

High Speed Rail: HS2 Phase 2b Preferred Route

Sustainability Statement including Post Consultation Update

Appendix A – Equality Analysis

A report by Temple-RSK for HS2 Ltd



TEMPLE

LEADERS IN ENVIRONMENT,
PLANNING & SUSTAINABILITY.

RSK

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1. INTRODUCTION

1.1. Background

1.1.1. This report has been prepared to support the HS2 Phase 2b Sustainability Statement including Post Consultation Update report, which describes the extent to which the Government's preferred route for HS2 Phase 2b supports objectives for sustainable development. This document is a technical appendix which summarises the methodology for the Equality Analysis (EqA), and the key findings and conclusions that inform the Sustainability Statement main report.

1.2. Structure of the report

1.2.1. The remainder of this report is structured as follows:

- **Section 2** sets out the purpose of the EqA and the legal and policy framework in place. It describes the approach and methodology that was undertaken in the EqA process, including the relationship of the EqA with earlier sifting stages of the Appraisal of Sustainability (AoS), and summarises the limitations of the approach taken;
- **Section 3** provides a summary of the EqA findings and details of next steps;
- **Section 4** provides a bibliography of published research and other documents used to inform the EqA;
- **Annex A** provides details of locations of individual clusters of people with protected characteristics;
- **Annex B** provides details of proportions of people with protected characteristics in station catchments; and
- **Annex C** sets out the issues and evidence relating to potential equality impacts, and the detailed analysis findings.

2. SCOPE AND METHOD

2.1. Purpose

- 2.1.1. The purpose of this analysis is to establish an initial view on the extent to which people with protected characteristics, as defined by the Equality Act 2010, may be disproportionately or differentially affected (i.e. affected more than or differently to people without these characteristics) by the Government's preferred route for HS2 Phase 2b. It identifies the extent to which the preferred route is likely to promote or inhibit equality of opportunity, either as a whole or at specific locations affected by a particular scheme element.
- 2.1.2. The analysis is based on the AoS work carried out to date. It is an update of the 2013 EqA published as an appendix to the Phase Two 2013 Sustainability Statement, which itself built upon an initial screening study for the AoS of HS2 Phase One. The analysis has been updated with new data and incorporating the preferred route.
- 2.1.3. The findings of the EqA will feed into any further scheme refinement and inform the incorporation of mitigation measures and will also form the basis for a more detailed equality assessment at a future design stage.

- 2.1.4. Although the requirement for EqA is normally triggered by the potential for significant disproportionate or differential adverse impacts, there are some aspects of the preferred route that are likely to result in a beneficial impact on people with protected characteristics. Where relevant, such impacts have been highlighted in this EqA.

2.2. What is an EqA?

- 2.2.1. EqA is a way of identifying the equality issues likely to arise for people with protected characteristics (as defined in **Figure 2.2**) as a result of a proposed policy, strategy or project. In addition to the protected characteristics protected by law, EqA can be expanded to cover social inclusion issues such as impacts on lone parent families and people living in areas affected by multiple aspects of deprivation.
- 2.2.2. Some equality issues are typically addressed as part of other required assessments, such as Sustainability Appraisal (SA) and Environmental Impact Assessment (EIA). However, an EqA provides a more detailed look at the potential implications of proposals on diversity and equality for particular groups with protected characteristics.

2.3. Legal and policy framework

- 2.3.1. The Equality Act 2010 (the Act) brought together all previous equality legislation and introduced a new public sector equality duty replacing the separate duties relating to race, disability and gender equality. This came into force on 6th April 2011. This EqA is designed to address the range of equality issues including the public sector duty now required by the Act. Under the Act there is a duty requiring public bodies to publish sufficient information¹ to demonstrate that they have complied with the general equality duty.
- 2.3.2. The Equality and Human Rights Commission has provided six guidance documents² on the equality duty which are helpful for this EqA. These are:
- The essential guide to the public sector equality duty;
 - Meeting the equality duty in policy and decision-making: A guide for public authorities;
 - Engagement and the equality duty: A guide for public authorities;
 - Equality objectives and the equality duty: A guide for public authorities;
 - Equality information and the equality duty: A guide for public authorities; and
 - Public Sector Equality Duty Technical Guidance for England, Scotland and Wales.
- 2.3.3. Additional information sources used to inform the EqA are listed in **Section 4**.

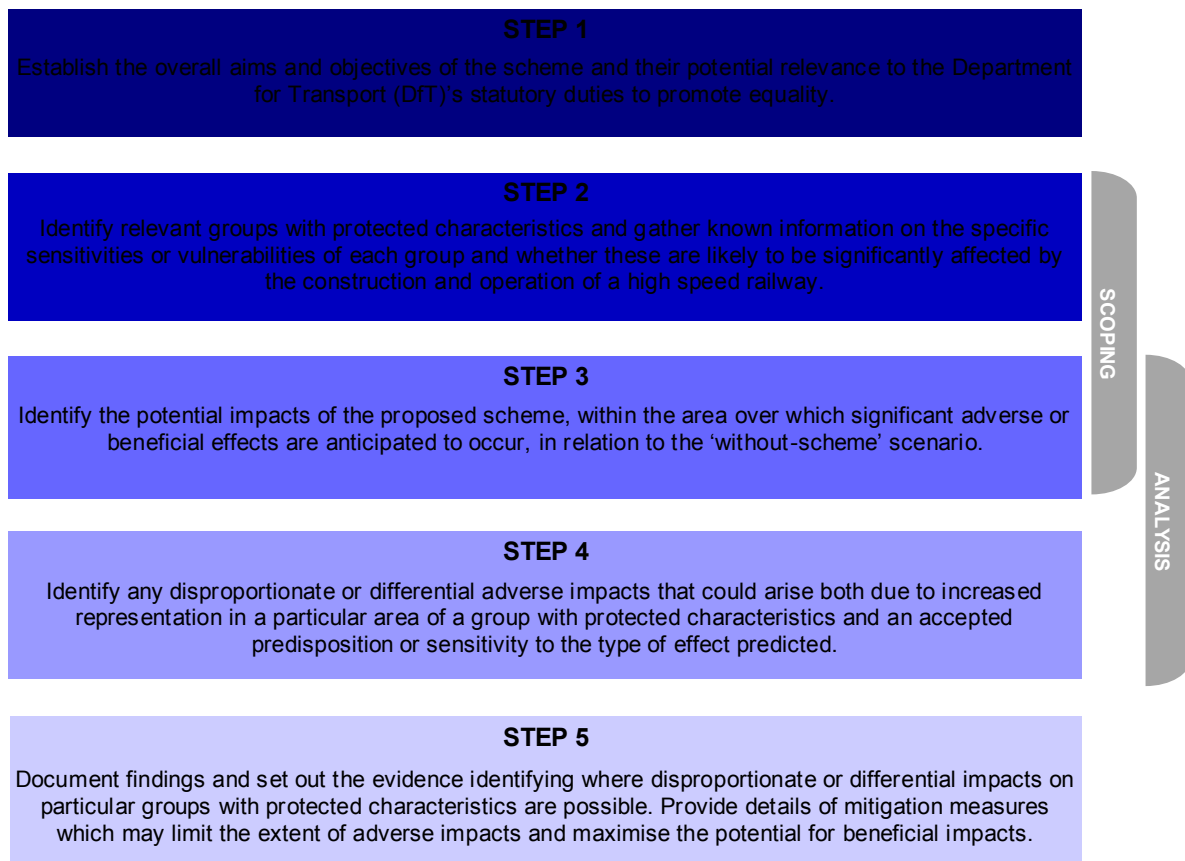
2.4. Overview of steps in the EqA

- 2.4.1. **Figure 2.1** sets out the main steps of the EqA analysis.

¹ There is no clear guidance on what would be considered sufficient in this context.

² Available from: [Equality and Human Rights Commission](#)

Figure 2.1 Main EqA steps



2.5. Establishing the overall aims and objectives (Step 1)

- 2.5.1. In order to understand how the preferred route will potentially affect equality issues it is helpful to have a clear link between the aims and purpose of the preferred route and, therefore, some clear equality objectives.
- 2.5.2. HS2 Ltd's Sustainability Policy³ sets out its aims to support a number of Government goals, including to:

"Enable more equal distribution of opportunity, connect communities and encourage regeneration".

- 2.5.3. The Policy sets out key themes which form the focus of HS2 Ltd's work and includes the commitment to:

"Promote diversity, openness and fairness".

³ HS2 Ltd (2013). [HS2 Sustainability Policy](#).

2.5.4. The Department for Transport (DfT) also sets out an equality objective within its 'Transport for Everyone' action plan⁴:

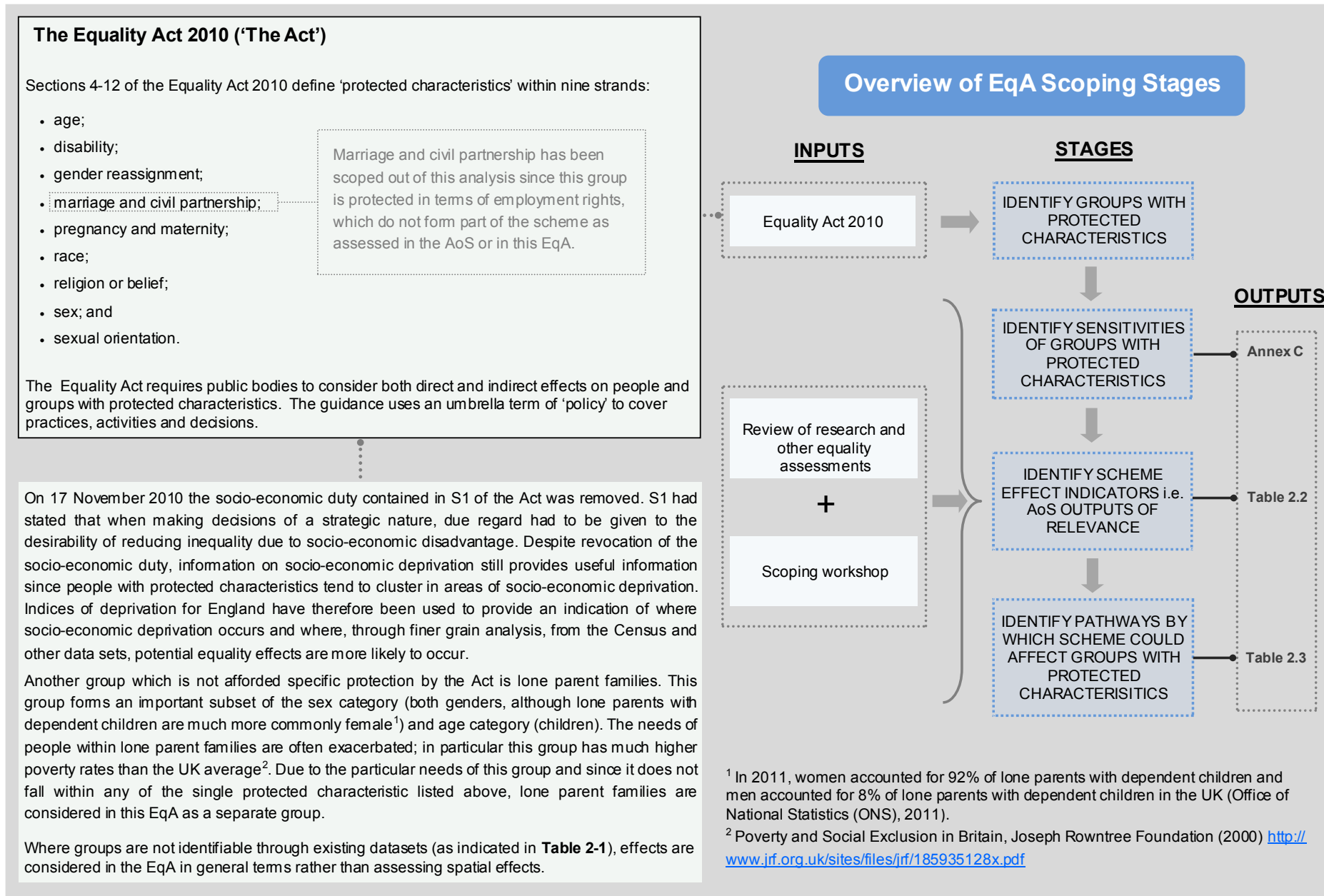
"To deliver better access to jobs and key services through an accessible and socially inclusive transport system, by removing the barriers to travel and ensuring that social impacts are addressed in policy development and service delivery".

2.6. Identifying groups with protected characteristics (Step 2)

2.6.1. **Figure 2.2** sets out the details of how groups with protected characteristics of relevance to the EqA were identified. **Table 2-1** sets out the data sources used to help identify groups with protected characteristics.

⁴ DfT (2012). [Transport for Everyone: An Action Plan to Promote Equality](#)

Figure 2.2 Identifying groups with protected characteristics (Step 2 - first part of scoping stage)



¹ In 2011, women accounted for 92% of lone parents with dependent children and men accounted for 8% of lone parents with dependent children in the UK (Office of National Statistics (ONS), 2011).

² Poverty and Social Exclusion in Britain, Joseph Rowntree Foundation (2000) <http://www.jrf.org.uk/sites/files/jrf/185935128x.pdf>

Table 2-1 - Data Sources for Identifying Distributions of People with Protected Characteristics within the Study Area⁵

Protected characteristic	Groups with protected characteristics	Data source	Resolution
Age	Children and young people (0-15; 16-24); Older people(65+) ⁶	Source: Office of National Statistics (ONS) (2011) Census 2011, Table: Age structure, 2011 (KS102EW)	Lower Layer Super Output Area
Disability	People defined as disabled	Disability Living Allowance (DLA) Source: ONS (2014), Table: Benefit claimants - DLA for small areas	Lower Layer Super Output Area
		Employment and Support Allowance (ESA) or Incapacity Benefit⁷ Source: ONS (2014), Table: Benefit claimants - working age clients for small areas	Lower Layer Super Output Area
		Adults accessing mental health services Source: ONS (2011), Table: Mental Health – Adults accessing NHS mental health services in England 2010/2011	Local Authority
Gender reassignment	Trans people	No useful spatial data available	N/A
Pregnancy and maternity	Pregnant women and nursing mothers	No useful spatial data available ⁸	N/A
Race	Black, Asian and Minority Ethnic (BAME) groups ⁹	Source: ONS (2011), Table: Ethnic Group, 2011 (QS201EW)	Lower Layer Super Output Area
		Source: Department for Communities and Local Government (2015), Traveller caravan count (Table 2)	Postcode Data
		Source ONS (2011), Table: Jobseeker's Allowance Claimants by Ethnicity, October 2010 -September 2011	Local Authority
Faith (religion /belief)	Faith groups ¹⁰	Source: ONS (2011), Table: Religion, 2011 (QS208EW)	Lower Layer Super Output Area

⁵ Data sources are publicly-available national datasets which have been identified as being most useful in identifying the presence of clusters of people with protected characteristics and areas of socio-economic deprivation within a defined area. No regional or local datasets have been identified that are collected in a consistent manner across the whole of the study area.

⁶ Young people are commonly categorised in studies as dependent children aged 0-15 and those aged 16-24. The definition of older people varies much more between studies. DfT's transport analysis guidance for social and distribution analysis defines older people as 70+. To align, however, with the current UK average retirement age for men (ONS, 2012), older people are defined in this EqA as those 65 and over.

⁷ The indicator for ESA does not solely relate to unemployed people defined as disabled who are able to access employment; however, is the best available national indicator for this group. It is used in this EqA to identify areas where people who are defined as disabled are not currently in employment; a proportion of these may be able to access certain types of jobs.

⁸ Research has shown that fertility trends within individual local authorities are wide ranging and can differ quite substantially from the trends of the region within which they are located (see [Have national trends in fertility between 1986 and 2006 occurred evenly across England and Wales?](#)). Current or recent birth rate statistics are therefore not considered a reliable indicator of future trends in pregnancy or maternity.

⁹ BAME groups are classified in accordance with the 2011 census categories, these being Gypsy/Traveller, Indian, Pakistani, Bangladeshi, Chinese, Other Asian, Black African, Black Caribbean, Other Black, Arab and mixed race (white mixed) people.

¹⁰ Defined as users of faith-related facilities and people who are identifiable as being part of a faith group.

Protected characteristic	Groups with protected characteristics	Data source	Resolution
Gender (sex)	Women, men	Source: ONS (2011), Table: Usual Residential Population, 2011 (KS101EW)	Lower Layer Super Output Area
Sexual orientation	Lesbian, gay and bisexual people	Source: ONS (2011), Table: Marital and Civil Partnership Status, 2011 (KS103EW)	Lower Layer Super Output Area
Socio-economic deprivation (additional indicator) ¹¹	-	Source: ONS (2015), English Indices of Deprivation	Lower Layer Super Output Area
		Source: ONS (2011), Table: Tenure, 2011 (KS402EW)	Lower Layer Super Output Area
Lone parent families (additional indicator) ¹²	-	Source: ONS (2011) Table: Household Composition, 2011 (KS105EW) ⁹	Lower Layer Super Output Area

¹¹ Indicator: people living in the 20% most deprived areas or people living in social housing.

¹² Indicator: lone parents with dependent children.

2.7. Identifying potential impacts on groups with protected characteristics (Step 3)

- 2.7.1. The key equality concerns of groups sharing protected characteristics are set out in **Table 2-1**. The key equality concerns were then aligned with scheme impact indicators (measures of the extent to which the preferred route may beneficially or adversely affect each group with protected characteristics). Wherever possible, measurable indicators have been used. The range of impact indicators used in this EqA are set out in **Table 2-2**.
- 2.7.2. **Table 2-3** identifies the key equality concerns¹³ relevant to each protected characteristic group, and the potential impacts on these groups which may arise as a result of the preferred route. A review of research relating to equality impacts, and further explanation of the nature of potential impacts (structured in terms of the different sustainability themes listed in **Section 2.12**) is set out within the detailed analysis tables in **Annex C**.
- 2.7.3. This EqA assumes that all access routes crossed by the preferred route will be maintained. If any access routes are not reinstated or re-provided, or where access routes are severed on a temporary basis during construction, subsequent analysis of potential adverse impacts on groups with protected characteristics will be required¹⁴.

Table 2-2- Potential scheme impact indicators identified in the AoS

Potential Scheme Impacts (measurable indicators)	Scheme Element - Stations/ Line of Route (LoR)
Estimated number of new dwellings supported around stations	Stations
Number of dwellings demolished	Stations and LoR
Direct impacts on existing Gypsy and Traveller caravan sites	Stations and LoR
Number of dwellings at high risk of isolation/severance	Stations and LoR
Number of dwellings in areas at risk of experiencing a sense of isolation	Stations and LoR
Number of community facilities demolished	Stations and LoR
Number of community facilities at high risk of isolation/severance	Stations and LoR
Number of health care facilities demolished	Stations and LoR
Number of health care facilities at high risk of isolation/severance	Stations and LoR
Faith-related community facilities demolished	Stations and LoR
Faith-related community facilities at risk of isolation/severance	Stations and LoR
Construction jobs supported (direct employment)	Stations and LoR
Operational jobs supported (direct and indirect employment)	Stations and LoR
Commercial, retail or industrial properties demolished	Stations and LoR

¹³ A 'concern' in this context refers to an issue that people with protected characteristics have a greater need for, or sensitivity to, compared to the general population.

¹⁴ Where the scheme or its construction will potentially sever rights of way, new crossings or temporary access will be provided where practicable, subject to discussions with the local authorities.

Potential Scheme Impacts (measurable indicators)	Scheme Element - Stations/ Line of Route (LoR)
Potential to improve public transport interchanges	Stations
Loss of play space or landtake from open access areas	Stations and LoR
Noise appraisal findings	Stations and LoR
Air quality appraisal findings	Stations and LoR
Health analysis findings	Stations and LoR

Table 2-3 Key equality concerns and potential impacts for groups with protected characteristics

Protected characteristic	Group with protected characteristic	Key equality concern		Relevant potential impacts
Age	Children and young people (0-15)	Spatial analysis	Access to affordable housing	<ul style="list-style-type: none"> Number of dwellings demolished or at high risk of isolation/severance Estimated number of new dwellings supported around stations
			Access to community and health care facilities	<ul style="list-style-type: none"> Number of community facilities demolished or at high risk of isolation/severance, where known Number of health care facilities demolished or at high risk of isolation/severance, where known
			Access to public transport	<ul style="list-style-type: none"> Potential to improve public transport interchanges
			Potential social exclusion ¹⁵	<ul style="list-style-type: none"> Potential to reduce or exacerbate factors that contribute to social exclusion
	Children and young people (16-25)	High-level analysis	Access to affordable housing	<ul style="list-style-type: none"> Potential property value increases as a result of the preferred route
			Personal safety	<ul style="list-style-type: none"> Potential for improving safety through station design and scheme operation design Potential for accidents involving construction traffic
	Older people (65+)	Spatial analysis	Outdoor play space provision	<ul style="list-style-type: none"> Loss of play space or landtake from open access areas
			Noise impacts on learning	<ul style="list-style-type: none"> Noise appraisal findings
		High-level analysis	Heightened sensitivity to poor air quality	<ul style="list-style-type: none"> Air quality appraisal findings
	Older people (65+)	Spatial analysis	Isolation including sense of isolation	<ul style="list-style-type: none"> Number of community facilities demolished or at high risk of isolation/severance

¹⁵ The Poverty and Social Exclusion Survey distinguishes four dimensions of exclusion: “*impoverishment, or exclusion from adequate income or resources; labour market exclusion; service exclusion; and exclusion from social relations*” (JRF (2000). [Poverty and Social Exclusion in Britain](#)).

Protected characteristic	Group with protected characteristic	Key equality concern		Relevant potential impacts
				<ul style="list-style-type: none"> Number of health care facilities demolished or at high risk of isolation/severance Number of dwellings in areas at risk of experiencing a sense of isolation
		High-level analysis	Heightened sensitivity to poor air quality	<ul style="list-style-type: none"> Air quality appraisal findings
Disability	People defined as disabled	Spatial analysis	Access to employment	<ul style="list-style-type: none"> Construction jobs supported (direct employment) Operational jobs supported (direct and indirect employment) Job losses associated with demolition of commercial, retail or industrial properties
			Access to affordable housing	<ul style="list-style-type: none"> Number of dwellings demolished or at high risk of isolation/severance Estimated number of new dwellings supported around stations
			Access to community and health care facilities	<ul style="list-style-type: none"> Number of community facilities demolished or at high risk of isolation/severance, where known Number of health care facilities demolished or at high risk of isolation/severance, where known
			Access to public transport	<ul style="list-style-type: none"> Potential to improve public transport interchanges
		High-level analysis	Access to affordable housing	<ul style="list-style-type: none"> Potential property value increases as a result of the preferred route
			Personal safety Hate crime and harassment (construction and operation)	<ul style="list-style-type: none"> Potential for improving safety through station design and scheme operation design Potential for conflict between construction workforce and local population

Protected characteristic	Group with protected characteristic	Key equality concern		Relevant potential impacts
			Heightened sensitivity to poor air quality ¹⁶	<ul style="list-style-type: none"> Air quality appraisal findings
	Wheelchair users and people with severe walking difficulties ¹⁷	Spatial analysis	Shortage of accessible housing	<ul style="list-style-type: none"> Number of dwellings demolished or at high risk of isolation/severance Estimated number of new dwellings supported around stations
		High-level analysis	Availability and cost of accessible housing	<ul style="list-style-type: none"> Potential for proper compensation of individuals displaced from accessible homes
	People with mental health problems or learning disabilities ¹⁸	High-level analysis	Noise sensitivities	<ul style="list-style-type: none"> Noise appraisal findings
Race	Black, Asian and Minority Ethnic (BAME) groups ¹⁹	Spatial analysis	Access to employment	<ul style="list-style-type: none"> Construction jobs supported (direct employment) Operational jobs supported (direct and indirect employment) Job losses associated with demolition of commercial, retail or industrial properties

¹⁶ This concern is of relevance to people defined as disabled who have reduced breathing capacity as a consequence of their disability.

¹⁷ This sub-group is not specifically identified within the Act but comprises a sub-group of people with particular housing-related needs that may be affected by the scheme.

¹⁸ Some studies have suggested that railway suicide locations may cluster around psychiatric facilities, however, evidence is conflicting, therefore risk of suicide amongst people in this protected group has been scoped out of the assessment (Improving suicide prevention measures on the rail network in RSSB (2000). Great Britain - Literature Review

¹⁹ Many of the same issues for different race groups may also affect refugees and asylum seekers, although groups or people with these characteristics are not protected under the Equality Act 2010.

Protected characteristic	Group with protected characteristic	Key equality concern	Relevant potential impacts	
		Access to affordable housing and housing for larger families ²⁰	<ul style="list-style-type: none"> • Number of dwellings demolished or at high risk of isolation/severance • Estimated number of new dwellings supported around stations 	
		Access to community and health care facilities	<ul style="list-style-type: none"> • Number of community facilities demolished or at high risk of isolation/severance, where known • Number of health care facilities demolished or at high risk of isolation/severance, where known 	
		Access to public transport	<ul style="list-style-type: none"> • Potential to improve public transport interchanges 	
		Potential social exclusion	<ul style="list-style-type: none"> • Potential to reduce or exacerbate factors that contribute to social exclusion 	
		Land availability for Gypsy and Travelling Communities	<ul style="list-style-type: none"> • Direct impacts on existing Gypsy and Traveller caravan sites 	
		High-level analysis	Access to affordable housing	<ul style="list-style-type: none"> • Potential property value increases as a result of the preferred route
			Hate crime and harassment (construction and operation)	<ul style="list-style-type: none"> • Potential for improving safety through station design and scheme operation design • Potential for conflict between construction workforce and local population
			Land availability for Gypsy and Travelling Communities	<ul style="list-style-type: none"> • Potential impacts on availability of land being used or available for use by Gypsy and Travelling Communities at the time of construction
			Personal safety ²¹	<ul style="list-style-type: none"> • Potential for accidents involving construction traffic
			Loss or impairment of BAME ownership/employee profile business activities	<ul style="list-style-type: none"> • Potential demolition or isolation of BAME owned/employee profile businesses or amenity impacts on business activity

²⁰ Access to housing is a key concern for Black Caribbean, Black African, Other Black and mixed race groups. Access to housing for larger families is a key concern for Black Caribbean, Black African, Other Black and Asian race groups.

²¹ London School of Hygiene and Tropical Medicine Unit (2007). [Road Safety of London's Black and Asian Minority Ethnic Groups: A report to the London Road Safety](#)

Protected characteristic	Group with protected characteristic	Key equality concern		Relevant potential impacts
Faith (religion or belief)	Faith groups	Spatial analysis	Access to housing for larger families	<ul style="list-style-type: none"> Number of dwellings demolished or at high risk of isolation/severance Estimated number of new dwellings supported around stations
			Access to faith-related facilities	<ul style="list-style-type: none"> Number of faith-related community facilities demolished or at high risk of isolation/severance
			Access to specialised retail outlets	<ul style="list-style-type: none"> Number of commercial or retail properties demolished
		High-level analysis	Access to housing for larger families	<ul style="list-style-type: none"> Potential property value increases as a result of the preferred route
			Availability of burial space	<ul style="list-style-type: none"> Potential direct impacts on burial space
			Hate crime and harassment (construction and operation)	<ul style="list-style-type: none"> Potential for improving safety through station design and scheme operation design Potential for conflict between construction workforce and local population
Gender	Women including during pregnancy and maternity	Spatial analysis	Access to community and health care facilities	<ul style="list-style-type: none"> Number of community facilities demolished or at high risk of isolation/severance, where known Number of health care facilities demolished or at high risk of isolation/severance, where known
			Access to public transport	<ul style="list-style-type: none"> Potential to improve public transport interchanges
		High-level analysis	Personal safety on public transport (lone travelling) Harassment (construction)	<ul style="list-style-type: none"> Potential for improving safety through station design and scheme operation design Potential for conflict between construction workforce and local population
Sexual orientation and gender reassignment	Lesbians, gays, bisexual people and trans people	High-level analysis	Hate crime and harassment (construction and operation)	<ul style="list-style-type: none"> Potential for improving safety through station design and scheme operation design Potential for conflict between construction workforce and local population

Protected characteristic	Group with protected characteristic	Key equality concern		Relevant potential impacts
Socio-economic deprivation	People living in the 20% most deprived areas ²² Lone parent families ²³	Spatial analysis	Access to employment	<ul style="list-style-type: none"> Construction jobs supported (direct employment) Operational jobs supported (direct and indirect employment) Job losses associated with demolition of commercial, retail or industrial properties
			Access to affordable housing	<ul style="list-style-type: none"> Number of dwellings demolished or at high risk of isolation/severance Estimated number of new dwellings supported around stations
			Access to community and health care facilities	<ul style="list-style-type: none"> Number of community facilities demolished or at high risk of isolation/severance, where known Number of health care facilities demolished or at high risk of isolation/severance, where known
			Potential social exclusion	<ul style="list-style-type: none"> Potential to reduce or exacerbate factors that contribute to social exclusion
			Access to public transport	<ul style="list-style-type: none"> Potential to improve public transport interchanges
		High-level analysis	Access to affordable housing	<ul style="list-style-type: none"> Potential property value increases as a result of the preferred route
	High-level analysis	Heightened sensitivity to poor air quality (people living in the 20% most deprived areas)	<ul style="list-style-type: none"> Air quality appraisal findings 	

²² Not a defined group with protected characteristics but useful high-level indicator of where clusters of relatively deprived people are located (see **Figure 2.1**).

²³ Not a defined group with protected characteristics but a group which is susceptible to exacerbated levels of inequality related primarily to economic deprivation (see **Figure 2.1**).

Figure 2-3 Identifying disproportionate and differential impacts on groups with protected characteristics

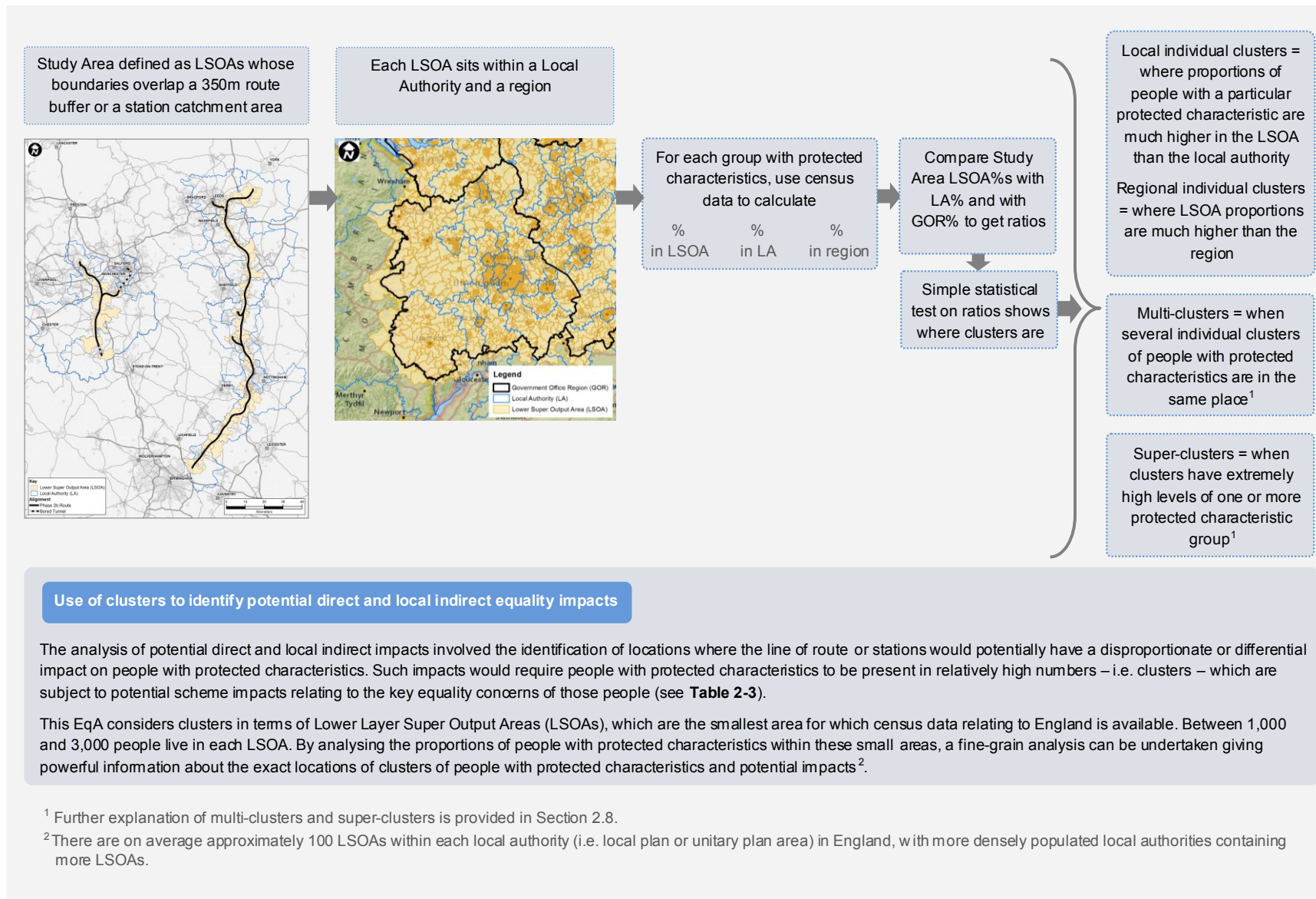


Figure 2-3 Continued

Identifying clusters and analysing the potential for local impacts

The study area for the analysis of potential direct and local indirect impacts was defined as the collection of LSOAs whose boundaries fall partly or completely within a 350m corridor either side of the line of route³. This allows for the identification of both direct and indirect effects, e.g. severance of a particular concentration of a faith group from the place of worship.

A simple statistical method⁴ was used to identify individual clusters as outliers within each set of data relative to either the local authority or region - details of this method are provided in **Box 2-1** overleaf. Using GIS⁵, multi-clusters and super-clusters were also identified. GIS was then used to review the potential for beneficial or adverse effects to occur for the line of route, based on the following considerations:

- the location and likely size of potential scheme impacts (based on relevant impact indicators in **Table 2-1**);
- the current spatial distribution of people with protected characteristics (individual clusters, multi-clusters and super clusters);
- the ways in which current population distributions are likely to change in future⁶; and
- the key equality concerns of groups with protected characteristics within these areas (as set out in **Table 2-2**)

Where impacts are expected to occur at a very specific location (for example, demolition of dwellings), the analysis considers the ways in which current population distributions are likely to change in future. Therefore, some groups with protected characteristics would be potentially affected by an impact if they currently cluster in adjacent LSOAs, if future expansion of current clusters is likely.

³The 350m buffer represents a broad approximation of the area within which scheme impacts are likely to be felt, however the EqA will consider the likely extent of each impact according to its nature. The line of route is taken to exclude sections of bored tunnel. A manual check using GIS was then undertaken to exclude any LSOAs where the location of the resident population was wholly outside of the 350m buffer.

⁴How Significant Is A Boxplot Outlier? Journal of Statistics Education Volume 19, Number 2 (2011) <http://www.amstat.org/publications/jse/v19n2/dawson.pdf>

⁵Geographic Information Systems

⁶Based on a review of research and analysis of demographic trends.

⁷These are the catchment areas defined within the Socio-economic assessment (within **Appendix E** of the Sustainability Statement).

⁸Based on a review of research and analysis of demographic trends.

Analysis of wider regeneration and employment effects associated with stations

To assess the potential for wider regeneration and employment effects associated with stations, the study area has been defined as the LSOAs whose boundaries fall at least partly within the station catchments. The catchments extend 1km from Manchester Piccadilly and Leeds stations and 2km from Manchester Airport and East Midlands Hub stations⁷.

The equality profile of the study area was based on the average proportion of people with protected characteristics for affected LSOAs compared with equivalent measures for the local authority or region.

The GIS was then used to review the potential for beneficial or adverse employment or housing effects to occur for each of the stations, based on the following considerations:

- the location of the stations (based on relevant effect indicators in **Table 2-1**);
- the protected characteristic profile of the study area for each station;
- the ways in which current population distributions are likely to change in future⁸; and
- the key equality concerns of protected characteristic groups within these areas (as set out in **Table 2-2**).

Scheme-wide effects analysis

Where spatial analysis of effect likelihood was not possible based on available data, a high-level scheme-wide appraisal of impact potential and possible effects has been undertaken and is also presented within **Annex C**.

Analysis workshop

An analysis workshop was held in April 2013, attended by specialist assessors and HS2 Ltd, to discuss the provisional analysis findings and ensure the analysis had been undertaken in a robust way. Additional analysis was undertaken following the workshop.

Figure 2-3 Continued

Box 2.1 Method for identifying individual clusters

To identify individual local clusters, for each protected characteristic:

- The percentage of people with each protected characteristic was calculated for all LSOAs within all LAs along the route i.e. whose boundaries intersect the 350m scheme study area ('LSOA1%').
- The percentage of people with each protected characteristic was also calculated for all LAs whose boundaries intersect the 350m scheme study area ('LA%').
- The relative proportion of people with each protected characteristic within each LSOA was compared to the LA average by dividing the LSOA1% by the relevant LA% ('LSOA1%/LA%').
- Taking the complete dataset as the LSOA1%/LA% fractions for all LSOAs within the LAs along the route, a simple statistical method was used to identify outliers (unusually large numbers) within the dataset:

Threshold for large dataset outliers = $Q3+1.5 \times IQR$

where $Q3 = \text{the third quartile (75th percentile)}^9$ and $IQR = \text{the interquartile range}^{10}$

- Potential clusters were identified as the LSOAs whose LSOA1%/LA% fractions were above the threshold¹¹.
- The LSOAs identified through this test each represent an individual cluster of people with a protected characteristic, relative to the local authority.

To identify individual regional clusters, for each protected characteristic:

- The percentage of people with each protected characteristic was calculated for all LSOAs within the four regions intersected by the route ('LSOA2%').
- The percentage of people with each protected characteristic was also calculated for all four regions ('GOR%').
- The relative proportion of people with each protected characteristic within each LSOA was compared to the regional average by dividing the LSOA2% by the relevant GOR% ('LSOA2%/GOR%').
- Taking the complete dataset as the LSOA2%/GOR% fractions for all LSOAs within the GORs along the route, the same statistical method was used to identify outliers within the dataset;

Threshold for large dataset outliers = $Q3+1.5 \times IQR$

- Potential clusters were identified as the LSOAs whose LSOA2%/GOR% fractions were above the threshold¹¹.
- The LSOAs identified through the test each represent an individual cluster of people with a protected characteristic relative to the region.

⁹ For a set of data, the third quartile (Q3) is a number for which 75% of the data is less than that number.

¹⁰ The interquartile range is a number defined as the difference between the first quartile (Q1) and third quartile (Q3) of a set of data.

¹¹ Individual clusters where people with protected characteristics represented less than 2% of the LSOA population (corresponding to 20-35 people depending on the LSOA size) were generally excluded from the analysis, since small numbers of individuals in isolation are not considered to represent meaningful 'clusters'. This was considered on a case-by-case basis for the individual clusters identified.

2.8. Identifying disproportionate and differential impacts on groups with protected characteristics (Step 4)

2.8.1. As set out in **Figure 2-3**, a clustering methodology was used to identify potential scheme impacts on protected characteristic groups. Three types of cluster have been defined for this study:

- Individual protected characteristic clusters. As detailed in **Figure 2-3**, these contain unusually large proportions of people with protected characteristics compared to the wider area. Local clusters are defined as LSOAs containing large proportions of people with protected characteristics compared to the local authority average. Regional clusters are defined as LSOAs (or local authorities, when data was not available at the LSOA level) containing large proportions of people with protected characteristics compared to the regional²⁴ average.
- Multi-clusters. These are areas where three or more individual clusters are co-located (either local or regional); such that impacts on a range of groups with protected characteristics would potentially be experienced in a single area.
- Super-clusters. These are LSOAs where a particular protected characteristic group represents at least 10% of the LSOA total population and at least three times the average regional percentage for that group. These are therefore areas where particularly high proportions of protected characteristic group are located, for groups which usually form a much smaller percentage of the population²⁵.

2.8.2. The findings set out in **Section 3** and **Annex C** do not seek to distinguish between local or regional clusters in all cases, since both types of cluster indicate that a particularly high proportion of people with protected characteristic is present in an area. Information about the types of clusters located in particular areas is provided within **Annex A** for reference.

2.9. Limitations of the analysis approach

2.9.1. The EqA findings should be understood on the basis of the following limitations associated with the approach taken:

- **Data availability.** The analysis relies on population data as set out in Table 2-1. Data relating to some groups were not available, and for some data were only available at local authority level. Future analysis should consider, where possible, likely impacts on any relevant groups with protected characteristics not captured within this study.
- **Data reliability.** Datasets, for example the English Indices of Deprivation, represent a snapshot view of dynamic spatial information; therefore this data is considered to be a useful indicator rather than representing fixed, long-term or absolute spatial distributions.
- **Limitations of data categories.** It is difficult to clearly define groups with protected characteristics because definitions and categories vary between studies and the ways in which people chose to define themselves are also highly variable. Therefore, even where datasets are available for a group, they are still

²⁴ 'Region' refers to the Government Office Region.

²⁵ Super clusters were identified using **Table 2.1** datasets relating directly to primary people with protected characteristics group rather than secondary characteristics such as employment status.

approximate in nature and have value as broad indicators only. The value of the categories marked 'other' in the census is also limited, since these categories encompass people with an unknown and potentially diverse set of characteristics.

- **Uncertainties in future trends.** The population data used only reflect the distribution of the population at the time it was collected (2011, for most datasets used in this EqA). While the analysis takes account of likely future trends in population distributions where possible, accurate predictions cannot be made.
- **Other future development.** It is possible that future development projects or schemes unrelated to HS2 may lead to changes in population distributions which cannot be foreseen at this stage. Analysis at a later stage would be necessary to understand the implications of future development on the findings set out in this report.
- **Information limited by scheme design stage.** Available information is commensurate with the stage of scheme design, and therefore necessarily limited.

2.10. Limitations of the clustering methodology.

2.10.1. The methodology employed in this analysis was chosen as a simple way of identifying areas where people with protected characteristic occur in disproportionately large numbers, compared to the local authority or region. Careful review of the data has suggested the methodological approach is useful and meaningful. However, the methodology does have limitations which include the following:

- **Variable range of cluster size.** For some protected characteristic groups (notably BAME and faith groups), the range of population size within clusters varied between approximately 25 people in some LSOAs (approximately 2% of the LSOA population) and several hundred in others (over 50% of the population). To understand where the largest groups are, super-clusters were identified;
- **Variation in clustering tendencies.** Some protected characteristic groups (notably BAME and faith groups) tend to cluster for socio-demographic reasons, whereas in other protected characteristic groups (such as protected age groups, disabled people or lone parent families) the clustering tendency is much weaker, but may occur in some places due to common needs. This is reflected by the fact that the greatest number of clusters was identified for BAME and faith groups and relatively few clusters were identified for the other groups;
- **Non-independence of data sets.** Each protected characteristic is considered separately in the EqA, although the datasets are not independent. For example, an individual might fall within protected age, race, faith and gender groups whilst also being a lone parent and jobseeker. Therefore, for example in the case of multi-clusters, it would not be meaningful to combine population numbers associated with different characteristics as this may lead to double counting; and
- **Limitations of cross-boundary comparison.** The reliability of the clustering methodology for comparison between adjacent LSOAs is limited at the boundaries between local authorities (for the local clusters) and between regions (for the regional clusters). This is due to the different baselines for comparison (see Box 2-1 in **Figure 2-3**) for adjacent LSOAs within different local authorities or regions, which may result in identification of artificial distinctions between adjacent LSOAs in these areas. A careful manual review of the population data at these boundaries was undertaken to overcome this limitation.

2.11. Relationship with the AoS

- 2.11.1. Equality analysis should be undertaken at a stage that “enables equality considerations to be taken into account before a decision is made”²⁶. Equality indicators relating to the seven sustainability themes listed in **Section 2.12** were included in the AoS framework (see **Appendix B**) at an appropriate scale of enquiry to allow equality issues to be considered implicitly alongside other social, economic and environmental issues to inform the decision-making process during the option sifting stage.
- 2.11.2. The definition of route and station options for the scheme evolved during the sifting process, following consultation and culminated in the identification of the preferred route. The types of information appraised at each stage of the options appraisal are set out in the Sustainability Statement.
- 2.11.3. Having identified the preferred route through the AoS process, this EqA seeks to draw out the likely equality issues, in relation to specific protected characteristics. The findings of this EqA will therefore feed into any further scheme refinement, inform the incorporation of mitigation measures into the preferred route, and form the basis for more detailed equality assessment at a future design stage.

2.12. Documenting findings (Step 5)

- 2.12.1. A summary of the EqA findings is presented within **Section 3** of this report according to seven sustainability themes:
- Access to housing;
 - Access to key services and amenities;
 - Community integrity;
 - Safety and security;
 - Noise;
 - Air quality; and
 - Socio-economic impacts.
- 2.12.2. The full details of the findings are provided in **Annex C**.

3. FINDINGS

3.1. Overview

- 3.1.1. Maps showing where groups with protected characteristics are clustered, with a summary of the main EqA findings, are shown in **Figure 3-1** and **Figure 3-2**.
- 3.1.2. The broad locations of clusters of people with protected characteristics along the line of route are shown in **Annex A**, the proportions of people with protected characteristics in the station catchments, compared to the local authority and regional averages, are set out in **Annex B** and the full details of the EqA findings are set out in **Annex C**.

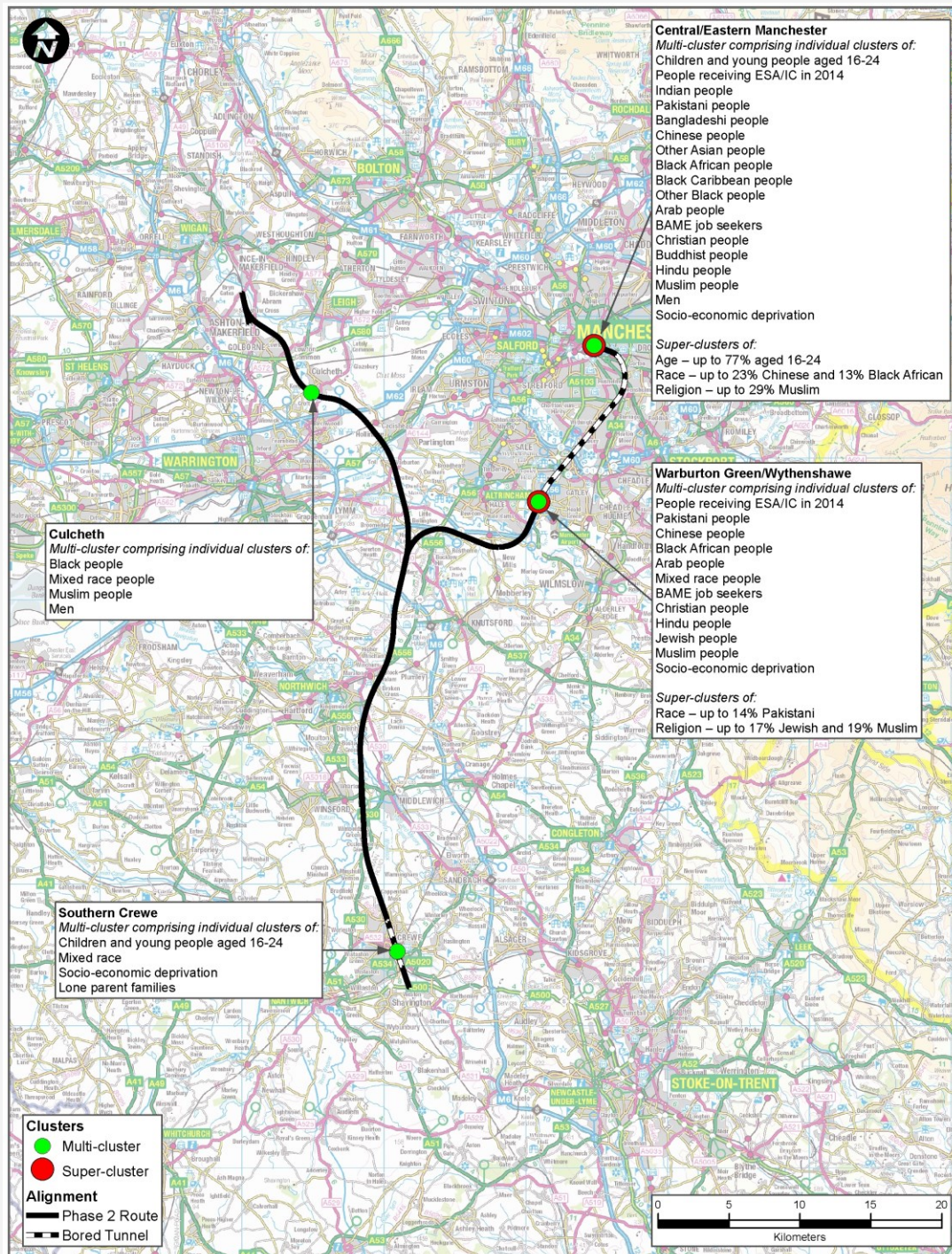
²⁶ EHRC (2011). [Equality objectives and the equality duty: A guide for public authorities](#)

- 3.1.3. Along the western leg of the preferred route, people with protected characteristics are clustered mostly at the northern part of the route around Warburton Green/Wythenshawe (adjacent to Manchester Airport station), Culcheth and Central and Eastern Manchester. There is an additional multi-cluster at Crewe.
- 3.1.4. Along the eastern leg of the route, individual clusters are spread more evenly along the route, with particular multi-clusters at Long Eaton, Broxtowe, Mexborough and southern and central Leeds.
- 3.1.5. As set out in **Figure 3-1** and **Figure 3-2**, the preferred route has the potential to affect groups with protected characteristics in a range of ways. The greatest potential impacts – both beneficial and adverse – are likely to be realised by groups with protected characteristics living near the stations.
- 3.1.6. Details of scheme construction are not known at this stage, although the proposed adoption of a Code of Construction Practice (as is being employed on Phase One and Phase 2a) will be essential in helping to minimise disruption, to the benefit of groups with protected characteristics and local communities generally. The extent of noise and air quality impacts associated with station construction are also not yet known, though good site practice measures will be applied to minimise any potential impacts. The extent of any such impacts would need to be assessed at a later stage of scheme design.

3.2. Next steps

- 3.2.1. The findings of this EqA provide a useful indication of the extent to which the preferred route is likely to promote or inhibit equality of opportunity, as a whole or at specific locations affected by a particular scheme element. The findings of this EqA will feed into any further scheme refinement and inform consultation, during which comments from groups with protected characteristics identified in this report will be elicited and key concerns identified.
- 3.2.2. The outcomes of consultation in relation to equality matters will be considered in identifying further scheme refinements and incorporation of additional mitigation measures into the scheme, and will form the basis for a more detailed equality assessment at a later stage, if necessary.

Figure 3-1 Location specific equality impacts – Western Leg²⁷



Broad locations of clusters of people with protected characteristics and of scheme impacts are described; however, the presence of a cluster in an area (as indicated above and in **Annex A**) does not necessarily mean the cluster would be affected by the scheme.

²⁷ Multi-clusters and super-clusters are shown on this map; a full list of individual clusters is provided in **Annex A**.

Central/Eastern Manchester (including Manchester Piccadilly Station area)

Compared to the local and regional averages, Manchester Piccadilly catchment has particularly high levels of young people (16-24), Asian, Black and Arab people and people receiving ESA/IC in 2014. Access to affordable housing and access to employment are key concerns amongst all these groups. Positive regeneration-related benefits are therefore likely to be felt by these groups in particular, through jobs associated with station construction and operation (direct benefits), as well as indirect benefits through net increases in jobs and housing within the station catchment. Opportunities exist to maximise the accessibility of new jobs and housing to people within these groups with protected characteristics.

The immediate area of the new Manchester Piccadilly station also contains a race and faith super-cluster, being home to relatively large proportions of people from BAME groups (including BAME jobseekers) and faith groups. There is potential for adverse effects relating to demolition of housing and of commercial and retail property, along with a chapel on Midland Street, in the immediate area of the stations on the western leg if communities of these groups with protected characteristics are affected. Access to affordable housing (including for larger families) and access to specialised retail outlets are some of the key concerns amongst these groups. Access to employment is also a key concern for people in BAME groups and while some of the jobs held by people in these groups which are displaced by the scheme are likely to be taken up by employment created elsewhere as an indirect result of the scheme, it is not necessarily the case that all will be.

The area has a high proportion of people receiving ESA/IC in 2014. Wheelchair users and people with severe walking difficulties (a subgroup of this) have particular requirements for accessible housing and people with disabilities may be disproportionately affected by the displacement of employment.

The area also has a high proportion of young people (16-24) in the immediate vicinity. Access to affordable housing and employment is a key concern of young people in this age bracket. This age group is therefore likely to be particularly vulnerable to adverse effects associated with demolition of housing and of commercial, retail and industrial property in the immediate area of Manchester Piccadilly station.

Although specific health concerns have not necessarily been identified for these groups with protected characteristics, the areas immediately around the stations have been identified as having the greatest likely adverse health effects associated with the scheme, and the co-location of equality concerns with these effects may exacerbate impacts for these groups. In particular, there is potential for social exclusion of groups with protected characteristics affected by the demolition of a group of approximately 50 dwellings on Chapeltown Street to facilitate station construction. This could lead to community dispersion and potentially have adverse health and wellbeing impacts.

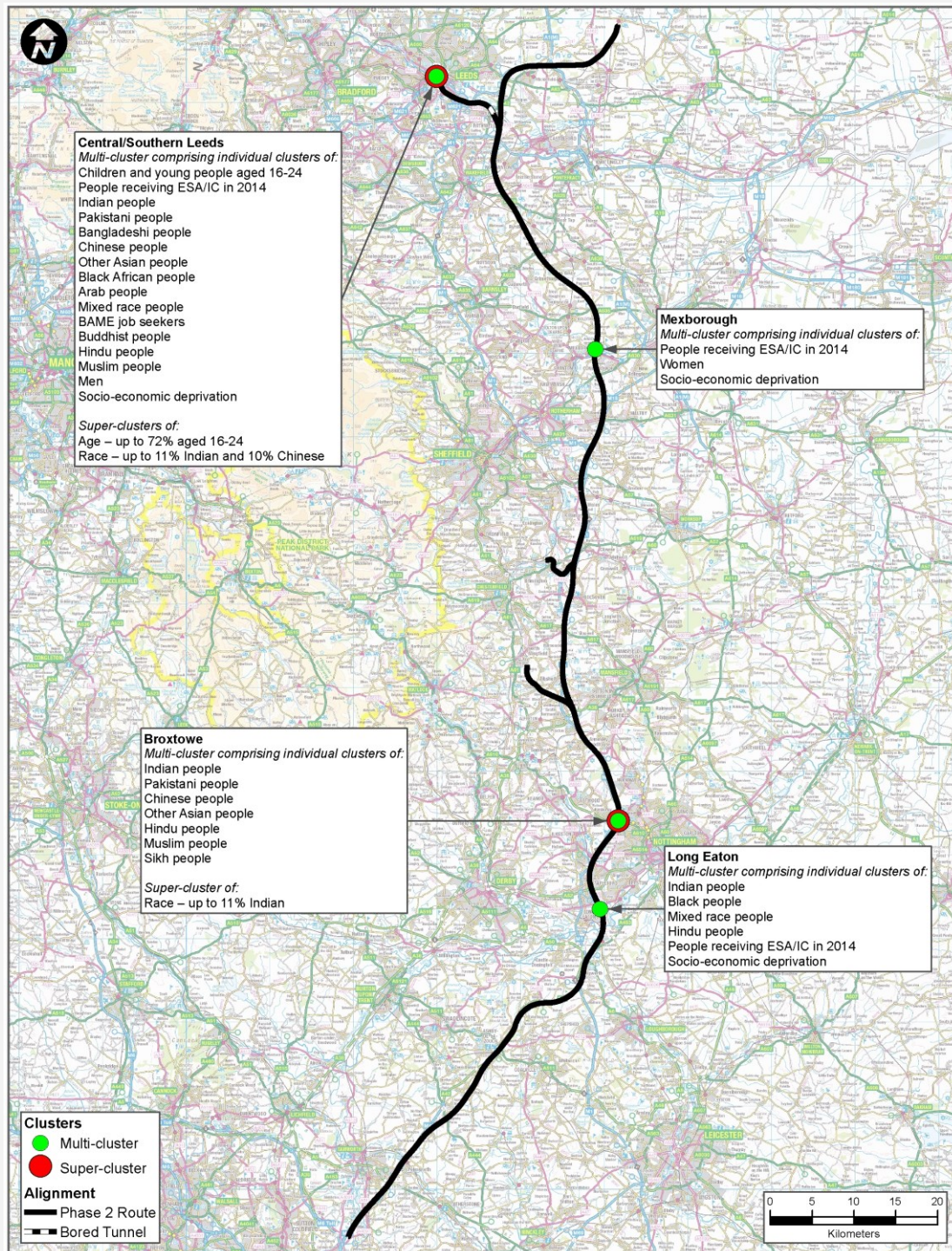
Warburton Green /Wythenshawe (Manchester Airport station area)

The immediate area of the new Manchester Airport station area is a race and faith super-cluster (faith and BAME groups) and also contains high proportions of people receiving ESA/IC in 2014. As for Manchester Piccadilly there is potential for indirect beneficial effects from new housing and jobs associated with the new station.

There are also potential adverse effects relating to demolition of housing and of commercial or retail property in the immediate area. As with Piccadilly, there is also a risk of potential marginalisation of people in these groups with protected characteristics as a result of adverse health effects which may be experienced in the area.

Southern Crewe and Culcheth: No significant equality impacts due to a lack of overlap between equality clusters and impacts such as demolition clusters or isolation and severance.

Figure 3-2 Location specific equality impacts – Eastern Leg²⁸



Broad locations of clusters of people with protected characteristics and of scheme impacts are described; however, the presence of a cluster in an area (as indicated above and in **Annex A**) does not necessarily mean the cluster would be affected by the scheme.

²⁸ Multi-clusters and super-clusters are shown on this map; a full list of individual clusters is provided in **Annex A**.

Central/Southern Leeds (Leeds station area)

Compared to the local and regional averages, Leeds station catchment has particularly high levels of young people (16-24), higher than average proportions of a range of BAME groups and people receiving ESA/IC in 2014. Access to affordable housing and employment are key concerns for these groups. Positive regeneration-related benefits are likely to be realised by these groups, through jobs associated with station construction and operation (direct benefits), as well as indirect benefits through new job creation and housing.

The immediate area of Leeds station is also a race super-cluster, being home to relatively large proportions of people from BAME groups (including BAME jobseekers). Access to affordable housing (including for larger families) and access to specialised retail outlets are key concerns for these groups. Access to employment is also a key concern for people in BAME groups.

The area also has a high proportion of young people (16-24) and people receiving ESA/IC in 2014. Access to affordable housing and access to employment are also key concerns of these groups (in particular for wheelchair users and people with severe walking difficulties).

The groups with protected characteristics in the area of this station are therefore likely to be particularly vulnerable to any adverse effects associated with demolition of housing and of job loss associated with demolition of commercial, retail and industrial property. These groups may also be disproportionately affected by the demolition of the NHS England West Yorkshire Area team centre since access to services is also a key issue.

Although specific health concerns have not necessarily been identified for these groups, the areas immediately around the stations have been identified as having the greatest likely adverse health effects associated with the scheme (see Appendix E of the Sustainability Statement), and the co-location of PPCs with these effects may lead to further marginalisation of these groups.

Long Eaton (East Midlands Hub station area)

Compared to the local and regional averages, Long Eaton has relatively high numbers of Indian, Black and mixed race people and people receiving ESA/IC in 2014. Access to affordable housing is a key sensitivity amongst these groups, with access to employment also being a key concern. Regeneration-related benefits are therefore likely to be realised by these groups in particular, through jobs associated with station construction and operation (direct benefits), as well as indirect benefits through net increases in jobs and housing within the station catchment. Opportunities exist to maximise the accessibility of new jobs and housing to people within these groups with protected characteristics.

Access to affordable housing (including for larger families) is a key concern for BAME groups and for people with disabilities. There is therefore potential for adverse effects relating to demolition of housing in the immediate area of this station. A sense of isolation may affect some dwellings in Long Eaton which may have a particular adverse impact on disabled people.

There is potential for social exclusion of groups with protected characteristics affected by the demolition of a group of approximately 76 dwellings to facilitate station construction in two clusters north and south of Station Road, which could lead to dispersion of communities and potentially bring adverse health and wellbeing impacts.

Broxtowe

There may also be adverse effects on groups with protected characteristics at Broxtowe. This is a race super-cluster and there may be adverse effects associated with job loss as a result of demolition of commercial or retail property in this area. This area is home to high numbers of Hindu, Muslim, Sikh people and people from BAME groups who have a particular sensitivity to this effect. Faith groups and people from BAME groups may also be at risk of reduced access to specialised retail outlets as a result of demolition of commercial or retail property in this area.

Mexborough

No significant equality effects due to a lack of overlap between equality clusters and impacts such as demolition clusters or isolation and severance.

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ANNEX A – Location of clusters of people with protected characteristics

Table A-1 – Location of clusters

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
Age	Children and young people (0-15)	Source: ONS (2011 Census Data) Table: Age Structure (KS102EW)	No clusters of children and young people (0-15) identified.	No clusters of children and young people (0-15) identified.
	Children and young people (16-24)	Source: ONS (2011 Census Data) Table: Age Structure (KS102EW)	Western Leg <ul style="list-style-type: none"> • Southern Crewe • Central Manchester (super-cluster) Eastern Leg <ul style="list-style-type: none"> • Ratcliffe-on-Soar • Central Leeds (super-cluster) 	Western Leg <ul style="list-style-type: none"> • No additional areas with clusters Eastern Leg <ul style="list-style-type: none"> • Southern Leeds (Holbeck, Hunslet)
	Older people (65+)	Source: ONS (2011 Census Data) Table: Age Structure (KS102EW)	No clusters of older people (65+) identified.	No clusters of older people (65+) identified.
Disability	People defined as disabled	Disability Living Allowance (DLA) ³¹ Source: ONS (2014) Table: Benefit claimants - disability living allowance for small areas.	Western Leg <ul style="list-style-type: none"> • Oulton Eastern Leg <ul style="list-style-type: none"> • No clusters 	No additional areas with clusters.

²⁹ Individual clusters listed for the 2016 analysis relate to LSOAs for which properties are either currently located within 350m of the scheme line of route or within one of the station catchment areas – a 1km buffer or 2km depending on population and employment density (see **Appendix C7** Socio Economic Appraisal).

³⁰ To avoid repetition, regional clusters are only listed where they are not also listed as local clusters.

³¹ Due to proportion of population receiving DLA within each LSOA being under 2% (one of the criterion for a cluster described in Box 2.1 of **Figure 2.3**); the threshold was changed to 1.5%

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
		Employment Support Allowance (ESA) and incapacity benefit Source: ONS (2014) Table: Benefit claimants - working age clients for small areas	Western Leg <ul style="list-style-type: none"> • Woodhouse, Wythenshawe • Central Manchester • Bryn Gates, west of Abram Eastern Leg <ul style="list-style-type: none"> • Long Eaton • Staveley • Mexborough • South Kirkby • Oulton • Southern Leeds (Beeston Hill, Hunslet) 	No additional areas with clusters.
		Adults accessing mental health services Source: ONS Table: Mental Health – Adults accessing NHS mental health services in England 2010/2011	N/A (data unavailable)	Western Leg <ul style="list-style-type: none"> • No clusters Eastern Leg <ul style="list-style-type: none"> • West of Barnsley between Hoyland and Royston (Barnsley local authority)
Race ³²	Indian Pakistani Bangladeshi Chinese Other Asian	Source: ONS (2011 Census Data) Table: Ethnic Group (QS201EW)	Western Leg <ul style="list-style-type: none"> • Southern Crewe (mixed race) • Lostock Gralam (Indian) • Hale Barns/Warburton Green (Pakistani, Arab) 	Western Leg <ul style="list-style-type: none"> • Hale Barns/Warburton Green (Indian) • Wythenshawe (BAME multi-cluster: Chinese, Black African, mixed race) • Eastern Manchester (Beswick) (Pakistani, Other Asian, Black African,

³² For this protected characteristic, groups are emboldened where they are present in super-clusters.

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
	Black ³³ Black African Black Caribbean Other Black Arab Mixed Race		<ul style="list-style-type: none"> • Eastern Manchester (Beswick) (Chinese) • Central Manchester (BAME multi-cluster: Bangladeshi, Chinese, Other Asian, Black Caribbean, Arab) • Culcheth (Black, mixed race) <p>Eastern Leg</p> <ul style="list-style-type: none"> • Ashby-de-la-Zouch (Indian, Chinese) • Ratcliffe-on-Soar (Chinese) • Long Eaton (BAME multi-cluster: Indian, Black, mixed race) • Broxtowe (BAME multi-cluster: Indian, Pakistani, Other Asian) • Barlborough (Indian) • Southern Leeds (Beeston Hill, Holbeck, Hunslet) (BAME multi-cluster: Indian, Bangladeshi, Chinese, Black African, Arab) • Central Leeds (BAME multi-cluster: Indian, Chinese, Other Asian, Arab) 	<p>Black Caribbean, Other Black, mixed race)</p> <ul style="list-style-type: none"> • Central Manchester (BAME multi-cluster: Indian, Pakistani, Black African, Other Black, mixed race) <p>Eastern Leg</p> <ul style="list-style-type: none"> • Broxtowe (Chinese) • Southern Leeds (Beeston Hill, Holbeck, Hunslet) (BAME multi-cluster: Pakistani, Other Asian, Black African, mixed race) • Central Leeds (mixed race)
		Source: ONS Table: Jobseeker's Allowance Claimants by Ethnicity, October 2010 - September 2011	N/A (data unavailable)	<p>Western Leg</p> <ul style="list-style-type: none"> • Manchester (Asian, Chinese, Black, mixed race) • Salford (Black) • Trafford (Black, mixed race)

³³ This is an additional category comprising Black African, Black Caribbean and Other Black people, which are also considered as separate groups. Clusters or super-clusters of Black people are only recorded in this table where component groups do not comprise clusters or super-clusters in their own right.

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
				Eastern Leg <ul style="list-style-type: none"> Nottingham (Asian, Chinese, Black, mixed race) Leeds (Black, mixed race)
	Gypsies and Travelling Communities	Source: ONS (2011 Census Data) Table: Ethnic Group, 2011 (QS201EW) DCLG (January 2015) Traveller caravan count.	Western Leg <ul style="list-style-type: none"> No clusters or count data sites within 1.5km of the route. Eastern Leg <ul style="list-style-type: none"> East of Wakefield No count data sites within 1.5km of the route. 	No additional areas with clusters.
Faith (religion or belief)	Christian	Source: ONS (2011 Census Data) Table: Religion (QS208EW)	Western Leg <ul style="list-style-type: none"> Wythenshawe (Newall Green, Woodhouse) Central Manchester Eastern Leg <ul style="list-style-type: none"> Swillington 	No additional areas with clusters.
	Buddhist	Source: ONS (2011 Census Data) Table: Religion (QS208EW)	Western Leg <ul style="list-style-type: none"> Eastern Manchester (Beswick) Central Manchester Eastern Leg <ul style="list-style-type: none"> Central Leeds 	No additional areas with clusters.
	Hindu	Source: ONS (2011 Census Data) Table: Religion (QS208EW)	Western Leg <ul style="list-style-type: none"> Hale Barns/Warburton Green Central Manchester Eastern Leg	No additional areas with clusters.

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
			<ul style="list-style-type: none"> • Long Eaton • Broxtowe • Southern Leeds (Beeston Hill, Holbeck, Hunslet) • Central Leeds 	
	Jewish	Source: ONS (2011 Census Data) Table: Religion (QS208EW)	Western Leg <ul style="list-style-type: none"> • Hale Barns/Warburton Green (super-cluster) Eastern Leg <ul style="list-style-type: none"> • No clusters 	No additional areas with clusters.
	Muslim	Source: ONS (2011 Census Data) Table: Religion, 2011 (QS208EW)	Western Leg <ul style="list-style-type: none"> • Hale Barns/Warburton Green (super-cluster) • Culcheth Eastern Leg <ul style="list-style-type: none"> • Broxtowe • Southern Leeds (Beeston Hill, Hunslet) 	Western Leg <ul style="list-style-type: none"> • Eastern Manchester (Beswick) • Central Manchester (super-cluster) Eastern Leg <ul style="list-style-type: none"> • Central Leeds
	Sikh	Source: ONS (2011 Census Data) Table: Religion, 2011 (QS208EW)	Western Leg <ul style="list-style-type: none"> • No clusters Eastern Leg <ul style="list-style-type: none"> • Broxtowe 	No additional areas with clusters.
Gender (sex)	Women	Source: ONS (2011 Census Data) Table: Usual Residential Population, 2011 (KS101EW)	Western Leg <ul style="list-style-type: none"> • No clusters Eastern Leg	No additional areas with clusters.

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
			<ul style="list-style-type: none"> Mexborough 	
	Men	Source: ONS (2011 Census Data) Table: Usual Residential Population, 2011 (KS101EW)	Western Leg <ul style="list-style-type: none"> Central Manchester Culcheth Eastern Leg <ul style="list-style-type: none"> Southern Leeds (Holbeck) Central Leeds 	No additional areas with clusters.
	Lesbians, gays and bisexual people	Source: ONS (2011 Census Data) Table: Same Sex Couples, 2001 (UV93)	No individual clusters (fewer than 35 individuals recorded in every LSOA within the study area)	
Socio-economic Deprivation (additional indicator)	People living in the 20% most deprived areas	Source: ONS Table: Indices of Deprivation 2010 for Super Output Areas	N/A (data unavailable)	Western Leg <ul style="list-style-type: none"> Southern Crewe Wythenshawe (Newall Green, Woodhouse) Eastern Manchester (Beswick) Central Manchester Bryn Gates, west of Abram Eastern Leg <ul style="list-style-type: none"> Long Eaton Staveley Thurcroft South Kirkby Mexborough Kirkthorpe

Protected characteristic	Group with protected characteristic	Data source for 2016 analysis	2016 analysis	
			Locations of local clusters ²⁹	Locations of regional clusters ³⁰
				<ul style="list-style-type: none"> • Oulton • Southern Leeds (Beeston Hill, Hunslet)
Lone Parent Families (additional indicator)	Lone Parent Families	Lone Parents with Dependent Children Source: ONS (2011 Census Data) Table: Household Composition 2011 (KS105EW)	Western Leg <ul style="list-style-type: none"> • Southern Crewe Eastern Leg <ul style="list-style-type: none"> • No clusters 	No regional clusters of lone parent families identified.

ANNEX B – Proportions of people with protected characteristics in station catchments

Table B-1 – Protected characteristic proportions: Manchester Airport station study area

		Study Area %	Local Authority %	Regional %
Age	0-15	20.5	20.2	18.8
	16-24	10.9	9.9	12.2
	65+	17.9	16.0	16.6
Disability	ESA and incapacity benefit ³⁴	7.0	5.0	6.9
	DLA ³⁵	1.1	1.1	1.3
	Mental health service access	-	2.1	2.5
Race	Black African	1.6	0.8	0.8
	Black Caribbean	0.6	1.7	0.3
	Other Black	0.4	0.4	0.2
	Indian	2.5	2.8	1.5
	Pakistani	3.8	3.1	2.7
	Bangladeshi	0.2	0.2	0.7
	Chinese	1.0	1.0	0.7
	Other Asian	1.0	0.9	0.7
	Arab	0.8	0.6	0.3
	Mixed Race	3.3	2.7	1.6
	Gypsy/ Traveller	0.0	0.0	0.1
	JSA claimants – Chinese	-	0.1	0.0
	JSA claimants – Asian	-	0.2	0.1
	JSA claimants – Black	-	0.3	0.1
JSA claimants – Mixed	-	0.1	0.0	
Faith	Christian	61.9	63.4	67.3
	Buddhist	0.3	0.3	0.3
	Hindu	1.2	1.0	0.3
	Jewish	4.4	1.1	0.5
	Muslim	6.4	5.7	5.1
	Sikh	0.3	0.7	0.1
Gender	Women	52.5	51.0	50.9
	Men	47.5	49.0	49.1
Sexual Orientation	Same-sex civil partnerships	0.1	0.2	0.1
Lone Parent Families	Lone parent families with dependent children	9.1	7.2	8.1

³⁴ *ibid.*

³⁵ Proportion of working age population (16-64).

Table B-2 – Protected characteristic proportions: Manchester Piccadilly station study area

		Study Area %	Local Authority %	Regional %
Age	0-15	8.0	19.4	18.8
	16-24	36.6	19.8	12.2
	65+	5.1	9.4	16.6
Disability	ESA and incapacity benefit ³⁶	4.3	7.4	6.9
	DLA ³⁷	0.5	1.1	1.3
	Mental health service access	-	2.6	2.5
Race	Black African	4.4	5.1	0.8
	Black Caribbean	1.6	1.9	0.3
	Other Black	1.5	1.6	0.2
	Indian	2.8	2.3	1.5
	Pakistani	2.2	8.5	2.7
	Bangladeshi	0.7	1.3	0.7
	Chinese	11.3	2.7	0.7
	Other Asian	3.1	2.3	0.7
	Arab	2.4	1.9	0.3
	Mixed Race	3.8	4.6	1.6
	Gypsy/ Traveller	0.1	0.1	0.1
	JSA claimants – Chinese	-	0.2	0.0
	JSA claimants – Asian	-	0.3	0.1
	JSA claimants – Black	-	0.5	0.1
JSA claimants – Mixed	-	0.2	0.0	
Faith	Christian	42.9	48.7	67.3
	Buddhist	2.5	0.8	0.3
	Hindu	1.8	1.1	0.3
	Jewish	0.4	0.5	0.5
	Muslim	9.3	15.8	5.1
	Sikh	0.5	0.5	0.1
Gender	Women	45.0	50.2	49.1
	Men	55.0	49.8	50.9
Sexual Orientation	Same-sex civil partnerships	0.7	0.3	0.2
Lone Parent Families	Lone Parent Families with dependent children	4.3	9.9	8.1

³⁶ *ibid.*

³⁷ Proportion of working age population (16-64).

Table B-3 – Protected characteristic proportions: East Midlands Hub station study area

		Study Area %	Local Authority %	Regional %
Age	0-15	18.5	18.0	18.5
	16-24	11.2	10.9	12.1
	65+	16.6	17.8	17.1
Disability	ESA and incapacity benefit ³⁸	4.8	5.3	5.2
	DLA ³⁹	1.2	1.2	1.2
	Mental health service access	-	2.0	2.5
Race	Black African	0.3	0.1	0.9
	Black Caribbean	0.5	0.3	0.6
	Other Black	0.1	0.1	0.2
	Indian	1.2	0.7	3.7
	Pakistani	0.1	0.1	1.1
	Bangladeshi	0.0	0.0	0.3
	Chinese	0.4	0.2	0.5
	Other Asian	0.5	0.2	0.8
	Arab	0.1	0.0	0.2
	Mixed Race	1.7	1.1	1.9
	Gypsy/ Traveller	0.0	0.0	0.1
	JSA claimants – Chinese	-	0.0	0.0
	JSA claimants – Asian	-	0.0	0.1
	JSA claimants – Black	-	0.0	0.1
JSA claimants – Mixed	-	0.0	0.1	
Faith	Christian	55.1	57.8	58.8
	Buddhist	0.3	0.2	0.3
	Hindu	0.7	0.4	0.3
	Jewish	0.0	0.0	2.0
	Muslim	0.4	0.2	3.1
	Sikh	0.5	0.3	1.0
Gender	Women	50.9	51.0	50.7
	Men	49.1	49.0	49.3
Sexual Orientation	Same-sex civil partnerships	0.2	0.1	0.2
Lone Parent Families	Lone Parent Families with dependent children	7.1	7.1	6.7

³⁸ *ibid.*

³⁹ Proportion of working age population (16-64).

Table B-4 – Protected characteristic proportions: Leeds station study area

		Study Area %	Local Authority %	Regional %
Age	0-15	4.8	18.3	18.9
	16-24	38.3	15.4	12.6
	65+	2.1	14.6	16.6
Disability	ESA and incapacity benefit ⁴⁰	6.9	5.5	5.8
	DLA ⁴¹	0.7	1.0	1.2
	Mental health service access	-	2.5	2.4
Race	Black African	2.9	2.0	0.9
	Black Caribbean	2.0	0.9	0.4
	Other Black	0.6	0.6	0.2
	Indian	6.3	2.1	1.3
	Pakistani	1.4	3.0	4.3
	Bangladeshi	0.5	0.6	0.4
	Chinese	3.7	0.8	0.5
	Other Asian	2.3	1.2	0.8
	Arab	0.4	0.5	0.4
	Mixed Race	3.6	2.6	1.6
	Gypsy/ Traveller	0.1	0.1	0.1
	JSA claimants – Chinese	-	0.1	0.1
	JSA claimants – Asian	-	0.2	0.2
	JSA claimants – Black	-	0.2	0.1
JSA claimants – Mixed	-	0.1	0.0	
Faith	Christian	38.1	55.9	59.5
	Buddhist	1.1	0.4	0.3
	Hindu	4.4	0.9	0.3
	Jewish	0.5	0.9	0.5
	Muslim	7.8	5.4	6.2
	Sikh	0.9	1.2	0.4
Gender	Women	46.2	51.0	50.8
	Men	53.8	49.0	49.2
Sexual Orientation	Same-sex civil partnerships	0.3	0.2	0.2
Lone Parent Families	Lone Parent Families with dependent children	2.0	7.6	7.1

⁴⁰ *ibid.*

⁴¹ Proportion of working age population (16-64).

ANNEX C – Detailed analysis of findings

Table C-1 – Sustainability theme: access to housing

Key equality concern: access to affordable housing including housing for larger families
Protected characteristic groups: children and young people (0-15; 16-25), older people (65+), people defined as disabled, BAME groups including Muslim, Sikh and Hindu faith groups, people living in the 20% most deprived areas, lone parent families.
<p>Issues and Evidence: Access to housing has been identified as a particular concern for many of the groups with protected characteristics considered in this study, and is associated with higher levels of socio-economic deprivation amongst these groups with protected characteristics⁴². Black and Asian people are also more likely to have larger families than white and Chinese families, as are people of Muslim, Sikh and Hindu faiths⁴³, which may lead to reduced access to housing of a suitable size. As well as a greater proportion of lone parent families living in affordable housing than average, studies have also shown that single mothers living in deprived areas have a lower probability of moving to a non-deprived area than those with a partner⁴⁴.</p> <p>Transport schemes, which reduce the availability of affordable housing are likely to have an adverse impact on these groups with protected characteristics. Conversely, schemes which provide new housing either directly or indirectly through encouraging regeneration, are likely to have a positive impact on groups with protected characteristics as UK policy encourages provision of affordable housing as part of new residential development within the UK⁴⁵.</p> <p>The establishment of new transport links in an area can also increase the cost of housing in the area of stations by making it more desirable⁴⁶. While homeowners are likely to benefit from this, it may have an adverse impact on vulnerable groups with protected characteristics renting or seeking to rent accommodation in the area if they are unable to afford increased rental costs. Increased house prices may also be associated with a wider process of 'gentrification', which is a controversial notion generally considered to refer to adverse impacts on communities associated with affluent middle-class households becoming established in working-class, 'de-invested' areas⁴⁷. Conversely, house prices can be adversely affected by close proximity to transport schemes, as a result of reductions in amenity value.</p>
Potential for beneficial or adverse impacts
<p>Impacts associated with demolition of existing dwellings</p> <p><u>Western Leg</u></p> <p>Lostock Green: approximately 14 dwellings would be demolished to the south and north of Lostock Green, which is just to the north of Lostock Gralam (an area which has a large proportion of Indian people).</p>

⁴² Cambridge Centre for Housing and Planning Research (2008). [Understanding Demographic, Spatial and Economic Impacts on Future Affordable Housing Demand, Paper 1 - The Profile of Affordable Housing Residents](#)

⁴³ Population Matters (2012). [Socio-demographic comparison between those UK families with up to two children and those with three or more](#)

⁴⁴ McCulloch (2010). Disparities in residential mobility among women with children.

⁴⁵ DCLG (March 2012). [National Planning Policy Framework](#)

⁴⁶ GVA (October 2012). [Crossrail Property Impact Study](#)

⁴⁷ CRESC Working Paper Series (December 2009) [Urban regeneration in East Manchester: a process of gentrification? - Working Paper No. 77](#)

Hale Barns/Warburton Green: three groups of properties, comprising an estimated 15 dwellings in total, would be demolished by the proposed Manchester Airport station and its approach including at Halebank and Hale Barns. Groups with protected characteristics at risk of adverse impacts associated with reduced availability of affordable housing in this area are Indian, Pakistani, Hindu, Jewish and Muslim people who are clustered in the Hale Barns/Warburton Green area.

Central Manchester: an estimated 48 dwellings would be demolished at Manchester Piccadilly station, north of the existing station. Clusters of people with protected characteristics at risk of adverse impacts associated with reduced availability of affordable housing in this area are Black African, Black Caribbean, Other Black and mixed race people, young adults (16-24 years) and people receiving ESA/IC in 2014. Black African, Black Caribbean and Other Black people are also at risk of adverse impacts associated with reduced availability of affordable housing for larger families in this area, as well as Muslim people and Asian people clustered in this area. This area contains a particularly high proportion of social housing and contains areas within the 20% most deprived in England.

No particular equality impacts are expected to be associated with demolition of groups of dwellings at Crewe North depot, Lowton St Mary and the demolition of single or small groups of properties at various locations along the route.

Eastern Leg

Long Eaton: approximately 76 dwellings would be demolished to accommodate the East Midlands Hub station and its approach in two clusters, north of Station Road and south of Station Road. A sense of isolation may also affect some dwellings in Long Eaton. Clusters of people with protected characteristics at risk of adverse impacts associated with reduced availability of affordable housing in this area are Indian, Black and mixed race people, Hindu people and people receiving ESA/IC in 2014.

No particular equality impacts are expected to be associated with demolition of groups of dwellings at Whateley, Nuthall, Newton and the demolition of single or small groups of properties at various locations along the route.

Impacts associated with isolation or severance of existing dwellings

Western Leg

The AoS process has not identified any dwellings affected by isolation or severance which correspond with clusters of people with protected characteristics.

Eastern Leg

Long Eaton: A sense of isolation may affect some dwellings in Long Eaton. A sense of isolation may have a particular adverse impact on disabled and older people in these areas. There is a cluster of people receiving ESA/IC in 2014 in this area.

HS2 Ltd would aim to avoid closing or removing the legal status of existing rights of way where possible, and to maintain access across the railway through the on-going design of the scheme. This would involve working with local people, local authorities and relevant organisations to determine the best way of achieving this where feasible. Temporary adverse impacts may occur during construction; however, details of construction are not yet known so this would need to be assessed at a later stage of scheme development. The status of existing access routes should be monitored closely, and if any are threatened an impact test should be undertaken for that route at the time.

There may be potential benefits to groups with protected characteristics in the areas where enhanced transport links around stations improve access to jobs and facilities and potentially extend the area in which people are able to live in order to access employment and services.

It is not possible to predict how the preferred route would affect house prices in the area of the line of route or around stations – this would need to be assessed at a later stage.

Impacts associated with new dwellings

The socio-economic assessment (within **Appendix C7**) describes the potential benefits associated with housing redevelopment within the station catchments following station construction (although benefits are expected to be much smaller for Manchester Airport station). The demography of each catchment is set out in Annex B of this report; in particular, Manchester Piccadilly catchment has particularly high levels of young people (16-24), men, Chinese and Arab people and Leeds station catchment has particularly high levels of young people (16-24), and higher than average proportions of a range of BAME groups in particular Indian and Chinese. The estimated numbers of new dwellings supported in the catchments of the stations are as follows: Manchester Airport: no additional dwellings; Manchester Piccadilly: between 3,100 and 4,100 dwellings; East Midlands Hub: between 140 and 350 dwellings; and Leeds: between 3,000 and 4,600 dwellings.

Key equality concern: availability and cost of accessible housing

Protected characteristic group: people with disabilities (subgroup: wheelchair users and people with severe walking difficulties)

Issues and Evidence: wheelchair users and people with severe walking difficulties have particular requirements for accessible housing, which has associated costs. Displacement of people from adapted housing as a result of a new transport scheme may adversely affect them due to the potential costs of adapting a new house. Conversely, those owning housing in areas benefitting from new transport links may experience a positive effect associated with the establishment of new transport links if housing prices increase. Beneficial impacts can also result from increased provision of accessible housing as part of new housing development associated with a scheme (directly or indirectly).

Potential for beneficial or adverse impacts

Western Leg

Central Manchester: approximately 48 dwellings would be demolished in an area with a particularly high proportion of people receiving ESA/IC in 2014.

Eastern Leg

Long Eaton: approximately 76 dwellings would be demolished in an area with a particularly high proportion of people receiving ESA/IC in 2014.

It is possible, particularly within central Manchester and Long Eaton areas, that some of the dwellings which would be demolished as a result of the preferred route may be wheelchair-accessible or adapted to accommodate the specific needs of wheelchair users or those with severe walking difficulties. If adverse impacts are identified, suitable compensation for affected people would be considered on a case-by-case basis.

As noted above, it is not possible to predict how the preferred route would affect house prices in the area of the line of route or around stations – this would need to be assessed at a later stage. Since the preferred route is expected to support large numbers of new dwellings in the areas of stations, it is expected that the preferred route would have an indirect beneficial effect on this people with disabilities through provision of additional accessible housing as part of regeneration schemes.

Key equality concern: land availability for Gypsy and Travelling Communities

Protected characteristic group: Gypsy and Travelling Communities

Issues and Evidence: the lack of suitable, secure accommodation underpins much of the inequality that Gypsy and Traveller communities experience⁴⁸. Removal of currently occupied or potential accommodation sites for Gypsies and Travellers would therefore have a potential adverse effect on this group.

Potential for beneficial or adverse impacts

Western Leg

No individual clusters of Gypsy or Traveller people were identified along the western leg of the preferred route. The January 2015 DCLG count data suggests there are no known Gypsy or Traveller sites within 1.5km of the western leg of the preferred route⁴⁹.

Eastern Leg

An individual cluster of Gypsy or Traveller people exists to the east of Wakefield. A visual inspection of aerial mapping⁵⁰ does not suggest any direct land take affecting currently occupied Gypsy or Traveller sites within this LSOA. The January 2015 DCLG count data indicates that there are not currently any Gypsy or Traveller sites located within 1.5km from the eastern leg of the route, although one site (Heath Common, off Doncaster Road, east of Wakefield) lies just outside of this buffer.

Overall there is no evidence that any direct land take of known Gypsy or Traveller sites would occur, on the basis of data currently available. Further analysis will be undertaken at a later stage. The likelihood of reduction in land availability for potential future Gypsy or Traveller sites as a result of the preferred route cannot be assessed on the basis of currently available information.

Table C-2 – Sustainability theme: access to key services and amenities

Key equality concern: access to community and health care facilities

Protected characteristic groups: children and young people (0-15; 16-25), older people (65+), people defined as disabled, BAME groups including pregnant women and nursing mothers, people living in the 20% most deprived areas, lone parent families.

Issues and Evidence: access to services is a key issue for a number of groups with protected characteristics^{51, 52}. Transport schemes have the potential to improve access to services by directly or indirectly connecting people with existing services, or by encouraging regeneration which might lead to increased provision of community services in an area. Conversely, such a scheme might reduce access through demolition of local services or by severing access routes linking people to services, such as roads or footpaths.

⁴⁸ Equality and Human Rights Commission (2009) Inequalities experienced by Gypsy and Traveller communities: A review. Available at: <https://www.equalityhumanrights.com/en/publication-download/research-report-12-inequalities-experiences-gypsy-and-traveller-communities>

⁴⁹ To understand the potential for any impacts to affect Gypsy or Traveller people, a search for registered sites within a broader area of 1.5km was undertaken to ensure any sites within the study area were identified and allow for any geographical inaccuracy associated with postcode data. The presence of sites beyond the 350m study area does not necessarily indicate a potential for impacts.

⁵⁰ Google Maps satellite imagery accessed 16/04/2013

⁵¹ CHE Research Paper 40 (2008). [Quality in and Equality of Access to Healthcare Services in England](#)

⁵² NCCSDO (October 2006). [Briefing Paper: Vulnerable groups and access to health care](#)

Potential for beneficial or adverse impacts

Western Leg

At this stage there are no likely adverse equality impacts anticipated as a result of expected demolition of community or healthcare facilities on the western leg during construction of the preferred route⁵³.

Eastern Leg

The route would require the demolition of two community facilities including a bingo hall in Leeds; however, no clusters of either children aged 0-15 or lone parent families with dependent children have been identified in this area. There is also a potential demolition of the NHS England West Yorkshire Area team centre in Holbeck, southern Leeds⁵⁴. Within southern Leeds there is a high proportion of people receiving ESA/IC and there are high proportions of some BAME groups along with high deprivation (people living in the 20% most deprived areas).

The extent of any negative equality impacts associated with the demolition of community or healthcare facilities would depend on the nature of the services provided by these facilities, their usage, and whether services were reprovided by the local authority, NHS or other provider.

No likely permanent adverse impacts on access to community or healthcare facilities as a result of isolation or severance have been identified. Temporary adverse impacts are likely to occur during construction however details of construction are not yet known so this would need to be considered at a later stage of scheme development. There may also be potential benefits to groups with protected characteristics in the area of stations associated with enhanced transport links around stations improving access to community and health care facilities in the wider area.

Key equality concern: access to public transport

Protected characteristic groups: children and young people (0-15; 16-25), older people (65+), people defined as disabled, BAME groups including pregnant women and nursing mothers, people living in the 20% most deprived areas, lone parent families.

Issues and Evidence: access to public transport encompasses availability of public transport (for those without access to a car), physical accessibility of public transport (such as for wheelchair users or parents with pushchairs) and affordability of public transport. Access to public transport has been identified as a key concern for a range of groups with protected characteristics, although the nature of access barriers varies between groups.⁵⁵ Gypsy and Traveller communities are particularly affected by this concern since the locations of Gypsy and Traveller sites are often poorly served by local transport services.⁵⁶ Transport schemes by definition have the potential to improve transport connections, both directly and indirectly. They can, however, also reduce transport accessibility, for example through disruption to local services during construction or by the replacement of existing services with a less accessible alternative.

Potential for beneficial or adverse impacts

⁵³ This is based on the information currently available on the demolitions. It is possible that properties that have been identified as commercial, industrial or another classification properties and which may be subject to demolition may provide community services.

⁵⁴ Community and healthcare demolitions differ from those in the Sustainability Statement including Post Consultation Update (2016) due to different criteria used for classifying these facilities.

⁵⁵ Transport for London (April 2012). [Understanding the travel needs of London's diverse communities: A summary of existing research](#)

⁵⁶ Equality and Human Rights Commission (2009). [Inequalities experienced by Gypsy and Traveller communities: A review](#)

As set out in the access issues appraisal (within **Appendix C8**, local transport connections are particularly good in the catchments of Manchester Piccadilly and Leeds stations, and it is possible that improvements to local services would be supported as a result of the preferred route, to further enhance local connections in these areas. This may therefore have benefits for the relevant groups with protected characteristics living in these areas for whom access to transport is a key concern, although the extent of adverse impacts cannot be assessed at this stage. Similarly, details of station design have not yet been established; however, there are opportunities to deliver large benefits to groups with protected characteristics by maximising accessibility through careful station and scheme design, with principles of best practice being applied.⁵⁷

Key equality concern: outdoor play space provision

Protected characteristic group: children and young people (0-15)

Issues and Evidence: play is important for the wellbeing and development of children, and it is important that they have access to a diversity of spaces to play.⁵⁸ Access to local play space, which can be accessed on foot or bicycle, is especially important for children; therefore direct beneficial impacts of transport schemes on access to play space are likely to be limited in general. Indirect beneficial impacts may be associated with provision of additional play space as part of wider regeneration encouraged by such schemes. Adverse impacts, however, in terms of access to play space may occur as a result of direct land take affecting play space, green spaces or open access areas, or by severing access ways linking residential areas with potential areas of play space.

Potential for beneficial or adverse impacts

Western Leg

Two open access areas are intersected by the preferred route, one to the north of Lowton and one to the west of Abram (both to the south-east of Wigan), although a detailed review of available play space has not been undertaken at this stage. Any removal of play space in as a result of the preferred route would potentially have an adverse effect. No clusters of children and young people (0-15) have been identified, however, reducing the severity of any impacts.

Eastern Leg

No open access areas have been identified as a result of the preferred route and no clusters of children and young people (0-15) have been identified along the eastern leg. A detailed review of available play space has not been undertaken at this stage.

Adverse impacts associated with removal of play space would need to be assessed at a later stage to determine the extent of any necessary re-provision.

Key equality concern: access to faith-related facilities

Protected characteristic groups: faith groups

Issues and Evidence: regular attendance at and access to faith-related facilities is important for many members of faith groups, for both spiritual and social reasons. As for access to community and health care facilities, transport schemes have the potential to improve access by faith groups to faith-related facilities by directly or indirectly connecting people with existing facilities. Conversely, such a scheme might reduce access through demolition of such facilities or by severing access routes linking people to facilities, such as roads or footpaths.

⁵⁷ Parliamentary Office of Science and Technology (March 2013). [Accessing Public Transport](#), Post note Number 432

⁵⁸ Play England (2008). [Play for a Change - Play, Policy and Practice: A review of contemporary perspectives](#)

Potential for beneficial or adverse impacts

Western Leg

There is potential for the demolition of a chapel on Midland Street near Manchester Piccadilly station, where there is a high proportion of Christian people. The likely impacts would need to be assessed at a more detailed stage once further information is available, and would depend on the nature of the faith-related facilities, and whether facilities were reprovided.

Eastern Leg

No faith-related facilities have been identified as likely to be demolished on the eastern leg.

No likely permanent adverse impacts on access to faith-related facilities as a result of isolation or severance have been identified on the western and eastern legs. Temporary adverse impacts may occur during construction however details of construction are not yet known so this could only be assessed at a later stage of scheme development.

Any adverse impacts identified on access to faith-related facilities would be particularly significant if they occurred within areas where particularly high proportions of faith groups have been identified. Locations where faith group clusters are located are set out in Annex A with proportions being particularly high within the super-clusters of Warburton Green/Wythenshawe (up to 19% Muslim and up to 17% Jewish) and Central/Eastern Manchester (up to 29% Muslim) on the western leg.

There may also be potential benefits to faith groups in the areas around new stations associated with enhanced transport links around stations improving access to faith-related facilities in the wider area.

Key equality concern: access to specialised retail outlets

Protected characteristic groups: BAME groups and faith groups

Issues and Evidence: areas with particularly large populations of BAME groups and faith groups often have relatively high proportions of specialised retail outlets, notably specialised food outlets. As for access to community and health care facilities, transport schemes have the potential to improve access to specialised retail outlets by directly or indirectly connecting people with existing outlets. Conversely, such a scheme might reduce access through demolition of such outlets or by severing access routes linking people to outlets, such as roads or footpaths.

Potential for beneficial or adverse impacts

Western Leg

Central Manchester: approximately 58 commercial or retail demolitions. Particularly large proportions of Muslim people and BAME groups (Indian, Pakistani, Bangladeshi, Chinese, Other Asian, Black African, Black Caribbean, Other Black, Arab and mixed race people) in this area.

Eastern Leg

No particular adverse impacts on access to specialised retail outlets by BAME groups and faith groups are expected to be associated with commercial or retail demolitions at Sawpit Lane, Barns Heath Farm.

Broxtowe: approximately 12 commercial or retail demolitions at Nottingham Business Park. Particularly large proportions of Hindu, Muslim and Sikh people and BAME groups (Indian, Pakistani, Chinese and Other Asian people) in this area.

Southern Leeds (south Hunslet): approximately seven commercial or retail demolitions. Particularly large proportions of Hindu and Muslim people and BAME groups (Indian, Chinese, Pakistani, Bangladeshi, Other Asian, Black African, Arab and mixed race people) in this area.

Central Leeds: approximately 36 commercial or retail demolitions. Particularly large proportions of Buddhist, Hindu and Muslim people and BAME groups (Indian, Chinese, Other Asian, Arab and mixed race people) in this area.

The detailed location of specialised retail provision is not known at this stage, therefore all commercial or retail property is considered to potentially fall within this category.

An assessment of permanent adverse impacts on access to specialised retail outlets as a result of isolation or severance has not been undertaken at this stage. Temporary adverse impacts may occur during construction however details of construction are not yet known so this would need to be considered at a later stage of scheme development. There may also be potential benefits to faith and BAME groups at Manchester Piccadilly, Tinsley and Central Leeds associated with enhanced transport links around stations improving access to specialised retail outlets in the wider area.

Key equality concern: availability of burial space

Protected characteristic groups: faith groups

Issues and Evidence: England is facing a shortage of burial space.⁵⁹ Orthodox Judaism and Islam and some fundamentalist Christian groups do not allow cremation, therefore the need for burial space is particularly important for these faith groups. Transport schemes can have an adverse effect on burial space; either directly through land take of currently allocated burial space, or indirectly by reducing availability of potential future burial space.

Potential for beneficial or adverse impacts

No instances of land take affecting burial space supply have been identified, on the basis of currently available information. However, this would need to be assessed at a more detailed stage once further information is available.

No likely permanent adverse impacts on access to burial space as a result of isolation or severance have been identified, since it is assumed that all access roads will be maintained. Temporary adverse impacts may occur during construction however details of construction are not yet known so this could only be assessed at a later stage of scheme development.

Any adverse impacts identified on availability of burial space would be particularly significant if they occurred within areas where particularly high proportions of relevant faith groups have been identified. Locations where faith group clusters are located is set out in **Annex A** with proportions being particularly high within the super-clusters of Warburton Green/Wythenshawe (up to 19% Muslim and up to 17% Jewish) and Central/Eastern Manchester (up to 29% Muslim) on the western leg.

Table C-3 – Sustainability theme: community integrity

Key equality concern: potential social exclusion

Protected characteristic groups: children and young people (0-15; 16-25), older people (65+), BAME groups including people living in the 20% most deprived areas, lone parent families

⁵⁹ [The Cemetery Research Group – Frequently Asked Questions](#) (website accessed 24/04/2013)

Issues and Evidence: the *Poverty and Social Exclusion Survey*⁶⁰ distinguishes four dimensions of exclusion: “*impoverishment, or exclusion from adequate income or resources; labour market exclusion; service exclusion; and exclusion from social relations*”. In addition to any specific impacts on groups with protected characteristics, transport schemes may increase or decrease wider social exclusion by exacerbating or improving a range of existing factors for groups with protected characteristics especially in locations at above-average risk of poverty or with poor health⁶¹.

Potential for beneficial or adverse impacts

All the stations have been identified in **Section 2** of this EqA as locations of multi-clusters and all stations apart from East Midlands Hub as locations of super-clusters since a large diversity and proportion of people with protected characteristics are located within these areas. While the increased availability of employment may reduce some dimensions of social exclusion in these areas, other factors such as reduced accessibility to services and community facilities may exacerbate social exclusion. In the Manchester Piccadilly area, these factors may interplay with the dispersing of a community, as large groups of dwellings would also be demolished.

The findings of the health analysis (**Appendix C9**) also indicate that potential beneficial and adverse impacts on health are most likely to occur in the area of the four stations. This, alongside the high levels of deprivation in these areas, means that there are a complex set of factors interacting and influencing social exclusion for groups with protected characteristics. The extent of any social exclusion of groups with protected characteristics in these locations would need to be assessed at a later stage in scheme development.

Key equality concern: isolation and sense of isolation

Protected characteristic group: older people (65+)

Issues and Evidence: transport schemes can create areas of isolation, if they enclose areas which are already partially bounded by existing infrastructure, if the necessary access routes are not provided to maintain connections with adjacent communities or facilities. This type of isolation is expected to be avoided through provision of access route links; however, an adverse ‘sense of isolation’ may nonetheless be experienced by residents of dwellings who are surrounded by infrastructure links. Older people are particularly vulnerable to adverse mental health impacts associated with feelings of isolation.⁶²

Potential for beneficial or adverse impacts

No likely permanent adverse impacts on older people as a result of isolation or severance have been identified, since it is the intention that all access roads will be maintained. Temporary adverse impacts may occur during construction, however details of construction are not yet known so this would need to be assessed at a later stage of scheme development. The areas where dwellings may be at risk of experiencing a sense of isolation as a result of the preferred route (as set out in the Sustainability Statement) do not correspond to the areas where particularly high proportions of older people have been identified. However, it is not possible at this stage to identify whether those dwellings identified as being at risk of experiencing a sense of isolation include any dwellings which are specifically designed to accommodate older people (for example, sheltered housing or residential care homes). This would also need to be assessed at a later stage of scheme development.

⁶⁰ JRF (2000). [Poverty and Social Exclusion in Britain](#)

⁶¹ Transport Studies Group - University of Westminster (updated June 2005). [Measuring Accessibility as Experienced by Different Socially Disadvantaged Groups, Working Paper 3: Accessibility Analysis Literature Review](#)

⁶² SCIE (May 2012). [Preventing loneliness and social isolation among older people, At a Glance \(60\)](#)

Table C-4 – Sustainability theme: safety and security

Key equality concern: personal safety
Protected characteristic groups: children and young people (0-15; 16-25), older people (65+), people defined as disabled, Black people, women including pregnant women and nursing mothers
<p>Issues and Evidence: personal safety in the context of this EqA is limited to consideration of the risk of harm to groups with protected characteristics associated with opportunist mugging or assault, or the risk of harm associated with scheme construction works or road traffic. Personal safety risks associated with hate crime and harassment are considered separately below.</p> <p>Transport schemes may give rise to increased opportunity for opportunist muggings or assaults targeting groups with protected characteristics who are less well able to defend themselves, depending on the design of construction sites and design of the preferred route itself (including stations).</p> <p>Construction of transport schemes can also potentially pose a risk to vulnerable people – especially children – gaining access to construction sites. Such schemes can also affect the rate of road-related injury or death. Such impacts can be adverse – increasing the risk of injury as a result of construction traffic levels or by causing a local increase in road traffic levels by providing new car parks (enabling people to connect with services). However, impacts could also be beneficial (in the case of non-road transport schemes), if they support a modal shift away from road transport (i.e. reducing the number of car journeys). Some studies have indicated that children and Black people in particular may have a particularly high risk of injury on the roads.^{63, 64}</p>
Potential for beneficial or adverse impacts
The health analysis (within Appendix C9) concludes that the preferred route may have a positive impact overall in terms of safety (since rail travel is safer than road), however risk of injury levels may increase near the new stations due to increased traffic around these areas. The likelihood and extent of any effects relating to the risk of accidents associated with construction traffic, as well as the risk of assault within or around the construction or operational scheme area would need to be assessed at a later stage in scheme design.
Key equality concern: hate crime and harassment (construction and operation)
Protected characteristic groups: people defined as disabled, BAME groups including faith groups, lesbian, gay, bisexual and trans people, women including pregnant women and nursing mothers
<p>Issues and Evidence: transport schemes may give rise to increased opportunity for hate crime and harassment, where certain people with protected characteristics are targeted on account of their appearance or behaviour.⁶⁵ During construction, the opportunities for hate crime and harassment associated with the development of a transport scheme would depend on the design of construction sites and measures in place to ensure that conflict between people within local communities and the construction workforce are minimised. During operation, the risk of incident relating to hate crime and harassment would depend on design of the preferred route itself (including in and around stations, in accessible trackside areas and on trains).</p>
Potential for beneficial or adverse impacts

⁶³ A report to the London Road Safety Unit (2006). [Deprivation and Road Safety in London](#)

⁶⁴ London School of Hygiene and Tropical Medicine Unit (2007). [Road Safety of London's Black and Asian Minority Ethnic Groups: A report to the London Road Safety](#)

⁶⁵ H M Government (2012). [Challenge it, Report it, Stop it: The Government's Plan to Tackle Hate Crime](#)

As set out in **Annexes 1 and 2** of this report, each of the proposed stations and their catchments are home to particularly high levels of people with protected characteristics identified as being at risk of hate crime and/or harassment, with additional clusters of vulnerable people with protected characteristics spread along the line of route. The risk of these people with protected characteristics experiencing hate crime or harassment within or around the construction or operational scheme would need to be assessed at a later stage in scheme design.

Table C-5 - Sustainability theme: noise

Key equality concern: noise impacts on learning
Protected characteristic group: children and young people (0-15)
Issues and Evidence: the large scale RANCH study, ⁶⁶ which compared the effect of road traffic and aircraft noise on children’s cognitive performance in the Netherlands, Spain and the UK, found a linear exposure-effect relationship between chronic aircraft noise exposure and impaired reading comprehension and recognition memory, after taking a range of socio-economic and confounding factors into account. Although there are a lot of uncertainties in research conclusions to-date, ⁶⁷ a precautionary approach (as advocated by the NPSE) ⁶⁸ suggests that the preliminary findings of this study can be used to guide the impact assessment interpretations and conclusions. As such, it is considered that noise may have an adverse effect on children’s cognitive development.
Potential for beneficial or adverse impacts
<p><u>Western Leg</u></p> <p>There are no known locations where there are particularly high proportions of children and young people (0-15) on the western leg, based on currently available information. Two schools are within 300m of the preferred scheme on the western leg although it is expected that measures would be taken to mitigate adverse noise impacts on learning.</p> <p><u>Eastern Leg</u></p> <p>There are no known locations where there are particularly high proportions of children and young people (0-15) on the eastern leg, based on currently available information. Ten schools are within 300m of the preferred scheme on the eastern leg. Again, it is expected that measures would be taken to mitigate adverse noise impacts on learning.</p> <p>The noise and vibration appraisal (within Appendix C5) sets out further information. More detailed noise analysis will be carried out at a later stage in scheme development.</p>

⁶⁶ Stansfeld et al, The Lancet. Vol. 365, 1942-49 (2005). [Aircraft and road traffic noise and children’s cognition and health: a cross-national study](#)

⁶⁷ Defra (2009). [Estimating Dose-Response Relationships Between Noise Exposure and Human Health Impacts in the UK](#)

⁶⁸ Defra (2010). [Noise Policy Statement for England](#)

Key equality concern: noise sensitivities
Protected characteristic groups: people with mental health problems or learning disabilities
Issues and Evidence: notwithstanding established relationships for annoyance and disturbance, there remains substantial uncertainty with regard to the impacts of noise on mental health ⁶⁹ . Not least it is unclear whether noise might cause or worsen mental health problems or whether mental health problems increase the impacts of noise or reduce the ability to tolerate noise. In the latter case, noise annoyance is consistently found to be an important mediator with regard to mental health impacts ⁷⁰ and evidence suggests that environmental noise exposure at higher levels is related to mental health symptoms and possibly raised anxiety ⁷¹ . As such, people already suffering from certain mental health disorders may have an elevated sensitivity to elevated noise levels.
Potential for beneficial or adverse impacts
Barnsley, on the eastern leg, is the only local authority where relatively high proportions of adults accessing mental health facilities are located (data is not available for this indicator at LSOA level). No places along the route through this local authority have been identified as being at a relatively high risk of operational noise impacts ⁷² . It is not known at this stage whether any mental health facilities are located close to the route. However, it is expected that measures would be taken to mitigate adverse noise impacts on users of such facilities.

Table C-6 – Sustainability theme: air quality

Key equality concern: heightened sensitivity to poor air quality
Protected characteristic groups: children and young people (0-15), older people (65+), people defined as disabled ⁷³ , people living in the 20% most deprived areas
Issues and Evidence: it is generally accepted that children’s developing lungs may be more susceptible to air pollution, although there is no evidence that short-term increases in air pollution have permanent impacts on developing lungs. Elderly people have also been shown to have a lower capacity to deal with increases in air pollution than younger adults, and there is some evidence to suggest that people living in socio-economically deprived areas may show greater susceptibility to poor air quality (probably due to a combination of higher levels of chronic disease, poorer diet and greater exposure). ⁷⁴ Older people and those living in socio-economically deprived areas may therefore be susceptible to short-term reductions in air quality levels as well as long-term significant impacts, which children would also be at greater risk from.

⁶⁹ Health Protection Agency on behalf of an ad hoc Expert Group on the Effects of Environmental Noise on Health (2009). - [Environmental Noise and Health in the UK](#)

⁷⁰ Defra (2009). [Estimating Dose-Response Relationships Between Noise Exposure and Human Health Impacts in the UK](#)

⁷¹ World Health Organization (2009). [Night Noise Guidelines for Europe](#)

⁷² Noise impacts associated with the construction of the preferred route have not been assessed at this time.

⁷³ This concern is of relevance to people defined as disabled who have reduced breathing capacity as a consequence of their disability

⁷⁴ COMEAP, 2011. [Review of the UK Air Quality Index- a report by the Committee on the Medical Effects of Air Pollutants](#)

Potential for beneficial or adverse impacts

The air quality analysis presented in within the Sustainability Statement including Post Consultation Update Report concludes that potentially adverse impacts from dust and road vehicle emissions during construction may occur at all four of the new stations associated with the preferred route as well as potentially adverse impacts from road vehicle emissions during operation. However, the significance of impacts would need to be assessed at a later stage when more detailed scheme information is available. Since particularly high proportions of older people (65+) or children and young people (0-15) are not located in the area of the stations, these groups with protected characteristics would not be expected to be at particular risk of adverse impacts associated with any deterioration in air quality. The four stations are all located within or in proximity to areas which are the 20% most deprived areas of England, therefore significant construction or operational air quality impacts at any of the stations may have a disproportionate effect on the various groups with protected characteristics in these areas, by virtue of the local socio-economic deprivation levels.

The likelihood and extent of any significant impacts associated with reduced air quality would need to be assessed at a later stage in scheme design, once further details regarding construction and operation are known.

Table C-7 – Sustainability theme: Socio-economic impacts

Key equality concern: access to employment

Protected characteristic groups: people defined as disabled, BAME groups including lone parent families, people living in the 20% most deprived areas

Issues and Evidence: Disabled people, BAME groups and lone parent families in particular experience much higher levels of unemployment than average.⁷⁵ Transport schemes can potentially provide employment benefits to people with protected characteristics, particularly in areas where unemployment levels are high, through providing jobs (either directly during the construction and operational stages, or indirectly). Such schemes can also have adverse impacts on employment amongst groups with protected characteristics through the displacement of jobs associated with demolition of commercial, retail or industrial property, in cases where businesses are unable to relocate and retain all existing employees, or where people losing jobs are unable to take up employment created elsewhere as a result of the preferred route.

Potential for beneficial or adverse impacts

Western Leg

Manchester Airport station catchment: Between 300 and 700 uplift in jobs associated with commercial development within the station catchment. The station catchment falls partly within the local authority of Manchester which represents a multi-cluster of Asian, Chinese, Black and mixed race jobseekers and partly within the local authority of Trafford which has particularly high proportions of Black and mixed race people jobseekers. There is also a high proportion of people receiving ESA/IC in 2014 in part of the catchment.

Manchester Piccadilly station catchment: approximately 58 commercial or retail properties and one industrial property demolished, with possible associated job displacement. Particularly large proportions of BAME groups in this area (Black African, Black Caribbean and Other Black Asian, Arab,

⁷⁵ Department for Work and Pensions, Working Paper No 68 (2009). [Review of evidence on the impact of economic downturn on disadvantaged groups](#)

mixed race, Indian, Pakistani, Bangladeshi and Chinese people), as well as a particularly high proportion of people receiving ESA/IC in 2014.

Between 29,700 and 42,900 uplift in jobs potentially supported indirectly through regeneration associated with the new station at Manchester Piccadilly.⁷⁶ The station catchment falls entirely within the local authority of Manchester which represents a multi-cluster of Asian, Chinese, Black and mixed race jobseekers.

Eastern Leg

Long Eaton: between 8,800 and 9,900 additional jobs associated with the East Midlands Hub station. Particularly large proportions of BAME groups (Indian, Black and mixed race people) in this area. There is a particularly high proportion of people receiving ESA in 2014 in the Long Eaton area.

Broxtowe: approximately 12 commercial or retail demolitions at Nottingham Business Park. Particularly large proportions of BAME groups (Indian, Pakistani, Chinese and Other Asian people) in this area.

Southern Leeds (south Hunslet): approximately seven commercial or retail demolitions and two industrial demolitions. Particularly large proportions of BAME groups (Indian, Chinese, Pakistani, Bangladeshi, Other Asian, Black African, Arab and mixed race people) in this area. There is a particularly high proportion of people receiving ESA in 2014 in the Beeston Hill area.

Central Leeds: approximately 36 commercial or retail properties demolished with possible associated job displacement. Particularly large proportions of BAME groups in this area (Indian, Chinese, Other Asian, Arab and mixed race people). Between 12,400 and 19,800 uplift in jobs associated with commercial development within the station catchment. The station catchment falls entirely within the local authority of Leeds which has a particularly high proportion of Black and mixed race jobseekers.

Estimates by HS2 Ltd of direct employment have been prepared for HS2 as a whole (Phases One, 2a and 2b). The operational scheme is expected to require an estimated 3,000 permanent jobs⁷⁷. A total of 25,000 private sector jobs are expected to be required to build HS2, with over 1,000 people each year being trained at the new National College for High Speed Rail in Birmingham and Doncaster from 2017⁷⁸. Although there is expected to be a large net increase in jobs associated with the preferred route (both direct and indirect), there may be local loss of jobs associated with the demolition of commercial, retail or industrial property. Consideration will be given at a later stage to the ways in which new jobs will be made accessible to BAME jobseekers and disabled people seeking work, in particular any who may lose their existing jobs as a result of scheme construction.

Key equality concern: loss or impairment of BAME ownership/employee profile business activities

Protected characteristic group: BAME groups

Issues and Evidence: areas with large populations of BAME groups are likely to have relatively high proportions of BAME ownership/employee profile businesses in the local area. Transport schemes might have direct adverse impacts on these businesses as a result of demolition (where business cannot be relocated in a way that maintains or enhances levels of business activity). There may also be indirect beneficial or adverse impacts on trade through changes in the amenity value of surrounding land or change in customer base (either a reduction due to severance of businesses from their customer base, or an increase due to trade from construction workers or scheme users during the operational stage).

⁷⁶ See the socio-economic assessment set out within **Appendix C7** for further information relating to estimates of net increase in jobs relating to regeneration around stations

⁷⁷ 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.

⁷⁸ The figure excludes jobs created in the supply chain and off site (e.g. prefabrication of construction materials or building rolling stock).

Potential for beneficial or adverse impacts

Western Leg

Manchester Airport station catchment: between 300 and 700 uplift in jobs associated with commercial development within the station catchment. The station catchment falls partly within the local authority of Manchester which represents a multi-cluster of Asian, Chinese, Black and mixed race jobseekers and partly within the local authority of Trafford which has particularly high proportions of Black and mixed race people jobseekers.

Manchester Piccadilly station catchment: approximately 58 commercial or retail properties and one industrial property demolished, with possible associated job displacement. Particularly large proportions of BAME groups in this area (Black African, Black Caribbean and Other Black Asian, Arab, mixed race, Indian, Pakistani, Bangladeshi and Chinese people).

Between 29,700 and 42,900 uplift in jobs potentially supported indirectly through regeneration associated with the new station at Manchester Piccadilly.⁷⁹ The station catchment falls entirely within the local authority of Manchester which represents a multi-cluster of Asian, Chinese, Black and mixed race jobseekers.

Eastern Leg

Long Eaton: between 8,800 and 9,900 additional jobs associated with the East Midlands Hubs station. Particularly large proportions of BAME groups (Indian, Black and mixed race people) in this area.

Broxtowe: approximately 12 commercial or retail demolitions at Nottingham Business Park. Particularly large proportions of BAME groups (Indian, Pakistani, Chinese and Other Asian people) in this area.

Southern Leeds (south Hunslet): approximately seven commercial or retail demolitions and two industrial demolitions. Particularly large proportions of BAME groups (Indian, Chinese, Pakistani, Bangladeshi, Other Asian, Black African, Arab and mixed race people) in this area.

Central Leeds: approximately 36 commercial or retail properties demolished with possible associated job displacement. Particularly large proportions of BAME groups in this area (Indian, Chinese, Other Asian, Arab and mixed race people). Between 12,400 and 19,800 uplift in jobs associated with commercial development within the station catchment. The station catchment falls entirely within the local authority of Leeds which has a particularly high proportion of Black and mixed race jobseekers.

Likely permanent adverse impacts on access to BAME ownership/employee profile businesses as a result of isolation or severance have not been assessed at this stage. Temporary adverse impacts may occur during construction however details of construction are not yet known so this would need to be considered at a later stage of scheme development. Impairment of business activities associated with changes in the amenity value of surrounding land would also need to be assessed at a more detailed stage of scheme design.

⁷⁹ See the socio-economic assessment set out within **Appendix C7** for further information relating to estimates of net increase in jobs relating to regeneration around stations



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