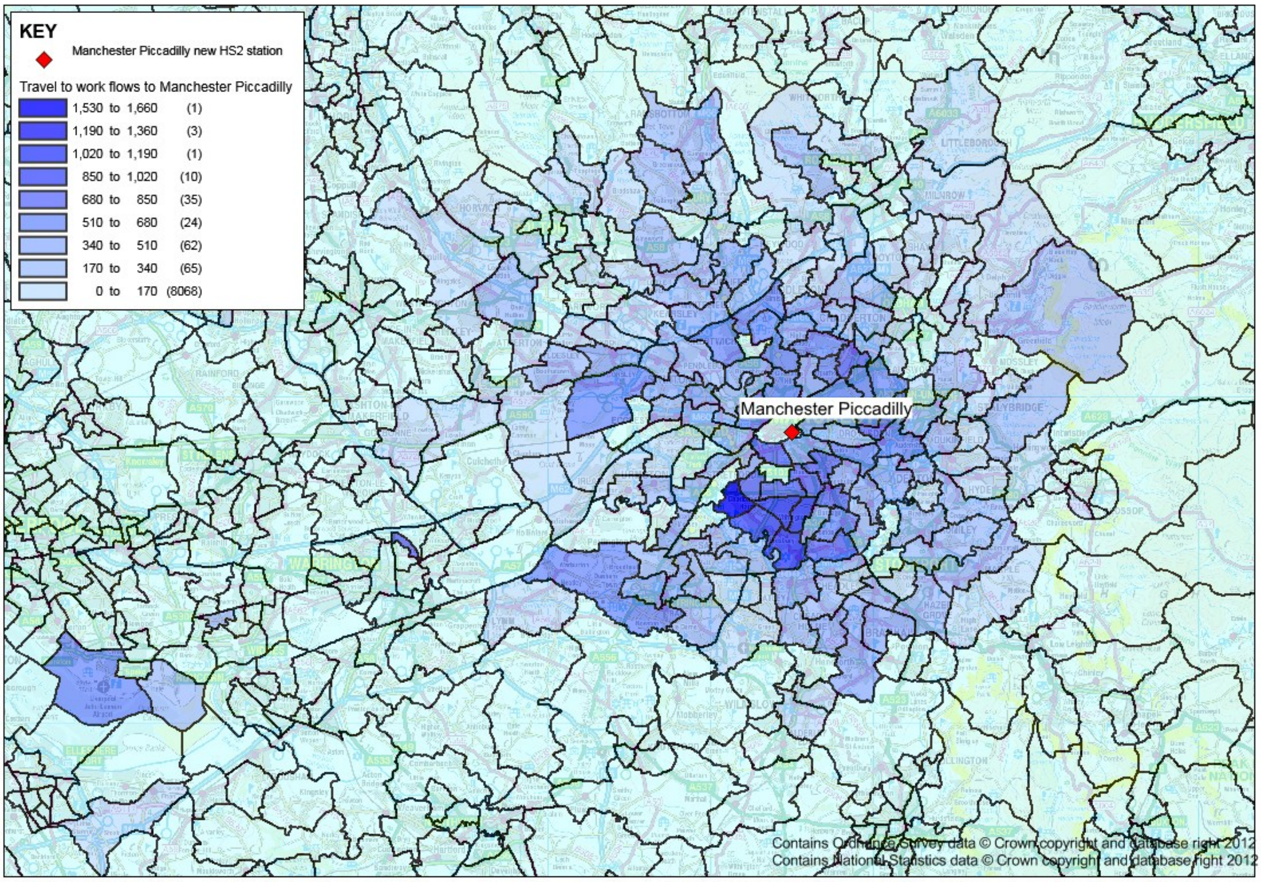
4.2.25. Platforms for the Manchester Metrolink light rail network are located within the existing station, providing connections to places across the city region including Bury, Altrincham, Droylsden, Eccles and Salford Quays.

4.2.26. Traffic circulation within central Manchester is based around the Inner Ring Road, which carries through traffic around the city centre, and provides access from the wider Manchester area into the city centre street grid. The Inner Ring Road will provide the main route connecting the HS2 Station to radial and regional routes, specifically via the A635 and A635(M) (Mancunian Way).

Travel to work

4.2.27. Travel to work flows (Census 2001[13]) to the catchment area have been analysed in order to see where people are commuting from to Manchester Piccadilly. **Figure 4.8** shows that the area attracts commuters from across the whole of the Greater Manchester. More recent data is only available at a District level but shows a very similar pattern, in terms of catchment area, at this higher level.

Figure 4.8 - Travel to work patterns to Manchester Piccadilly



4.3. Impacts of HS2 Phase Two

Key factors

4.3.1. Manchester Piccadilly is a location which will support considerable additional development as a result of HS2. Reasons for this include:

- Manchester Piccadilly's current position as the main transport hub within the regional centre;
- proximity to the heart of the city centre, commercial core and the Oxford Road Corridor/ First Street Regeneration Area, forming part of a strategic economic growth and investment location;
- an absence of major development constraints / accessibility problems on key sites within the immediate vicinity of the proposed HS2 station, indeed the introduction of

[13] Census 2011 detailed travel to work data was not yet available at the time of study.

HS2 would provide an opportunity to improve connectivity and address underused development sites in this area;

- the availability of a large area of ‘soft sites’ to the north and east of the existing station, and around the Piccadilly Basin, which have the potential to be ‘unlocked’ and supported by the arrival of HS2. These sites would be much less attractive in a ‘without HS2’ scenario; and
- there is both the potential and precedent for high density city centre development.

4.3.2. Aspirations for this area are demonstrated by the Inacity Piccadilly Tower extant planning permission a 58-storey tower which has been on hold due to the downturn in the economy.

Employment

4.3.3. The table below shows how HS2 Phase Two could increase net commercial floorspace by between 605,000 and 871,000 sqm, equivalent to between approximately 29,700 and 42,900 jobs. These job numbers are net and take into account some 1,900 jobs that are estimated to be displaced. Residential floorspace is estimated to increase by at least 184,000 sqm and potentially up to 246,000 sqm. This equates to between 3,100 and 4,100 residential units.

Table 4.6 - Potential development impact around Manchester Piccadilly HS2 station

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Commercial	605,000	871,000
Residential	184,000	246,000

Source: DJD & SKMCB, High Speed 2 SIFT 3.0: Relative Development Impact Assessment (Manchester / Salford), December 2011

4.3.4. An indicative assessment of the make-up of the commercial space under both scenarios is given in the table below. Whilst office space takes up over half the expected increase in floorspace, leisure and education are also expected to be significant reflecting the nature of the local area.

Table 4.7 - Potential development impact around Manchester Piccadilly HS2 station by land use

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Retail	42,000	56,000
Leisure	109,000	151,000
Education	92,000	128,000
Office	312,000	451,000
Other	50,000	85,000
Total	605,000	871,000

4.3.5. A station in this area would be expected to support a very significant amount of development and consequently jobs. Given the present commuting pattern to this area this would be of significant benefit to the wider catchment area as well as the local area.

5. EAST MIDLANDS HUB (TOTON)

5.1. Introduction

5.1.1. The East Midlands Hub station proposed at Toton is located between Nottingham and Derby, and is planned to be readily accessible from both cities as well as the wider East Midlands region.

5.2. The regional context: East Midlands

Employment and economic activity

5.2.1. Similarly to the previous regions analysed, as well as England minus London, the economic structure in the East Midlands is characterised by having a large proportion of residents employed in the public administration, health and education sectors (28%). Levels of the wholesale and retail trade; repair of motor vehicles and motor cycles as well as manufacturing in the East Midlands are the highest across Phase Two with 18% and 13% of people employed, respectively.

Table 5.1 - Employees by industry - East Midlands

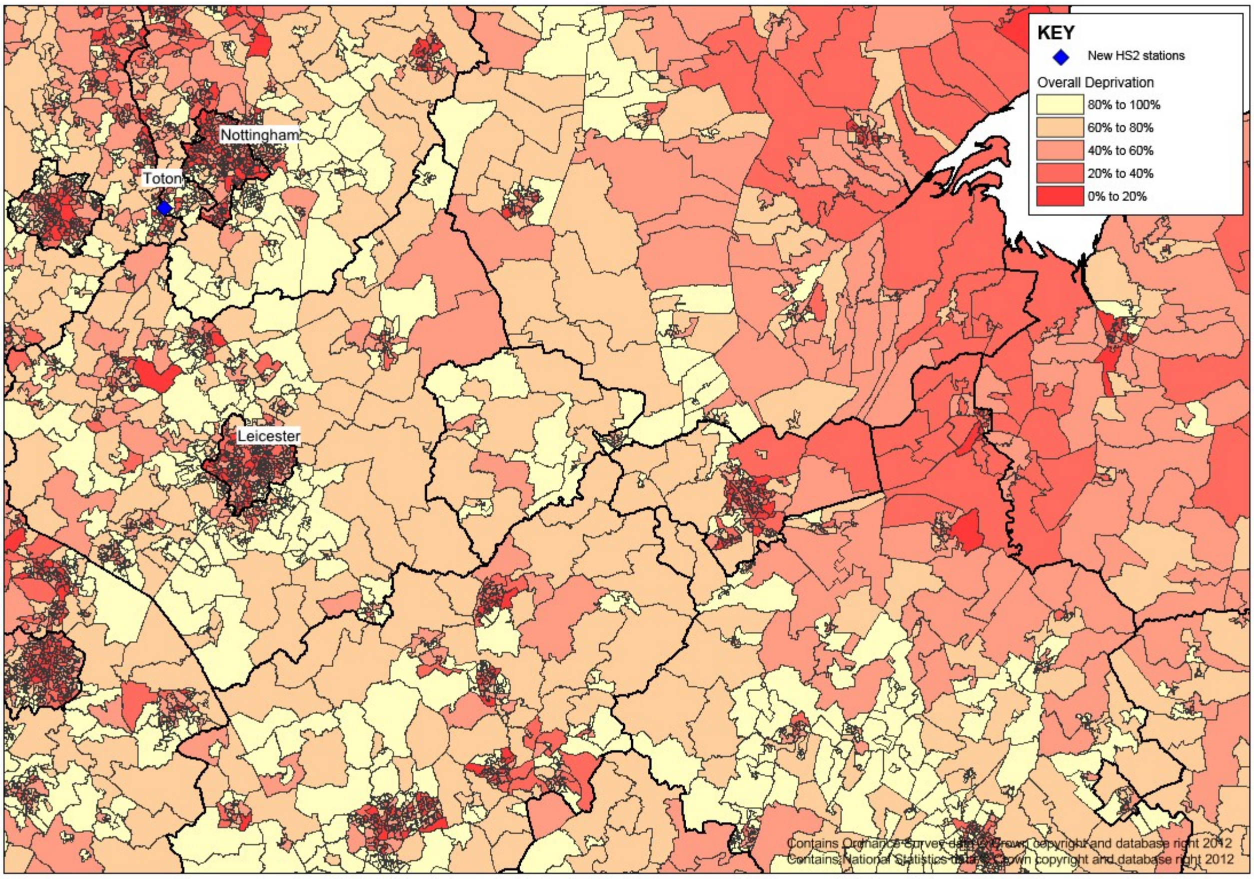
Industry category	East Midlands	Percent	Percent (England - London)
Agriculture, Forestry & Fishing	2,900	0.9	0.8%
Mining, quarrying & utilities	27,500	1.4	1.3%
Manufacturing	248,000	13.0	10.2%
Construction	93,200	4.9	4.8%
Wholesale and retail trade; repair of motor vehicles and motor cycles	332,400	17.4	4.6%
Transport and storage	94,500	5.0	17.0%
Accommodation & food services	108,700	5.7	6.7%
Information & Communications	45,100	2.4	3.4%
Financial & Insurance	37,400	2.0	3.1%
Property	20,000	1.0	1.4%
Professional, scientific & technical	94,500	5.0	6.4%
Business administration & support services	174,900	9.2	7.8%
Public administration, Education and Health	530,700	27.8	28.2%
Arts, entertainment, and other services	82,500	4.3	4.4%
TOTAL	1,892,300		

5.2.2. The claimant count at April 2013 for East Midlands at 3.6% is lower than all the metropolitan areas. In terms of GVA, the East Midlands at £18,083 is very similar to Greater Manchester and West Yorkshire, and around the median for English counties.

Deprivation

5.2.3. **Figure 5.1** portrays the level of overall deprivation in the East Midlands according to the Index of Multiple Deprivation (2010). Since deprivation is often concentrated in urban areas, a high proportion of this region scores relatively well in terms of deprivation. However, this does not apply to the east of the region, which is significantly deprived.

Figure 5.1 - Overall deprivation - East Midlands



5.3. The local context

Summary

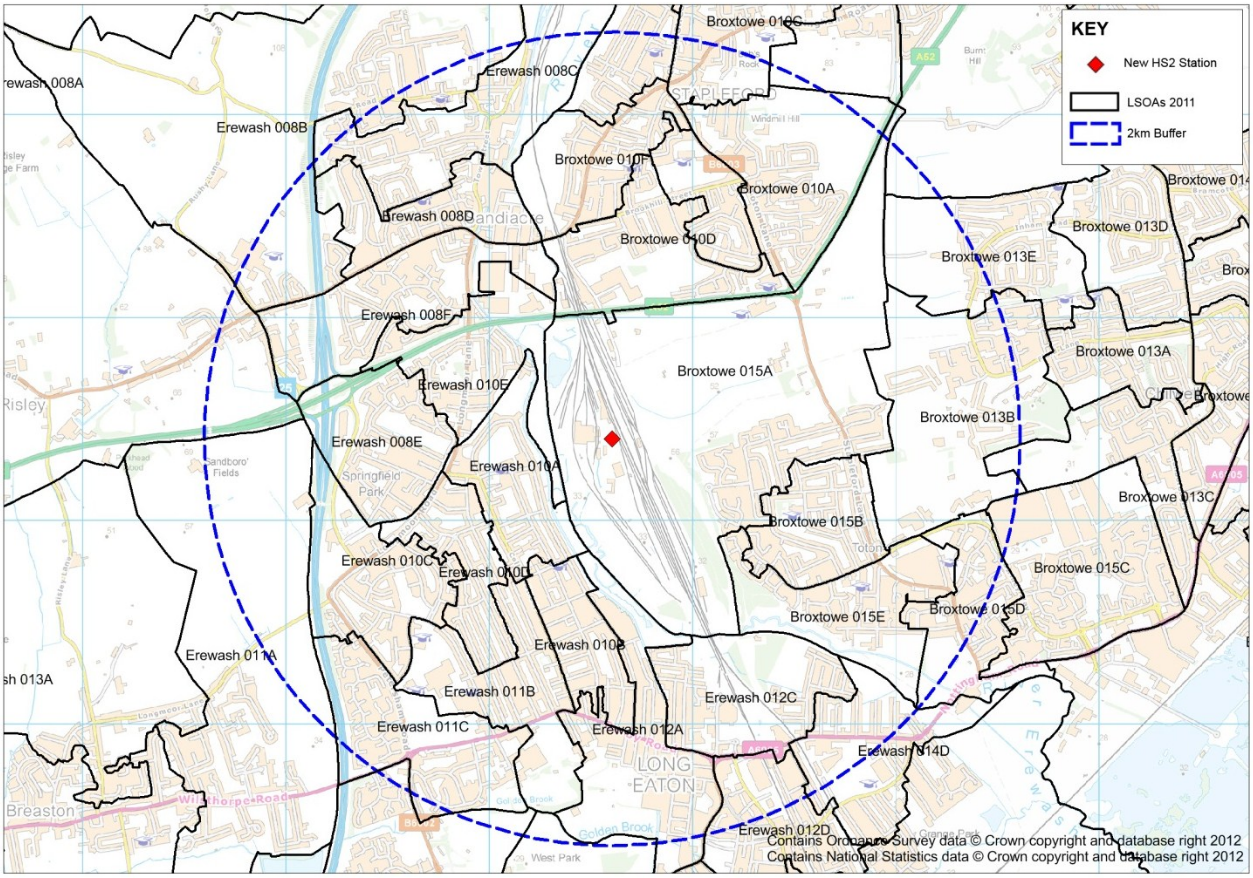
5.3.1. Overall, the catchment area has a stable set of socio-economic characteristics similar to the average national statistics: low deprivation, low mix of ethnic groups, significant proportion of people with no qualifications, and high level of house ownership and commuting is very local. The catchment is mostly residential but also includes Long Eaton Town Centre, an employment area, and some agricultural land. Broxtowe Borough Council's draft Core Strategy (not yet adopted) does not identify any areas of land within the HS2 East Midlands Hub station catchment area for promotion for development. However at the time of writing an outline planning application for a mixed use development adjacent to the proposed HS2 station is currently being considered.

5.3.2. The potential impacts of the station at the proposed East Midlands Hub station are relatively low, compared with others such as Leeds New Lane and Sheffield Meadowhall. The benefits to local residents will mainly be the relatively small number of additional jobs accommodated through local development. HS2 could increase net commercial floorspace by up to 19,000 sqm, and support between 1,500 and 1,600 jobs. Residential floorspace is estimated to increase by at least 9,000 sqm, and potentially up to 47,000 sqm. This equates to between 150 and 800 residential units.

The area

5.3.3. The East Midlands Hub station has 23 LSOAs located within its 2km catchment (see **Figure 5.2**). A 2km catchment area has been chosen due to low population and employment density and hence a larger station catchment area. The statistics for the catchment area have been compared with data for the whole of the East Midlands and England.

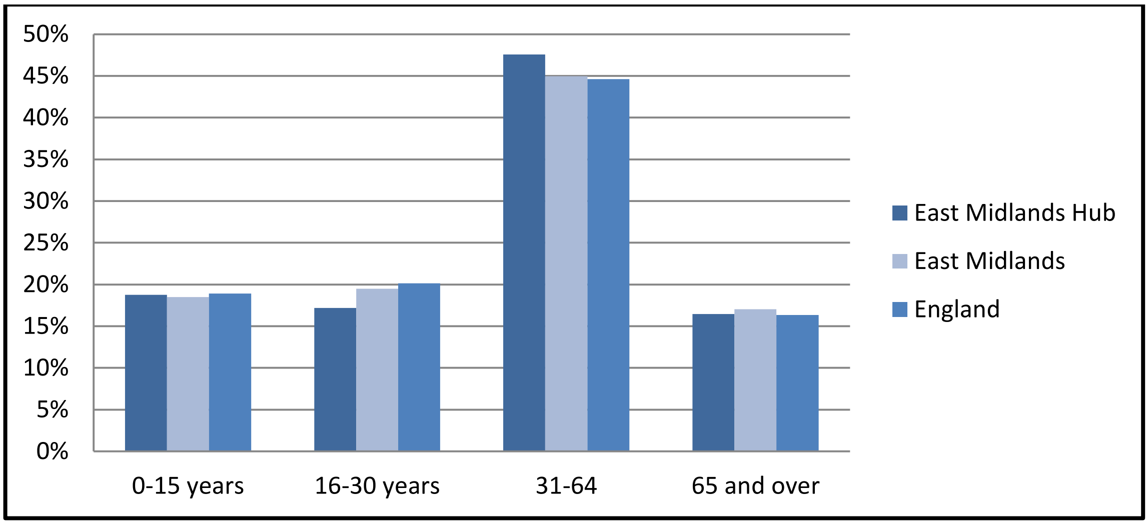
Figure 5.2 - East Midlands Hub HS2 Station catchment area



Population

5.3.4. Approximately 35,000 people live in the 2km catchment area. **Figure 5.3** shows the breakdown of the population by age, which is broadly in line with that for the region and nation in general.

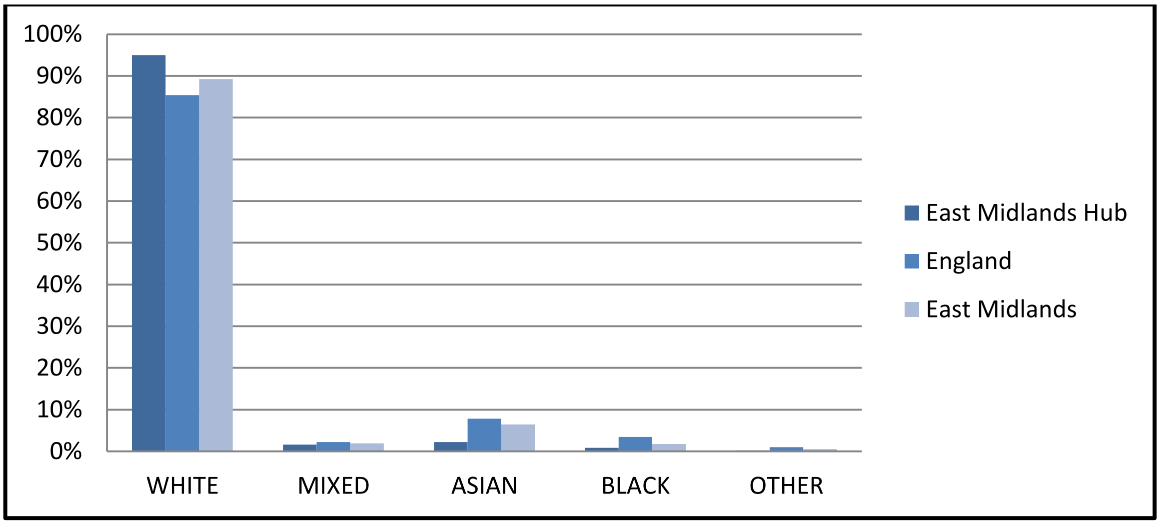
Figure 5.3 - Age structure - East Midlands Hub HS2 station catchment area



Ethnicity

5.3.5. The ethnicity of the population is presented in **Figure 5.4**. It shows limited ethnic diversity with only 5% non-white population. The mix of ethnic groups is also lower than the average in the East Midlands region and England.

Figure 5.4 - Ethnicity - East Midlands Hub HS2 station catchment area



Economic activity and employment

5.3.6. Economic activity in the HS2 station catchment area is slightly higher than the total for England minus London. Overall, the economic activity statistics show a similar picture to the national and East Midlands region averages, but 4% points higher in terms of employed people in respect of the latter.

Table 5.2 - Economic activity rates - East Midlands Hub HS2 station catchment area

Economic activity rates (% of population aged 16 to 74 years) (Census 2011)	East Midlands Hub catchment area	East Midlands	England
Economically active	73%	69%	70%
Econ. active – employed	66%	62%	62%
Econ. active – unemployed	4%	4%	4%
Econ. active – full time student	3%	3%	3%
Econ. inactive – looking after family	4%	4%	4%
Econ. inactive – Permanently sick or disabled	3%	4%	4%
Econ. inactive – Other (including retired)	20%	23%	22%

5.3.7. The percentages of employees by occupation, shown in **Table 5.3**, indicate similar proportions of employees in all the different occupation categories. Again, this is fairly consistent with the national and regional data.

Table 5.3 - Employees by occupation - East Midlands Hub HS2 station catchment area

Occupations (% of total residents in employment) (Census 2011)	East Midlands Hub catchment area	East Midlands	England
Managers, directors and senior officials	10%	11%	14%
Professional occupations	16%	15%	17%
Associate professionals and technical occupations	12%	11%	12%
Administrative and secretarial occupations	12%	11%	11%
Skilled trades occupations	12%	12%	11%
Caring, leisure and other services	9%	10%	9%
Sales and customer service	9%	8%	8%
Process, plant and machine operatives	9%	9%	7%
Elementary occupations	12%	13%	11%

5.3.8. In line with this data, the statistics for employees by industry are once again similar to the national average with the exception of manufacturing, which is 5% points higher in the East Midlands Hub HS2 station catchment area. This data is presented in **Table 5.4**.

Table 5.4 - Employees by industry - East Midlands Hub HS2 station catchment area

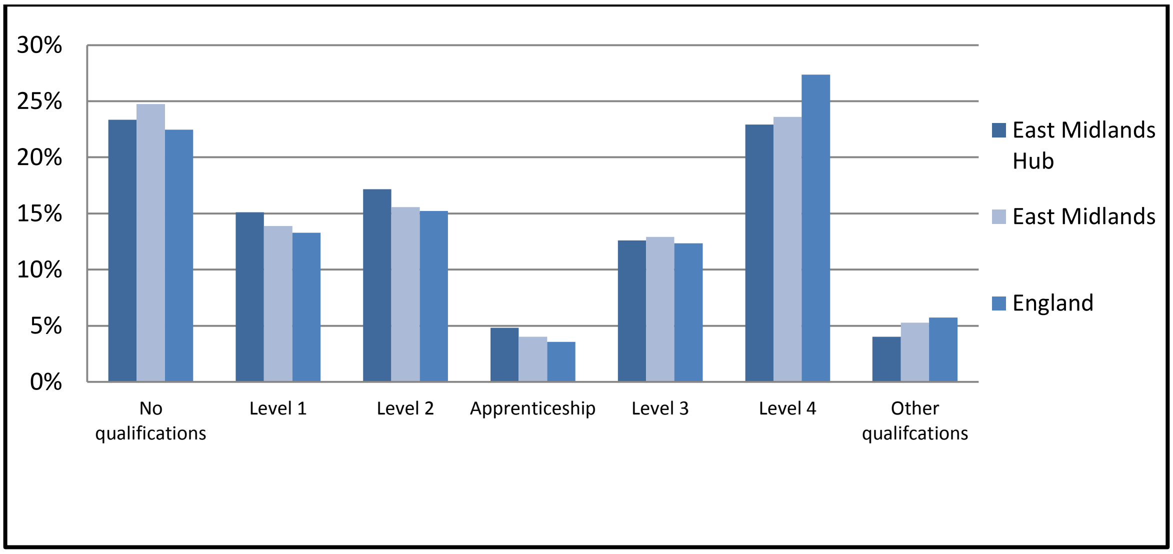
Employees by Industry (% of total residents in employment) (Census 2011)	East Midlands Hub catchment area	East Midlands	England
Agriculture, forestry & fishing	0.1%	1%	1%
Mining, quarrying & utilities	0%	0%	0%
Manufacturing	14%	13%	9%
Energy & Water	1.5%	2%	1%

Employees by Industry (% of total residents in employment) (Census 2011)	East Midlands Hub catchment area	East Midlands	England
Construction	8%	8%	8%
Wholesale & retail trade; repair of motor vehicles & motor cycles	18%	18%	16%
Transport & storage	6%	5%	5%
Accommodation & food services	5%	5%	6%
Information & communications	3%	3%	4%
Financial & insurance	2%	3%	4%
Property	1%	1%	1%
Professional, scientific & technical	5%	5%	7%
Business administration & support services	5%	4%	5%
Public administration, education & health	29%	28%	28%
Arts, entertainment, & other services	4%	4%	5%

Education

5.3.9. Data on the level of qualifications attained by the residents in **Figure 5.5** is roughly in line with the level of qualifications for England overall.

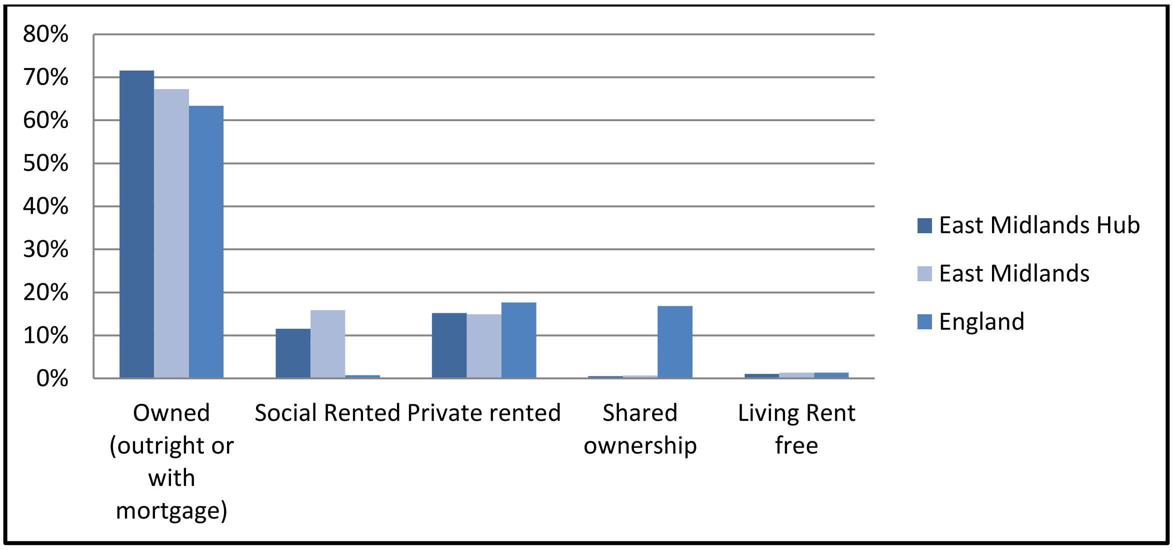
Figure 5.5 Qualifications - East Midlands Hub HS2 station catchment area



Household tenure

5.3.10. Household tenure in the East Midlands Hub catchment area is characterised by very high home ownership (72%), almost 10% points higher than the national proportion of house ownership. Social renting is 6% lower compared to the whole of England. This is shown in **Figure 5.6**.

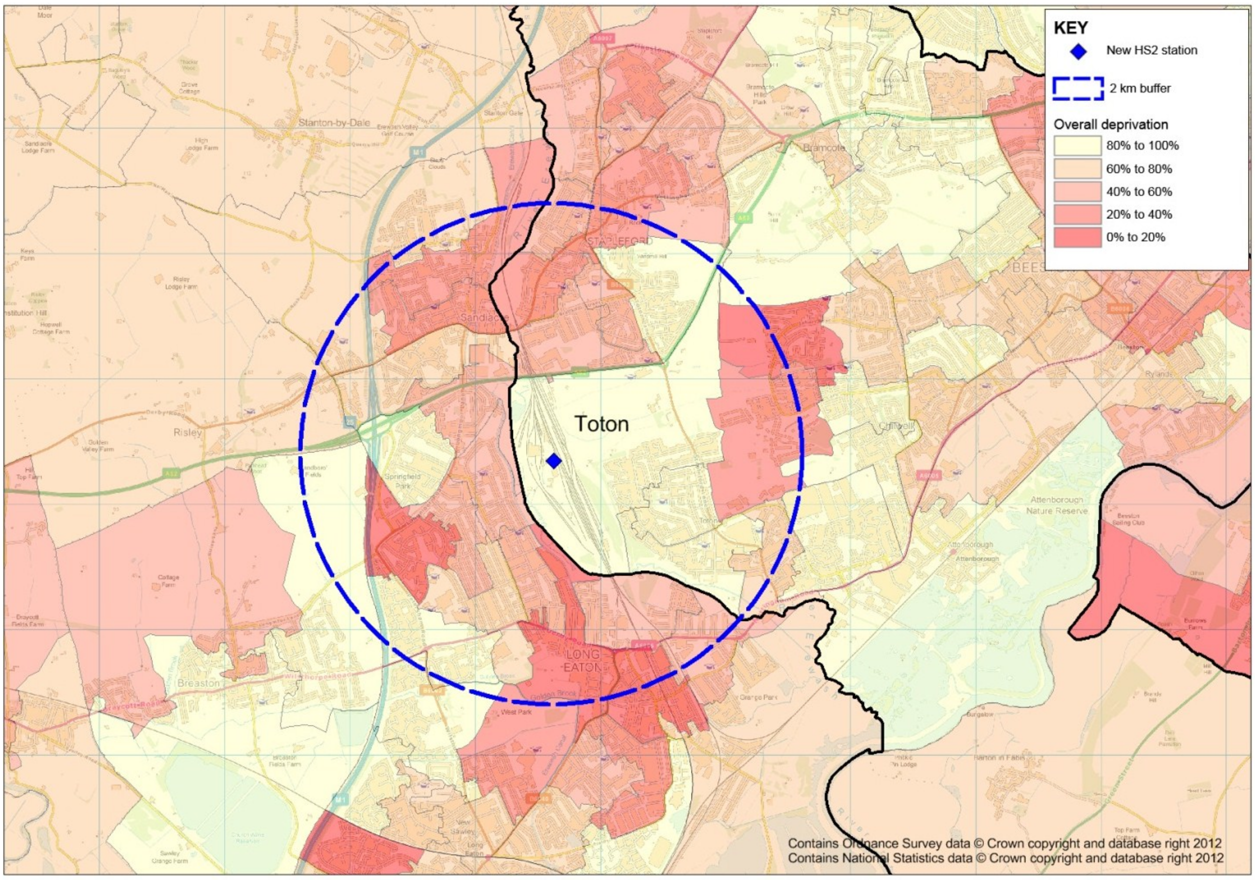
Figure 5.6 - Household tenure - East Midlands Hub HS2 catchment area



Deprivation

5.3.11. Deprivation indicators at LSOA level show a low level of deprivation in the East Midlands Hub catchment area and its surroundings with only a few exceptions to the outskirts of the catchment area (**Figure 5.7**).

Figure 5.7 - Overall deprivation in East Midlands Hub



5.3.12. The deprivation scores across different categories confirm that the East Midlands Hub catchment area experiences relatively low levels of deprivation compared to the UK as a whole. This area scores particularly low in the category of housing. Deprivation scores are presented in **Table 5.5**.

Table 5.5 - Deprivation indicators - East Midlands Hub

Deprivation scores (Index of Multiple Deprivation 2010)	East Midlands Hub catchment area	UK
Overall	78.76	100
Income	80	100
Employment	90	100
Education and skills	100.46	100
Housing	39.63	100

Land use characteristics

5.3.13. Long Eaton Town Centre is located to the south of the proposed station location, and includes a typical town centre mix of high street uses and civic functions. Large Tesco and Asda superstores are located here. The predominant land use in the 2km catchment is residential, with associated community infrastructure such as schools, places of worship, local medical centres, parks and recreation areas. There is also an employment area to the north of the proposed station, on the A52; and Chetwynd Barracks, Chilwell, is also located in the catchment area. There is also some land in agricultural use within the catchment area, although some of this land is proposed for development.

Strategic ambitions

5.3.14. The station is located in Nottinghamshire County Council, on the boundary with Derbyshire County Council. At a local level it sits in Broxtowe Borough Council in Nottinghamshire, on the boundary with Erewash Borough Council in Derbyshire. Broxtowe Borough Council has published its Core Strategy (not yet adopted) to guide development in the Borough for the next 15 years as part of the Greater Nottingham Aligned Core Strategies. This does not identify any areas of land within the HS2 station catchment for promotion for development. However an outline planning application is currently being considered by Broxtowe Borough Council for the construction of a mixed use development on land to the west of Toton Lane, which falls immediately adjacent to the proposed HS2 station. This is proposed to include a maximum of 775 dwellings, 2,800 sqm business space, an 80 bedroom hotel, several retail units, 2300 sqm education provision, local community uses and open space.

5.3.15. Erewash Borough Council has also prepared its Core Strategy (also not yet adopted). Within this, Long Eaton is identified for the provision of approximately 1,450 homes in or adjoining the Long Eaton urban area, including in Sandiacre, which falls within the HS2 station catchment. A minimum of 42,900 sqm of new offices and research development space is also being sought across Erewash, some of which will be delivered by promoting complimentary office development in and adjoining Long Eaton. How much is likely to fall within the HS2 station catchment is unclear.

Transport network

5.3.16. The new East Midlands Hub station is planned to be readily accessible by public transport from both Derby and Nottingham. Rail lines could be connected to serve Derby, Leicester, Nottingham and the wider East Midlands region.

5.3.17. There are no other rail stations in the immediate vicinity; the nearest stations are Attenborough to the east, on the line to Nottingham, and Long Eaton to the south, on the line to Derby. Both of these fall outside of the 2km buffer however. The area is currently well served by an extensive network of regular bus services.

5.3.18. The Nottingham Express Transit (NET), Nottingham's tram network, is presently being expanded to serve a number of destinations, which will include a new Park and Ride facility at Toton Lane, just less than one kilometre from the proposed HS2 station location. The extensions are planned to be open by 2014. It is proposed to extend the tram to the HS2 station.

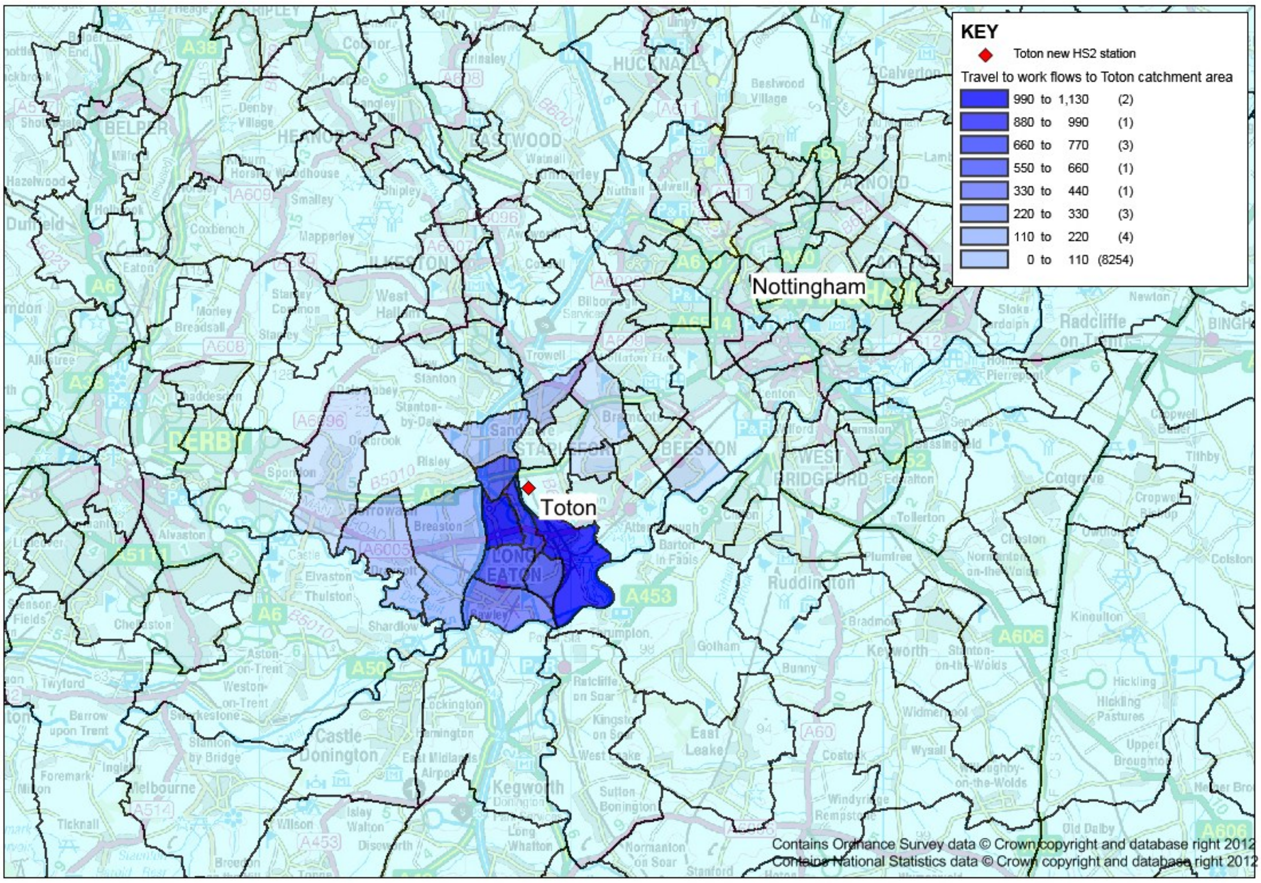
5.3.19. The HS2 station will be connected to the strategic road network via the A52 running east and west between Derby and Nottingham, and to the M1 via Junction 25.

5.3.20. East Midlands Airport is approximately a 20 minute drive south along the M1.

Travel to work

5.3.21. Travel-to-work patterns from Census 2001 to East Midlands Hub catchment area data are presented in **Figure 5.8**. They show very local commuting patterns and virtually no commuting from outside Toton.

Figure 5.8 - Travel to work patterns – East Midlands Hub



5.4. Impacts of HS2 Phase Two

Key factors

5.4.1. The scale of development supported at East Midlands Hub is influenced by:

- the site is surrounded by predominantly residential uses, with limited potential for significant commercial or residential development in comparison to a city centre location;
- funding has been approved for Phase 2 of the Nottingham tram system (NET). This extension includes a line through Beeston from Nottingham, terminating at a park-and-ride station in the green belt gap near a garden centre between Stapleford and Toton, just off the A52 thereby increasing the attractiveness of Toton as a place to live and work;
- the east of the site is characterised by greenfield and green belt land. The principal development site within the 1km area is identified in the Core Strategy Issues and Options document (2009) as 'Between Toton and Stapleford', and is located between the proposed HS2 station and the tram station, within the designated green belt;
- it has been assumed that this site would not come forward without HS2, given the current (and short-term) uncertainty over whether the release of the site from the green belt would be supported;
- with HS2, the site is impacted by some demolitions. In addition, part of the 'Between Toton and Stapleford' site lies within the construction zone and would partly be used as car parking, therefore a large area of the site would be required by the HS2 station. We have assumed that should a HS2 station come to Toton, the 'Between Toton and Stapleford' site would come forward for a mixed-use scheme, to include commercial (office and industrial), residential and leisure uses, rather than the predominantly residential development that is currently being discussed; and
- the commercial potential of the site is considered to be enhanced with a HS2 station as well as a tram station in Toton.

Employment

5.4.2. The table below (**Table 5.6 -**) shows how HS2 could increase net commercial floorspace by up to 19,000 sqm, and support between 1,500 and 1,600 jobs. This takes into account up to 600 jobs that might be displaced because of demolitions. Residential floorspace is estimated to increase by at least 9,000 sqm, and potentially up to 47,000 sqm. This equates to between 150 and 800 residential units. The vast majority of commercial development would be office based.

Table 5.6 - Potential development impact around East Midlands Hub station

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Commercial	19,000	19,000
Residential	9,000	47,000

Source: DJD & SKMCB, High Speed 2 SIFT 3.0: Relative Development Impact Assessment (East Midlands), December 2011

Opportunities

5.4.3. The area around East Midlands Hub station predominantly consists of established residential areas, with limited possibilities for comprehensive redevelopment. Local planning policy seeks some additional residential development, plus office and research development space in the general area, although how likely this is to be within the HS2 station catchment area is unclear.

5.4.4. The impacts of the station at East Midlands Hub are relatively low, compared with others such as Leeds and Sheffield Meadowhall. Overall, the catchment area has a stable set of socio-economic characteristics similar to the average national statistics (low deprivation, low mix of ethnic groups, low level of qualifications, and high level of house ownership) and commuting is very local. The benefits to local residents (as assessed in this appraisal) would mainly be the relatively small number of additional jobs accommodated through local development.

6. SHEFFIELD MEADOWHALL

6.1. Introduction

6.1.1. A new station at Sheffield Meadowhall would be situated alongside the M1, providing access by road serving Sheffield and the wider South Yorkshire region. This station would provide connectivity with existing public transport networks. Existing trains connect Meadowhall to Sheffield city centre Rotherham, Barnsley and beyond to Wakefield, Doncaster, Scunthorpe and stations to Leeds and Manchester, whilst Supertram also links Meadowhall with Sheffield city centre and suburbs.

6.2. The regional context: South Yorkshire

Economic activity and employment

6.2.1. The economy of the South Yorkshire region has almost one third of the population employed in the public administration, health and education sectors, which is markedly higher than the rest of England minus London. Wholesale and retail trade including repair of motor vehicles and motorcycles employ around 17% of the workers and manufacturing is also a highly relevant sector in this region with more than 11% of workers employed in it. The financial and insurance as well as the professional, technical and scientific sectors have less of a presence in this region.

Table 6.1 Employees by industry - South Yorkshire

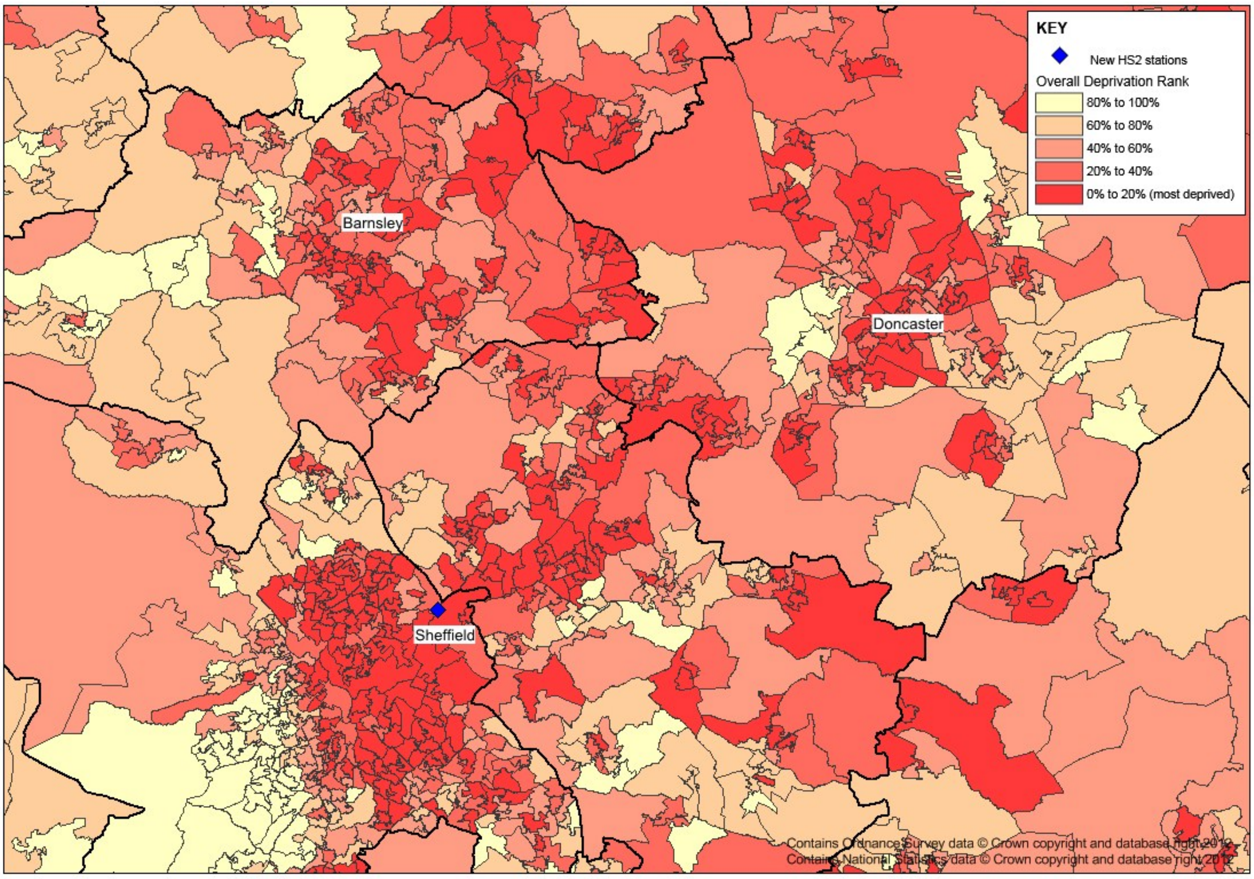
Industry category	South Yorkshire	%	% (England - London)
Agriculture, forestry & fishing	150	0.0	0.8%
Mining, quarrying & utilities	6,000	1.2	1.3%
Manufacturing	56,000	10.9	10.2%
Construction	27,400	5.4	4.8%
Transport & storage	27,200	5.3	4.6%
Wholesale & retail trade; repair of motor vehicles & motor cycles	87,000	17.0	17.0%
Accommodation & food services	26,900	5.3	6.7%
Information & communications	12,700	2.5	3.4%
Financial & insurance	15,600	3.1	3.1%
Property	6,000	1.2	1.4%
Professional, scientific & technical	23,700	4.6	6.4%
Business administration & support services	36,800	7.2	7.8%
Public administration, education & health	166,500	32.6	28.2%
Arts, entertainment, & other services	19,800	3.9	4.4%
TOTAL	**511,750**		

6.2.2. The claimant count at April 2013 for South Yorkshire at 5.1% is at the lower end of the rates for all the metropolitan areas. In terms of GVA, South Yorkshire contributes £15,467 per head according to the ONS, which is 28% lower than the UK average and in the lower quintile of counties.

Deprivation

6.2.3. Confirming the economic deficiencies indicated by the unemployment rate and the GVA per capita, the Index of Multiple Deprivation clearly shows that this region is considerably deprived. There is a high level of deprivation in urban areas compared to rural and low densely populated areas. This can be seen in **Figure 6.1**.

Figure 6.1 Overall deprivation - South Yorkshire



6.3. The local context

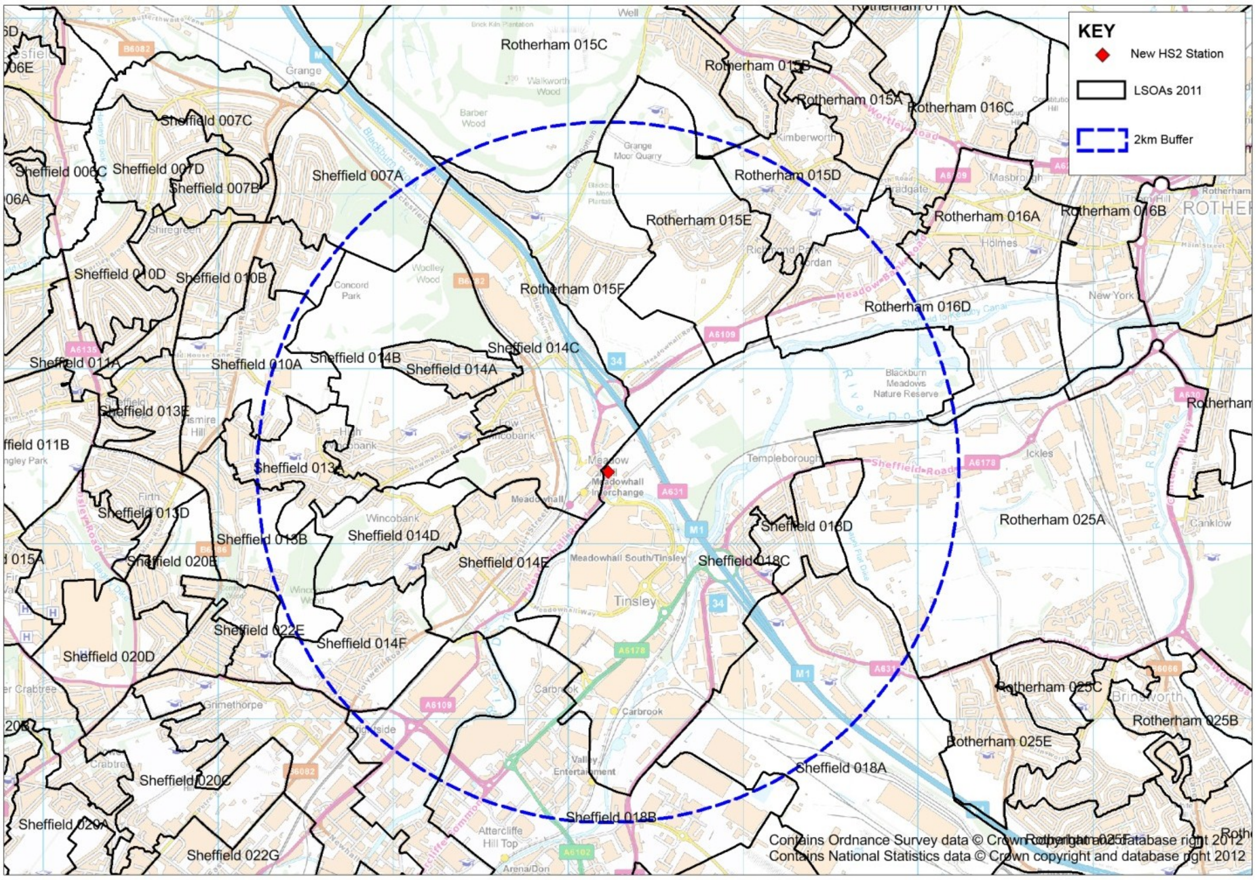
A 2km catchment area for the proposed HS2 station at Sheffield Meadowhall has been analysed and shows a relatively negative picture in socio-economic terms given its low level of skills, high level of social housing, high proportion of elementary occupations and high level of unemployment. The catchment includes significant areas of land occupied by out-of-town retail and industrial uses, along with some residential areas. The catchment area of Sheffield Meadowhall station offers areas of land with potential for regeneration and redevelopment. Local planning policy seeks to promote various development uses including offices, residential, and large-scale leisure (but not additional retail).

HS2 could consequently support an increase in net commercial floorspace by between 77,000 and 106,000 sqm, equivalent to between approximately 4,000 and 5,400 jobs. Residential floorspace is estimated to increase by at least 15,000 sqm, and potentially up to 20,000 sqm. This equates to between 250 and 300 residential units.

The area

6.3.1. A 2km catchment area has been chosen for the analysis reflecting the different role the station will have. That is, serving a wider catchment area than one serving a city centre direct. The catchment area for the proposed station is shown in **Figure 6.2**. It contains 12 LSOAs (Census 2011). The catchment area has been compared with the South Yorkshire region and England.

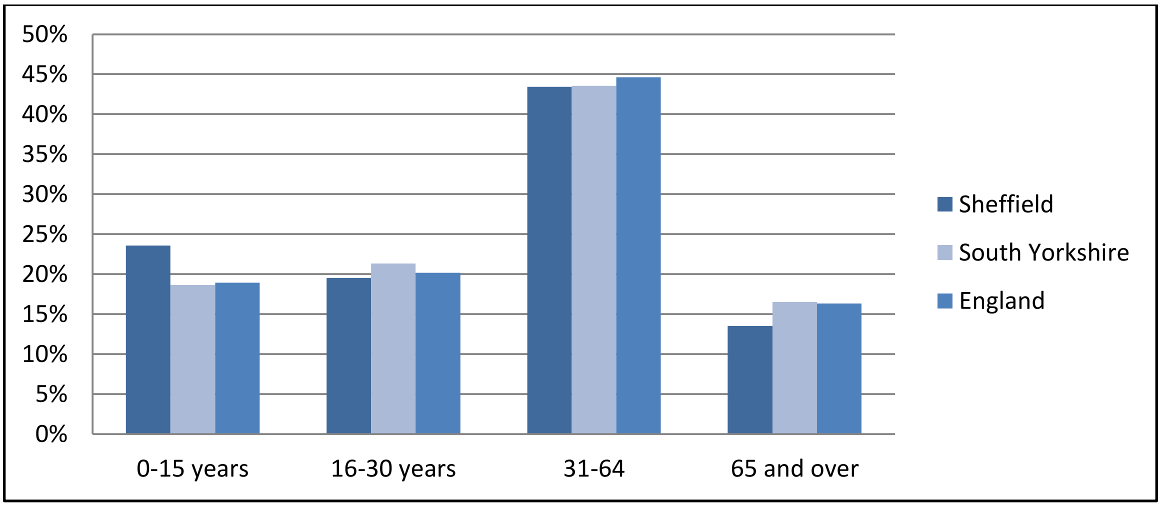
Figure 6.2 Sheffield Meadowhall HS2 station catchment area



Population

6.3.2. There are approximately 14,000 residents in the catchment area, of which 20% are between 16 - 30 years and 43% between 30 - 60 (**Figure 6.3**). This indicates that the average population is very similar to the average for the region and England.

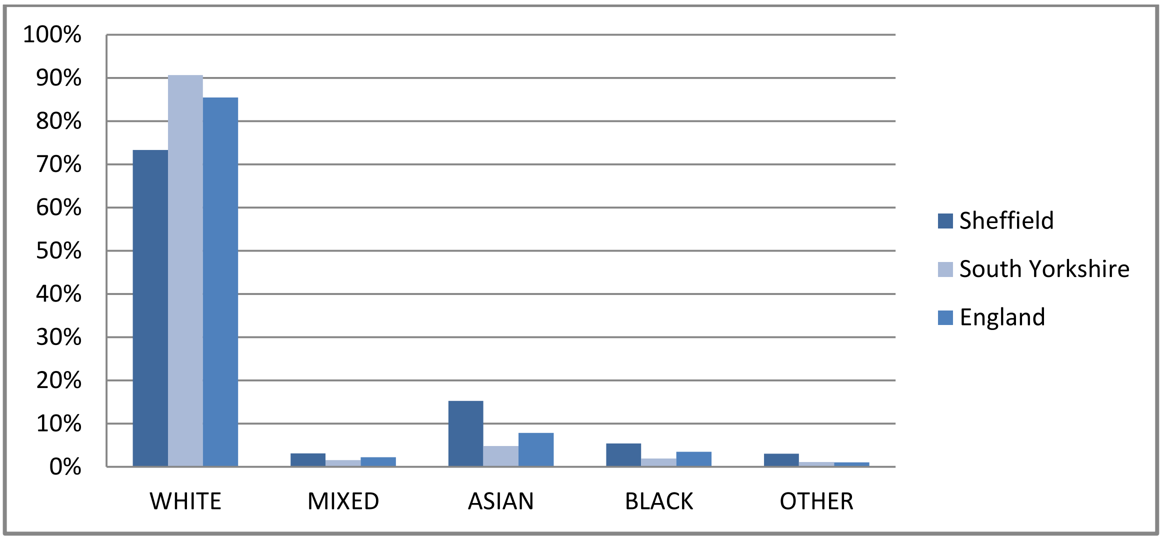
Figure 6.3 Age structure - Sheffield Meadowhall HS2 station catchment area



Ethnicity

6.3.3. With regards to ethnicity, there is far greater diversity than in South Yorkshire and England as a whole. The largest non-white ethnic group is Asian, comprising 15% of the population (**Figure 6.4**).

Figure 6.4 - Ethnicity - Sheffield Meadowhall HS2 station catchment area



Economic activity and employment

6.3.4. Statistics for economic activity show that there is a lower proportion of economically active people and employed people, and a higher proportion of unemployed residents than the average for England and South Yorkshire. This is presented in **Table 6.2.**

Table 6.2 - Economic activity rates - Sheffield Meadowhall HS2 station catchment area

Economic activity rates (% of population aged 16 to 74 years) (Census 2011)	Sheffield Meadowhall catchment area	South Yorkshire	England
Economically active	65%	66%	70%
Econ. active – employed	56%	57%	62%
Econ. active – unemployed	6%	5%	4%
Econ. active – full time student	3%	4%	3%
Econ. inactive – looking after family	7%	5%	4%
Econ. inactive – Permanently sick or disabled	6%	5%	4%
Econ. inactive – Other (including retired)	22%	23%	22%

6.3.5. In terms of occupations, there is a 5% point higher proportion of elementary occupations and a 7% point lower proportion of managers and senior officials than the average for England. There is also a 5% point higher proportion of workers employed in process, plant and machine operatives than in the whole of England. This data is shown in **Table 6.3**.

Table 6.3 - Occupations - Sheffield Meadowhall HS2 station catchment area

Occupations (% of total residents in employment) (Census 2011)	Sheffield Meadowhall catchment area	South Yorkshire	England
Managers, directors and senior officials	7%	9%	14%
Professional occupations	9%	15%	17%
Associate professionals and technical occupations	9%	10%	12%
Administrative and secretarial occupations	10%	11%	11%
Skilled trades occupations	14%	12%	11%
Caring, leisure and other services	11%	10%	9%
Sales and customer service	12%	10%	8%
Process, plant and machine operatives	12%	9%	7%
Elementary occupations	16%	13%	11%

6.3.6. Overall, the industry structure in the Sheffield Meadowhall HS2 station catchment area corresponds to the industry composition of the region of South Yorkshire and England. However, there is a slightly higher proportion of people employed in manufacturing, transport and storage and a slightly lower proportion of employees in the professional, scientific and technical sectors (as shown in **Table 6.4**).

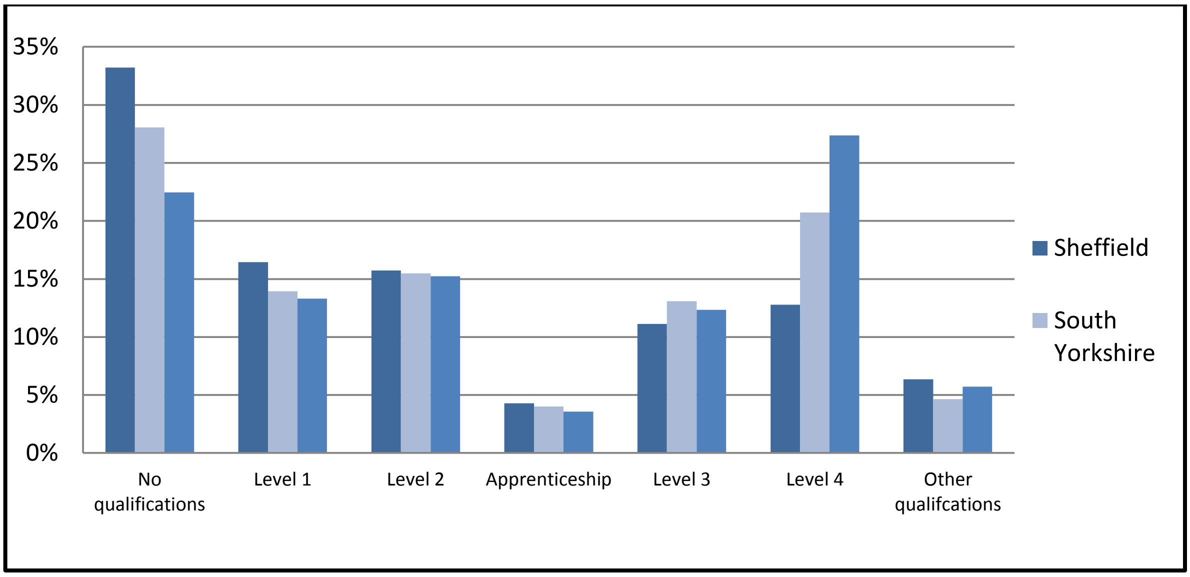
Table 6.4 - Employees by industry - Sheffield Meadowhall HS2 station catchment area

Employees by Industry (% of total residents in employment) (Census 2011)	Sheffield catchment area	South Yorkshire	England
Agriculture, forestry & fishing	0%	0%	1%
Mining, quarrying & utilities	0%	0%	0%
Manufacturing	13%	11%	9%
Energy and Water	1%	1%	1%
Construction	8%	9%	8%
Wholesale and retail trade; repair of motor vehicles and motor cycles	18%	17%	16%
Transport and storage	7%	5%	5%
Accommodation & food services	7%	5%	6%
Information & communications	3%	3%	4%
Financial & insurance	3%	3%	4%
Property	1%	1%	1%
Professional, scientific & technical	3%	4%	7%
Business administration & support services	5%	5%	5%
Public administration, education and health	27%	31%	28%
Arts, entertainment, and other services	4%	4%	5%

Education

6.3.7. Data for the level of qualifications show that there is a high percentage of residents with no qualifications (33%), considerably higher than the statistic for England (22%). **Figure 6.5** presents this data.

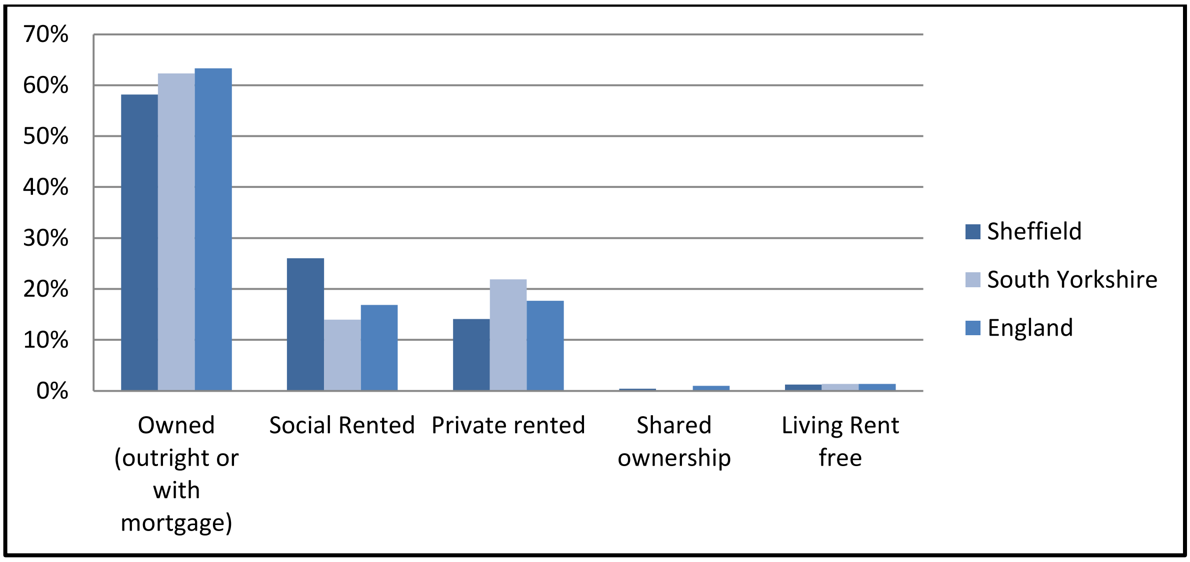
Figure 6.5 - Qualifications - Sheffield Meadowhall HS2 station catchment area



Household tenure

6.3.8. In the category of household tenure, the data for the Sheffield Meadowhall station catchment area shows an 8% point higher proportion of people in social housing than the average for England with over one quarter of the catchment area's residents living in social rented housing. It also shows a 5% lower proportion of house ownership. The data is presented in **Figure 6.6.**

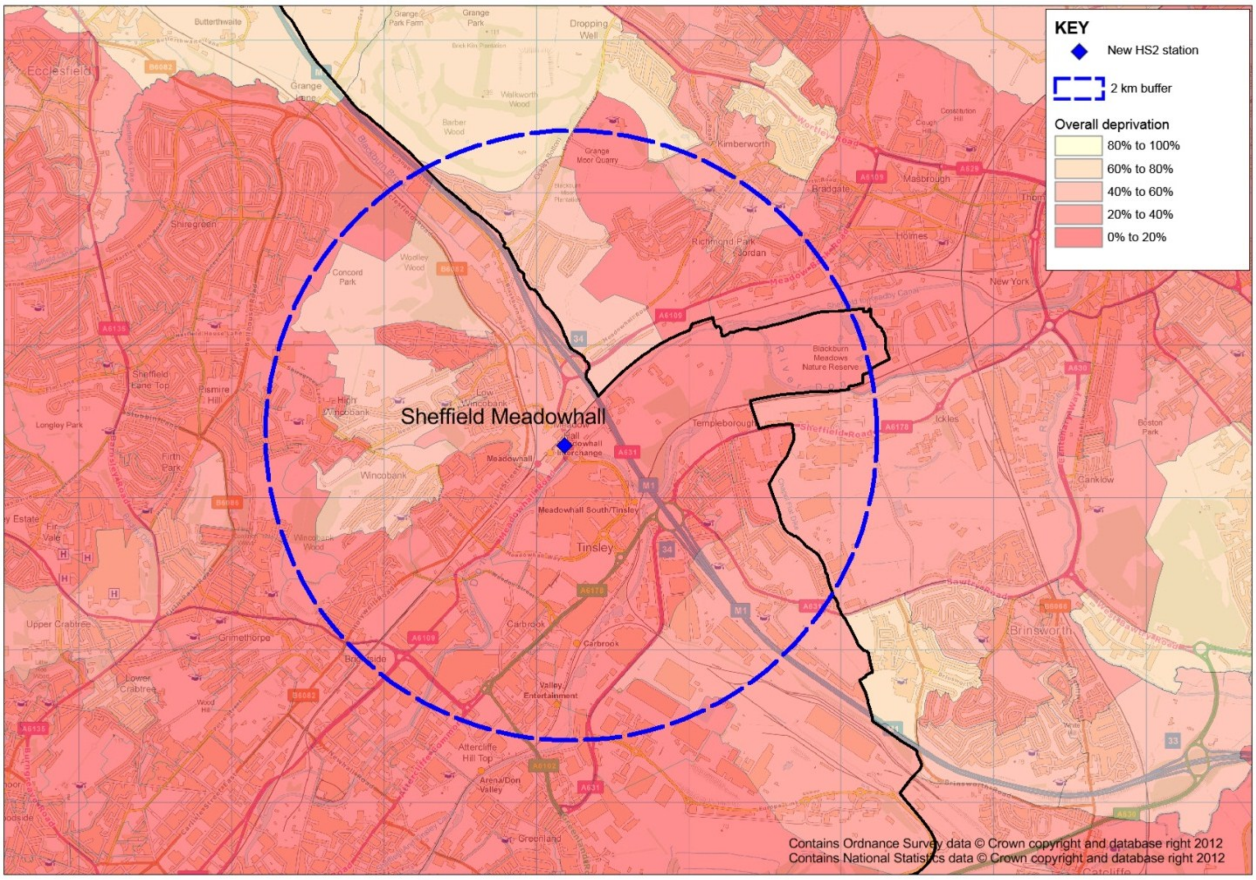
Figure 6.6 - Tenure - Sheffield Meadowhall HS2 station catchment area



Deprivation

6.3.9. Overall deprivation indicators show relatively high levels of deprivation in the area, as reflected in the data obtained from the Index of Multiple Deprivation (2010), shown in **Figure 6.7**.

Figure 6.7 - Overall deprivation - Sheffield Meadowhall station catchment area



6.3.10. The deprivation scores across different categories confirm the high levels of deprivation in the catchment areas as shown in **Table 6.5**. Deprivation is the highest in education and skills, which matches the data presented above (**Figure 6.7**).

Table 6.5 - Deprivation scores - Sheffield Meadowhall HS2 station catchment area

Deprivation scores (Index of Multiple Deprivation 2010)	Sheffield catchment area	UK
Overall	142.9	100
Income	153.33	100
Employment	140	100
Education and skills	219.82	100
Housing	99.54	100

Land use characteristics

6.3.11. The 2km catchment of the proposed Sheffield Meadowhall station includes significant areas of land given over to retail and industrial uses, along with some residential areas. Immediately adjacent to the station is the Meadowhall Shopping Centre which provides some 139,000 sqm of retail floorspace. To the south is the Carbrook area, which includes large industrial uses, and further retail provisions such as the Meadowhall Retail Park. There is also a major leisure complex, Valley Entertainment, and the Sheffield Arena all of which sit just on the edge of the catchment area. West and north of the proposed station, land use is predominantly residential, with the exception of Concord Park Golf Club. To the east, a large area of land is occupied by Blackburn Meadows Sewage Treatment works. There are also further industrial and business uses in this area, plus pockets of residential areas.

Strategic ambitions

6.3.12. The proposed station is located in the Lower Don Valley. The adopted Sheffield Core Strategy Development Plan Document (March 2009) identifies the Lower Don Valley as a strategic area to complement the City Centre (the main driver for the transformation of the city's economy). This is because it is a location for employment supported by a mix of related uses and can provide for developments not appropriate in the city centre. Development here will be carefully managed to ensure that it remains complementary to the city centre and does not detract from the centre's primary role for new jobs and services. The Meadowhall area is identified as a location for office development, and also for contribution to meeting the longer-term housing need. The location is also identified as suitable for large-scale leisure that could not be accommodated in the city centre, however there would be no significant expansion of shopping at Meadowhall.

6.3.13. There are also specific sites in the Upper Don Valley identified for safeguarding in the City Policies and Sites document. An area around Meadowhall area has been allocated as an Enterprise Zone (EZ) and an area of Enhanced Capital Allowance. The status of some sites which lie within the EZ could result in additional development. However, as specific proposals were unconfirmed when this report was undertaken, we have not considered the impact of EZ status on development sites surrounding the proposed station at Meadowhall.

Description of the transport network

6.3.14. The proposed Sheffield Meadowhall station is located on the fringes of Sheffield, near to Rotherham, and will be integrated with the existing Meadowhall interchange. Trains connect Meadowhall to Sheffield city centre, Rotherham, Barnsley and beyond to Wakefield, Doncaster, Scunthorpe and stations to Leeds and Manchester. The station is also linked to the Sheffield Supertram network and is the terminus on one of the lines, a 15 minute journey from the city centre.

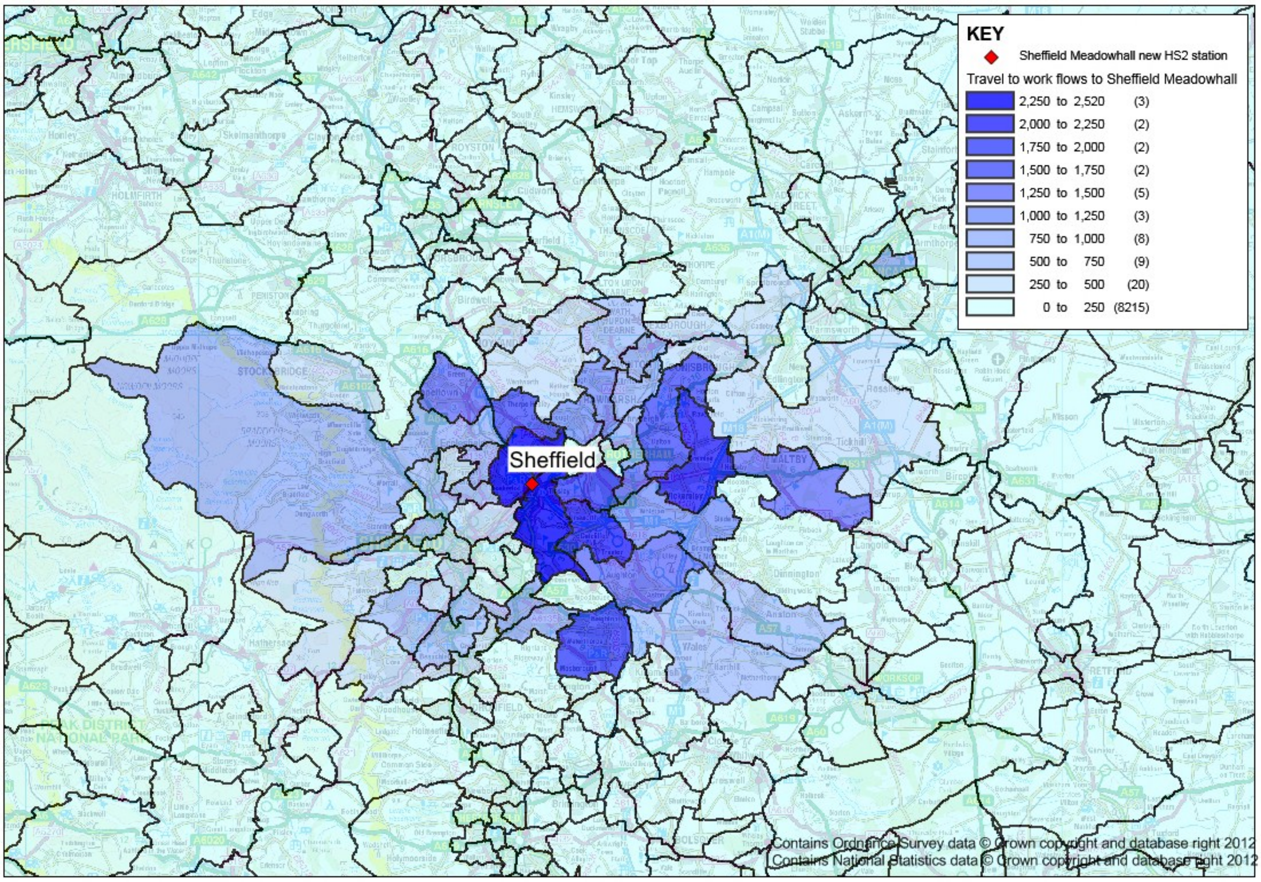
6.3.15. Meadowhall interchange also includes a large bus station with routes servicing the local Sheffield and Rotherham area, as well as the wider South Yorkshire region.

6.3.16. The proposed station would be situated just to the west of the M1, which runs broadly north-south through the area, with access via Junction 34. East-west connections to Sheffield and Rotherham are provided by the A6109 Meadowhall Road, and A6178 Sheffield Road.

Travel to work patterns

6.3.17. Travel to work flows (Census 2001) to Sheffield Meadowhall catchment area are shown in **Figure 6.8.** They show that these flows are relatively local, although they do reach some areas further away.

Figure 6.8 - Travel to work patterns - Sheffield



6.4. Impacts of HS2 Phase Two

Key Factors

6.4.1. Sheffield Meadowhall supports considerable development although there are some factors which may reduce its impact:

- whilst sites that would not be desirable in a ‘without HS2’ scenario are assumed to become much more attractive with the arrival of HS2 and its associated benefits, the additional floorspace generated is relatively low due to assumed site constraints, local accessibility and physical disconnection;
- Meadowhall has excellent motorway and highway access, which provides an attractive feature for commercial occupiers. There are a number of large, available development sites which could be subject to an accelerated impact as a result of HS2 but these may be for lower employment uses; and
- an area around the Meadowhall catchment area has been allocated as an Enterprise Zone (EZ) and an area of Enhanced Capital Allowance. The status of some sites which lie within the EZ could result in additional development.

Employment

6.4.2. The table below (**Table 6.6**) shows how the introduction of the Sheffield Meadowhall HS2 station could increase net commercial floorspace by between 77,000 and 106,000 sqm, equivalent to between approximately 4,000 and 5,400 jobs. This takes account of some 800 jobs that may be displaced by construction of the station. Residential floorspace is estimated to increase by at least 15,000 sqm, and potentially up to 20,000 sqm. This equates to between 250 and 300 residential units.

Table 6.6 - Potential development impact around proposed Sheffield Meadowhall HS2 station

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Commercial	77,000	106,000
Residential	15,000	20,000

Source: DJD & SKMCB, High Speed 2 SIFT 3.0: Relative Development Impact Assessment (South Yorkshire), June 2013

6.4.3. An indicative assessment of the make-up of the commercial space under both scenarios is given in the table below (**Table 6.7**). Being an out of centre location, less office space is expected to come forward with other land uses being more dominant.

Table 6.7 - Potential development impact around Sheffield Meadowhall HS2 station by land use

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Retail	14,000	19,000
Leisure	17,000	23,000
Education	0	0
Office	30,000	39,000
Other[14]	16,000	25,000
Total	77,000	106,000

Opportunities

6.4.4. The area around Sheffield Meadowhall station offers areas of land with potential for redevelopment. Local planning policy seeks to promote various development uses including offices, residential, and large-scale leisure (but not additional retail).

6.4.5. The Sheffield Meadowhall area is currently relatively deprived in socio-economic terms with low level of skills, high level of social housing, high proportion of elementary occupations, and high level of unemployment. Development supported by HS2 will help generate change in the number and types of jobs available in this area from being predominantly industrial blue-collar jobs at a low employment density, to office-based white-collar jobs at a higher employment density, with more employment in tertiary industries (such as service sector) and less dependency on employment in the manufacturing and distribution sectors.

[14] Industrial and warehousing

7. LEEDS NEW LANE

7.1. Introduction

7.1.1. The Leeds New Lane station is proposed alongside the South Bank area of the city centre, joined to the existing rail station via a dedicated pedestrian link.

7.2. The regional context: West Yorkshire

Employment and economic activity

7.2.1. As shown in the table below, West Yorkshire has 28% of its population employed in the public administration, health and education sectors in line with rest of England minus London. Wholesale and retail trade including repair of motor vehicles and motorcycles employ around 16% of the workers and manufacturing is also a relevant sector in this region with more than 11% of workers employed in it. The financial and business services sectors are well represented with over 20% of the workforce employed which is higher than the England average minus London.

Table 7.1 - Employees by industry - West Yorkshire

Industry category	West Yorkshire	%	% (England - London)
Agriculture, forestry & fishing	300	0.0	0.8%
Mining, quarrying & utilities	12,900	1.3	1.3%
Manufacturing	108,400	11.3	10.2%
Construction	42,300	4.4	4.8%
Transport & storage	48,700	5.1	4.6%
Wholesale & retail trade; repair of motor vehicles & motor cycles	156,200	16.2	17.0%
Accommodation & food services	50,000	5.2	6.7%
Information & communications	28,400	3.0	3.4%
Financial & insurance	48,000	5.0	3.1%
Property	11,800	1.2	1.4%
Professional, scientific & technical	64,600	6.7	6.4%
Business administration & support services	82,800	8.6	7.8%
Public administration, education & health	266,900	27.8	28.2%
Arts, entertainment, & other services	37,000	3.9	4.4%
Total	**958,300**		

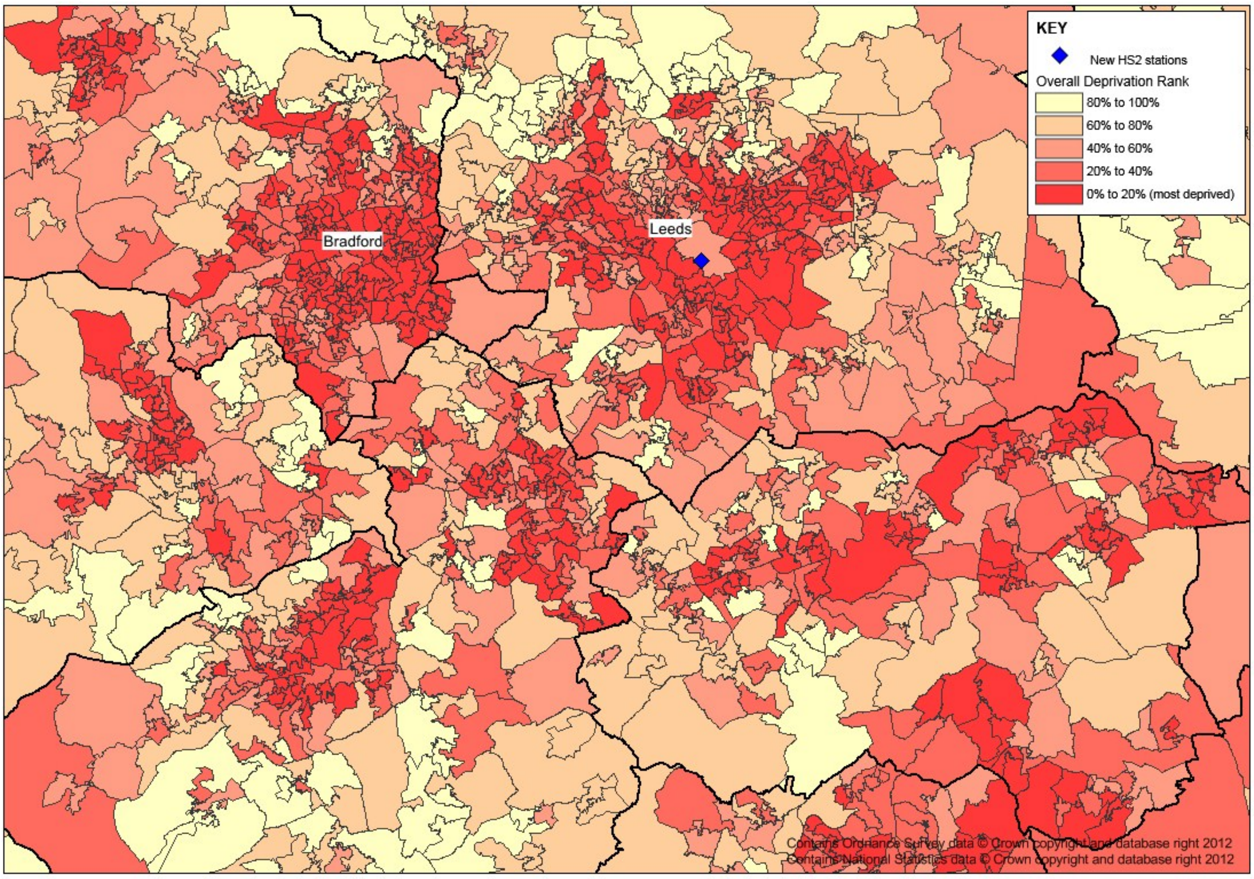
7.2.2. The claimant count at April 2013 for West Yorkshire at 5.1% is at the lower end of the rates for all the metropolitan areas.

7.2.3. GVA statistics also show that the Gross Value Added per capita, is significantly lower than the UK average (15% lower) at £18,172 but around the median for UK counties.

Deprivation

7.2.4. The Index of Multiple Deprivation clearly shows that this region is considerably deprived, especially in urban areas. This is illustrated in **Figure 7.1**.

Figure 7.1 - Overall deprivation - West Yorkshire



7.3. The local context

In summary, the Leeds New Lane HS2 station catchment area presents a mixed picture, with high levels of deprivation but positive labour market statistics such as a high level of qualifications and high level of professional occupations. This coincides with the picture of Manchester Piccadilly catchment area.

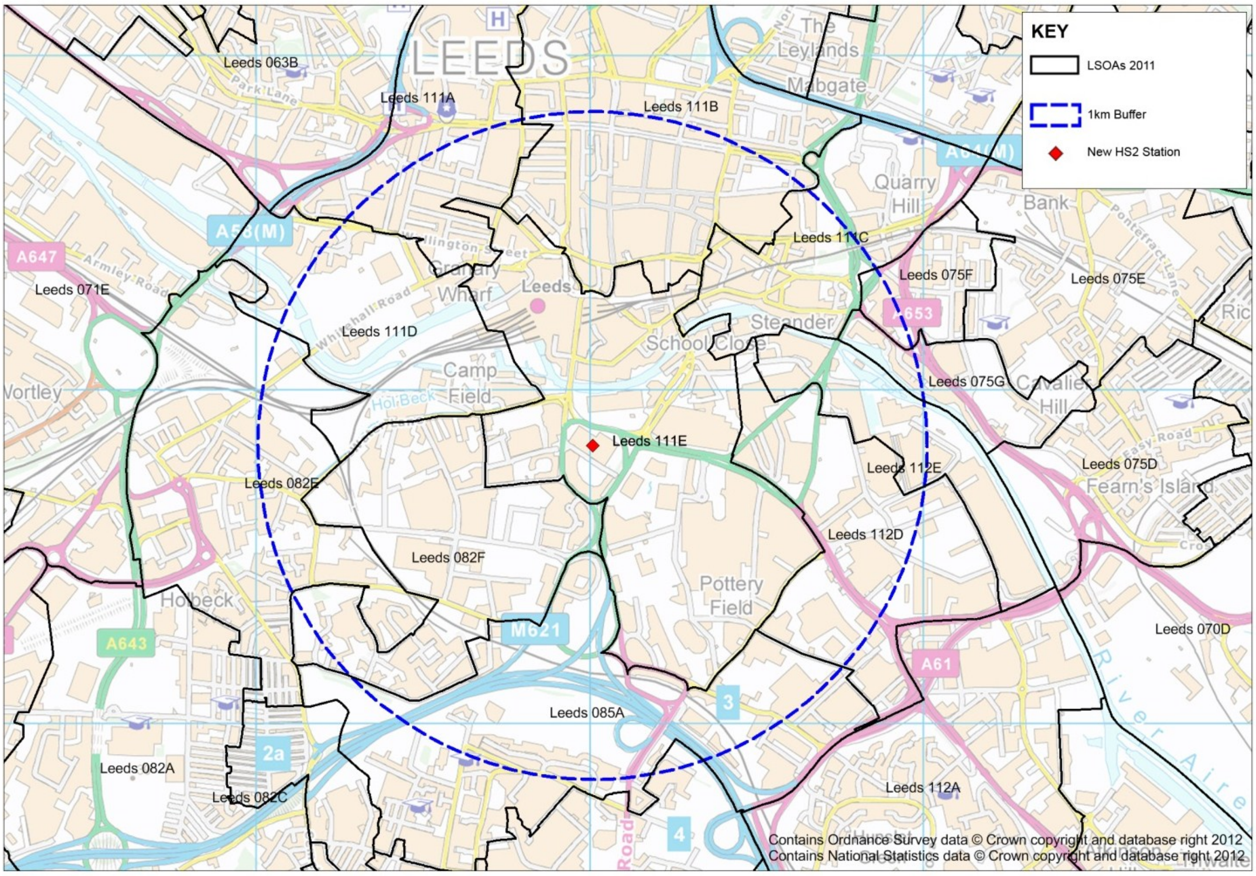
The area includes a varied mixture of land uses typical to a city centre and city centre fringe. This includes a dense mix of retail, office, leisure and hotel uses, plus lower density sites given over to office parks, retail parks, light industrial uses, warehousing, and some residential. Local planning policy seeks to promote such areas for comprehensive redevelopment and re-use as major new retail, leisure, hotel, culture and office developments.

The proposed station at Leeds New Lane could increase net commercial floorspace by between 255,000 and 385,000 sqm, equivalent to between approximately 13,200 and 19,700 jobs. Residential floorspace is estimated to increase by at least 100,000 sqm, and potentially up to 141,000 sqm. This equates to between 1,700 and 2,400 residential units.

The area

7.3.1. A 1km catchment area from the proposed HS2 Leeds New Lane station has been considered. There are 10 Lower-level Super Output Areas (LSOAs) (Census 2011) located within this catchment (see **Figure 7.2**). The LSOAs from the catchment area have been analysed across different categories such as demographics, ethnicity, economic activity, skills, household tenure and deprivation. The statistics for each category are evaluated against statistics for West Yorkshire and England.

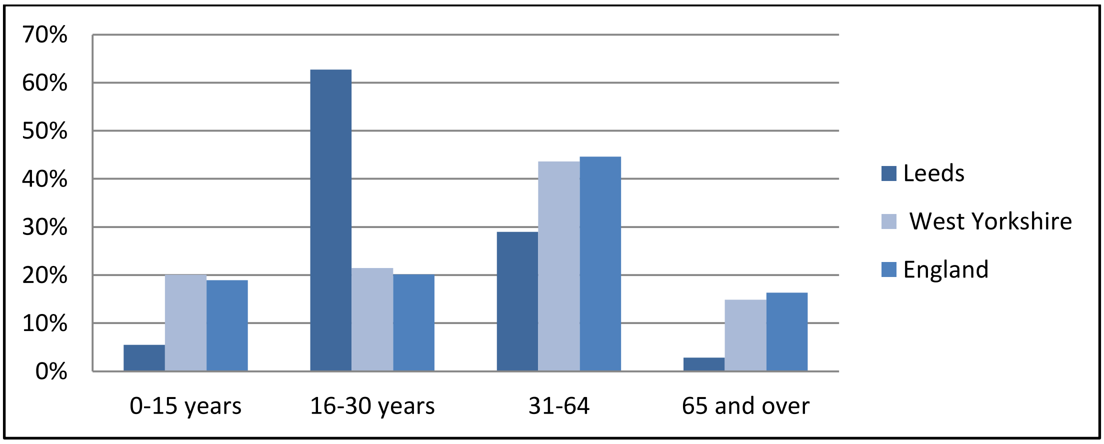
Figure 7.2 - Leeds New Lane HS2 station catchment area



Population

7.3.2. More than 14,000 people currently live within 1km of the proposed HS2 station in Leeds. There is a very high proportion of people aged 16 to 30 years (63%), compared to West Yorkshire and England (21% and 20%, respectively). This may indicate a high proportion of students or young professionals living in this area as opposed to families. This is shown in **Figure 7.3**.

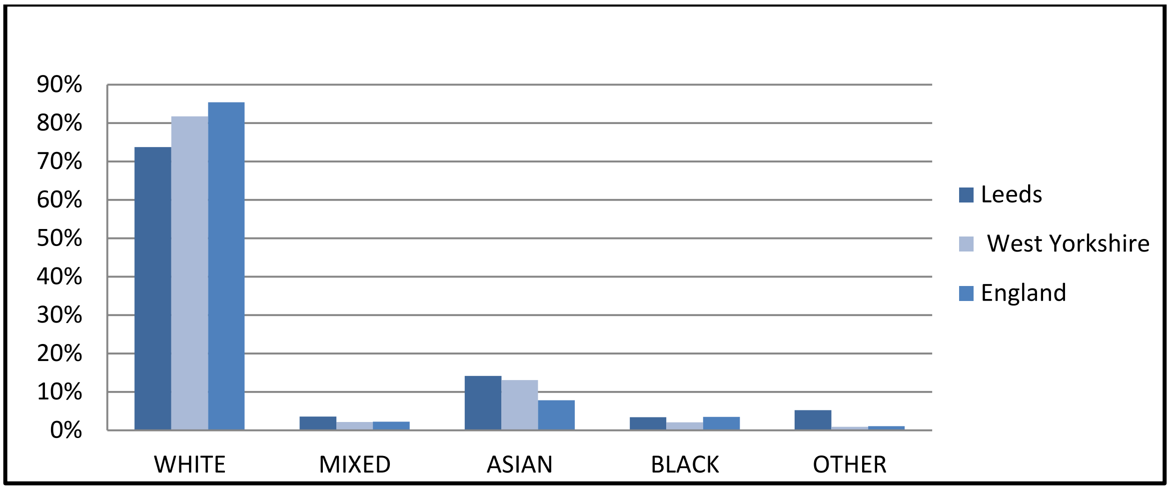
Figure 7.3 - Age structure - Leeds New Lane HS2 station catchment area



Ethnicity

7.3.3. The ethnicity of the population in the Leeds New Lane catchment area is presented in **Figure 7.4**. It shows a greater level of diversity compared to the average in the West Yorkshire region and England.

Figure 7.4 - Ethnicity - Leeds HS2 station catchment area



Economic activity and employment

7.3.4. Economic activity in the HS2 station catchment area is higher than average, particularly in terms of students (10% in the catchment area, compared to 4% in West Yorkshire and 3% in England as a whole). Unemployment in this area is lower than the national unemployment rate and that of West Yorkshire overall, shown in the table below.

Table 7.2 - Economic activity rates - Leeds New Lane HS2 station catchment area

Economic activity rates (% of population aged 16 to 74 years) (Census 2011)	Leeds catchment area	West Yorkshire	England
Economically active	72%	69%	70%
Econ. active – employed	59%	60%	62%
Econ. active – unemployed[15]	3%	5%	4%
Econ. active – full time student	10%	4%	3%
Econ. inactive – looking after family	1%	4%	4%
Econ. inactive – Permanently sick or disabled	2%	5%	4%
Econ. inactive – Other (including retired)	24%	22%	22%

7.3.5. The percentages of employees with different occupations, shown in **Table 7.3** indicate a very high proportion of professional occupations, as well as associate professionals and technical occupations. This data confirms the aforementioned possibility that it is young professionals who are living in this part of Leeds.

Table 7.3 - Occupations – Leeds New Lane HS2 station catchment area

Occupations (% of total residents in employment) (Census 2011)	Leeds catchment area	West Yorkshire	England
Managers, directors and senior officials	10%	10%	14%
Professional occupations	32%	16%	17%

[15] Note this is not the unemployment rate, which is calculated by dividing the number of unemployed people by the number of economically active people. This figure shows the number of unemployed people divided by the number of people aged 16 to 74.

Occupations (% of total residents in employment) (Census 2011)	Leeds catchment area	West Yorkshire	England
Associate professionals and technical occupations	20%	12%	12%
Administrative and secretarial occupations	10%	12%	11%
Skilled trades occupations	4%	11%	11%
Caring, leisure and other services	5%	10%	9%
Sales and customer service	9%	9%	8%
Process, plant and machine operatives	2%	9%	7%
Elementary occupations	8%	12%	11%

7.3.6. In line with this data, the statistics for employees by industry confirm that the professional, scientific and technical sector is the second sector in terms of employment in this area (**Table 7.4**), following the public administration, education and health sector.

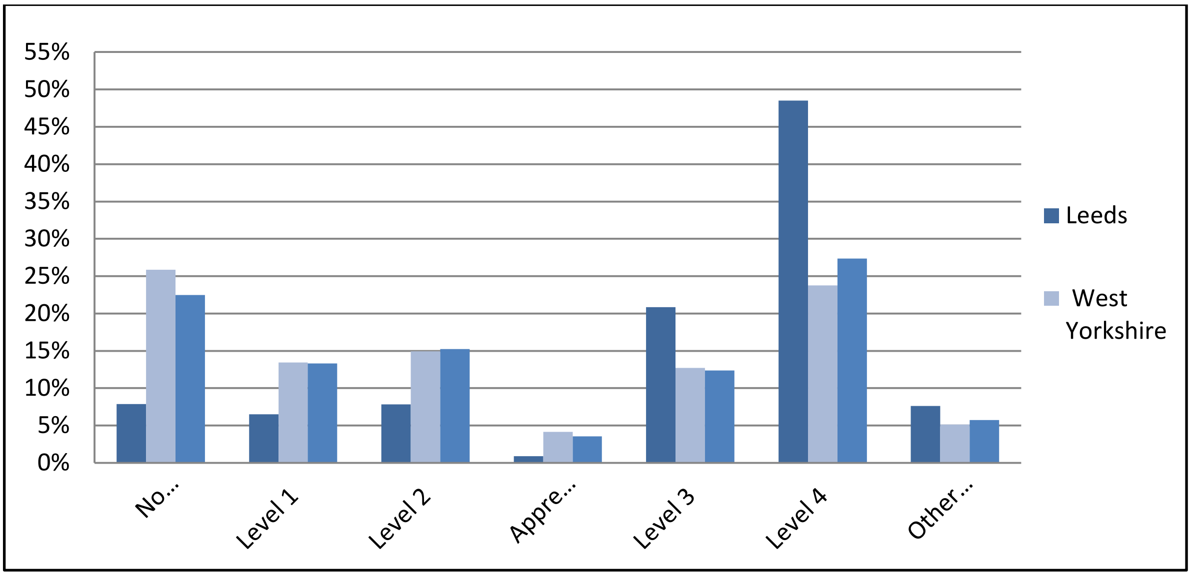
Table 7.4 - Employees by Industry - Leeds New Lane HS2 station catchment area

Employees by Industry (% of total residents in employment) (Census 2011)	Leeds New Lane catchment area	West Yorkshire	England
Agriculture, forestry &fishing	0%	0%	1%
Mining, quarrying & utilities	0%	0%	0%
Manufacturing	5%	11%	9%
Energy & water	2%	1%	1%
Construction	2%	7%	8%
Wholesale & retail trade; repair of motor vehicles & motor cycles	14%	17%	16%
Transport & storage	2%	5%	5%
Accommodation & food services	9%	5%	6%
Information & communications	8%	3%	4%
Financial & insurance	9%	5%	4%
Property	1%	1%	1%
Professional, scientific & technical	15%	5%	7%
Business administration & support services	5%	5%	5%
Public administration, education & health	22%	28%	28%
Arts, entertainment, & other services	5%	4%	5%

Education

7.3.7. Data on the level of qualifications attained by the residents in Leeds New Lane HS2 station catchment area shows a high level of education, with almost 50% of residents having obtained a Level 4 qualification (**Figure 7.5**). This contrasts with the statistics for West Yorkshire as well as England, where less than 30% of the people have achieved level 4 qualifications.

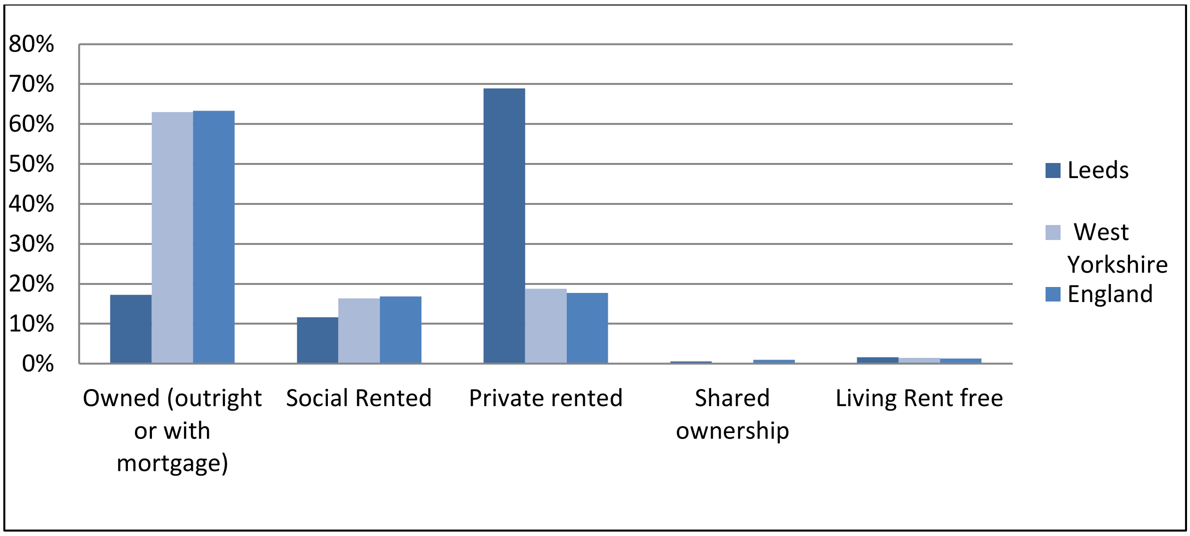
Figure 7.5 - Qualifications - Leeds New Lane HS2 Station catchment area



Household tenure

7.3.8. As expected for a central urban area, the proportion of people renting privately is considerably higher than the percentage of people owning a house (69% compared to 17%), a very different picture from the average household tenure statistics for the whole of West Yorkshire and England, where house ownership is relatively high. This is shown in **Figure 7.6**.

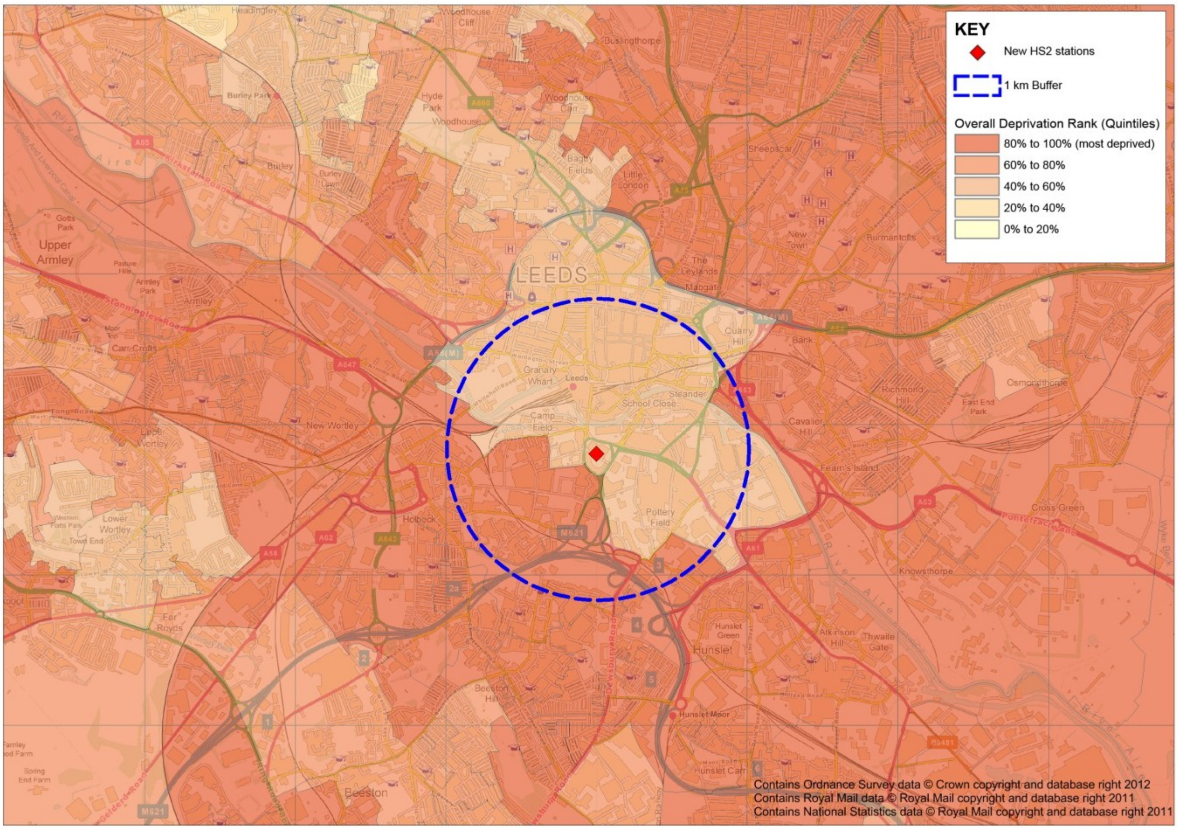
Figure 7.6 - Tenure - Leeds New Lane HS2 Station catchment area



Deprivation

7.3.9. Deprivation indicators paint a considerably negative picture of Leeds in general. However, the northern half of the catchment area is in a better position than its surroundings, as shown in **Figure 7.7**.

Figure 7.7 - Overall deprivation – Leeds New Lane HS2 station



7.3.10. Looking at different deprivation indicators, shown in **Table 7.5**, this area is in a relatively poor position compared to the whole of the UK.

Table 7.5 - Deprivation indicators - Leeds New Lane HS2 station catchment area

Deprivation scores (Index of Multiple Deprivation 2010)	Leeds New Lane catchment area	UK
Overall	191.71	100
Income	100	100
Employment	200	100
Education and skills	232.26	100
Housing	160.37	100

Land use characteristics

7.3.11. The area immediately around Leeds New Lane station contains a varied mixture of land uses typical to a city centre and city centre fringe. To the north of the station site across the River Aire, is the city's heart, with a dense mix of retail, office, leisure and hotel uses. The areas to the west, east, and south of the station site are typically city centre fringe, with larger lower density sites containing office parks, retail parks, light industrial uses, warehousing, and some residential. Significant local destinations within the 1km walking catchment include Trinity Leeds centre (to open in 2013), Kirkgate Market, Crown Point Shopping Centre, City One Business Park, Holbeck Urban Village, and the Carlsberg Brewery.

Strategic ambitions

7.3.12. The draft Leeds Core Strategy Development Plan Document (February 2012) identifies Leeds city centre at the top of the Centres Hierarchy and the major financial and commercial centre and 'shop window' for the rest of the city and region. An objective of the Core Strategy is for the city centre to remain a 'successful regional facility', one that offers a sustainable employment, shopping, leisure and cultural location, which can promote development that is less reliant on people travelling by car. The document identifies the Leeds city centre area generally as the location for up to 10,200 new homes, and for job growth of over 1,000 full time equivalent (FTE) jobs.

7.3.13. The Core Strategy also notes that significant parcels of vacant and underused brownfield land remain available for development in the city centre, particularly to the south of the river (The South Bank), to the east of Marsh Lane and along the Wellington Street and Whitehall Road corridors to the west. These are all areas that fall within the 1km walking catchment of the proposed HS2 station. These areas have significant development potential for large scale commercial and mixed uses, plus a city centre park.

7.3.14. The Core Strategy specifically states that the city centre will be promoted as the regional capital for major new retail, leisure, hotel, culture and office development, and the main focus for office development in the District (focussed upon the West End, South Bank and Holbeck Urban Village). Vacant and under-used sites will be comprehensively planned for redevelopment and re-use.

7.3.15. A particular focus of major development and regeneration is the Aire Valley Leeds (AVL), to the south east of the city centre; a designated Enterprise Zone and Urban Eco-Settlement. It extends to over 1,300 hectares and contains over 400 hectares of sites, which are available for development in the short to medium term, as well as areas of longer term potential. The area extends from the M1 motorway into the city centre along both banks of the River Aire Corridor; some of this area falls within the HS2 proposed station catchment area. AVL has an existing employment base of 800 businesses, employing around 30,000 people and also provides a considerable opportunity for local jobs growth with capacity to support an estimated 35,000 new jobs. AVL is also identified as potentially providing between 6,500 and 9,000 new homes.

Transport network

7.3.16. Leeds New Lane high speed station would be located in the South Bank area of the city centre, and connected to the existing station via a dedicated pedestrian link, with a short walk between the two stations. Leeds station offers existing connections to a number of regional rail destinations such as Bradford, Halifax and Castleford, as well as destinations further away including Bristol, Plymouth, Newcastle upon Tyne, York, Edinburgh, Manchester, Liverpool, Hull, Scarborough, Selby and Doncaster.

7.3.17. The existing Leeds station includes a bus interchange, providing connections to the city's extensive bus network. The station also includes a cycle hub.

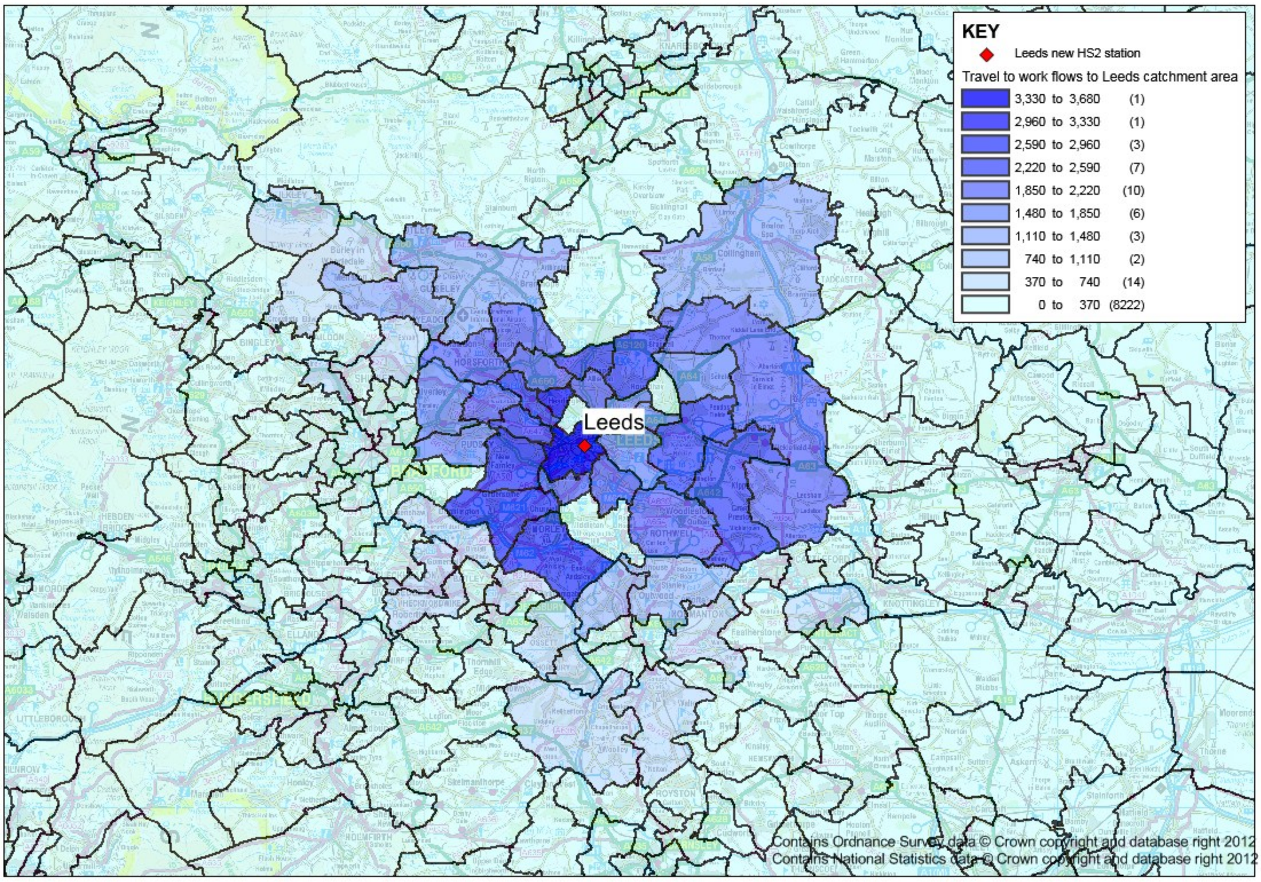
7.3.18. Traffic circulation within central Leeds is based around the Inner Ring Road, which largely carries through traffic around the city, and the city centre Loop, which distributes local traffic around the city centre. The City Centre Loop contains a number of existing streets which together create a one way loop around the city centre to provide local access for city centre traffic, and freeing up the core for pedestrianisation and to ensure it is largely free from traffic. Highway access to the Leeds New Lane High Speed station would be from the M621 (Junction 3), which connects to the Inner Ring Road and also to regional motorways. Car parking would be provided at the southern entrance.

7.3.19. Leeds Bradford International Airport is located to the north-west of the city and has scheduled flights to destinations within Europe and beyond. There are direct bus services (half-hourly in daytime) to the airport from Leeds and Bradford city centres.

Travel to Work

7.3.20. Travel to work patterns for Leeds (Census 2001[16]) show that a high proportion of workers commute locally and very few of them travel from outside Leeds. This is illustrated in **Figure 7.6**. More recent data which is only available at a District level shows a very similar pattern.

Figure 7.6 - Travel to work patterns – Leeds catchment area



7.4. Impact of HS2 Phase Two

Key factors

7.4.1. The proposed station at Leeds New Lane offers considerable development opportunities although the level of demolitions that are required reduces its net impact. However, there are a large number of sites within the station's catchment area that are available for development. This builds on extensive recent development within the local area. The area is also supported by excellent local transport links.

Employment

7.4.2. The potential for substantial development in the Leeds catchment is high. The table below shows how HS2 could increase net commercial floorspace by between 255,000 and 385,000 sqm, equivalent to between approximately 13,200 and 19,700

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[16] Census 2001 was used as Census 2011 was not available at the time of analysis.

jobs. Some 1,500 jobs may be displaced due to construction of the station and these are netted of the figures above. Residential floorspace is estimated to increase by at least 100,000 sqm, and potentially up to 141,000 sqm. This equates to between 1,700 and 2,400 residential units.

Table 7.6 - Potential development around Leeds station

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Commercial	255,000	385,000
Residential	100,000	141,000

Source: DJD & SKMCB, High Speed 2 SIFT 3.0: Relative Development Impact Assessment (Leeds), February 2012

7.4.3. An indicative assessment of the make-up of the commercial space under both scenarios is provided in the table below. Whilst office space takes up over half the anticipated increase in floorspace, retail and leisure are also expected to be significant reflecting the nature of the local area.

Table 7.7 - Potential development impact around Leeds station by land use

Use	Additional floorspace supported by HS2 (sqm)	Additional floorspace supported by HS2 in an aspirational policy environment (sqm)
Retail	35,000	48,000
Leisure	39,000	57,000
Education	7,000	11,000
Office	133,000	197,000
Other	41,000	72,000
Total	255,000	385,000

Opportunities

7.4.4. The area around the existing Leeds station includes significant parcels of vacant and underused brownfield land available for development, particularly to the south of the river (The South Bank), to the east of Marsh Lane and along the Wellington Street and Whitehall Road corridors to the west. Local planning policy seeks to promote such areas for comprehensive redevelopment and re-use as major new retail, leisure, hotel, culture and office developments. Currently the land use mix is supportive of the kind of development likely to be nurtured by HS2, with high rise buildings a key element.

7.4.5. This station will serve the majority of Leed’s city centre and it can be seen that it is likely to produce significant benefits in terms of development and therefore employment. The station catchment area currently presents a mixed picture with a high level of deprivation but positive labour market statistics such as a high level of qualifications and high level of professional occupations. Travel to work patterns for Leeds show that a high proportion of workers commute locally and very few of them travel from outside Leeds. This scenario suggests that development will offer substantial benefits for the local population.

8. SUMMARY OF FINDINGS

8.1. Introduction

8.1.1. This report has shown the socio-economic baseline for the area around each of the five stations on the HS2 Phase Two routes: Manchester Airport High Speed Station and Manchester Piccadilly on the western leg; and East Midlands Hub (Toton), Sheffield Meadowhall and Leeds New Lane on the eastern leg.

8.1.2. A 1km catchment area has been considered for high population and employment density areas (Manchester Piccadilly and Leeds) while a 2km catchment area has been analysed for areas with lower density (Manchester Airport High Speed Station, Sheffield Meadowhall and East Midlands Hub). An assessment has also been made of the level of development and associated jobs that would be supported by each HS2 station. This chapter summarises the findings.

8.2. Summary of Findings

8.2.1. **Table 8.1** below sets out the estimated impacts on development floorspace and job supported for each of the five stations.

Table 8.1 - Estimated development impact in HS2 Phase Two stations' catchment areas

Station	Net gain in commercial floorspace	Net gain in residential floorspace	Net job accommodated	Potential development impact of HS2
Manchester Piccadilly	605,000 – 871,000sqm	184,000 – 246,000sqm	29,700 – 42,900	Very high
Manchester Airport High Speed Station	5,000 – 10,000sqm	0	300 – 700	Low
Leeds	255,000 – 385,000sqm	100,000sqm – 141,000sqm	13,200 – 19,700	High
Sheffield Meadowhall	77,000 – 106,000sqm	15,000 – 20,000 sqm	4,000 – 5,400	High
East Midlands Hub (Toton)	Up to 19,000sqm	9,000 – 47,000sqm	1,500 – 1,600	Low

8.2.2. **Table 8.2** summarises the full findings of the socio-economic assessment. In the table, the "high", "low" and "average" ratings are relative to the other proposed HS2 stations and England as a whole and the final column summarises the areas in terms of high or low propensity for new economic development as a result of HS2 Phase Two.

Table 8.2 - Summary of findings of socio-economic assessment for HS2 Phase Two stations

Station	Population and employment density	Economic activity rate	Skills and qualifications	Deprivation	Development opportunity through policy	Travel to work origins	Transport connections	Net job supported	Regeneration impact of HS2
Manchester Piccadilly	High	Regional: low Local: high, but high level of students	Regional: average Local: high	Regional: High Local: low on skills, education and income, high on housing	High	High (wide catchment)	High	Very high	High, particularly in terms of development and benefiting the wider region
Manchester Airport High Speed Station	Low	Regional: low Local: average	Regional: average Local: low	Regional: high Local: high	High	Low	High	Low	High, local and regional regeneration potential
Leeds	High	Regional: low Local: high, but high level of students	Regional: low Local: high	Regional: High	High	Low (fairly local catchment)	High	High	High
Sheffield Meadowhall	Low	Regional: low Local: low	Regional: low Local: low	Regional: high Local: high	Average – aspirations but not to detract from city centre	Average – catchment is wider than local area	High	High	High – high regional and local levels of deprivation and unemployment, wide employment catchment
East Midlands hub (Toton)	Low	Regional: average Local: high compared to region	Regional: average Local: average	Regional: low Local: low	Low	Low	Low	Low	Low compared to the other stations

8.3. Scheme-wide Perspective

8.3.1. Overall HS2 Phase Two has high potential for stimulating development in the catchment areas and regions in which stations are proposed. The highest potential is likely in the Greater Manchester region, given the economic structure of the city centre economy, availability of development sites, and good public transport links from the city centre to the wider city region. Leeds offers similar opportunities with again a large number of potential developments sites, strong economic centre and good public transport links.

APPENDIX A
Deprivation Variables

Appendix A - Deprivation Variables

Sheffield Meadowhall and East Midlands Hub are likely to support far less development given their out of centre locations and some development constraint.

A.1 Greater Manchester deprivation variables

The income, employment and education deprivation results for Greater Manchester show that all these variables are very closely related. These results are plotted in the figures below.

Figure A1.1 - Income deprivation

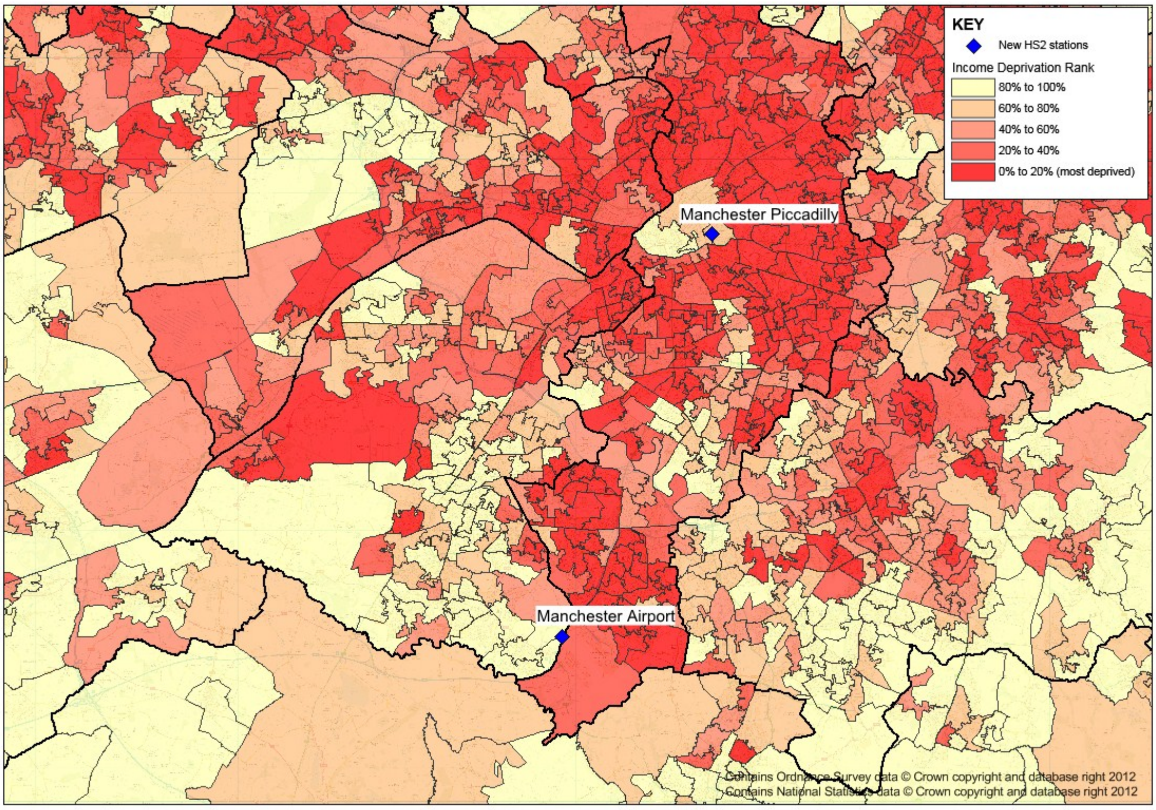


Figure A1.2 - Employment deprivation

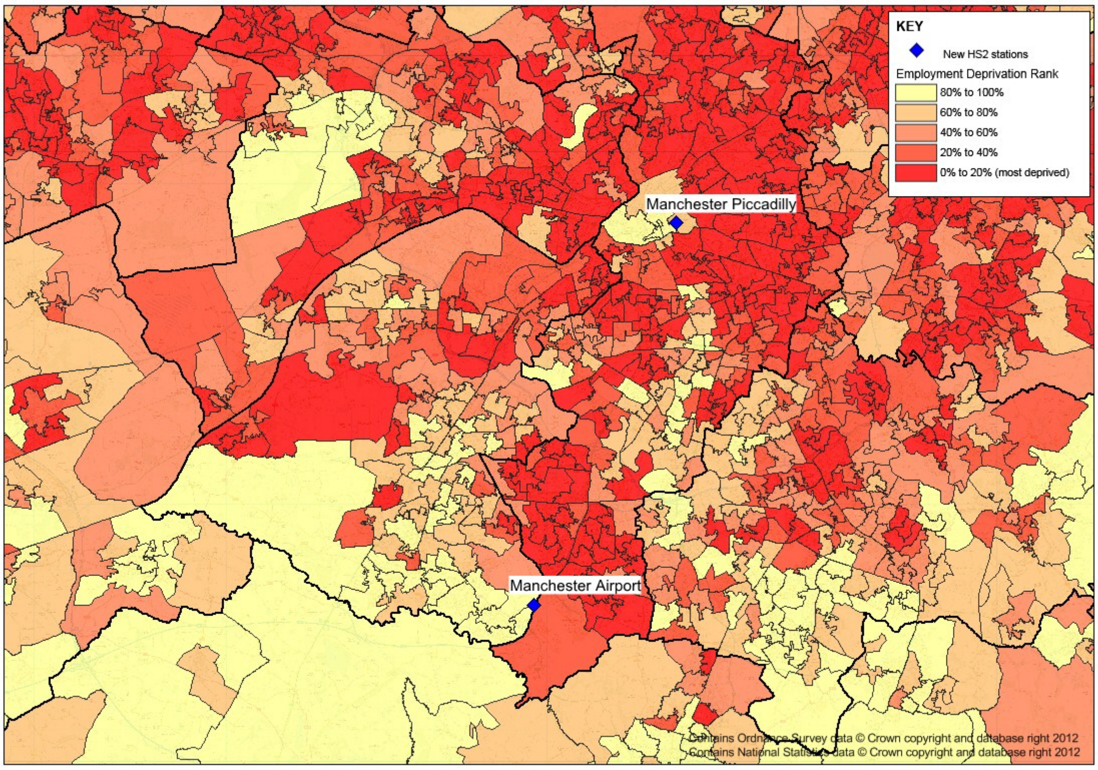
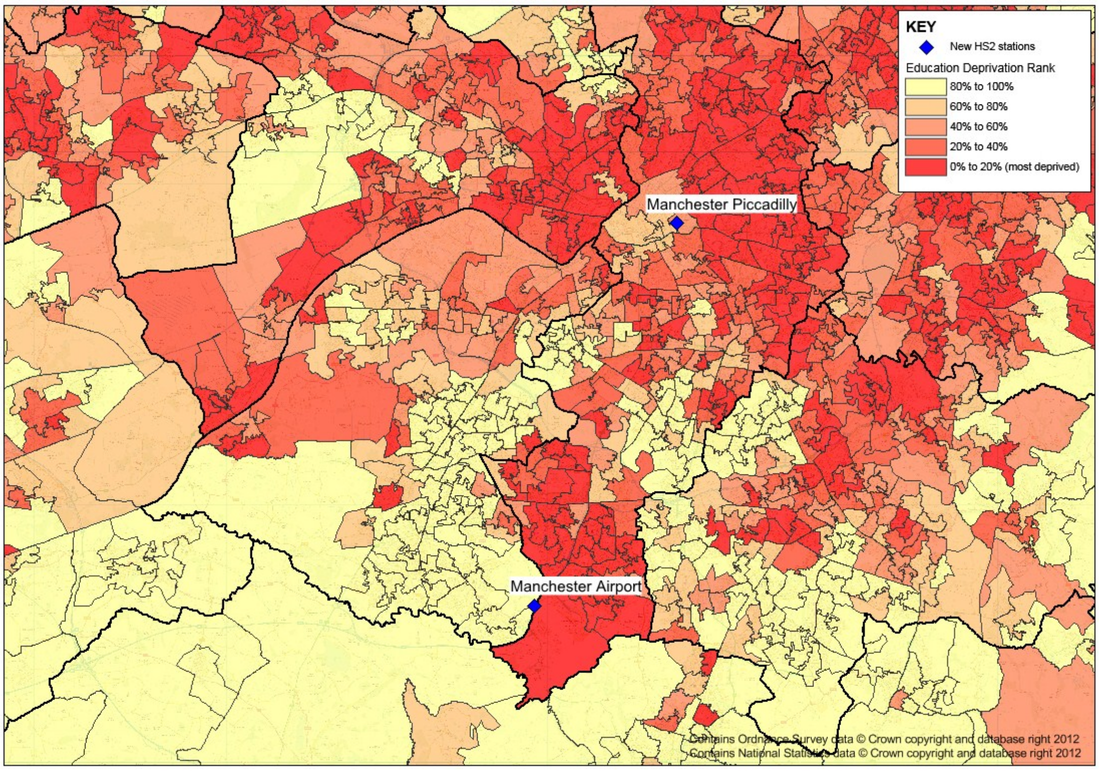


Figure A1.3 - Education deprivation



A.2 South Yorkshire deprivation variables

The Index of Multiple Deprivation clearly shows that this region is considerably deprived as evidenced in the three variables of income, employment and education illustrated in the figures below.

Figure A2.1 - South Yorkshire - income deprivation

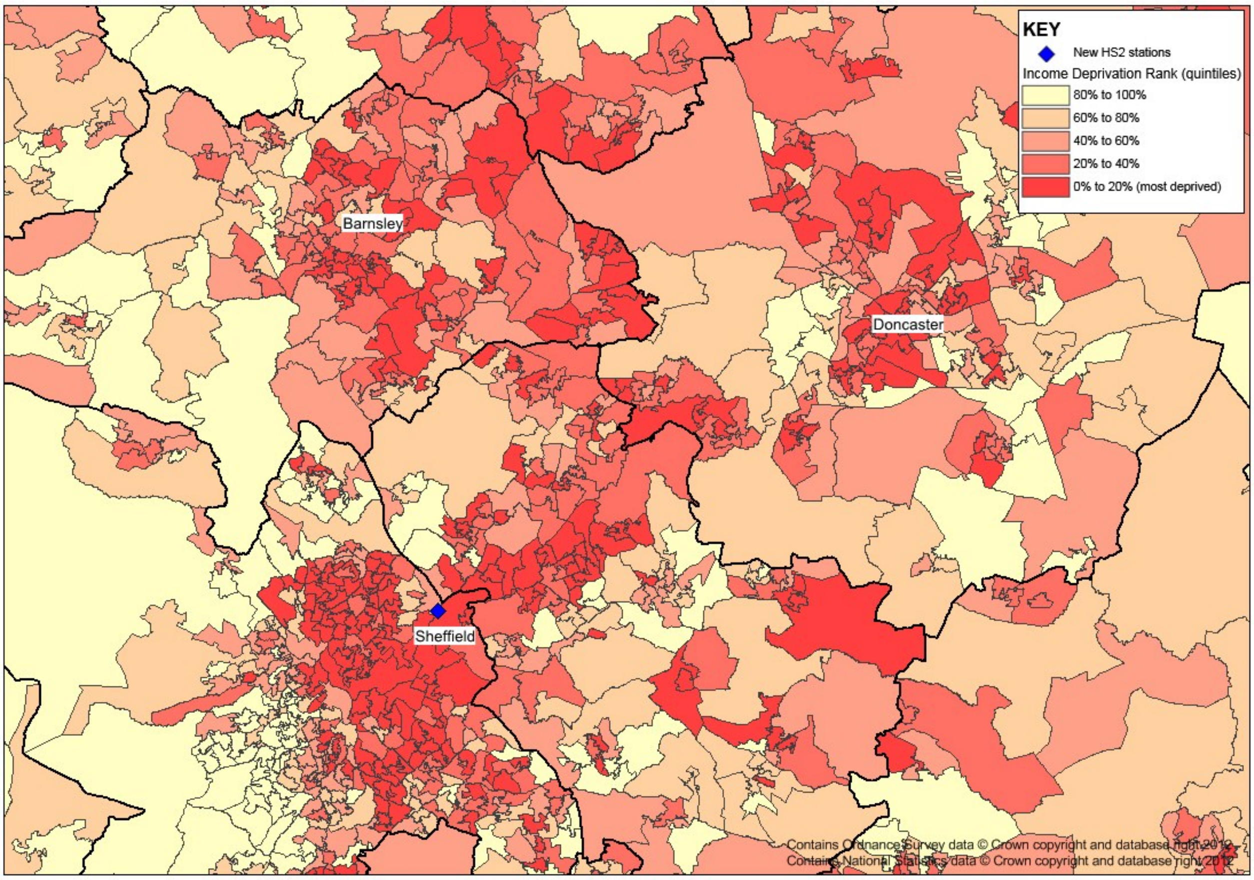


Figure A2.2 - South Yorkshire - employment deprivation

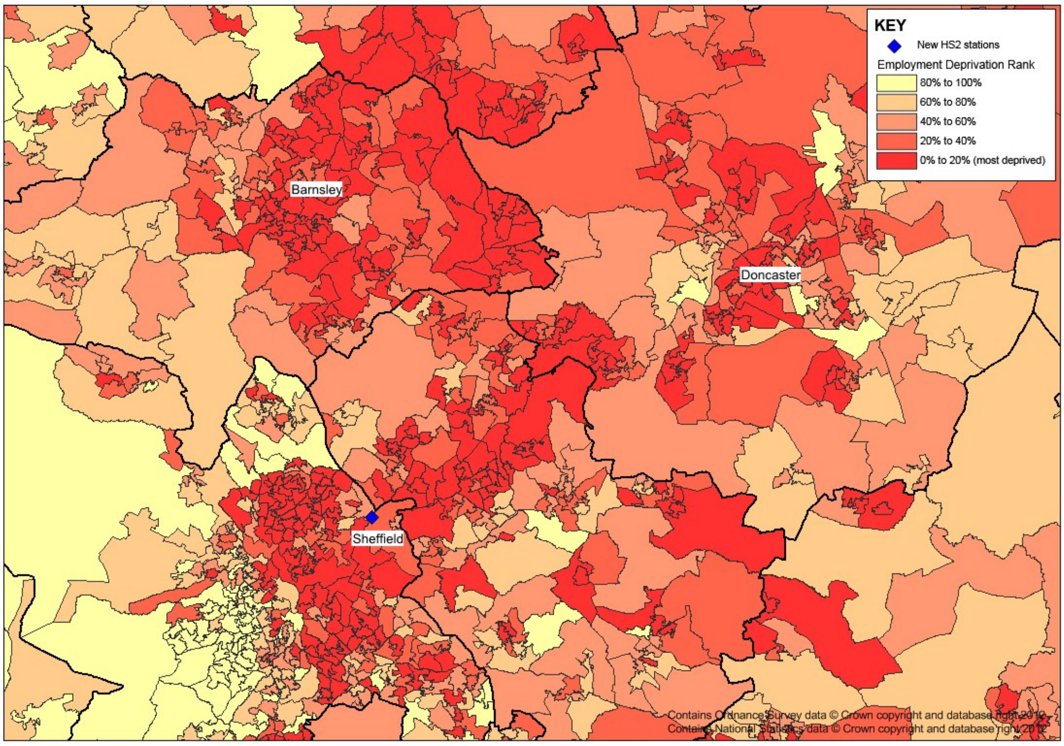
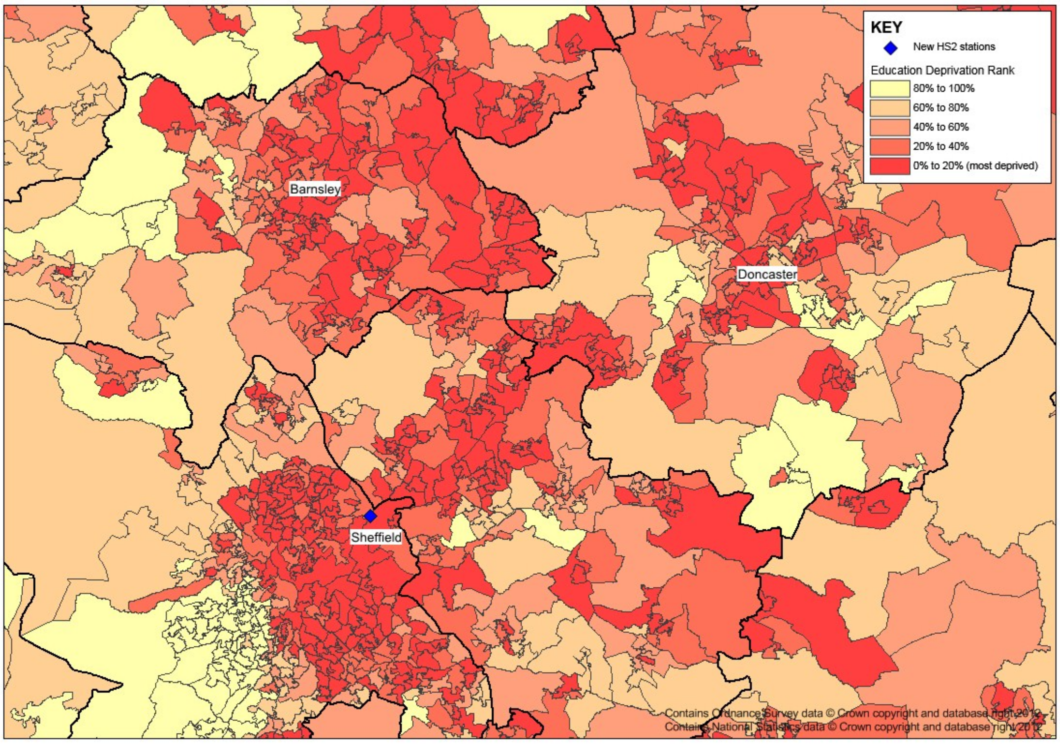


Figure A2.3 South Yorkshire - education deprivation



A.3 West Yorkshire deprivation variables

The Index of Multiple Deprivation clearly shows that this region is considerably deprived as evidenced in the three variables of income, employment and education illustrated in the figures below.

Figure A3.1 - Income deprivation - West Yorkshire

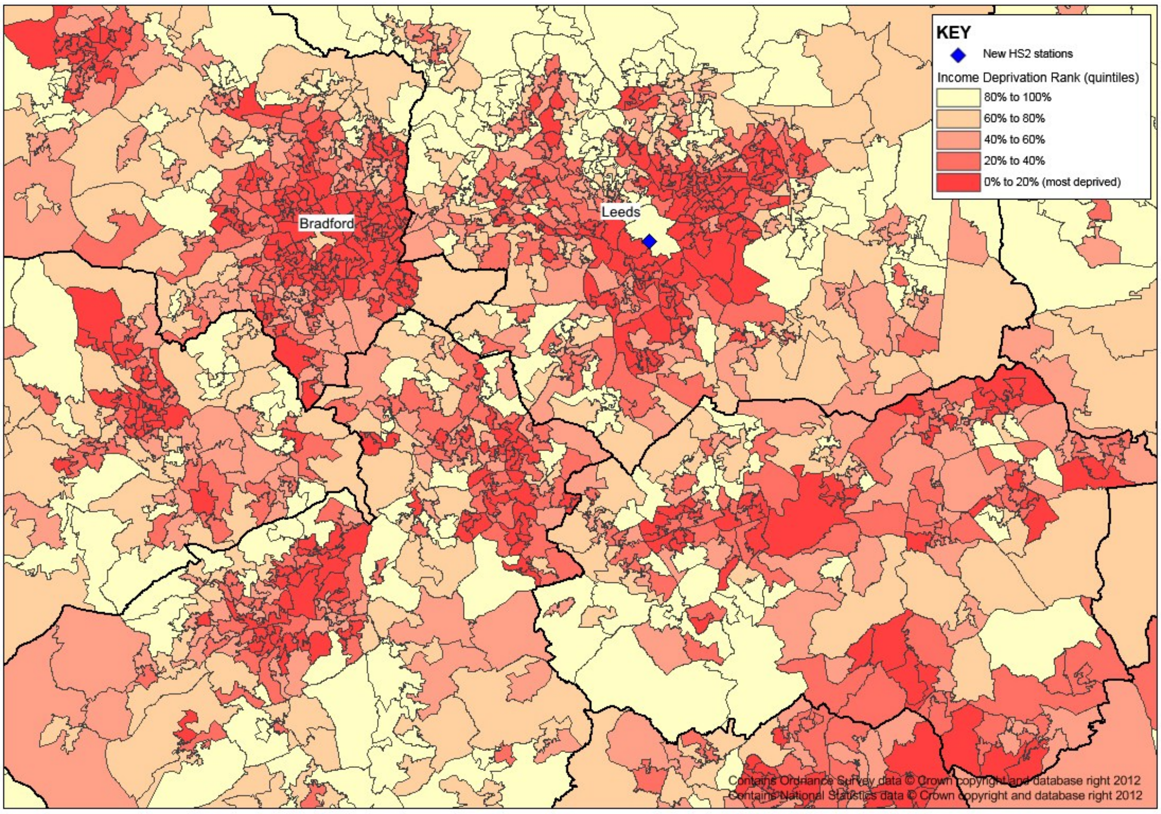


Figure A3.2 - Employment deprivation - West Yorkshire

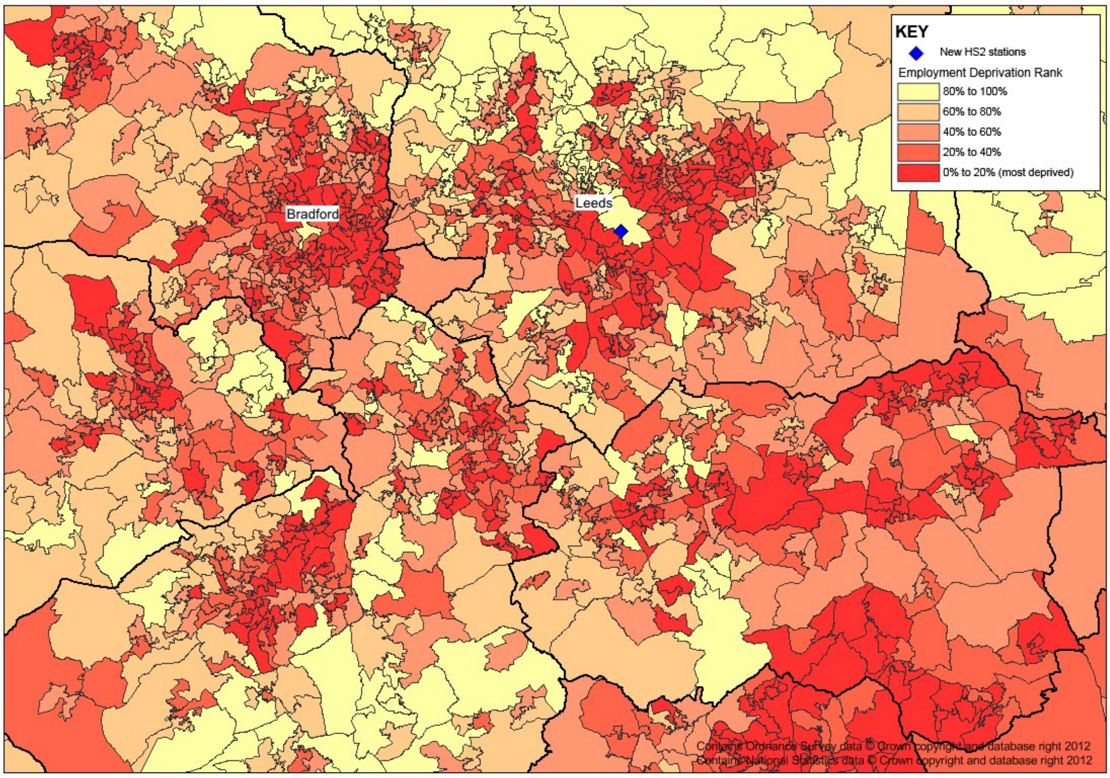
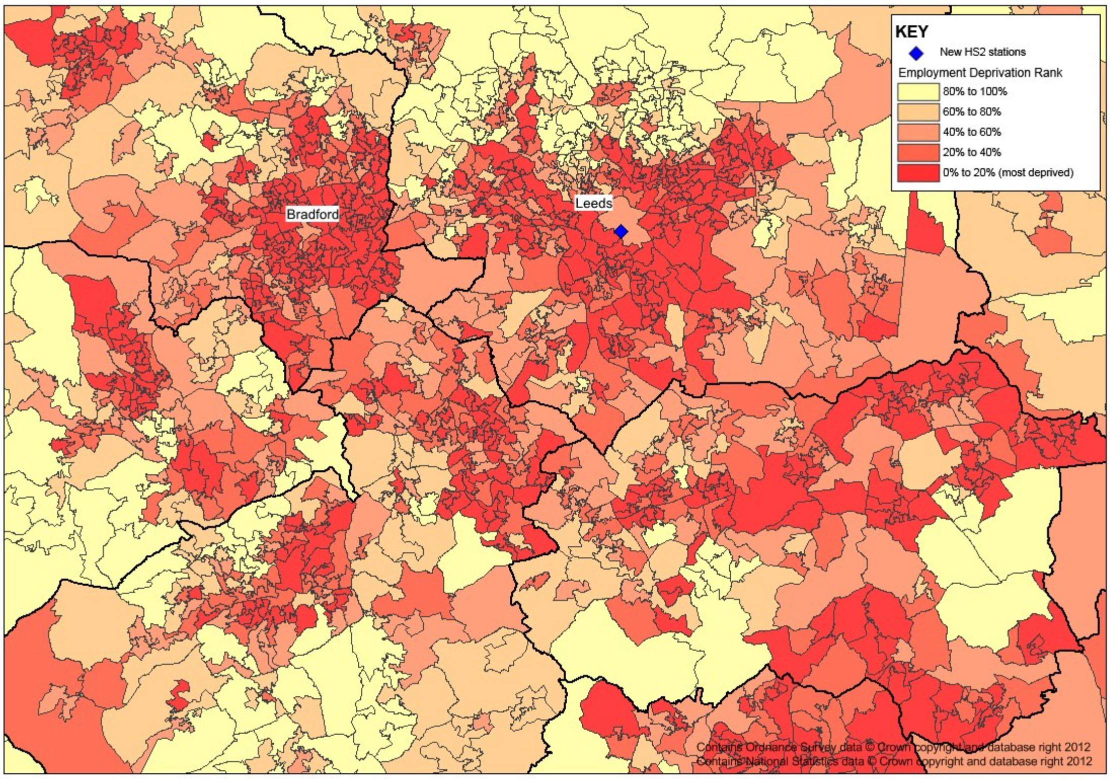


Figure A3.3 - Education deprivation - West Yorkshire



A.4 East Midlands deprivation variables

A high proportion of this region scores relatively well in terms of deprivation, however this does not apply to the East of the region, which is significantly deprived in terms of income, employment and education as presented in the figures below.

Figure A4.1 - Income deprivation - East Midlands

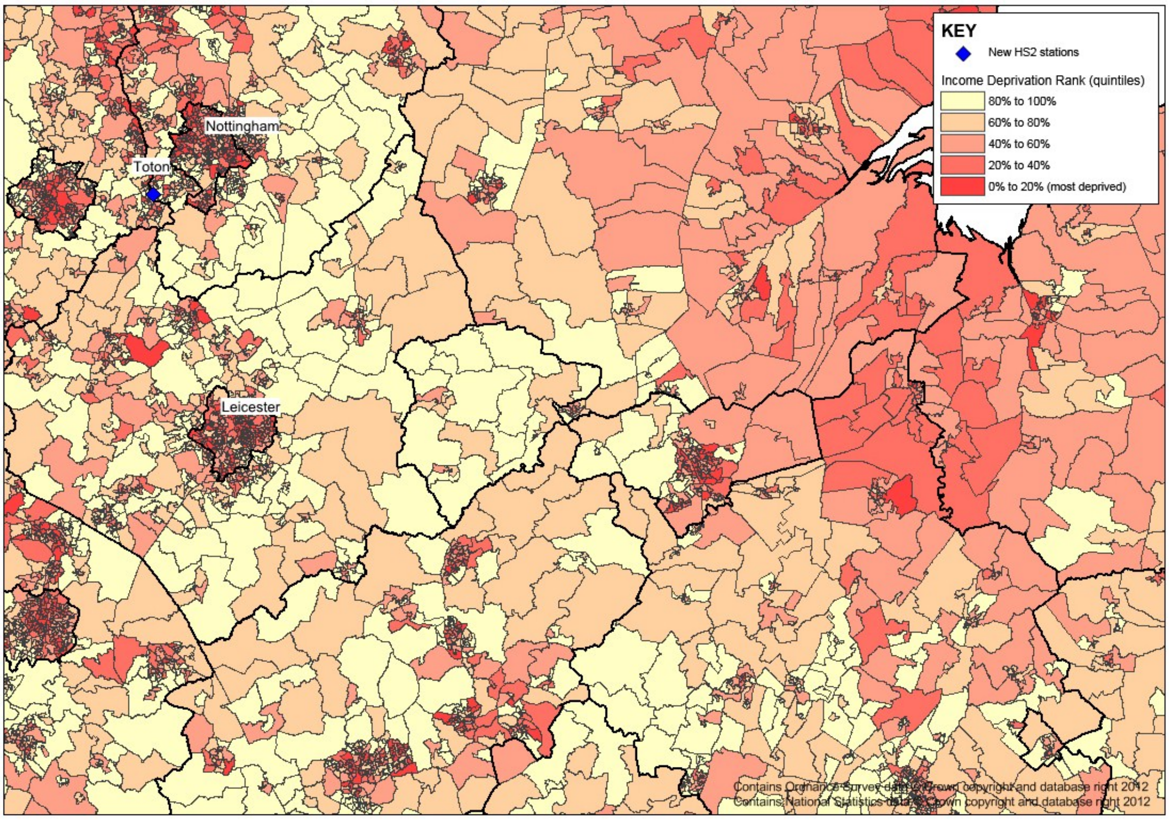


Figure A4.2 - Employment deprivation - East Midlands

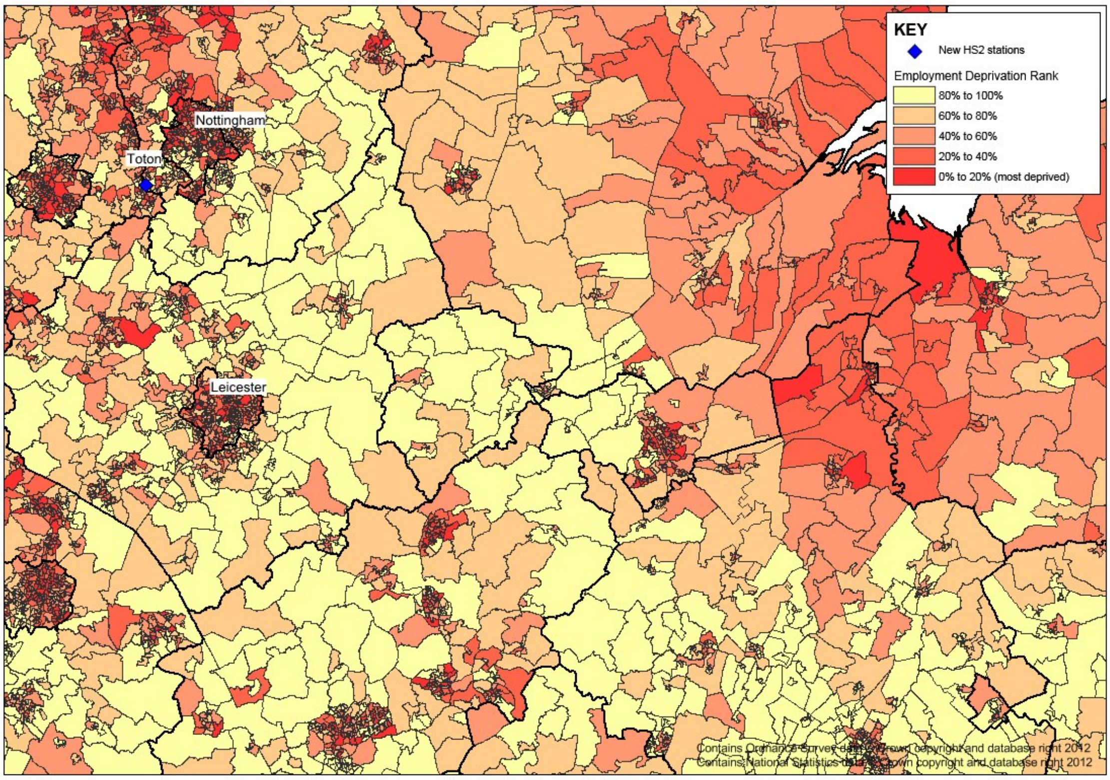


Figure A4.3 - Education deprivation - East Midlands