The Cambridge South East Transport Order

Transport And Works Act 1992

Transport And Works (Applications And Objections Procedure) (England And Wales) Rules 2006

Equality Impact Assessment

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Cambridge South East Transport (CSET) Phase 2

Equality Impact Assessment

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1 Introduction

This chapter provides introduction to the scheme and details the approach to the Equality Impact Assessment. It further explains the methodology used and the steps taken in the reporting of impacts.

1.1 Overview

1.1.1 Cambridge South East Travel (CSET) scheme, undertaken by Mott MacDonald on behalf of the Greater Cambridge Partnership (GCP) is comprised of a multi-modal Travel Hub near the A11/A1307 junction near Babraham and an 8.5km High-Quality Public Transport (HQPT) route between the A1307/A11/A505 junction and the Cambridge Biomedical Campus (CBC), including high-quality non-motorised user facilities.

1.1.2 The EqIA sets out the requirements of the Equality Act 2010 ('the Equality Act'), and the potential impacts of CSET on people with characteristics protected under this legislation. The findings set out within this report are based on a desk-based review of relevant evidence, equalities interviews with local stakeholders, and available information pertaining to the CSET scheme. The EqIA considers the actual and potential effects (both positive and negative) arising from the scheme. As part of the assessment, the EqIA sets out the mitigation measures being put in place to manage these effects and makes recommendations on how any remaining effects can be managed.

1.2 Overview of Equality Impact Assessment

1.2.1 This EqIA has been undertaken in support of the GCP obligations under UK equality legislation, and in particular the Equality Act. Section 149 of the Equality Act sets out the Public Sector Equality Duty (PSED), as outlined in Figure 1.1. below.

Figure 1.1: Article 149 of the Equality Act 2010: The Public Sector Equality Duty

(1) A public authority must, in the exercise of its functions, have due regard to the need to

(a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;

(b) advance equality of opportunity between persons who share a relevant protected characteristics and persons who do not share it.

(2) A person who is not a public authority but who exercises public functions must, in the exercise of those functions, have due regard to the matters mentioned in subsection (1).

(3) Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, the need to –

(a) remove or minimise disadvantages suffered by persons who share a relevant protected characteristic that are connected to that characteristic;

(b) take steps to meet the needs of persons who share a relevant protected characteristic that are different form the needs of persons who do not share it;

(c) encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.

Source: The Equality Act 2010

1.2.2 The PSED is intended to support good decision-making. It encourages public bodies such as the GCP to understand how different people will be affected by their activities. This helps to ensure policies and services are appropriate and accessible to all and meet different people's needs. The GCP and its partners must have due regard to the aims of the PSED throughout the decision-making process for the development of the site. The process used to do this must take account of the protected characteristics which are identified in Section 1.2.5.

1.2.3 This EqIA utilises evidence from the Community and Human Health chapter of the Environmental Impact Assessment (EIA) and conducts direct analysis of equality groups and proportionality of effects in relation to representation in the study area. In comparison, the EIA Community and Human Health chapter identifies and analyses the impacts on wider community resources, amenities, health and wellbeing of the population. This EqIA also draws on academic and research literature in identifying the effects on groups protected under the Equality Act 2010, which is not within the remit of the EIA chapter.

Assessing equality effects

1.2.4 The PSED does not specify a particular process for considering the likely effects of policies, programmes and projects on different sections of society for public authorities to follow. However, this process is usually undertaken through some form of equality analysis. This can include EqIA.

1.2.5 By understanding the effect of their activities on different people, and how inclusive delivery can support and open up opportunities, public bodies can be more efficient and effective.

Protected characteristics

1.2.6 EqIA provides an analysis of the likely or actual effects of policies or proposals on social groups with the following protected characteristics (as defined by the Equality Act).

Table 1.1: Protected characteristics

Protected characteristic	Equality and Human Rights Commission (EHRC) definition
Age	A person belonging to a particular age (for example 32-year-olds) or range of ages (for example 18- to 30-year-olds)
Disability	A person has a disability if they have a physical or mental impairment which has a substantial and long-term adverse effect on that person's ability to carry out normal day-to-day activities.
Gender reassignment	The process of transitioning from one gender to another.
Marriage and civil partnership	Marriage is a union between a man and a woman or between a same-sex couple. Couples can also have their relationships legally recognised as 'civil partnerships'. Civil partners must not be treated less favourably than married couples (except where permitted by the Equality Act).
Pregnancy and maternity	Pregnancy is the condition of being pregnant or expecting a baby. Maternity refers to the period after the birth and is linked to maternity leave in the employment context. In the non-work context, protection against maternity discrimination is for 26 weeks after giving birth, and this includes treating a woman unfavourably because she is breastfeeding.

Protected characteristic	Equality and Human Rights Commission (EHRC) definition
Race	Refers to the protected characteristic of race. It refers to a group of people defined by their race, colour, and nationality (including citizenship) ethnic or national origins.
Religion and belief	Religion has the meaning usually given to it, but belief includes religious and philosophical beliefs including lack of belief (such as Atheism). Generally, a belief should affect someone's life choices or the way they live for it to be included in the definition.
Sex	A man or woman.
Sexual orientation	Whether a person's sexual attraction is towards their own sex, the opposite sex or to both sexes.

Source: Equality Act, 2010 and Equality and Human Rights Commission, 2019

1.2.7 The analysis determines the likely or actual effects of policies or proposals on social groups by:

- Assessing whether one or more of these groups could experience disproportionate effects or differential effects (over and above the effects likely to be experienced by the rest of the population) as a result of the scheme
- Identifying opportunities to promote equality more effectively
- Developing ways in which any disproportionate negative impacts could be removed or mitigated to prevent any unlawful discrimination and minimise inequality of outcomes.

1.3 Approach

Overall approach to the EqIA

1.3.1 The approach to this EqIA employs the bespoke Mott MacDonald INCLUDE toolkit which follows the following steps:

Tasks undertaken

Understanding the scheme

1.3.2 Review of CSET scheme documentation: A review of documentation associated with the scheme to better understand its overarching objectives, the challenges it aims to address and how it will address them. Documents reviewed include the Outline Business Case (OBC), Environmental Scoping Report, Consultation Report and Construction Environmental Management Plan.

Evidence, distribution and proportionality

1.3.3 Desk-based evidence and literature review: In order to better understand the potential risks and opportunities arising from the scheme, and to identify any associated mitigations and opportunities, relevant published literature from governmental, academic and third sector sources was reviewed. This allowed for the identification of potential risks and opportunities typically associated with the construction and operation of a new transport hub, to understand whether they applied to this scheme.

1.3.4 Demographic analysis of the site and surrounding area: A social and demographic profile of the local population was compiled alongside wider social and demographic data to build a picture of the area in which the scheme is located. This included the review and mapping of local community resources, businesses and residential properties so that potential impacted stakeholders could be identified, particularly in the context of equality impacts.

Stakeholder engagement

1.3.5 Gathering qualitative data: Stakeholders relevant to equalities were identified and engaged using a semi-structured interview guide. Data from interviews was then analysed into key themes to inform the impact assessment.

1.3.6 EIA consultation responses and the CSET Consultation Report[1] were also analysed to gather equality relevant data to further inform the impact assessment.

Impact assessment: equality risks and opportunities

1.3.7 Assessment of potential risks and opportunities: Potential risks and opportunities were examined using the evidence gathered in the stages described above. Assessment of equality risks was undertaken in light of the sensitivity of the affected parties to the scheme, and distribution of people with protected characteristics amongst the population within close proximity to the proposed CSET site. Both risks and opportunities were considered in the context of the implementation of mitigation measures.

Action planning: further recommendations

1.3.8 Making recommendations: Based on the equality risks and opportunities identified, a series of further recommendations were developed, to help manage the construction and operation processes in a way that minimises the potential adverse effects on the local population.

[1] Mott MacDonald (2021): 'CSET Consultation Report'

1.4 Approach to identifying impacts

Assessing impacts

1.4.1 The assessment of impacts across the EqIA process is predominantly qualitative, and describes, where possible and applicable:

1. Whether the impact is positive, negative, or neutral
2. Whether the impact is a direct relationship (e.g. construction noise) or an indirect relationship (e.g. disrupted access to services), affecting lives of people from protected characteristic groups
3. The duration, frequency and permanence of the impacts
4. The severity of the impact and the amount of change relative to the baseline
5. The size of the population experiencing the impact or the extent of usage of a particular affected facility or service
6. Local, regional and national equality priorities
7. The views of local people, captured through consultation and engagement
8. The capacity of the affected groups to absorb the impacts (their resilience), including their access to alternative facilities, resources or services.

Differential effects

1.4.2 Differential effects occur where people with protected characteristics are likely to be affected in a different way ~~to~~ other members of the general population. This may be because groups have specific needs or are susceptible to the impact due to their protected characteristics. These effects are not dependent on the number of people affected.

1.4.3 Desk-based research and stakeholder engagement findings are analysed to explore the potential impact of the scheme. The output of this work identifies those protected characteristic groups that are likely to experience impacts arising from the scheme and explains why.

Disproportionate effects

1.4.4 Disproportionate effects occur where there is likely to be a comparatively greater effect on people from a particular protected characteristic group than on other members of the general population. Disproportionate effects may occur if the affected community comprises ~~of~~ a higher-than-average proportion of people with a particular protected characteristic, or because people from a particular protected characteristic group are the primary users of an affected resource.

1.4.5 Identifying disproportionate effects involves determining the demographic composition of the area where impacts are expected to arise. This identifies the numbers and proportions of people from protected characteristic groups around the scheme study area with Cambridge, South Cambridgeshire, East of England and England as comparators.

1.5 Purpose of this report

1.5.1 It is important that those involved in making decisions understand the full range of potential impacts that any changes could have on the local population. It is particularly important to understand the potential impacts on groups and communities who will be the most sensitive to such changes.

1.5.2 An EqIA examines both potential positive and negative effects of a proposed scheme being implemented. It assesses whether one or more protected characteristic groups could

experience effects over and above the effects likely to be experienced by the rest of the population.

1.5.3 The purpose of this EqIA is to explore the direct and indirect equality impacts associated with the CSET scheme and explore how its wider objectives are likely to affect local communities and future users. Stakeholder engagement will also form the basis of the analysis on needs of communities.

2 CSET scheme context

This chapter provides further context into the CSET scheme and demonstrates local, regional and national policies related to the Scheme.

2.1 Overview

2.1.1 GCP is proposing to procure the construction of infrastructure required to enable a HQPT service to operate between the A11/A1307 junction (near Babraham) and Cambridge. The scheme is known as CSET and is made up of three core elements:

- A new segregated and guided public transport route, with public transport priority measures between the A11 and A1307 junction and Cambridge Biomedical Campus (CBC).
- A new Travel Hub which will be an area where car parking is provided and an interchange with the HQPT will be available.
- New high-quality, non-motorised user facilities.

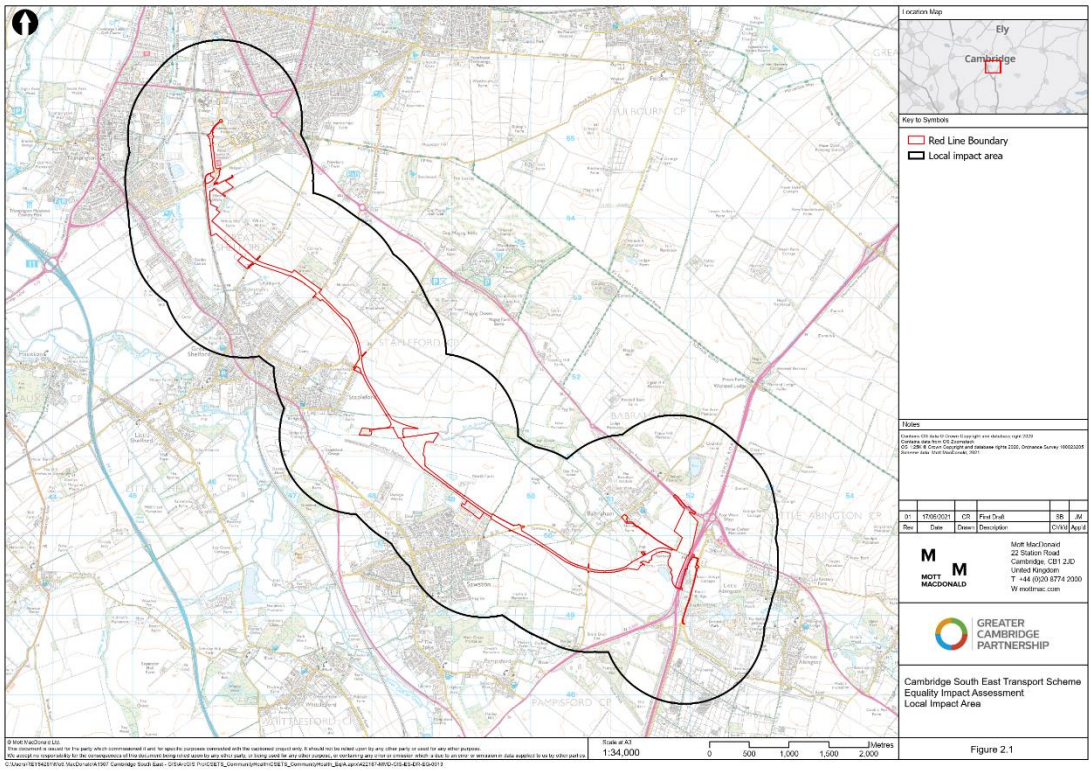
2.1.2 There are a number of sub-elements to the CSET scheme as described below:

- The route used by public transport vehicles, which is independent of the existing road network and is thus follows a segregated alignment
- The emergency and access path that is parallel to the segregated HQPT carriageway, and is designed to also be used by pedestrians, cyclists and equestrians, this is generally referred to as “the active travel path”, or ATP
- “Stops” are the places where passengers can get on or off the HQPT along the route.

2.1.3 The development of the CSET scheme has been underway since 2016. Following the consideration of all of the appraisal perspectives and mechanisms, it was concluded that the Brown route option to the Travel Hub Site B, referred to as the A11 Travel Hub, was the best performing option in terms of both route alignment and Travel Hub site. It performed best under the multi-criteria appraisal process and was the preferred option in public consultation. The Travel Hub Site B will be between Babraham and the A11/A1308 junction, with a HQPT route and ATP linking the Travel Hub to CBC.

2.1.4 The map shown in Figure 2.1 provides an overview of the scheme and the wider area it will be located ~~in~~.

Figure 2.1: CSET area map



2.2 Need for the scheme

2.2.1 The Greater Cambridge city region is facing a variety of complex and interconnected challenges, which are outlined below:

- Population growth: Cambridgeshire's population has grown significantly over the last five years compared to previous decades and the population is expected to grow 28% by 2031. Continued growth and associated increase in journeys made to and from the city will put increasing pressure on the road network, which is already operating beyond its capacity.[2] It should be noted that students represent a significant proportion of population in Cambridgeshire[3], meaning the population can fluctuate according to the university term. The impact of such fluctuations will become more pronounced as the student population continues to grow alongside the expansion of the University of Cambridge and associated facilities.
- Economic growth: Greater Cambridge is a world-leading centre for research, innovation and technology which has led to the 'Cambridge Phenomenon' – a unique ecosystem of bright minds, commerce and local investment. With the University of Cambridge at its heart, the area's scale and connectedness enables overlapping networks to develop and facilitates a culture of co-operation and cross-fertilisation between entrepreneurs and academics. This

[2] Greater Cambridge Partnership (2019): 'About the Greater Cambridge Partnership' Available at: About the Greater Cambridge Partnership - Greater Cambridge Partnership

[3] The city of Cambridge has an estimated population of 129,000, including 25,000 students Cambridge Population 2021 (Demographics, Maps, Graphs) (worldpopulationreview.com)

entrepreneurial environment, and concentration of people focused on science and engineering, is attracting international businesses to invest in the area.

- Planned development: A significant level of development is planned in Greater Cambridge over the Local Plan period of 2011-2031, and one of the largest to be identified to date is the Cambridge Biomedical Campus. Major enhancements to park and ride facilities near M11 J11 will be fundamental to secure the rate of growth anticipated in the Southern Fringe, and specifically the Cambridge Biomedical Campus.
- Employment: Cambridgeshire has a larger proportion of people working in professional, scientific, and technical activities compared with the national average. These jobs require highly skilled professionals, therefore employers in Cambridgeshire must recruit from outside of the immediate area to find individuals who meet the specific requirements of the job roles on offer.
- Traffic and congestion: Large numbers of commuters into Cambridge are already causing congestion problems during peak times. Congestion in Cambridge is a major problem, which threatens the liveability and attractiveness of Cambridge and the wider region to residents, employees and visitors.[4]
- Air pollution: Current levels of traffic and congestion are ~~a~~ large contributor to local air pollution, with transport being accountable for 45% of carbon emissions across Cambridgeshire. Without some form of intervention, the continued growth in traffic in the Greater Cambridge area is expected to worsen air quality.
- Public transport: Outside of Cambridge city centre public transport, cycling and walking infrastructure is not adequate to serve key employment centres, limiting people's access to local opportunities.[5]

2.2.2 The CSET scheme will deliver sustainable infrastructure fundamental to securing the rate of growth anticipated for South East Cambridge. A new public transport route, associated Travel Hub and cycling and walking infrastructure will provide existing, new and growing communities to the south east of Cambridge, in South Cambridgeshire and beyond, with improved access to jobs, services and other opportunities in and around the city.

2.3 Policy context

2.3.1 As well as meeting the requirements of the Equality Act, the following local, regional and national planning and strategy documents have a bearing on this assessment.

National Planning Policy Framework (NPPF)[6]

2.3.2 The NPPF sets out the Government's economic, environmental and social planning policies for England. These policies outline the Government's vision of sustainable development, and "a framework within which locally-prepared plans for housing and other development can be produced".

2.3.3 At national level, the scheme will contribute to several policies within the NPPF:

- **Building a strong and competitive economy**: Helping to create the conditions in which businesses can invest, expand and adapt. Projects, plans and policies should take into account both local and business needs and wider opportunities for development. This

[4] Greater Cambridgeshire Partnership (2019): 'About Greater Cambridge Partnership' Available at: About the Greater Cambridge Partnership - Greater Cambridge Partnership

[5] Greater Cambridge Partnership (2019): 'City access' Available at: City Access - Greater Cambridge Partnership

[6] Ministry of Housing, Communities and Local Government (2021): 'National Planning Policy Framework' Available at: National Planning Policy Framework (publishing.service.gov.uk)

includes recognising and addressing the specific locational requirements of different sectors, making provision for industrial activity and operations at a variety of scales and in suitably accessible locations. Planning policies and decisions should also recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations not well served by public transport. It will be important to ensure that development is sensitive to its surroundings and does not have an unacceptable impact on local roads, whilst improving accessibility on foot, cycling and public transport.

- **Promoting sustainable transport**: Considering transport issues from the earliest stages of plan-making and development proposals, so that:
  - the potential impacts of development on transport networks can be addressed
  - opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised
  - opportunities to promote walking, cycling and public transport use are identified and pursued
  - the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects
  - patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

Cambridgeshire and Peterborough Local Transport Plan[7]

2.3.4 At combined authority level, the CSET scheme will contribute directly to addressing objectives and challenges for Cambridgeshire and Peterborough:

- Accessibility: Promoting social inclusion through the provision of a sustainable transport network that is affordable and accessible for all.
- Resilience: Building a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability.
- Safety: Embedding a safe systems approach to all planning and transport operations to achieve zero fatalities and injuries.
- Health & Wellbeing: Providing ‘healthy streets’ and high-quality public realm that puts people first and promotes active lifestyles.
- Employment: Connecting all new and existing communities sustainably so all residents can easily access jobs by public transport.

Cambridgeshire Local Transport Plan[8]

2.3.5 At regional level, the CSET scheme will contribute directly to addressing various challenges set out in the Local Transport Plan, including:

- Challenge 1: Improving the reliability of journey times by managing demand for road space, where appropriate, and maximising the capacity and efficiency of the existing network.
- Challenge 2: Reducing the length of the commute and the need to travel by private car.
- Challenge 3: Making sustainable modes of transport a viable and attractive alternative to the private car.

[7] Cambridgeshire & Peterborough Combined Authority (2020): ‘The Cambridge & Peterborough Local Transport Plan’
[8] Cambridgeshire County Council (2015): ‘Cambridgeshire Local Transport Plan’

Impact on the Council's strategic priorities

2.3.6 The scheme will directly contribute to several of the South Cambridgeshire District Council's Local Plan priorities[9]:

- Policy S/2: Objectives of the Local Plan
  - Maximising potential for journeys to be undertaken by sustainable modes of transport including walking, cycling, bus and train.
- Policy TI/2: Planning for Sustainable Travel
  - Development must be located and designed to reduce the need to travel, particularly by car, and promote sustainable travel appropriate to its location.
  - Ensuring provision of safe, direct routes within permeable layouts that facilitate and encourage short distance trips by walking and cycling between home and nearby centres of attraction, and to bus stops or railway stations.
  - Ensuring provision of new cycle and walking routes that connect to existing networks, including the wider Public Rights of Way (PRoW) network.
  - Protecting and improving the existing cycle and walking routes, including PRoW network, to ensure the effectiveness and amenity of these routes are maintained.
- Policy TI/3: Parking Provision
  - Providing car parking provision through a design-led approach. Cycle parking should also be provided to at least the minimum standards.
  - Ensuring that the car parking provision will take into consideration the site location, type, car ownership levels, availability of local services, facilities and public transport. This includes ensuring appropriate parking for people with disabilities.
- Policy TI/8 Infrastructure and New Developments: Making suitable arrangements for the improvement or provision of infrastructure necessary to make the scheme acceptable in planning terms.
- Policy TI/9 Education Facilities: Considering local circumstances and places, such as educational facilities, when assessing proposals for education facilities to achieve sustainable development.

2.4 Previous equalities related work

2.4.1 As part of the scheme development, a Department for Transport (DfT) Transport Analysis Guidance (TAG) compliant Social Impact Appraisal (SIA) and Distributional Impact Appraisal (DIA) has been carried out. Population and human health have also been scoped into the Environmental Impact Assessment (EIA). An overview of the findings of these studies is provided below.

Social and Distributional Impact Appraisal

2.4.2 As part of the OBC, a Social Impact Appraisal (SIA) and Distributional Impact Appraisal (DIA) for the scheme were carried out. The SIA assessed the human experience of the scheme and its impact on wider society. Any potential impacts as a result of CSET in relation to the following were assessed:

- Accidents
- Physical activity

[9] South Cambridgeshire District Council (2018): 'South Cambridgeshire Local Plan' Available at: south-cambridgeshire-adopted-local-plan-270918_sml.pdf (scambs.gov.uk)

- Security
- Severance
- Journey quality
- Option and non-use values
- Accessibility
- Personal affordability

2.4.3 For the SIA, methods prescribed in WebTAG Unit A4.1 were used as a guide to appraise the scheme and to determine any beneficial or adverse impact. Where this wasn't possible due to a lack of quantifiable data, appraisal was based on qualitative data. Results of the SIA were used to highlight differences between several different scheme options that were present at the OBC stage. In summary, CSET is likely to substantially increase the availability of transport services, whilst delivering improvements to physical activity, security, traffic reduction and journey quality in the local area. SIA findings are summarised in the Table below.

Table 2.1: Summary of SIA findings

Impact area	Effect
Accidents	Slight beneficial effect
Physical activity	Moderate beneficial effect
Security	Moderate beneficial effect
Severance	Moderate beneficial effect
Journey quality	Moderate beneficial effect
Option and non-use values[10]	Large beneficial effect
Accessibility	Slight beneficial effect
Personal affordability	Neutral

2.4.4 Following the SIA, a DIA was carried out using the methods prescribed in WebTAG Unit A4.2. The DIA considered the variance of the scheme's impact across different social groups, determining whether any groups are likely to be disproportionately affected. The specific social groups assessed include children, older people, disabled people, ethnic minorities in the UK, people without access to a car and people on low incomes.

2.4.5 Both beneficial and adverse distributional impacts were considered and given an overall appraisal. Any potential impacts as a result of CSET in relation to the following were assessed:

- User benefits
- Noise levels and air quality
- Accidents
- Severance
- Security
- Accessibility of public transport
- Personal affordability

[10] Option and non-use values is a criterion used in the Department for Transport's TAG Unit A4.1 Social Impact Appraisal. Option and non-use values is assessed if the scheme being appraised includes measures that will substantially change the availability of transport services within the study area. An option value is the willingness-to-pay to preserve the option of using a transport service.

Table 2.2: Summary of DIA findings

Impact area	Effect
User benefits	Moderate beneficial effect
Noise levels and air quality	Scoped out effect
Accidents	Moderate beneficial effect
Severance	Moderate beneficial effect
Security	Moderate beneficial effect
Accessibility of public transport	Moderate beneficial effect
Personal affordability	Neutral

Population and human health scoping

2.4.6 The EIA scoping report sets out the scheme proposals and undertakes an initial scoping of the potential impacts of the scheme. Both construction and operation impacts are scoped in for relevant topics of population and human health. Community impacts are likely to include impact on private property, walking, cycling and equestrian routes and community resources within 500m of the scheme. Health impacts are also scoped in and are largely related to air quality and noise issues. The scoping opinion received from the DfT in November 2020 also states that consideration should be given to Community and Human Health in relation to access to open space, access to healthcare facilities, operational noise and health impacts.

2.4.7 The findings of the EIA scoping report include the following:

- Impacts on pedestrians, cyclists and equestrians are anticipated in relation to the construction of the Scheme
- Provision of public and active transport between Babraham and Cambridge is also likely to enhance access to employment sites and benefit journeys.
- Impacts on the local economy and employment are anticipated to arise in relation to job creation and employment opportunities for the local population
- No residential and community land will be lost as a result of the CSET scheme
- Access to residential properties and businesses is not expected to be impacted during the operation of the Scheme

3 Literature review

This section presents the findings of a desk-based review of wider evidence and literature relating to the interaction of equality issues with transport infrastructure schemes. The findings have been provided thematically to demonstrate the potential impact associated with the CSET scheme. In line with the Equality Act, where these impacts are more likely to affect those with a protected characteristic, this has been highlighted.

3.1 Changes to noise exposure associated with the scheme

3.1.1 CSET has the potential to change noise levels in both construction and operation phases. Changes in exposure to noise has been linked to health outcomes for children, older people and disabled people as these groups are vulnerable to such changes.

3.1.2 Changes in noise levels in proximity to community facilities used by children, such as schools and nurseries, can negatively impact their concentration and long-term cognitive development. Longitudinal studies on the impact of unwanted noise on children and infants also show that increased noise exposure can adversely impact children's psychological and physiological wellbeing, sleep quality and long-term memory. Children are especially vulnerable as they may be unable to recognise or cope with dangerous noise levels, and because they are in a critical period of cognitive development and learning.[11]

3.1.3 The health impacts of increased noise exposure on older people include cardiovascular disease, sleep deprivation, stress and anxiety. Prolonged exposure to construction and transportation noise can cause a higher prevalence of cardiovascular disease, stroke and dementia in affected communities. For example, research on noise levels and health outcomes in London shows that older people living near noisy roads may have increased stroke risk.[12]

3.1.4 Disabled people are also particularly susceptible to change in noise levels. For example, an increase in noise can affect people with learning disabilities and lead to challenging behaviours. Individuals with mental health conditions have been found to be especially sensitive to health effects associated with an increase in noise levels, such as sleep disturbance, annoyance and stress. Noise may also discourage disabled people from participating in activities outside home, leading to social isolation.[13]

3.2 Changes to air quality associated with the scheme

3.2.1 During the construction and operation phases, CSET has the potential to change air quality levels in the local area. Any change in air quality levels can differentially impact children, older people, disabled people and those who are pregnant, due to the particular sensitivity for these groups to air pollution and particulate matter concentrations.

3.2.2 There is a direct relationship between health, air quality and transport infrastructure. Research undertaken by the Royal College of Physicians estimates that 40,000 deaths every year in the UK are attributable to exposure to outdoor air pollution.[14] According to the Department for Environment, Food and Rural Affairs (DEFRA), 'poor air quality is currently the largest

[11] Stansfield, S. and Clark, C. (2015) 'Health effects of noise exposure on children'
[12] NHS (2015): 'Elderly living near noisy roads have increased stroke risk'
[13] NCBI (2016): 'Environmental noise annoyance and mental health in adults: findings from the cross-sectional German health update study'
[14] Royal College of Physicians (2016): 'Every breath we take: the lifelong impact of air pollution'

environmental risk to public health in the UK'.[15] The concentration of air pollutants tends to be highest in towns and cities, and road transport is a major source of emissions such as hydrogen oxide (35% of total emissions) and particulate matter.[16]

3.2.3 Children have faster breathing rates and their lungs are still developing which can make them more susceptible to changes in particulate matter concentrations in the air. Children can therefore be negatively affected by reduced air quality. Children are also more likely to spend time outdoors, where changes in air quality and pollution levels are greatest. [17]

3.2.4 Guidance published by DEFRA highlights that older people are more likely to have respiratory or cardiovascular illness when compared to other age groups, making them more susceptible to the effects of reduced air quality.[18] Those with certain conditions, such as Chronic Obstructive Pulmonary Disorder (COPD), are particularly at risk. COPD occurs most often in older adults and can also affect people in middle age. Older people are also more susceptible to respiratory diseases such as lung cancer, asthma and silicosis.[19]

3.2.5 Disabled people with heart or lung conditions are particularly vulnerable to, and may experience, serious negative health outcomes linked to reduced air quality.[20]

3.2.6 Those who are pregnant living in areas with poor air quality are at risk of giving birth to a baby with a low birthweight, which can lead to an increased risk of the child developing a chronic disease in later life.[21] Research conducted by Royal College of Physicians indicates that air pollution may negatively impact upon the growth, brain development and weight of babies in the womb.[22]

3.2.7 People who live in deprived areas can be more susceptible to the impacts of air pollution, potentially because they tend to be in poorer health than the rest of the population.[23] The vulnerability of this group may also be because more deprived areas are often closer to busy roads in large urban areas.[24] For those living in deprived areas, poor housing, and often a lack of access to green spaces, may also increase their time spent in areas with high levels of air pollution. [25]

3.2.8 People from all ethnic minority groups except Indian, Chinese, White Irish and White Other groups are more likely than White British people to live in the most overall deprived 10% of neighbourhoods in England.[26] Asian people as a whole (15.7%) are the most likely out of all ethnic groups to live in the most deprived neighbourhoods, followed by Black people (15.2%). White people are the least likely to live in the most deprived neighbourhoods (9.0%).[27]

3.3 Changes to the landscape and visual environment associated with the scheme

3.3.1 During the construction and operation phases of CSET there is a potential change to the landscape and local visual environment as a result of the new infrastructure being provided.

[15] DEFRA (2018): 'Clean air strategy'
[16] DEFRA (2019): 'Air quality: Explaining air pollution – at a glance'
[17] Asthma UK (2020): 'Air pollution and asthma'
[18] DEFRA (2013): 'Effects of air pollution'
[19] DEFRA (2013): 'Guide to UK air pollution information resources'
[20] Department for Environmental Food and Rural Affairs (2013): 'Guide to UK Air Pollution Information Resources'
[21] Franklin et al. (2019): 'Maternal exposure to indoor air pollution and birth outcomes'
[22] Royal College of Physicians (2016): 'Every breath we take: the lifelong impact of air pollution'
[23] British Lung Foundation (2016): 'How air pollution affects your children's lungs'; Public Health England (2018) Health matters: Air pollution'
[24] Greater London Assembly (date unknown): 'Health and exposure to pollution'
[25] Royal College of Physicians (2016): 'Every breath we take: The lifelong impact of air pollution'
[26] The most overall deprived 10% of neighbourhoods are measured based on the index of multiple deprivation, which combines 7 types of deprivation
[27] Ministry of Housing, Communities and Local Government (2020): 'People living in deprived neighbourhoods'

Such changes may impact groups particularly sensitive to the changes in visual stimuli including older people and disabled people, particularly those with autism.

3.3.2 As people age, visual acuity tends to worsen, increasing the risk of eye disorders such as cataracts.[28] Due to sensory changes, eyes become more sensitive to glare which can make reflective and shiny surfaces difficult, and even painful, to see clearly.[29] Older people are therefore more likely to be more sensitive to light pollution and rapid visual changes around them.

3.3.3 Research has shown that almost 90% of children with autism spectrum conditions develop atypical sensory experience, which can involve hypersensitivity to visual stimuli.[30] This results in more detail-focused perception in people with autism, so that any minor visual change might have a detrimental impact on quality of life and socio-psychological wellbeing.[31]

3.4 Potential changes in traffic flow as a result of the scheme

3.4.1 CSET has the potential to change traffic congestion and vehicle movements during construction and operation. Any potential increase in traffic is associated with severance for both pedestrians and road users, affecting the general use of the public realm. This can differentially impact children, older people and disabled people.

3.4.2 Changes in road traffic levels may reduce access to community and recreational facilities due to road severance and traffic delays.[32] Increased traffic in proximity to schools, or community facilities that are frequently used by children can also impact their concentration and long-term cognitive development.[33]

3.4.3 Changes to surface transport resulting from CSET may affect how older people interact with community facilities.[34] Older people may find it difficult to access public spaces further away from their home or integrate into new social networks, which could be required as a consequence of severance caused by increases in road traffic.[35] This is because mobility declines in older people, resulting in living and travelling in the most accessible and immediate vicinity.[36]

3.4.4 Research shows that the presence of vehicular traffic can present a barrier for disabled people accessing community resources. National Travel Survey data shows disabled people are generally more likely to experience travel difficulties in the daily trips that they make. [37] Disabled people who travel by car are more likely to report difficulties due to congestion and roadworks, especially when the severity of the disability the person is experiencing increases.[38] Changes to transport networks and road alignment can act as a barrier for disabled people wanting to access community facilities, exacerbating issues such as loneliness and social isolation. [39]

[28] Harvard Medical School (2014): 'How our senses change with age' Available at: https://www.health.harvard.edu/aging/how-our-senses-change-with-age
[29] Sensory Trust (2017): 'Designing landscapes for older people' Available at: https://www.sensorytrust.org.uk/resources/guidance/designing-age-friendly-landscapes
[30] Robertson, C.E and Baron-Cohen, S. (2017): 'Sensory perception in autism' Available at: http://docs.autismresearchcentre.com/papers/2017_Robertson_Sensory-perception-in-autism.pdf
[31] Bakroon, A. and Lakshminarayanan, V. (2016): 'Visual function in autism spectrum disorders: a critical review'
[32] Hiscock, R. and Mitchell, R (2011): 'What is needed to deliver places that provide good health to children?'
[33] Institute of Education (2001): 'The effect of travel modes on children's mental health, cognitive and social development: a systematic review'
[34] DfT (2017): Health impact analysis for the draft Airports National Policy Statement'
[35] NatCen (2019): 'Transport, health and wellbeing: an evidence review for the Department for Transport'
[36] Noon, R and Ayalon, L (2018): 'Older adults in public open spaces: age and gender segregation'
[37] Department for Transport (2019): 'National Travel Survey: 2018'
[38] Department for Transport (2017) 'Disabled people's travel behaviour and attitudes to travel'
[39] Equality and Human Rights Commission (2017): 'Being disabled in Britain: a journey less equal'

3.5 Changes to the pedestrian environment associated with the scheme

3.5.1 Changes to the pedestrian environment may impact several equality groups including disabled people, children, older people, women and lesbian, gay, bisexual and trans (LGBT+) people.

3.5.2 Disabled people can experience challenges in accessing community resources, services and opportunities for social interaction when compared to other sections of the population.[40] This may be due to challenges in navigating the physical environment and pedestrian routes. Any change in pedestrian infrastructure therefore has the potential to make people with mobility differences less independent.[41] Evidence also suggests that having a sensory impairment or disability such as visual and hearing impairment can be a further barrier in accessing bus stops or the pedestrian environment around bus stops.[42]

3.5.3 Children, along with older people, are more dependent on walking than other age groups. [43] Children's limited choice of travel mode means they are more likely to be pedestrians. However, pedestrian injury is the leading cause of accidental death among children in the UK, with an average of one death and 37 seriously injured children every week due to pedestrian accidents.[44]

3.5.4 With age, people are increasingly likely to give up driving due to loss of sensory cognition such as eyesight and reaction time. Older people are therefore more likely to travel on foot to access social contacts and interact with their community in their daily lives. Research findings from a cross sectional study on ageing and pedestrian behaviour in the UK show that the majority of older pedestrians are unable to cross the road safely and in good time.[45] According to the same study, 93% of women and 84% of men aged 65 years and above could either not walk safely or had a walking speed which was too slow to cross the road in good time. Therefore, older people are generally considered to be one of the most at-risk pedestrian groups.[46]

3.5.5 In terms of the pedestrian environment, the upkeep of streets and the design of the environment are recognised as common barriers older people, parents and carers with young children and pregnant people face when using the public realm. Uneven surfaces, steeps hills and a lack of places to rest have been cited in research as reasons older people feel anxious about walking.[47] Further research has highlighted other physical barriers such as high kerbs and holes in pavements as challenges faced by older people in accessing the public realm.[48]

3.6 Impacts on feelings of personal safety and security as a result of the scheme

3.6.1 CSET has the potential to change feelings of personal safety and security in both the construction and operation phases. The design of the Travel Hub itself may impact feelings of safety and security as well as use of the park and ride services it offers. Young people, older people, disabled people, ethnic minorities, LGBT+ people, women and men, are vulnerable to such changes.

[40] Office for National Statistics (2015): 'Life opportunities survey'
[41] NatCen (2019): 'Transport, health and wellbeing: an evidence review for the Department for Transport'
[42] Social Exclusion Unit (2003): 'Making the connections; final report on transport and social exclusion'
[43] British Youth Council (2012): 'Transport and Young People'
[44] DfT (2018): 'Reported road casualties in Great Britain: 2017 annual report'
[45] Tournier et al (2016): 'Review of safety and mobility issues among older pedestrians' Available at: https://core.ac.uk/download/pdf/191699946.pdf
[46] Tournier et al (2016): 'Review of safety and mobility issues among older pedestrians'
[47] TfL (2016): 'Older Londoners' perceptions of London streets and the public realm: Final report'
[48] Wennberg, H. Phillips, J. and Stahl, A. (2017): 'How older people as pedestrians perceive the outdoor environment: Methodological issues derived from studies in two European countries'

3.6.2 The fear of crime is the anxiety people feel about potentially being a victim of crime. It does not necessarily relate to the probability of being a victim of crime, but instead can be influenced by external factors and narratives.

3.6.3 Empirical research evidence has revealed that young people are most likely to be involved in crime on public transport. They are particularly likely to both commit and be victims of low-level disorder and anti-social behaviour. As a result, young people are likely to see public transport as a hostile environment.[49]

3.6.4 Women are more likely to have security concerns as pedestrians than men, with almost two-thirds of women in the UK feeling unsafe walking alone.[50] This is due to both the real and perceived risk of abuse, harassment or general feeling of unsafety due to poor lighting or visibility.[51] Walkability of a neighbourhood is a fundamental factor in influencing the safety perceptions of women, influenced by lighting, clear signage and safety procedures.[52] Therefore, potential changes to the local pedestrian environment are particularly likely to affect women.

3.6.5 The transitory nature of public transport is arguably a factor that influences the types of crime that occur within transport networks. Women are more likely than men to experience unwanted sexual behaviour while travelling on public transport, and perhaps as a result of this fact, are more likely to experience moments of concern or worry. [53] Evidence suggests that women are more likely to exercise caution when travelling. They are more likely to travel on familiar routes or journeys, and when this is not possible women are more likely to seek advice or do pre-travel research to feel more reassured.[54] According to data from the European Social Survey, 32% of women in the UK feel unsafe walking at night, which is significantly higher than the average of just 13% for men, highlighting the gender disparity.[55] Research published by Neighbourhood Watch draws on a survey that the organisation conducted. The survey highlighted the difference between men and women in terms of feelings of safety and street lighting. When walking in a badly lit neighbourhood, women were considerably more likely to report feeling ‘very unsafe’ (48%) when compared to men (19%).[56]

3.6.6 Research shows that women’s feelings of safety can have a direct effect on their travel behaviours and use of public transport. For example, a recent gender and mobility survey shows that 64% of women (compared to 57% of men) said the distance to a station or stop from their home influences their choice of public transportation. A third of women are influenced by whether they feel secure at the station (33 percent) and on-board transport (35 percent), compared to 28 percent and 29 percent of men respectively.[57]

3.6.7 Young men, aged 16 to 19 in particular, are more likely to be victims of crime on the public transport network compared to all other groups. Despite this, research has shown that men are less fearful of crime than women. Of types of crime that are feared by men, violent crime, and particularly confrontation and assault by other groups of men, was stated as being one of the most commonly feared crimes.[58]

[49] British Transport Police Authority (2008): ‘Fear of crime and concerns about personal safety on the rail network: Summary of findings from existing research: 2008 update’
[50] Plan International (2016): ‘Almost two thirds of women feel unsafe walking alone after dark’
[51] International Transport Forum (2018): ‘Women’s safety and security: a public transport priority’
[52] Department for Transport (2020) ‘ TAG Unit A4.1: Social Impact Appraisal’
[53] TfL (2013): ’Attitudes to safety and security: Annual report’
[54] Susilo, Y. and Cats, O. (2014): ’Exploring key determinants of travel satisfaction for multi-modal trips by different traveller groups’
[55] City, University of London (2021): ‘Survey shows 32% of British women don’t feel safe walking alone at night’
[56] Neighbourhood Watch (2013): ‘Street lighting and perceptions of safety survey, November 2013’
[57] Ramboll (2020): ‘Gender and (Smart) Mobility’
[58] British Transport Police Authority (2008): ‘Fear of crime and concerns about personal safety on the rail network: Summary of findings from existing research: 2008 update’

3.6.8 Research has highlighted that older people are likely to feel more vulnerable at night. A Department for Transport study found that older people feel most at risk during 'walking and waiting' elements of trips that they make. A proposed solution to this was to increase the use of good quality street lighting to contribute towards a safer travel environment after dark. Research has found that older people are concerned about travelling on overpasses, as they are often quieter areas where a greater fear of crime was felt.

3.6.9 According to Transport for London (TfL), ethnic minorities are more likely to have concerns around personal security when using public transport than White people, with 33% reporting to feeling 'very' or 'quite' worried. [59] The level of worry rises to 40% among Asian people. This is because ethnic minorities are more likely to experience specific worrying incidents, such as racial attacks, when using public transport.[60]

3.6.10 Research into fear of hate crime found that 26% of LGBT+ people avoid certain streets because they don't feel safe there, with over 50% of LGBT+ people having been the victim of a hate crime in the last 12 months. Hence, feelings of safety are important to consider when looking at the pedestrian travel patterns of LGBT+ people. Data from the Home Office shows that hate crimes relating to a person's sexual orientation has increased year on year.[61] Although this does not specifically focus on experiences when using public transport, it shows that crime against people with this shared characteristic is increasing. It should be noted that people's sexual orientation may factor into their decisions and travel behaviour.

3.7 Impact on social isolation due to public transport connectivity

3.7.1 The CSET scheme has the potential to make Cambridge city centre more accessible, which may disproportionately impact older people and disabled people.

3.7.2 Research from the Age UK highlighted that almost half of older people in England often feel lonely and socially isolated.[62] Transport plays a key role in keeping older people socially connected and maintaining their quality of life.[63] Evidence suggests that well connected areas, neighbourhoods and communities can provide social support networks, helping to reduce social isolation and improve peoples' well-being.[64]

3.7.3 The population in Cambridgeshire is expected to age substantially by 2026, with the number of people aged over 90 years forecast to more than double, and the number of people in their 80s to rise by more than 50%. The higher the proportion of older people in the general population, the higher the likelihood of people experiencing social isolation at any point in time.[65] Poor transport provision can be a barrier to older people maintaining and accessing new social connections, implying enhanced transport services could help to reduce social isolation.[66]

3.7.4 Evidence shows that over half of disabled people have reported feeling lonely.[67] Improving accessibility of the local transport system could help disabled people maintain and establish social connections. Research by the Office for National Statistics found that people in the UK with a learning or physical impairment tend to have lower levels of social contact compared to the rest of the population. The research also suggests that most disabled adults in the UK

[59] Transport for London (2019): 'Travel in London: Understanding our diverse communities: summary of existing research'
[60] Transport for London (2019): 'Travel in London: Understanding our diverse communities: summary of existing research'
[61] Home Office (2018): 'Hate crime, England and Wales, 2017/18'
[62] Age UK (2018): 'All the lonely people' Available at: loneliness-report_final_2409.pdf (ageuk.org.uk)
[63] Shrestha, B.P, Millionig, A., Hounsell, N.B. and McDonald, M. (2016): 'Review of public transport needs of older people in European Context'
[64] HM Government (2018): 'A connected society: a strategy for tackling loneliness' Available at: DDCMS Loneliness Strategy (publishing.service.gov.uk)
[65] Cambridgeshire County Council (2014): 'Joint strategic needs assessment: older peoples mental health'
[66] Age UK (2015): 'Promising approaches to reducing loneliness and isolation in later life'
[67] Mencap (2020): Friendships – research and statistics' Available at: Learning Disability - Friendships and Socialising Stats Mencap

experience participation restriction regarding leisure activities, particularly spending time with family and visiting friends. The research also notes how the degree of social isolation experienced by disabled people varies with age and the specific impairment(s) or severity of the impairment(s).

3.8 Improved access to employment opportunities during operation of the scheme

3.8.1 The CSET scheme has the potential to improve access to Cambridge city centre and CBC, which is likely to support future economic growth by improving the access to employment opportunities for people living in surrounding areas. This may disproportionately impact unemployed people, who are more likely to be young, from ethnic minorities and/or disabled.

3.8.2 Research shows that youth unemployment has consistently been an issue in the UK for around a decade. The unemployment rate for young people aged 16 to 24 is proportionately higher when compared with other age groups. [68] Therefore, any improvements to the accessibility of employment opportunities as a result of the CSET scheme has the potential to positively impact this group.

3.8.3 Ethnic minorities are disproportionately represented amongst the unemployed.[69] Analysis of unemployment trends highlights that the rate of national unemployment is typically almost 8% for ethnic minority groups compared with 4% White British people.[70] Therefore, any improvements to the accessibility of employment opportunities as a result of CSET scheme has the potential to positively impact people from ethnic minorities backgrounds.

3.8.4 According to the latest data, disabled people are over a third less likely to be employed than non-disabled people in the UK. Disabled people have an employment rate that is 28% lower than that of people who are not disabled, indicating the national disability employment gap.

3.9 Potential generation of employment associated with the scheme

3.9.1 The CSET scheme has the potential to bring new employment opportunities in both the construction and operation phases. A construction workforce will be required to deliver the infrastructure necessary for the scheme, whilst operational staff associated with running the Travel Hub and associated bus services will also be required.

3.9.2 As construction is a male dominated sector, with 99% of all construction workers on site being men[71], men are more likely than women to benefit from the generation of employment associated with the scheme.

3.9.3 Young people, ethnic minorities and disabled people are disproportionately represented as unemployed, as outlined in section 3.8 above. A potential increase in employment opportunities is therefore likely to benefit these groups more than the average population.

3.10 Presence of construction workforce in the local area

3.10.1 The scheme will require an increase in construction workers in the local area. Construction worker presence in communities, including the potential need for construction worker accommodation, may give rise to groups feeling unsettled as they perceive the composition of their local community to be subject to change. Such effects are most likely to be felt by those

[68] EY Foundation (2016): 'The employment landscape for young people in the UK'
[69] Runnymede Trust (2016): 'Ethnic inequalities in London: Capital for all'
[70] UK Government (2019): 'Unemployment: ethnicity facts and figures'
[71] The Women's Organisation (2019): 'How can we encourage more women into the construction sector?'

living adjacent to construction sites, or by those who use local community facilities near construction sites.

3.10.2 Older people may be impacted as the presence of construction workers into community life could negatively alter their perceptions of social capital. [72] Any reduction in social capital has the potential to affect the use of community facilities and wellbeing of older people as a result.[73] As older people are more likely to experience loneliness and isolation, reduced use of community facilities may further exacerbate these social issues.[74]

3.10.3 As disabled people are more likely to face social isolation, this group may be disproportionately impacted by any changes in access to community facilities as a result of construction workers being present. A report by the Jo Cox Commission for Loneliness found that over half of disabled people report feeling lonely.[75]

3.10.4 Perception of personal safety of women may decrease due to the presence of a construction workforce around the scheme area. Research by International Transport Forum showed that women are more likely to fear being threatened by members of the opposite sex in public spaces and public transport. [76] Therefore, the introduction of predominantly male construction workers into the local area may lead to a reduction of women's perception of safety.[77]

3.11 Enhanced access to public transport due to the scheme

3.11.1 The CSET scheme will change public transport routes between Babraham and Cambridge. Changes in public transport routes might impact equality groups that are more likely to be dependent on public transport such as children, young people, ethnic minorities, disabled people and older people.

3.11.2 Children and young people are generally more dependent on public transport services due to not being able to access cars independently.[78] Any change in public transport routes or the timing of services may affect the accessibility of public transport services for this group. [79]

3.11.3 People from ethnic minorities backgrounds are less likely to own cars or hold a driving license, and are therefore more likely to be dependent on public transportation.[80] A 2020 survey by the Runnymede Trust shows that ethnic minorities are twice as likely to use public transport than White people.[81] Any changes to the accessibility to transport services are likely to disproportionately impact ethnic minorities in the area.

3.11.4 Disabled people generally have fewer travel options compared to non-disabled people. In total, approximately 38% of all people with mobility difficulties are drivers, and approximately 40% have no access to a private vehicle at all. Therefore, disabled people are more reliant on public transport.[82]

[72] Social capital is defined by the Organisation for Economic Co-operation and Development as "networks together with shared norms, values and understandings that facilitate co-operation within or among groups"; HS2 (2018): 'High Speed Rail (Crewe to Manchester and West Midlands to Leeds) Working Draft Environmental Statement'

[73] Graham et al (2018): 'The experiences of everyday travel for older people in rural areas: A systematic review of UK qualitative studies'
[74] HS2 (2018): High Speed Rail Working Draft Environmental Statement
[75] Jo Cox Commission on Loneliness (2017): 'Combatting loneliness one conversation at a time'
[76] International Transport Forum (2018): 'Women's safety and security: a public transport priority'
[77] International Transport Forum (2018): 'Women's safety and security: a public transport priority'
[78] Department for Transport (2013): 'Valuing the social impacts of public transport'
[79] Department for Transport (2013): 'Valuing the social impacts of public transport
[80] Government Office for Science (2019): 'Inequalities in mobility and access in the UK transport system'
[81] Runnymede Trust (2020): 'Over-exposed and under protected: the devastating impact of COVID-19 on BAME communities in Great Britain'

[82] Government Office for Science (2019): 'Inequalities in mobility and access in the UK transport system'

3.11.5 Disabled people and older people can be entitled to concessionary travel passes, particularly on the bus network. This incentive may encourage these groups to use the public transport network, making them regular users and therefore more likely to be impacted by changes to public transport routes and provision.[83]

3.11.6 In terms of availability, it is important that public transport is available in close proximity to residential areas, community resources, and other destinations, with service times and frequencies designed to meet user requirements.[84] Older people can experience challenges depending on the location of points of access to the transport network, such as bus stops and station interchanges, which might not be within easy reach of where they live and the location they wish to get to. Older people may also be dependent on public transport provision that corresponds to increased demand during morning and afternoon in line with working hours, potentially not suiting those who need to travel outside peak times.[85]

3.12 Improved access to active travel options during the scheme construction

3.12.1 The CSET scheme has the potential to change active travel routes and alignment, which may impact children, young people, older people, disabled people, ethnic minorities and people who live in deprived areas.

3.12.2 A move to more sustainable and healthy travel will have numerous benefits for people living in the UK. Currently nearly half of all journeys that are less than two miles are made by car.[86] The amount of people walking has decreased and the UK has moved towards a culture of car dependency.[87] The promotion of sustainable transport and active travel encourages the use of healthier and more environmentally friendly modes of travel such as walking, cycling and using public transport.

3.12.3 Active transport, such as walking and cycling, can reduce air pollution by providing an alternative to pollution emitting vehicles. According to DfT, active transportation based on thoughtful urban design can create active, healthier, and more liveable communities.[88]

3.12.4 There are many benefits for children and young people if they take up active transport, as opposed to other modes of transport. One of these benefits is reduced childhood obesity.[89] This is particularly important as nearly a third of two to 15-year olds in the UK are currently overweight or obese, with young people more likely to stay obese for longer.[90]

3.12.5 Promoting active travel among children also aids development of certain cognitive and physical skills, vital for a child's growth.[91] For children who are unable to move around safely and independently, it is likely they will become dependent on their parents to meet their mobility needs. Therefore, children might become less active, preventing the myriad of health benefits active travel may bring, including musculoskeletal development, mental wellbeing and behavioural development.[92]

[83] Department for Transport (2018): 'Transport Statistics Great Britain 2018'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/787488/tsgb-2018-report-summaries.pdf
[84] Shrestha, B.P. (2017): 'Review of public transport needs of older people in European Context'
[85] Shrestha, B.P. (2017): 'Review of public transport needs of older people in European Context'
[86] DfT (2013): 'National Travel Survey'
[87] DfT (2013): 'National Travel Survey'
[88] DfT (2016): 'Cycling and walking investment strategy'
[89] Public Health England (2013): 'Obesity and the environment: increasing physical activity and active travel'
[90] Department for Health and Social Care (2017): 'Childhood obesity: A plan for action'
[91] Public Health England (2016): 'Working together to promote active travel: a briefing for local authorities'
[92] National Center for Biotechnology Information (2013): 'Educating the student body: taking physical activity and physical education to school'

3.12.6 Older people are less likely to use active transport modes such as walking and cycling, when compared to young people and children.[93] In the UK, cycling rates steadily decline as people get older. For instance, the share of journeys made by cycling in the UK decreases from 1.8% for those aged between 40 and 49, to 0.8% for those aged 70 and over. This is often due to reduced mobility and increased safety concerns when cycling, including in relation to a lack of safe infrastructure. However, cycling has the potential to contribute to active aging and the wellbeing of the population.

3.12.7 Currently, cycling infrastructure does not account for the needs of disabled people, creating further barriers and inequalities for people with disabilities.[94] It is important to recognise that different impairments could mean that people have different cycling abilities – some may need extra space for bike parking, while others may need more space for dismounting.[95] For people who take part in para-cycling, where the cyclist propels the bike using their arms, cycle lanes may be too narrow, or not suitable for certain types of adjusted bicycles due to distance from traffic or tight corners.[96] Empirical evidence shows that disabled cyclists are more likely to participate in active travel if provision of accessible facilities and reasonable adjustment are taken into account in planning.[97]

3.12.8 Research evidence suggests that people from ethnic minorities are currently less likely to participate in active travel modes.[98] For example, White adults in England walk the most for leisure whilst Asian and Black adults walk the least. White adults and those with mixed ethnicity cycle the most, whilst Asian adults cycle the least.[99] This highlights the different rates of active travel participation between people from various ethnic backgrounds.

3.12.9 Increasing promotion and provision of active transport is likely to directly benefit people who reside in deprived areas by improving the local air quality and improving their health and wellbeing.[100] For example, obesity rates for children are highest amongst those in deprived areas. According to the Department for Health and Social Care, children aged five from the poorest income groups in the UK are twice as likely to be obese compared to their most well off counterparts, and children aged 11 are three times as likely to be obese.[101] Active transport, therefore, not only improves the health and wellbeing of people from the poorest income groups, but can also help to reduce health inequalities more widely.

3.13 Potential impacts on open space and green belt land

3.13.1 The CSET scheme will impact the local open space and green belt land along the route. Any change in green open space is likely to impact children, disabled people (including people with mental health problems), older people and young people.

3.13.2 According to Public Health England, there is a positive association between a greener living environment and mental health outcomes in children and young people, such as improved emotional wellbeing, reduced stress, improved resilience and higher health-related quality of life.[102] Natural England data also shows that children and young people spend time outdoors more regularly than adults aged 25 and over.[103] Older people living in neighbourhoods with

[93] Sport England (2019): 'Active travel & physical activity: evidence review'
[94] Andrews, N., Clement, I. and Aldred, R. (2017): 'Invisible cyclists? Disabled people and cycle planning – A case study of London'
[95] Andrews, N., Clement, I. and Aldred, R. (2017): 'Invisible cyclists? Disabled people and cycle planning – A case study of London'
[96] Clayton, W. and Parkin, J. (2015): 'Cycling and disability: A review'
[97] Wheels for Wellbeing (2019): 'A guide to inclusive cycling'
[98] Goodman, A. and Alred, R. (2019): 'Inequalities in utility and leisure cycling in England, and variation by local cycling prevalence'
[99] DfT (2016): 'Walking and cycling statistics in England'
[100] Goodman, A. and Alred, R. (2019): 'Inequalities in utility and leisure cycling in England, and variation by local cycling prevalence'
[101] WHO (2019): 'Health and sustainable development'
[102] Public Health England (2020): 'Improving access to greenspace: a new review for 2020'
[103] Natural England (2019): 'Children and young people report' Available at: *Title slide example (white) – title can run to two lines 24pt (publishing.service.gov.uk)

more green space have also reported better health, higher life satisfaction and less stress. In addition, greater exposure to green space has been associated with a lower risk of cardiovascular disease and diabetes. [104] Research evidence shows that accessing greenspace is an effective intervention for people with mental health problems, with one in four people in the UK likely to experience psychological problem at some point in their life. [105]

3.14 Improved public realm

3.14.1 In general, modern developments, such as the CSET scheme, are more likely to reflect both current trends and prevailing theories in best design practice. This provides an opportunity to improve outdated designs, improve layout and landscaping of public open space and increase the accessibility of the public realm. Research states that the public realm is important in ensuring that local communities interact with their environment and feel as if they are active members of their society. Research has found that improvements made to the public realm can benefit older people, disabled people and people from ethnic minorities.

3.14.2 A report from TfL suggests that unmaintained public thoroughfares and areas, including the poor upkeep of streets, steep slopes and a lack of rest areas, increase the difficulty that older people face when walking through public areas and may lead to associated travel anxiety. Further research has highlighted other physical barriers such as high kerbs and holes in pavements as challenges faced by older people in accessing the public realm.[106]

3.14.3 It has been acknowledged that disabled people and ethnic minorities are less likely to take part in public life than other groups.[107] For disabled people, public spaces can often be inaccessible. The presence of vehicular traffic and lack of accessible design, such as the use of appropriate paving and lighting, can present a barrier to using outdoor, shared public spaces, impacting the ability of disabled people to interact socially within communities.[108] Research also shows that individuals from ethnic minority communities in urban areas perceive themselves as vulnerable due to their possible previous experience of victimisation or harassment,[109] highlighting a differential need for this demographic. As a result, an appropriately managed and maintained public realm can help to ensure all its users, especially people from ethnic minorities, feel and are safe.

[104] Public Health England (2020): 'Improving access to greenspace: a new review for 2020'
[105] Masterton et al (2020): 'Greenspace interventions for mental health in clinical and non-clinical populations: what works, for whom, and in what circumstances?'
[106] Wennberg, H. Philips, J. and Stahl, A. (2017): 'How older people as pedestrians perceive the outdoor environment: Methodological issues derived from studies in two European countries'
[107] Greater London Authority (2017): 'The Mayor's vision for a diverse and inclusive city: Draft for consultation'
[108] House of Commons Women and Equalities Committee (2017): 'Building for Equality: Disability and the Built Environment'
[109] WHO (2016): 'Urban green spaces and health: A review of evidence'

4 Site and wider profile

4.1 Site location

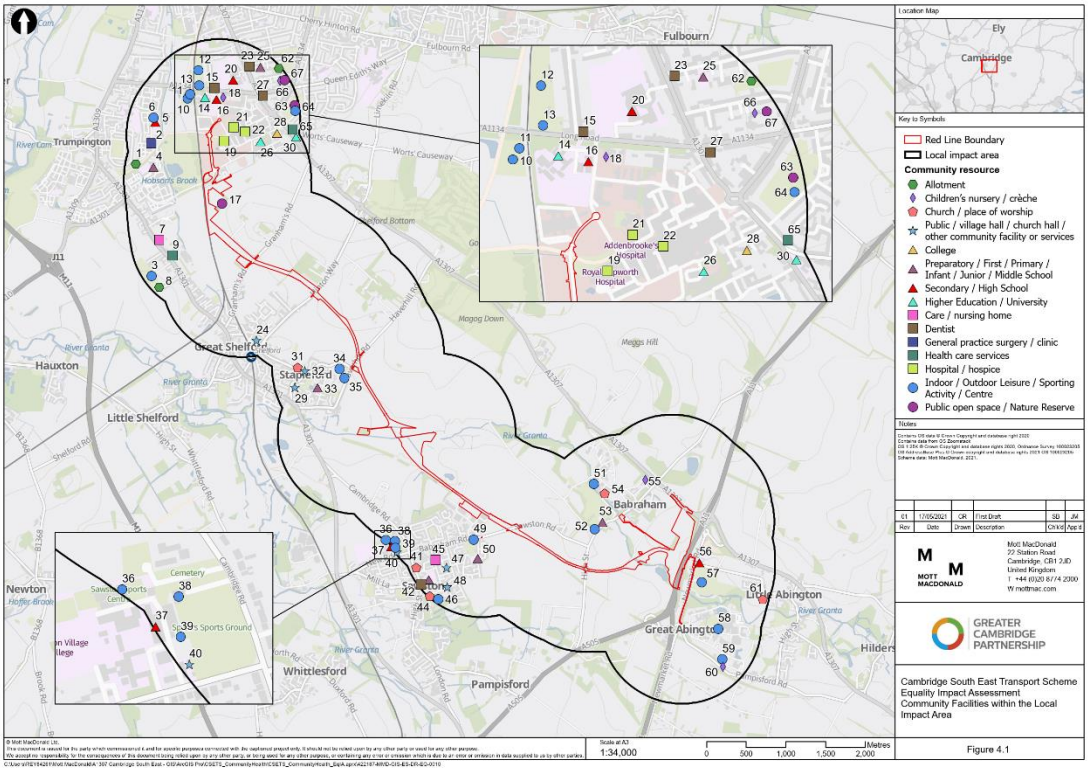
4.1.1 The location of the proposed CSET Phase 2 site is within the administrative areas of South Cambridgeshire District Council and Cambridge City Council, in the East of England. The scheme will link Cambridge Biomedical Campus via eastern edges of Great Shelford, Stapleford and Sawston to a new Travel Hub near A11 with connections to Babraham Research Campus and Granta Park. The Travel Hub and the length of the route until the CBC boundary is within the Cambridgeshire Green Belt.

4.2 Study area

4.2.1 The extent of the CSET Phase 2 site is defined by a red line boundary (RLB). A 1km boundary around the site boundary constitutes the study area for this EqIA to capture receptors that may be affected by the scheme. The RLB, 1km study area and South Cambridgeshire District Council and Cambridgeshire City Council boundaries are all shown in the Figures below.

4.2.2 Figures 4.1, 4.2 and 4.3 show the community facilities, residential properties and businesses that fall within the study area. The demographic profile of the study area follows in Section 4.3.

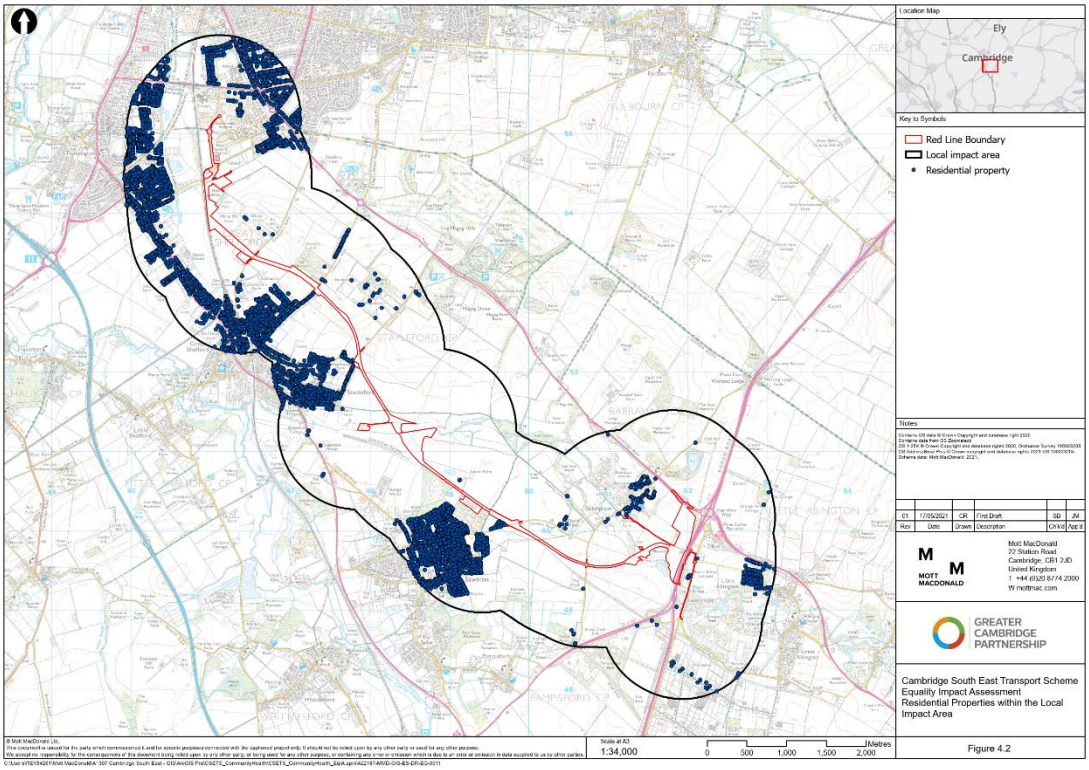
Figure 4.1: Community resources in the study area



4.2.3 Figure 4.1 shows the variety of community resources located in the study area. Hospitals are predominantly located to the north of the route and there are outdoor leisure and public open

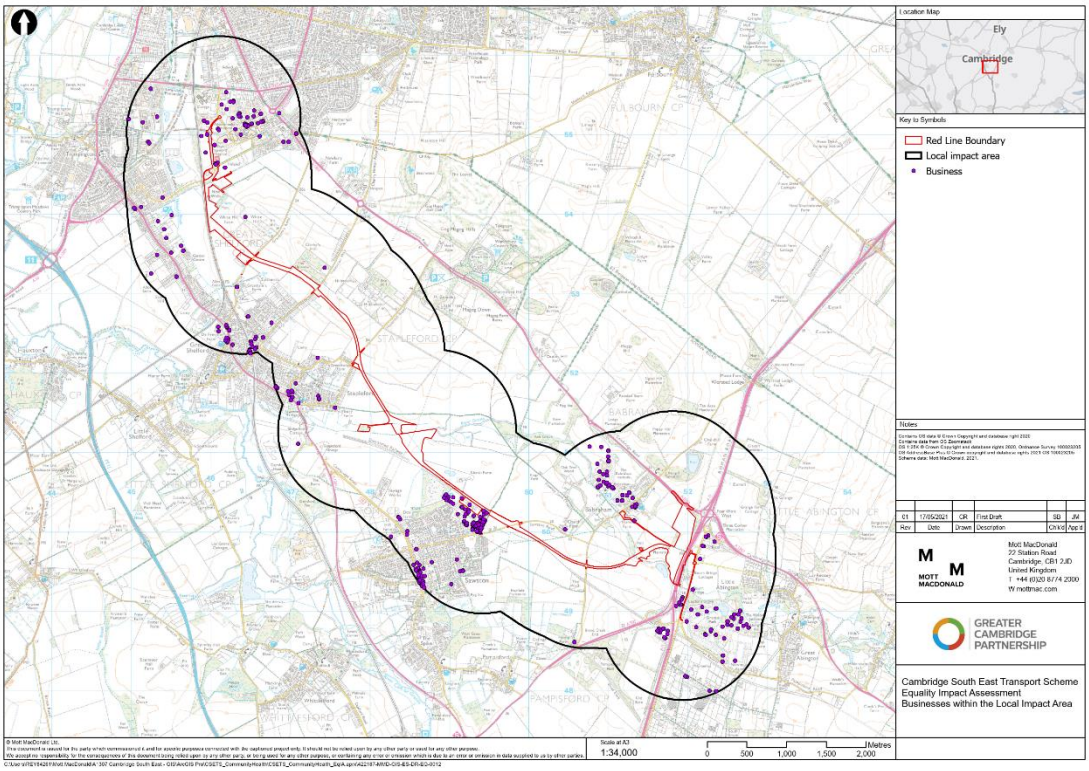
spaces throughout. As the study area covers several villages, there are schools and educational resources that are disproportionately used by children and young people. In addition, places of worship are also located in residential villages, which are used by religious people.

Figure 4.2: Residential properties in the study area



4.2.4 Figure 4.2 shows that the residential properties within the study area are mainly around the CBC and in villages such as Great Shelford, Stapleford, Sawston and Babraham. Figure 4.3 indicates that businesses in the study area are also concentrated around the residential areas of the route.

Figure 4.2: Businesses in the study area



4.3 Demographic analysis

4.3.1 The demographic profile of the area in which the scheme is located is outlined below. This shows the proportion of people with protected characteristics living in the study area (where this data is available) and provides the districts of both South Cambridgeshire and Cambridge, the East of England region and England as comparators. Maps of the site based on nationally available data are included in Appendix A.

4.4 Age

4.4.1 The table below shows the population by age group including children, young people, the working age population and older people. Please note the groups below are not mutually exclusive and the columns are not intended to sum to 100%.

Table 4.1: Population by age group

Age	Study area	Cambridge	South Cambridgeshire	East of England	England
Children (aged 0-15)	22%	17%	20%	19%	19%
Young people (aged 16-24)	8%	22%	8%	10%	11%
Working age population (aged 16-64)	58%	69%	60%	61%	62%
Older people (aged 65 and over)	20%	13%	20%	20%	18%

Source: ONS mid-year population estimates, 2019

4.4.2 The table above shows that children make up 22% of the total population of the study area. This figure is higher than the figure for Cambridge (17%), East of England (19%) and England (19%) averages, but in line with the South Cambridgeshire average (20%).

4.4.3 The proportion of young people in the study area (8%) is considerably lower than the figures for Cambridge (22%) and slightly lower than England average (11%). In general, the proportion of young people in the study area is in line with South Cambridgeshire (8%) and East of England (10%) averages.

4.4.4 The proportion of older people in the study area is 20% of the total population. This is considerably higher than figures for Cambridge (13%), but in line with South Cambridgeshire (20%), East of England (20%) and England (18%) averages.

4.5 Disability

4.5.1 The table below shows the proportion of the population with a disability or long-term health condition that limits their day-do-day activities.

Table 4.2: Population by disability

Disability	Study area	Cambridge	South Cambridgeshire	East of England	England
Day-to-day activities limited a lot	6%	5%	6%	7%	8%
Day-to-day-activities limited a little	9%	7%	8%	9%	9%
Day-to-day activities not limited	84%	87%	87%	83%	82%
Long term health problem of disability	16%	13%	14%	17%	18%

Source: Census 2011

4.5.2 The table above shows that 16% of the total population in the study area have a disability or long-term health problem, which is higher than Cambridge average of 13%, but is in line with South Cambridge (14%), East of England (17%) and national (18%) averages.

4.5.3 The table also shows that 6% of the total population in the study area have a disability which limits their day-to-day activities a lot. This is largely in line with Cambridge (5%), South Cambridgeshire (6%), East of England (7%) and England (8%) averages.

4.6 Gender reassignment

4.6.1 There is no robust data for gender diverse people in the study area or the UK more widely. The Government Equalities Office, though, has estimated that the size of the Trans[110] community in the UK could range between 200,000 to 500,000 people.

4.7 Marriage and civil partnership

4.7.1 The table below shows the proportion of population who are married or in a civil partnership in Cambridge, South Cambridgeshire, the East of England and England and England as a whole.

[110] According to the charity Stonewall 'Trans is an umbrella term to describe people whose gender [illegible] the same as, or does not sit comfortably with, the sex they were assigned at birth'. Available at: https://www.stonewall.org[illegible]hat-does-trans-mean

Table 4.3: Population by marriage and civil partnership

Marital status	Study area	Cambridge	South Cambridgeshire	East of England	England
Single (never married or registered a same-sex civil partnership	31%	53%	28%	31%	35%
Married	53%	34%	56%	50%	47%
In a same-sex civil partnership	0.2%	0.3%	0.2%	0.2%	0.2%
Separated (but still legally married or in a same-sex civil partnership)	2.2%	1.8%	2.2%	2.5%	2.7%
Divorced or same-sex civil partnership legally dissolved	7%	7%	8%	9%	9%
Widowed or surviving partner from same-sex civil partnership	7%	5%	6%	7%	7%

Source: 2011 Census, ONS – marital and civil partnership status

4.7.2 The table above shows that married population make up 53% of the study area, which is significantly higher than the Cambridge (34%) and England (47%) averages, but slightly lower than South Cambridgeshire average (56%).

4.7.3 The proportion of people in a same-sex civil partnership in the study area (0.2%) is broadly in line with Cambridge, South Cambridgeshire, East of England and England averages.

4.8 Pregnancy and maternity

4.8.1 The table below shows the Total Fertility Rate (TFR)[111] for Cambridge, South Cambridgeshire, East of England and England. This data is not available for the study area.

Table 4.4: Population by pregnancy and maternity

Pregnancy and maternity	Cambridge	South Cambridgeshire	East of England	England
Live births	1,335	1,547	67,409	610,505
General fertility rate (GFR)	45.70	57.70	60.70	57.70
Total fertility rate	1.80	1.74	1.77	1.66

Source: ONS, 2019 – Live births in England and Wales

4.8.2 The table above shows that the TFR in Cambridge is 47.70, which is considerably lower than South Cambridgeshire average of 57.70, the East of England average of 60.70 and the England average of 57.70.

4.9 Race and ethnicity

4.9.1 The table below shows the breakdown of the race and ethnicity of the population of the study area, Cambridge, South Cambridgeshire, East of England and England.

[111] For this purpose, TFR is being used as a proxy value as data on pregnant women or women who are postnatal is not available.

Table 4.5: Population by ethnicity

Race and ethnicity		Study area	Cambridge	South Cambridgeshire	East of England	England
White	**White British**	81.1%	66.0%	87.3%	85.3%	79.8%
	White Irish	1.2%	1.4%	0.7%	1.0%	1.0%
	White Gypsy or Irish Traveller	0.1%	0.1%	0.3%	0.1%	0.1%
	Other White	7.8%	15.0%	5.0%	4.5%	4.6%
Mixed/multiple ethnic groups	**White and Black Caribbean**	0.4%	3.2%	1.7%	1.9%	2.3%
	White and Black African	0.2%	0.6%	0.4%	0.6%	0.8%
	White and Asian	0.8%	0.4%	0.2%	0.3%	0.3%
	Other Mixed	0.5%	1.2%	0.7%	0.6%	0.6%
Asian/Asian British	**Indian**	2.3%	2.8%	1.5%	1.5%	2.6%
	Pakistani	0.4%	0.6%	0.3%	1.1%	2.1%
	Bangladeshi	0.2%	1.5%	0.1%	0.6%	0.8%
	Chinese	1.5%	3.6%	0.8%	0.6%	0.7%
	Other Asian	1.8%	2.6%	1.0%	1.0%	1.5%
Black/African/ Caribbean/ Black/British	**Black African**	0.7%	1.0%	0.5%	1.2%	1.8%
	Black Caribbean	0.3%	0.5%	0.2%	0.6%	1.1%
	Other Black	0.1%	0.2%	0.1%	0.2%	0.5%
Other ethnic group	**Arab**	0.2%	0.7%	0.2%	0.2%	0.4%
	Any other ethnic group	0.4%	0.9%	0.3%	0.3%	0.6%
Black, Asian and other Ethnic Minorities		18.4%	34%	12.7%	14.7%	20.2%

Source: 2011 Census, ONS – ethnic group

The above table shows:

- The proportion of White British population in the study area is 81.1%. This figure is considerably higher than the Cambridge average of 66%, but lower than the South Cambridgeshire average of 87.3% and East of England average of 85.3%. The proportion of the White British population in study area is in line with England averages (79.8%).
- The Other White population in the study area is 7.8%, considerably lower than the Cambridge average of 15%. The proportions of the Other White population in South Cambridgeshire, East of England and England are slightly lower than that of the study area.
- The proportion of the ethnic minorities in the study area is 18.4% which is considerably higher than that of South Cambridgeshire (12.7%) and East of England (14.7%), but significantly lower than the Cambridge (34%) average.
- No ethnic or racial groups are over-represented within the ethnic minorities in the study area.

4.10 Religion and belief

4.10.1 The table below provides the religious profile of the study area compared to the districts South Cambridgeshire and Cambridge, the East of England region and England.

Table 4.6: Population by religion and belief

Religion	Study area	Cambridge	South Cambridgeshire	East of England	England
Christian	58.2%	44.8%	58.8%	59.7%	59.4%
Buddhist	0.8%	1.3%	0.5%	0.4%	0.5%
Hindu	1.4%	1.7%	0.8%	0.9%	1.5%
Jewish	0.4%	0.7%	0.2%	0.6%	0.5%
Muslim	1.3%	4.0%	1.0%	2.5%	5.0%
Sikh	0.1%	0.2%	0.1%	0.3%	0.8%
Other Religion	0.4%	0.6%	0.4%	0.4%	0.4%
Religion Not Stated	8.1%	9.0%	8.2%	7.3%	7.2%
Minority Religion	4.5%	8.3%	3.0%	5.2%	8.7%

Source: Census (2011)

The table above shows:

- The Christian population in the study area (58.2%) is significantly higher than that of Cambridge (44.8%), but largely in line with South Cambridgeshire (58.8%), East of England (59.7%) and England (59.4%) averages.
- Those who belong to a minority religion in the study area make up 4.5% of the population, which is considerably lower than the averages of Cambridge (8.3%) and England (8.7%).

4.11 Sex

4.11.1 The table below shows the proportion of the population who are male and female in study area, Cambridge, South Cambridgeshire, East of England, and England.

Table 4.7: Population by sex

Sex	Study area	Cambridge	South Cambridgeshire	East of England	England
Male	48.1%	51.5%	49.5%	49.3%	49.4%
Female	51.9%	48.5%	50.5%	50.7%	50.6%

Source: ONS mid-year population estimates, 2019

The proportion of women in the study area is higher than the proportion of women in all comparator regions. The proportion of women is 3.4% higher in the study area than in Cambridge and 1.3% higher than in England.

4.12 Sexual orientation

4.12.1 There is no data available on this protected characteristic for the study area. However, emerging experimental statistics relating to sexual identity are available nationally and at regional level.

4.12.2 In 2018, estimates from the Annual Population Survey (APS) showed that the proportion of the UK population aged 16 and over identifying as heterosexual or straight decreased from 95.3% in 2014 to 94.6% in 2018. The proportion identifying as lesbian, gay or bisexual (LGB) increased from 1.6% in 2014 to 2.2% in 2018. This comprised of:

- 1.4% identifying as gay or lesbian
- 0.9% identifying as bisexual

- 0.6% identifying as 'Other', meaning they did not consider themselves to fit into heterosexual or straight, bisexual, gay or lesbian categories
- 2.5% refusing or not knowing how to identify themselves.[112]

4.13 Socio-economic data

4.13.1 Whilst employment data is unavailable for the study area, this is shown below for Cambridge, South Cambridgeshire, East of England and England.

Table 4.8: Socioeconomic data

Socioeconomic data	Cambridge	South Cambridgeshire	East of England	England
Employment rate	79.4%	77.1%	78.1%	79.4%
Unemployment rate	2.7%	1.8%	3.7%	4.4%

Source: Annual Population Survey, 2020

4.14 Summary

4.14.1 Table 4.9 below demonstrates where demographic groups in the study area are under or over-represented when compared to the regional and national averages, where this data is available.

Table 4.9: Summary of demographic groups

Protected characteristic group		Regional average	National average
Age	**Children**	Above average	Above average
	Younger people	In line	Below average
	Working age	Below average	Below average
	Older people	In line	In line
Disability	**Day-to-day activities limited (either a little or a lot)**	In line	In line
Gender reassignment		No data available	No data available
Marriage and civil partnership	**Single**	In line	Below average
	Married	Above average	Above average
	Other	In line	In line
Pregnancy and maternity	**Live births**	No data available	No data available
	TFR	No data available	No data available
Race and ethnicity	**White**	Below average	In line
	White Gypsy or Irish Traveller	In line	In line
	Mixed/multiple ethnic groups	In line	In line
	Asian/Asian British	In line	In line
	Black/African/Caribbean/Black British	In line	In line
	Other ethnic group	In line	In line

[112] ONS (2018): Sexual orientation, UK: 2018

Protected characteristic group		Regional average	National average
Religion and belief	**Christian**	In line	In line
	Minority religions	In line	In line
	No religion/not stated	In line	In line
Sex	**Female**	In line	In line
	Male	In line	In line
Sexual orientation		No data available	No data available

Source: Mott MacDonald, 2020

5 Stakeholder engagement

5.1 EIA consultation

5.1.1 GCP has identified and consulted with a number of statutory and non-statutory consultees as part of the 2020 EIA public consultation for CSET Phase 2.

5.1.2 GCP has directly engaged statutory and non-statutory consultees, as appropriate, on behalf of Cambridge County Council. The engagement involved an online virtual exhibition feedback facility, which was active between Monday 19 October and Monday 14 December 2020. If requested, consultees could receive an information pack by post including hard copies of the exhibition boards along with surveys. During the consultation, 398 responses were received. More detail on the findings of the public consultation can be found in the CSET Consultation Report (Document Reference: 403394-MMD-STE-00-RP-SE-0836).

5.1.3 Survey responses and information provided in the general comment section were analysed to identify data relevant to the EqIA. Open-field responses have been collated and analysed to gather data on accessibility, travel, and safety, including any concerns raised by people from certain protected characteristic groups. The main themes and equality related issues identified through the EIA consultation are highlighted below:

- Concerns were highlighted about the **proximity and accessibility of the bus stops** to settlements such as Sawston, Shelford, Stapleford and Great Abington. Disabled people, older people and pregnant people who live in these villages might not be able to walk to bus stops which are further away from the village centres.
- People with mobility impairments might be negatively affected by the **dual carriageway** on Francis Crick avenue as it might be **harder to cross**.
- Stakeholders highlighted the need to ensure **accessibility of recreational facilities**, including picnic sites and green open space for people with physical impairments and limited mobility.
- Several people highlighted the need to ensure children and young people can travel independently and that having bus stops away from residential settlements might **prevent independent travel** due to safety issues, particularly at night.

5.2 EqIA consultation

5.2.1 Stakeholder engagement informed by the Equality Act has also been undertaken to fulfil the requirements of the EqIA. This engagement is designed to gather the views of people with shared protected characteristics who live close to the scheme, or who have a particular familiarity or interest in the area. Relevant equality stakeholders in the study area were identified through Geographic Information System Mapping and contacted by email to arrange phone interviews. Some equality stakeholders from the wider geographical region were contacted where equality stakeholders for particular characteristics could not be identified in the study area. Phone interviews were conducted with interested parties using a semi-structured interview format, asking questions about construction, operation and wider scheme impacts for the group they were representing. The copy of the interview protocol used in the EqIA consultation can be found in the Appendix B.

5.2.2 The following stakeholders and protected characteristic groups were engaged as part of consultation for the EqIA:

Table 5.1: Stakeholders and protected characteristics engaged

Stakeholder	Protected characteristic
Icknield Primary School	Children
The Parse School	Children and young people
Babraham Nursery	Children
St Andrew's Church	Christians, older people
Long Road Sixth Form College	Younger people
Little Abington Parish Church	Religious people

5.2.3 Key findings from the stakeholder engagement interviews are highlighted below:

- **Traffic congestion** is an issue around the schools, and it was felt that the scheme should aim to decrease the number of private vehicles on the road and support this change. Changes in the local area bought about by the scheme, such as the guided bus route and Travel Hub should in no way add to or exacerbate existing congestion in the area.
- **Inconsistent lighting** provision was a concern of all stakeholders interviewed, who described the design of well-lit routes as a critical determinant of safety for all users, but particularly disabled people, women and children. Having well-lit cycling, pedestrian routes and bus stops will encourage people to use the scheme.
- Access points and stops used for the scheme should be safe for children, with barriers and a clear signage system. Stops and pedestrian routes near the schools should consider having additional **safety measures** to prevent any pedestrian accidents.
- Stakeholders highlighted that implementing green infrastructure and safe **cycling routes** between Sawston and Shelford will benefit communities, as families currently use the non-motorised routes regularly to access education and jobs. For instance, some stakeholders suggested the installation of benches, rest points, toilets and other amenities such as playgrounds along the route.
- Stakeholders feel **proximity of stops to key settlements** is key to make sure the scheme will benefit everyone locally. Relatively high cost of train tickets means that local population will want to benefit from the new public and active travel routes as part of the proposed scheme. Accessibility of stops from villages, schools and community facilities should be ensured to improve user experience.
- Stakeholders highlighted that during construction and operation phases the scheme should not disrupt or change the **operation of existing bus routes**, especially those that stop at the centre of villages.
- The **accessibility of the A11 pedestrian paths** were a concern raised by all stakeholders. Interviews highlighted the importance of accessible bridges and pathways for non-motorised users (NMUs) along the route, and more generally in the local area. Some stakeholders highlighted concerns about lack of safety provision and that they would like to see **accessible design** implemented as part of the proposed scheme to minimise accidents.

6 Impact assessment

6.1 Overview

6.1.1 The table below sets out the identified impact areas of the CSET scheme, and how protected characteristic groups within the study area will be affected in relation to these. Scheme specific evidence is presented to substantiate the assessment, and planned mitigation and enhancement measures are considered in order to demonstrate how an effect might be managed or maximised. Based on this information, a conclusion has been drawn as to whether there are overall equality effects for each impact area. These conclusions are based on the assumption that the proposed mitigations and enhancements will be effectively implemented and monitored.

Table 6.1: Impact assessment

Impact in construction	Protected characteristic groups affected[113]	Supporting evidence
Potential noise effects	• **Children** • Older people • Disabled people	The scheme has the potential to increase noise levels in the local area during construction. Increased noise exposure has been linked to several health outcomes for children, older people and disabled people as they are more vulnerable to the negative healthcare outcomes which occur as a result. Children could also be disproportionately impacted, due to above average representation in the study area. There are no noise important areas (NIA) located within 600m of the CSET scheme route and Travel Hub. There are however several noise-sensitive receptors within the areas of Sawston, Stapleford, Great Shelford and the CBC that lie within a 300m radius of the scheme. During construction, there is a potential for the scheme to increase noise and vibration levels near sensitive receptors for a temporary period. Noise assessment results also indicate that nearby properties might experience increased noise levels due to construction in daytime, considered to be potentially significant. Evening works will only be necessary for specific activities requiring temporary road closures and surfacing works. Results indicate that significant increases in noise levels could occur during works in proximity to receptors, although these will occur for short periods, therefore resultant noise effects were not assessed to be significant. **Mitigation or enhancement**: The scheme will implement a Construction Environmental Management Plan (CEMP)[114] that dictates that all contractors will present their method statements for inspection, in accordance with the principles described in BS 5228: 2009: Part 2: Code of Practice for noise and vibration control on construction and open sites. The CEMP outlines best practicable means that will be used to reduce the noise effect on the local community, such as: • Using reasonably practical noise barriers to deflect or absorb noise away from sensitive receptors

[113] Protected characteristics in bold are over-represented in the study area

[114] Skanska (2020): 'CSET Construction Environmental Management Plan: Chapter 17 Noise and vibration'

		• Locating noisy equipment such as generators away from sensitive receptors such as hospitals, schools and residential properties • Shutting down machines between work and using electrically powered equipment instead of diesel or petrol-driven ones • Maintaining all plant silencers and acoustic enclosures in good and efficient order to minimise noise • Clearly displaying contact details for the person responsible for the site on the site boundary so that residents and businesses are able to contact to raise any issues. Monitoring of works to be included as necessary for CBC receptors which have the potential to be subject to significant adverse noise and vibration effects. **Overall effect:** No significant adverse equality effect.
Potential changes in air quality	• **Children** • Older people • Disabled people • Pregnant people • People who live in deprived areas	During construction, the scheme has the potential to reduce local air quality due to dust pollution associated with construction activities, vehicle movements and plant operations. Any reduction in air quality levels can differentially impact children, older people, disabled people and those who are pregnant due to the particular sensitivity of these groups to air pollution and particular matter concentrations. Children could also be disproportionately impacted, due to above average representation in the study area. There is an Air Quality Management Area (AQMA) for the study area, which covers the city centre, bounded by the ring road. The northernmost part of the CSET Scheme is located 1.8km south of the AQMA, to the north of Francis Crick Avenue. Several air quality receptors have been identified in the study area, including Addenbrooke's Hospital, The Rosie Hospital, Nine Wells Nature Reserve and Stapleford Pavilion recreational area. Residential properties are also identified as sensitive receptors on Hinton Way in Great Shelford, Sawston Road in Sawston and High Street in Babraham. Although there will be reductions in air quality, none of the receptors will be significantly affected following the implementation of mitigation measures. Hence, the residual effect of the construction phase on air quality is anticipated to be of negligible risk, complying with national legislation and local planning policy. **Mitigation or enhancement:** According to the Air Quality section of the CEMP[115], there will be no burning of materials or waste on site. All contractors, sub-contractors and material suppliers will also be ensured to implement provisions within the Construction Traffic Management Plan[116]. These provisions will include: • Avoiding unnecessary vehicle movements and providing one-way routes wherever possible • Switching off vehicles when they are not in use • Ensuring movement of vehicles and delivery of materials onto and around the site are within the permitted working hours. • Implementing additional measures and practices to minimise dust. The Code of Construction Practice (CoCP)[117] highlights that the proposed locations of seven construction compounds will reduce excessive congestion on local highway network by spreading traffic more evenly across all compounds. The Traffic Management Plan will also outline areas for the storage of construction plants and vehicles, to mitigate any further increase in

[115] Skanska (2020):'CSET Scheme – Draft Construction Environmental Management Plan'
[116] Skanska (2020): 'CSET Code of Construction practice Rev B'
[117] Skanska (2020): 'CSET Code of Construction Practice Rev B'

		air pollutants and emissions. Air pollution control measures agreed with the Cambridge City Council Environmental Health Officer will be applied on site, including training on-site staff on the control of dust and the implementation of monitoring systems. **Overall effect**: No adverse equality effect.
Potential changes in landscape visual environment	• Older people • Disabled people	The scheme has the potential to change visual and landscape characteristics during construction. Within 1km of the scheme there are multiple visual receptors of high sensitivity, which will be significantly impacted due to the construction works, including: • Users of National Cycle Network Route 11 • Staff working at Addenbrookes Hospital and CBC • Visitors to St Andrew's church and graveyard • Visitors and staff of Babraham and Great Abington Research Parks • Visitors of Nine Wells Nature Reserve, Magog Down • Residents of nearby settlements and villages • Users of several PRoW footpath and bridleways Open views of the construction activities will be visible from various residential properties on White Hill Farm, Hinton Way, Coppice Avenue, Mingle Lane, Duke's Meadow, Gog Magog Way, Haverhill Road, Chalk Hill, Sawston Road, Lynton Way and Webb Close. 18 viewpoints will have moderate or large adverse visual effects in construction. There will be five viewpoints affecting users of the Sustrans D[illegible] and visitors of Nine Wells Local Nature Reserve, workers and visitors to [illegible]cis Crick Avenue and residents of properties on Chalk Hill Looking west. The remaining 13 viewpoints are located between Hinton Way and Travel Hub, affecting the users of PRoW crossing the scheme. Visual and landscape changes during periods of construction will be adverse and significant on several residential resources and communities[118], which could differentially impact on any disabled and/or older people. **Mitigation or enhancement:** The CEMP highlights measures to limit the visual and landscape impacts. These include: • Construction work will be scheduled for daylight times, with special consideration to be given to residents and other sensitive receptors that may experience a nuisance • Measures will also be implemented to reduce obtrusive lighting • Areas of retained vegetation and newly landscaped areas will be protected and maintained for the duration of the works.[119] • In addition to the CEMP, a Construction Lighting Plan will be in place to minimise lighting impacts on the night-time landscape and views. **Overall effect:** Potential adverse equality effect.
Potential changes in traffic flow	• **Children** • Older people • Disabled people	The scheme has the potential to change traffic congestion and vehicle movements. During construction there is potential for an increase in traffic from construction machinery, Heavy Goods Vehicles (HGVs) and construction worker trips to and from the site. Haverhill Road will be the worst affected highway with a moderate impact from increased HGV traffic, with other routes expected to experience slightly negative impacts. These are all short-term and reversible and not considered to be significant, according to the Traffic and Transport chapter of the Environmental Statement (403394-MMD-ENV-00-RP-

[118] Mott MacDonald (2021): ' CSET Environmental Statement, Volume 1, Chapter 14 Landscape and Visual'
[119] Skanska (2020)' CSET Scheme – Draft Construction Environmental Management Plan: Construction Lighting'

		EN-0983).[120] Any potential increase in traffic associated with severance for both pedestrians and road users could differentially impact children, older people and disabled people. Children could also be disproportionately impacted, due to above average representation in the study area. **Mitigation or enhancement:** A detailed Construction Traffic Management Plan, developed as part of the CoCP, details the transport of people to site, with the aim of minimising impact to the local road network and environment. This includes the potential to use public transport such as bus and rail services to access the works area.[121] The proposed location of seven construction compounds will also limit congestion by spreading the HGV traffic across all locations more evenly.[122] Therefore, it will not be necessary to close any of the access routes to public vehicles during the project. The high-level CEMP developed for the scheme highlights the anticipated construction programme and includes mitigation measures to minimise construction impacts, including traffic impacts.[123] **Overall effect:** No adverse equality effect.
Potential changes in pedestrian environment	• **Children** • Older people • Disabled people • LGBT+ people • Women	During the construction of the scheme, there is the potential for temporary disruption to pedestrians such as changes to crossings and the road alignment on Francis Crick Avenue, Haverhill Road, Sawston Road and existing roads around the proposed Travel Hub in Babraham. The Community and Human Health chapter of the ES states there will be no changes to pedestrian routes greater than 200m. Changes to the pedestrian environment and proposed diversions on Francis Crick Avenue may differentially impact disabled people, children, older people, women and LGBT+ people. Children could also be disproportionately impacted, due to above average representation in the study area. Stakeholder engagement highlighted the importance of having well-aligned pedestrian routes during construction, which should be clearly marked and managed to mitigate severance. **Mitigation or enhancement:** The CEMP provides more detail on the specific diversion routes that will be applied during the construction phase and whether any pedestrian routes would increase above a certain threshold (i.e. 50m, 200m), resulting in negligible or moderately adverse effects for pedestrians. Temporary diversions will be in place and will need to be policed during working hours where construction traffic and members of the public might use the area. This information is required to conduct further assessment and therefore the severity of effects for pedestrians will need to be re-visited when the full CEMP is produced at the next stage of the scheme. **Overall effect:** No adverse equality effect.
Potential changes in personal safety and security	• Young people • Older people • Disabled people • Women • LGBT+ people	The scheme has the potential to change feelings of personal safety and security when using public transport in the construction phase. Stakeholder engagement also highlighted some concerns regarding signage and security measures related to the scheme, such as appropriate lighting and timely communication of construction works. Stakeholders expressed concerns around the construction period and how works would be managed, citing the need to maintain well-lit areas and ensure public safety and order.

[120] Mott MacDonald (2021): 'Non-Technical Summary for CSET ES: Traffic and transport'
[121] Skanska (2020): 'CSET Code of Construction Practice Rev B'
[122] Skanska (2020): 'CSET Code of Construction Practice Rev B'
[123] Skanska (2020): 'CSET Scheme: Draft Construction Environment Management Plan (CEMP)'

		Mitigation or enhancement: The CEMP proposes several actions to maintain safety and security such as carrying out inspections, audits and investigations to monitor incidents and feed these back to staff. In addition, all engagement with internal and external stakeholders will be conducted according to the requirements of the CoCP, ensuring safety concerns are raised and considered proactively. Examples of additional mitigation strategies relating to safety include the following: • Individual construction works areas will be monitored by CCTV cameras at all times to protect against potential anti-social activity, such as vandalism and theft. • A digital signing in and out process will be installed to track incoming and outgoing workforce and visitors to tackle potential trespassers • Increased security will be enforced such as criminal record checks for staff and visitors • Security fencing will be erected around construction site compounds, tricks and equipment.[124] **Overall effect:** No adverse equality effect.
Potential improvements in access to employment opportunities	• Young people • Disabled people • Men • Ethnic minorities	No effects identified on potential improvements in access to employment opportunities during construction.
Generation of employment	• Young people • Disabled people • Ethnic minorities • Men	The scheme has the potential to support and/or bring new employment opportunities in construction. Young people, disabled people, ethnic minorities and men are over-represented in unemployment figures. A construction workforce will be required to deliver the infrastructure necessary for the scheme, this is likely to differentially benefit men as construction is a male dominated sector. **Mitigation or enhancement:** At this stage we do not know the scale of the workforce or the spread of the roles that will be required and will consider this once data is available. The scheme will, however, aim to implement responsible procurement practices and deliver employment and training opportunities. This involves considering social value requirements, equality of opportunity and requiring tenderers to create at least two apprenticeship roles for any tender awarded over £4.3 million, according to the Chapter Eight of the ES (403394-MMD-ENV-00-RP-EN-1030)[125] **Overall effect:** Potential positive equality effect.
Presence of construction workforce	• Older people • Disabled people • Women	The scheme is likely to result in an increase in construction workers in the local area. The presence of construction workers in communities may give rise to older people, disabled people and women feeling unsettled, as they perceive the composition of their local community to be subject to change. Such effects are most likely to be felt by those living adjacent to construction sites, or by those who use local facilities near construction sites. **Mitigation or enhancement:** The CSET CoCP[126] indicates that developers and contractors will implement a communication strategy to maintain contact

[124] Skanska (2021): 'Draft Construction Environment Management Plan (CEMP)'
[125] Mott MacDonald (2021): 'Environmental Statement Volume 1, Chapter 8'
[126] Skanska (2020): 'Cambridge South East Transport: Code of Construction Practice Rev B'

		between the principal contractor and nearby residents. Liaison with the occupiers of neighbouring properties will take place before the work gets underway and will be sustained throughout the construction period. Regular meetings, as well as a complaints procedure and ongoing engagement will be in place. All on-site workers will also be trained on risk and safety issues to ensure hazards and potential incidents that might affect local communities are proactively identified and acted upon. **Overall effect:** No potential adverse equality effect.
Access to active travel options	• **Children** • Young people • Older people • Disabled people • Ethnic minorities • People who live in deprived areas	The construction phase of the scheme may result in disruption to pedestrians, cyclists and equestrians as new infrastructure is built. Disruption is likely to differentially impact children, young people, older people, disabled people, ethnic minorities and people who live in deprived areas, who are more likely to be travelling as pedestrians. Children will also be disproportionately impacted due to above average representation in the study area. Several of the Public Rights of Way (PRoWs) may be diverted, including Footpath 39/47 on Francis Crick Avenue and Footpath 12/4 near A11 Bridge. However, as these diversions are likely to be less than 50m, the scheme is unlikely to significantly disrupt access to active travel options during the construction period. **Mitigation or enhancement:** Appropriate mitigation will be put in place in the full CEMP, completed by the appointed contractor at the next stage of the scheme. Access to PRoWs will be maintained throughout construction. Any temporary disruption will be mitigated with design enhancements and use of diversion routes. **Overall effect:** No potential adverse equality effect at this stage.
Potential changes to open space	• **Children** • Older people • Disabled people	The location of the scheme will be predominantly rural, and the construction works will require existing trees and vegetation to be cleared to allow the proposed design to be installed.[127] There will be minor impacts on open space and rights of way during construction resulting from temporary or permanent diversions on a very local scale. These impacts will be insignificant as open spaces will be accessible throughout the construction. Stakeholder engagement and public consultation also highlighted local concerns regarding potential disruptions to enjoyment of open spaces and green areas valued by the local population such as Gog Magog Hills, Nine Wells and the recreational area around the River Granta. The scheme will however not impact access to open space and green areas, and these areas will be accessible throughout the construction period. **Mitigation or enhancement:** PRoW routes will be kept open during construction except for very limited periods of time, which will not change existing open space access arrangements. **Overall effect**: No adverse equality effect.
Potential changes to public realm	• **Children** • Young people • Older people	No effects identified on the public realm in construction. Related accessibility and inclusion topics are covered under potential changes to pedestrian environment, traffic flow and open space sections.
Impact in operation	**Protected characteristic groups affected[128]**	**Supporting evidence**

[127] Skanska (2020): 'Cambridge South East Transport: Code of Construction Rev B'

[128] Protected characteristics in bold are over-represented in the study area

Potential noise effects	• **Children** • Older people • Disabled people	During operation, the scheme has the potential to give rise to adverse noise effects during day-time hours. These noise effects are due to the increased number of vehicles that will be using the public transport route and proposed Travel Hub. The greatest noise impacts will be experienced by receptors closest to the CSET scheme route due to operation of the route, and at receptors near Station Place due to changes in services using the existing busway. Adverse effects will occur at receptors near Station Place, within CBC on Francis Crick Avenue and at the Dales Manor Business Park, Sawston. However, none of the residual noise effects will be significant for any of the receptors, according to the noise chapter of the ES (Document reference number: 403394-MMD-ENV-00-RP-EN-0982). 54 residential receptors closest to the dedicated HQPTR will experience major or moderate noise impacts in the short term. However, resultant noise levels for all these major or moderate impacts are assessed to not result in significant adverse effects. **Mitigation or enhancement:** Measures are included within the scheme to minimise noise impacts where practicable. Measures currently include low noise surfacing on the dedicated route, acoustic barriers and bunds. Other than these good practice measures, no additional mitigation for noise and vibration is required for the operational phase. **Overall effect:** No significant adverse equality effect.
Potential changes in air quality	• **Children** • Older people • Disabled people • Pregnant people • People who live in deprived areas	The operation of the CSET scheme will not lead to any significant changes in concentrations of NO_2, PM10 and PM2.5 for any of the receptors identified. Small increases in annual mean NO_2 are predicted at receptors located on Station Place, Station Road and CBC, mainly due to the buses running on diesel engines. Any change in air quality is likely to differentially impact children, older people, disabled people, pregnant people and people who live in deprived areas, who are most affected by poor air quality. Children would be disproportionately positively affected as a result of improvements in air quality due to above average representation in the LIA. **Mitigation or enhancement**: None identified. **Overall effect:** No adverse equality effect.
Potential changes in landscape	• Older people • Disabled people	Due to the nature and scale of the scheme, there is the potential for landscape and visual effects in operation. This could differentially affect any older or disabled people who use or are identified among the visual receptors of high sensitivity within 1km of the scheme. These receptors include: • Users of National Cycle Network Route 11 • Users of Bridleway Stapleford 212/2 • Users of Footpath Babraham 12/4 • Residents on Hinton Way, Coppice Avenue, Haverhill Road, Sawston Road and Lynton Way On the year of opening (Year 1), there will be moderate adverse landscape and visual effects, which will be significant for the users of the DNA path and the residents on Chalk Hill. In addition,11 viewpoints will remain with significant effects, affecting residents and users of PRoW between Hinton Way and the Travel Hub. In comparison, landscape and visual effects in Year 15 will be mostly non-significant for 24 viewpoints. There will be 5 viewpoints experiencing significant adverse effect, with residents near the Great Shelford Stop and the Sawston

		Stop experiencing moderate adverse effects due to the new stops being close to residents in these areas. **Mitigation or enhancement**: Best practice guidelines that the scheme is committed to adhere to will include: • A Landscape and Ecological Management Plan (LEMP), including information on design, seeding, planting and maintenance of the landscape • Numerous hedgerows will be planted to screen and separate the access roads and scheme elements • A Lighting Strategy will be in place to minimise light pollution and obstruction. **Overall effect:** Potential adverse equality effect.
Potential changes in traffic flow	• **Children** • Older people • Disabled people	In the longer-term, the scheme has the potential to improve traffic congestion by reducing the number of vehicles using the local road network. The scheme also aims to reduce car dependency by encouraging multi-modal travel, which may further reduce the traffic flow within the study area. Any potential change in traffic flow is likely to differentially impact children, older people and disabled people. The impact on children is also likely to be disproportionate considering the above average representation of children in the study area. Stakeholder engagement highlighted an existing issue with traffic congestion around schools and the need for the scheme to reduce this. Traffic and transport assessment confirms that there will be significant increase in traffic and delays on the Addenbrooke's Road approach to the roundabout. This will impact the road users approaching the Francis Crick Avenue/Dame Mary Archer Way roundabout. **Mitigation or enhancement:** The following mitigation is proposed to address the significant traffic delays on the Addenbrooke's Road approach: • A 20m-long, nearside flared line on the Addenbrooke's Road approach • A further enlargement of the roundabout to accommodate two lanes of circulatory traffic on the western side of the junction. • A minor realignment of existing cycleway and footway at the Addenbrooke's Road to maintains safe access. The 20m flared lane will significantly reduce the traffic at the Francis Crick Avenue/Dame Mary Archer Way roundabout and decrease the delay experienced at the junctions. As a result, additional mitigation will make the overall effect negligible. **Overall effect:** No residual adverse equality effect with the additional mitigation included in the final design.
Potential changes in pedestrian environment	• **Children** • Older people • Disabled people • LGBT+ people	During operation, the scheme will improve the pedestrian environment by widening paths, creating new access routes and introducing overpasses on either side of the A11. Enhancement measures for the pedestrian environment that will be implemented during operation include: • New segregated ATP for equestrians, pedestrians and cyclists • Low-level planting and landscaping that will ensure pedestrian visibility at crossings • Signalised junctions will be created, including equestrian crossings • Additional pedestrian links the Travel Hub will be created and maintained. **Mitigation or enhancement:** None identified.

		Overall effect: Potential positive equality effect.
Potential changes in personal safety and security	• Young people • Older people • Disabled people • Women • LGBT+ people	During operation, the scheme has the potential to improve personal safety and security in the local area, differentially impacting young people, older people, disabled people, women and LGBT+ people as they are more vulnerable in maintaining personal safety. As parts of the scheme need to be lit during operation such as the parking areas, access roads and user facilities, a Lighting Strategy[129] has been developed to ensure site safety and security, whilst also minimising light pollution. Measures include: • All lighting to be designed in accordance with BS5489-1:2020 and the applicable Institution of Lighting Professionals Guidance • Ensuring areas identified along the route and within Travel Hub sites are lit adequately to correct technical specification, ensuring user safety • Designing all lighting in the interests of public safety, minimising crime and fear of crime whilst being both practicable and aesthetic • Minimising obtrusive light to both existing and proposed residential properties and areas identified as potentially sensitive. In addition to the Lighting Strategy, CCTV will be implemented at different locations across the scheme, improving public security along the route. This should increase feelings of safety across the route and Travel Hub. **Mitigation or enhancement**: The Lighting Strategy includes further opportunities to maximise the public safety in the area. For instance, all lighting related to the scheme will be designed and fitted to minimise in accordance to the European and British standards and guidance. This will ensure intrusion will be minimised, whilst safety and security could be maintained in areas. **Overall effect:** Potential positive equality effect.
Impact on social isolation due to public transport connectivity of Cambridge	• Older people • Disabled people	The scheme has will to improve access to Cambridge city centre, which may have differential effects on older people and disabled people, as people with these shared characteristics are more likely to experience isolation and loneliness. The enhanced park and ride services will reduce journey times for users, easing congestion currently generated by private cars. The scheme will also prioritise public transport and active travel, benefiting people who are dependent on sustainable transport modes. This will improve average journey times and increase reliability of journeys, ultimately improving access to the city centre. **Mitigation or enhancement**: None identified. **Overall effect**: Potential positive equality effect.
Potential improvements in access to employment opportunities	• Young people • Disabled people • Ethnic minorities	During operation, the scheme is expected to reduce congestion on the A11/A1307 junction and help connect Granta Park, Babraham Research Institute and other employment areas in south east Cambridge to central Cambridge.[130] Reduction in journey times and increased reliability of services are likely to improve the accessibility of employment opportunities. This will support future economic growth by improving the accessibility of employment opportunities for people in surrounding areas. Young people, disabled people and ethnic minorities are likely to be differentially impacted, due to being over-represented in unemployment figures.

[129] Mott MacDonald (2020): 'CSET Phase 2 – Lighting Strategy'
[130] Mott MacDonald (2021) 'CSET Transport Assessment'

		Parking capacity at the Travel Hub site will accommodate the demand created by ongoing development, encouraging further investment and supporting the economic growth of the area. **Mitigation or enhancement**: None identified. **Overall effect:** Potential positive equality effect.
Generation of employment	• Young people • Disabled people • Ethnic minorities	Whilst it is not known whether the scheme will generate additional employment for people living in the local area, the scheme has the potential to support new direct employment opportunities in the operational phase. Staff will be needed to run the bus services and maintain the delivery of services at the proposed Travel Hub in Babraham. **Mitigation or enhancement**: None identified. **Overall effect:** Potential positive equality effect.
Access to public transport	• **Children** • Young people • Older people • Disabled people • Ethnic minorities	During operation, the scheme will change public transport accessibility, reliability and frequency with proposed bus stops at Sawston, Stapleford and Great Shelford.[131] This will enable the scheme and associated public transport to compete more effectively with private car use, making public transport a more attractive choice, particularly for commuters travelling to and from Cambridge city centre. Stakeholder engagement highlighted sentiment that the scheme will benefit people who do not own cars and depend on public transport. **Mitigation or enhancement**: None identified. **Overall effect:** Potential positive equality effect.
Access to active travel options	• **Children** • Young people • Older people • Disabled people • Ethnic minorities • People who live in deprived areas	During operation, measures including an ATP along the CSET bus route, the existing footbridges and cycleways on the A11 and controlled NMU crossings, will allow for pedestrians, cyclists and equestrian movements to be segregated from the public transport route. The Sustrans path and the associated public transport. The increase in the provision of cyclist facilities includes 188 cycle parking spaces that will be provided at the Babraham Travel Hub. This will encourage and provide an opportunity for multi-modal travel. Undertaking active travel as part of a wider journey could improve access to the city centre for commuters and improve individual and public health. However, there is not enough information at this stage to identify how the provision of these facilities will directly impact demand for active travel by the general public or for particular equality groups. **Mitigation or enhancement**: None identified. **Overall effect**: Potential positive equality effect.
Potential changes to open space	• **Children** • Young people • Older people	The scheme is unlikely to disrupt or change access to open space in operation. People utilising PRoWs crossed by the scheme will experience minor delays, however the overall effect will not be significant, and might even be slightly beneficial due to benefits delivered to improved access to active travel paths. **Mitigation or enhancement**: None identified. **Overall effect:** No adverse equality effect.

[131] Mott MacDonald (2021) 'CSET Transport Assessment'

Potential changes to public realm	• Disabled people • Ethnic minorities • Older people	No effects identified on the public realm in operation.

7 Recommendations

The following recommendations are informed by the findings of the EqIA and are required to ensure that the CSET scheme does not adversely affect local communities, businesses, and people with protected characteristics. The recommendations will also ensure equality issues continue to be identified and addressed as they arise during the scheme construction and operation. We have identified recommendations across a spectrum that range from supporting GCP to meet their legislative responsibilities, opportunities for enhanced outcomes, and recommendations that could support more transformational change from the scheme.

7.1.1 Environmental measures:

Recommendation	Ambition level	Responsibility
• Ensure wayfinding within and around the scheme site is clear, easy to read and available in key languages, or uses symbols or maps to provide better understanding and guidance.	Compliance	GCP CCC
• Ensure all information regarding the site scheme is provided in accessible formats and in key languages, depending on the linguistic diversity in the study area, wider impact area and greater Cambridge.	Compliance	GCP Bus operators
• Ensure lane markings on the new access routes and within the Travel Hub are clear to help reduce congestion and the risk of accidents. Lane markings should also consider the needs of disabled people by providing tactile paving and reasonable adjustment at crossings where applicable.	Compliance	Mott MacDonald design team GCP
• Ensure that the pedestrian environment is managed during construction and remains physically accessible to all. This could include avoiding closing footpaths and providing level access diversion routes. Ensure that wayfinding and signage is clear, easy to read and visually accessible to all in regard to factors such as height, colour and design when pedestrian diversions are put in place.	Compliance	GCP CCC

7.1.2 Inclusive design, communication, and engagement:

Recommendation	Ambition level	Responsibility
• Consider implementing a participatory design process at detailed design stage, with user representatives including those from protected characteristic groups identified as affected by the scheme. The participatory design process could be used to explore solutions to issues raised in stakeholder engagement, and to embed elements such as personal safety enhancements, which are most valued by users.	Transformation	Mott MacDonald project team GCP
• Utilise participatory design activities, such as workshops and targeted engagements, to engage residents of the villages on the route, to ensure the Travel Hub and transport services are design to meet their	Opportunity	Mott MacDonald project team GCP

Recommendation	Ambition level	Responsibility
needs and that those most affected by the scheme will benefit from its operation.		
• Implement inclusive design principles for the built environment as part of the detailed design stage for the CSET. For example, the detailed design of the A11 overpass, road crossings and shared use route should implement inclusive design principles with appropriate widths and gradients, adequate lighting, use of CCTV, rest places and appropriate separation of users. This will ensure that the route is accessible to all, including older people, those with mobility, visual or hearing impairments and children.	Opportunity	Mott MacDonald design team GCP
• Undertake specific engagements with people who experience barriers to accessing public transport, such as older people, parents and carers with young children and disabled people, in relation to specific design elements, such as ramps, service points and access to buildings.	Opportunity	GCP
• Ensure the Travel Hub and all stops have ramps and wheelchair spaces, adhering to best practice design standards.	Compliance	Mott MacDonald design team GCP

7.1.3 Contractors, employment, and supply chain:

Recommendation	Ambition level	Responsibility
• Contractors should ensure continued communication with local communities and residents, including providing additional development updates, engagement meetings and information sessions on specific topics affecting local stakeholders.	Compliance	GCP Procurement contractors
• Establish targets for local employment and local supply chain spend on the scheme, both during construction and operation.	Opportunity	GCP Procurement contractors
• Establish employment targets for groups most affected by unemployment and those under-represented in transportation and related sectors. Include the implementation of positive action initiatives, where appropriate.	Opportunity	GCP Procurement contractors
• Take steps to diversity the supply chain, including opportunities for Small and Medium Enterprises (SMEs) and minority-owned businesses.	Opportunity	GCP
• Implement responsible procurement practices, including social value and localism requirements and the provision of equal opportunities.	Opportunity	GCP Procurement contractors

7.1.4 Further assessment and monitoring:

Recommendation	Ambition level	Responsibility
• Continue implementing a due diligence process that monitors implementation of mitigation measures, including, but not limited to; the CEMP, Traffic Management Plan, LEMP and Lighting Strategy.	Compliance	Mott MacDonald project team GCP
• Update impact analysis and assessment at appropriate stages of the scheme development to consider new evidence and identify and address any equality effects as they arise during the scheme construction and operation.	Compliance	Mott MacDonald project team GCP

8 Conclusions

8.1 Conclusion

8.1.1 This EqIA has been undertaken to demonstrate GCP's commitment to UK equality legislation, namely the Equality Act 2010.

8.1.2 The assessment has identified the potential effects (both positive and negative) of CSET on people with shared protected characteristics, as defined in the Equality Act. The EqIA provides an analysis of how the scheme may affect different sections of community and can be used to ensure GCP effectively plans for and manages the consequences of the scheme.

8.1.3 This EqIA has been informed by an analysis of existing and newly collected evidence. To understand the geographical extent of the site, operational plans, relevant environmental considerations, and key scheme documents have been reviewed as part of the assessment.

8.1.4 A profile of the scheme study area has been collated using publicly available social and demographic data. Comparator data for Cambridge, South Cambridgeshire, the East of England and England was used to identify where different groups are over-represented in the population. A geographic information system mapping process was used to highlight local community resources, businesses and residential properties that may be affected by the scheme.

8.1.5 A review of relevant published governmental, academic and third sector evidence has been conducted to identify the range of potential impacts, risks and opportunities for people with shared protected characteristics as a result of the scheme. Stakeholder engagement data from the EIA consultation and EqIA-specific engagement was used to support the evidence review and informed the analysis. Potential effects were identified, including effects associated with environmental changes, traffic flow, feelings of personal safety and security, access to public transport, employment and active travel.

8.1.6 The scheme has the potential to cause adverse equality effects in both construction and operation stages, due to changes to landscape and visual environment, and open spaces in the local area. A series of measures will be put in place to mitigate these effects as much as possible. Adherence to CEMP, CoCP and further recommendations will ensure that changes to the local landscape and open spaces will be proactively communicated and monitored throughout construction and operation.

8.1.7 The scheme has the potential to achieve the following positive equality effects:

- positive equality effect due to generation of employment during construction and operation.
- positive equality effect in air quality, due to the potential shift to active travel and public transport in operation.
- positive equality effect due to improvements in pedestrian environments such as widened paths, overpasses and creation of new access routes in operation.
- positive equality effect due to improvements in feelings of personal safety and security in operation.
- positive equality effect due to improved public transport connectivity with Cambridge.
- positive equality effect due to potential improvements in access to employment opportunities.
- positive equality effect due to improvements in access to both public and active travel options.

8.1.8 The findings of the EqIA are based on the assumption of successful implementation of specified mitigation and enhancement measures, and therefore ongoing monitoring and quality assurance of these will be required.

A. Demographic mapping

A.1.1 The maps below provide a wider, contextual demographic profile of the study area.

Figure 8.1: Population density

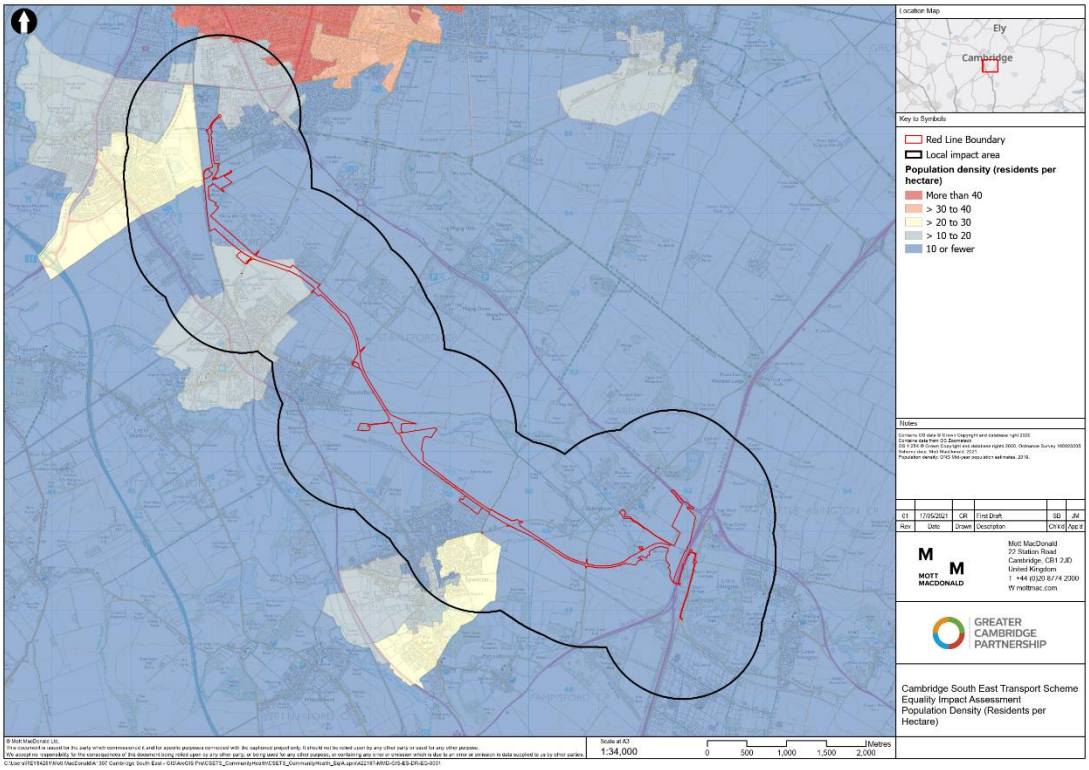


Figure 8.2: Population density of 16-24 year olds

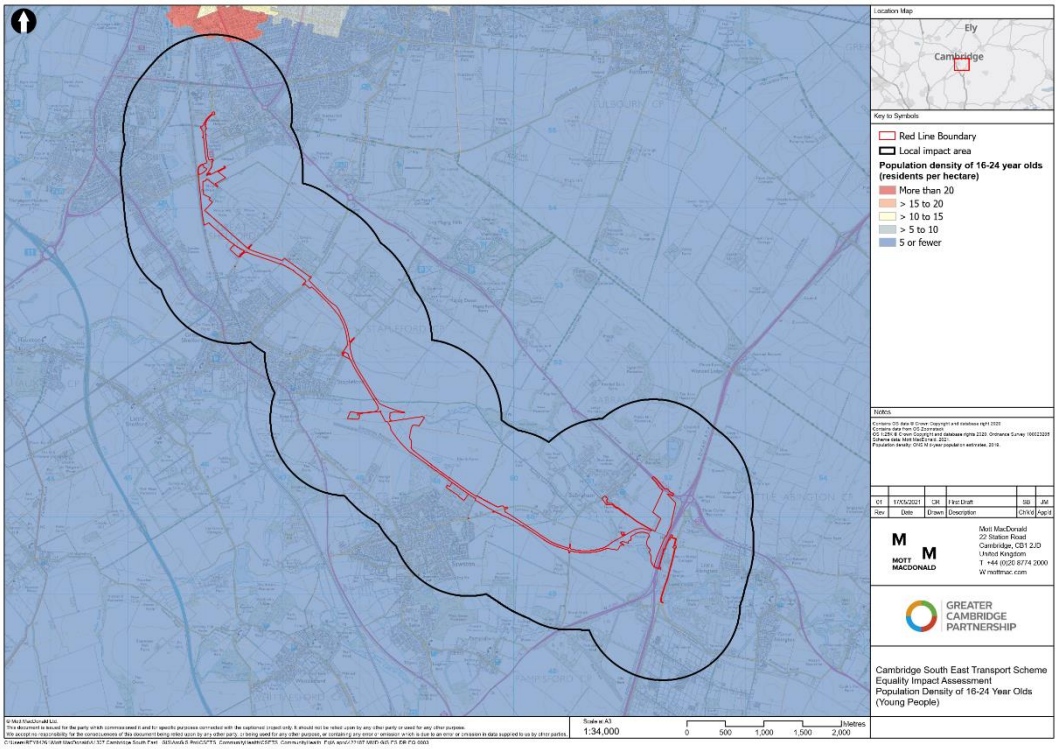


Figure 8.3: Population density of those aged 65+

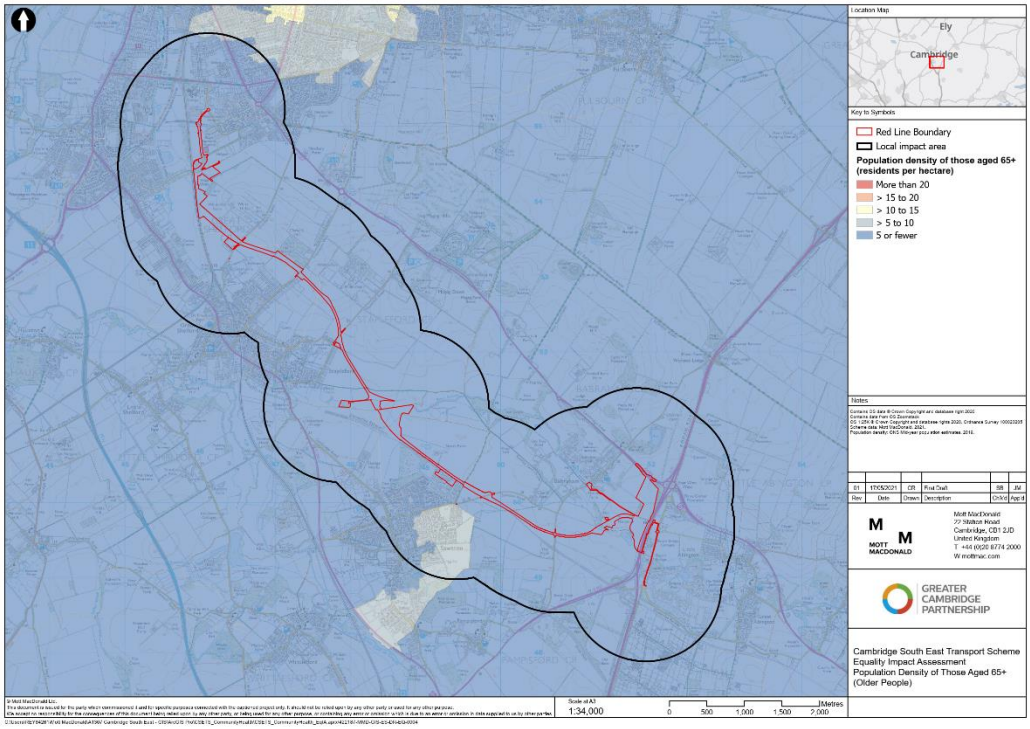


Figure 8.4: Population density of those from ethnic minorities

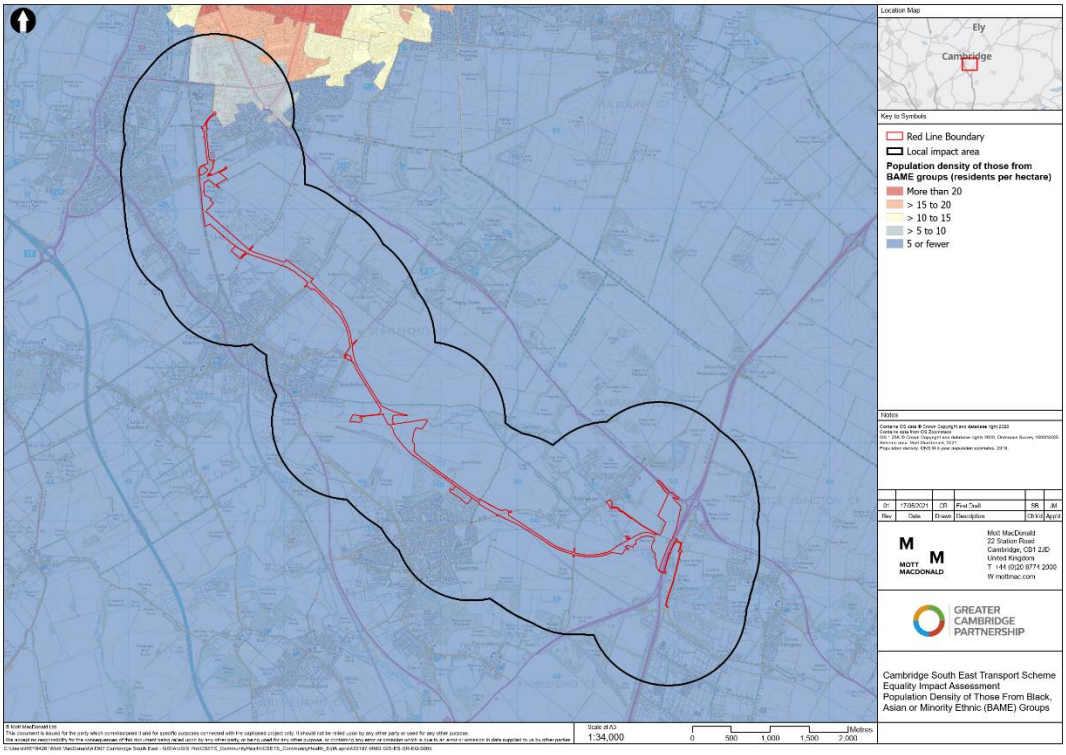


Figure 8.5: Index of Multiple Deprivation quintiles

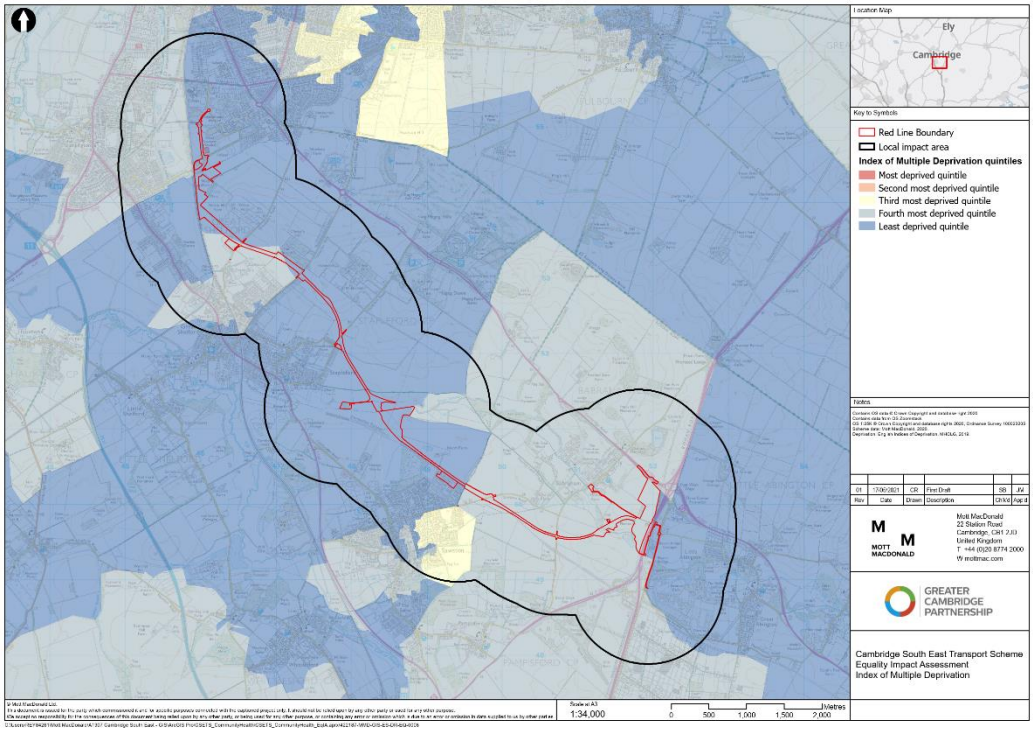


Figure 8.6: Population density of those of minority faith

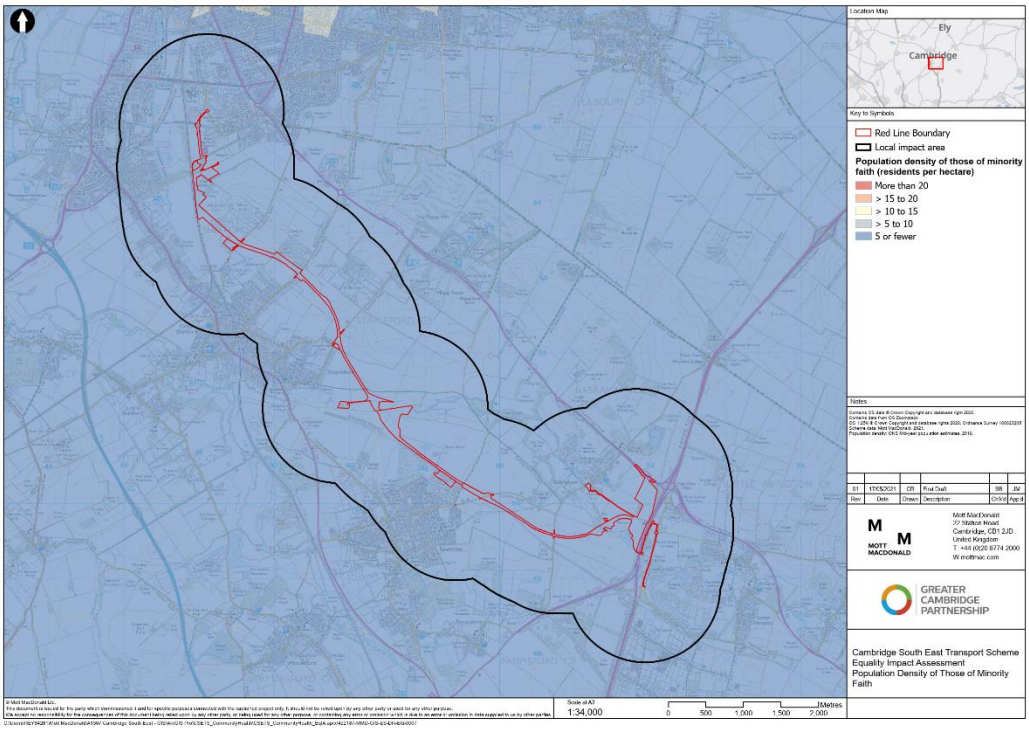


Figure 8.7: Population density of those living with a LTHD

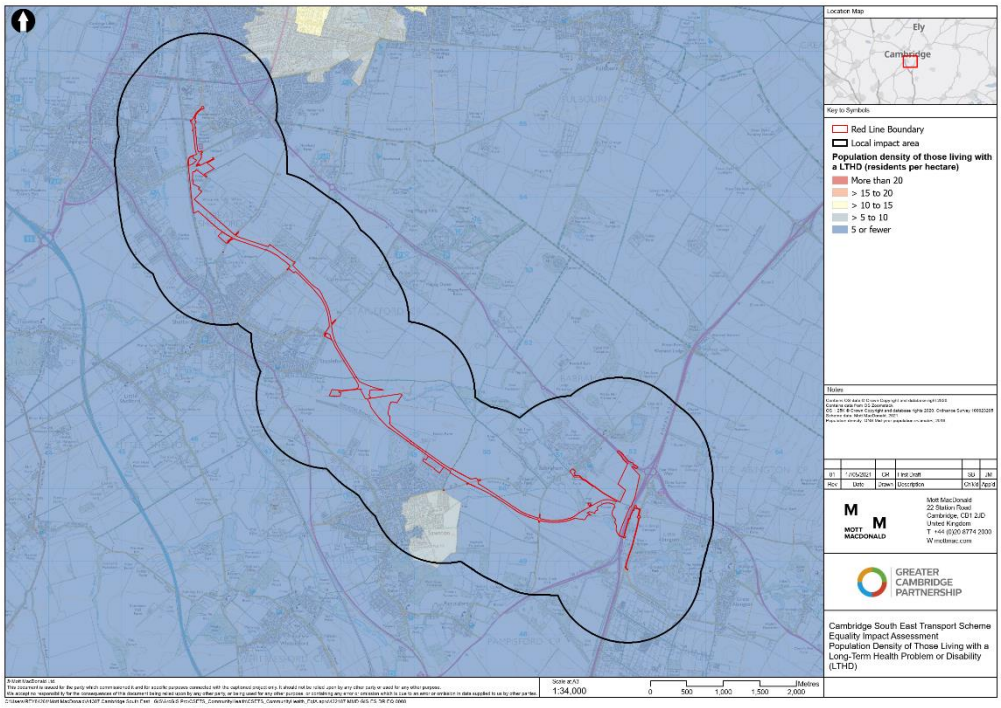


Figure 8.8: Population density of females aged between 16 and 44 years

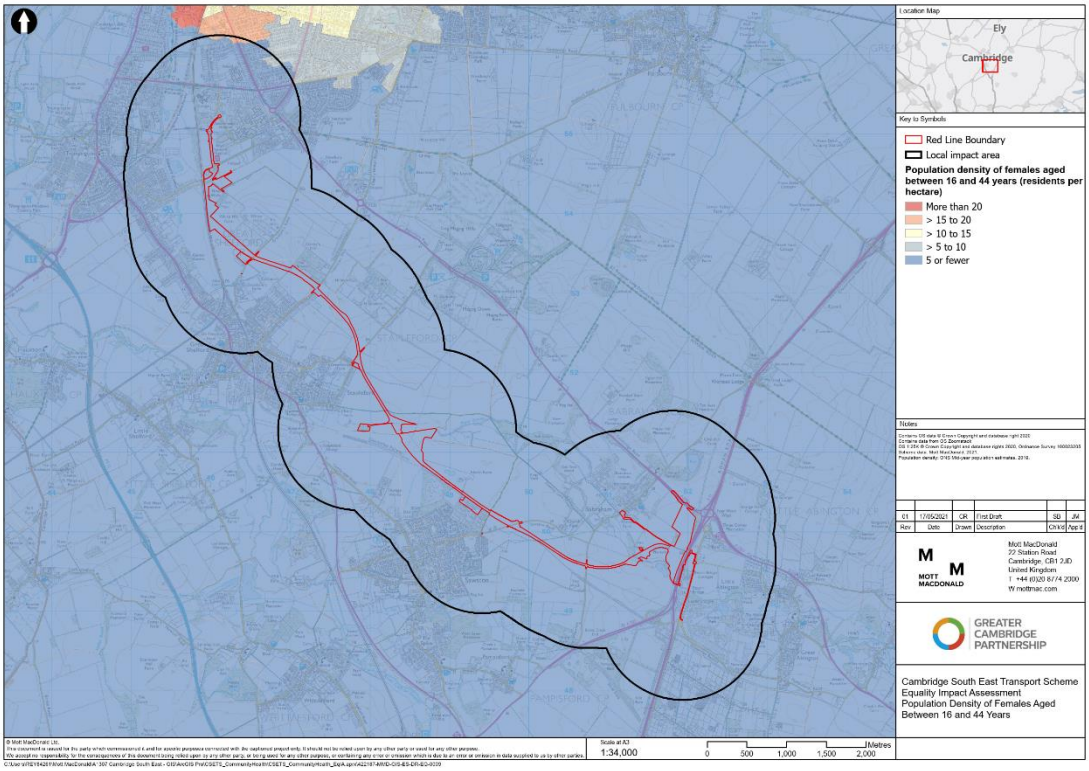
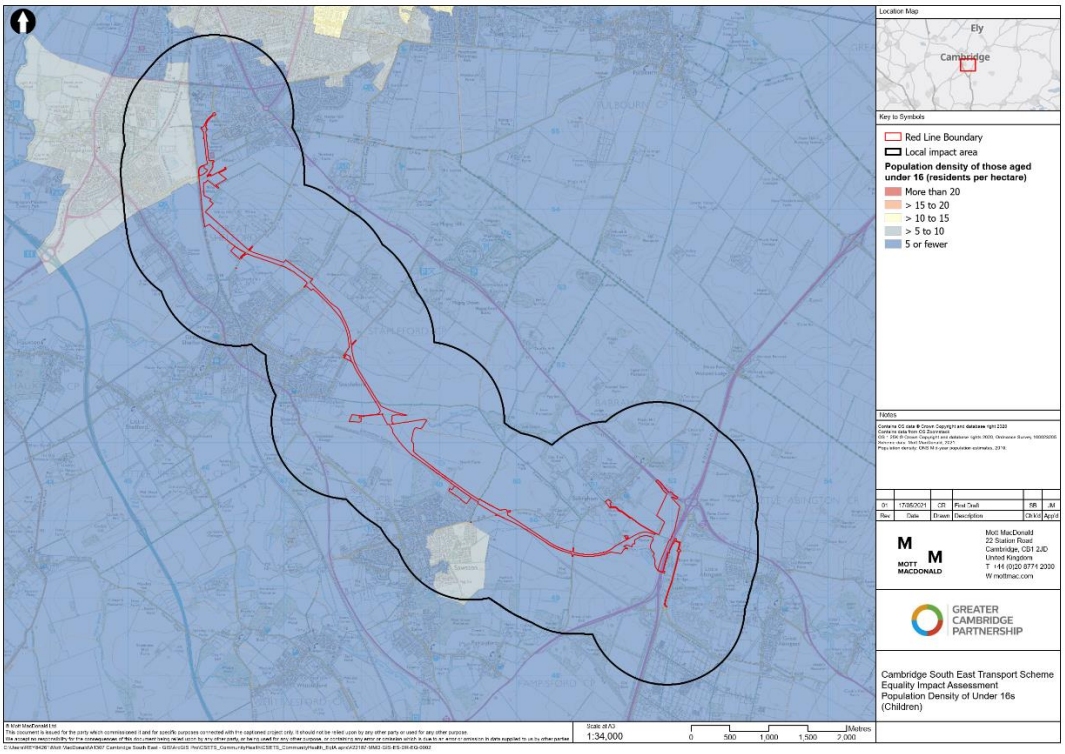


Figure 8.9: Population density of those aged under 16



B. Stakeholder engagement topic guide

B.1.1 The topic guide below provides an overview of the questions prepared as part of the semi-structured interviews.

Cambridge South East Transport – Better Public Transport Project

Equality Impact Assessment

Stakeholder Interview Topic Guide

This topic guide and the flow of questions will be refined and used flexibly to guide conversations.

Mott MacDonald has been appointed by the Greater Cambridge Partnership (GCP) to undertake an Equality Impact Assessment (EqIA) for the construction and operation of the proposed development of Phase 2 of Cambridge South East Transport (CSET) Scheme. This is as part of an increased investment in transport and infrastructure in Cambridge, with GCP aiming to bring forward schemes to connect people to places of employment and allow communities to grow sustainably in the coming years. This will be through creating better and greener transport networks, reducing congestion and making use of limited road space by prioritising public transport.

Equality Impact Assessments allow us to assess the likely effects, both positive and negative, on people with shared characteristics. These characteristics are defined in the Equality Act (2010) and include gender, disability, age, race, etc. This tool helps ensure infrastructure projects work for everyone in design, construction, and operation.

Your time and views are greatly appreciated. No quotes from this interview will be attributed to you directly, but we will highlight some of the key themes that have emerged from your interview and they will be linked to your organisation in the body of the report. I will ask you again at the end of the interview for you to confirm whether you are happy for your organisation to be mentioned as having taken part in an interview. We are gathering a range of opinions from a range of people. All views are important, but we cannot guarantee that they will all be taken forward by the Greater Cambridge Partnership.

The purpose of this research is to get your opinion of the impact of this scheme on the communities with which you work or represent – both whilst this scheme is under construction and when it is operational. This interview will start with some background to the project before moving on to open questions where you can give your opinion. I'll be taking notes during the interview and will record this call to make sure I capture everything accurately; do you have any questions at this stage?

Interviewee details	
Name of interviewee:	
Organisation (if applicable):	
Position (if applicable):	

Project Overview:

Greater Cambridge Partnership is proposing to build infrastructure that will enable a High-Quality Public Transport service to operate between the A11/A1307 junction (near Babraham) and Cambridge – this scheme is known as Cambridge South East Transport (CSET). The project is made up of three core components:

- A new segregated and guided public transport route, with public transport priority measures between A11 and A1307 junction and Cambridge Biomedical Campus (CBC) that avoids general traffic congestion.
- A new Travel Hub which will be an area where car parking is provided and an interchange with the HQPT will be available.
- New high-quality non-motorised user facilities.

This proposed new public transport route would link the Cambridge Biomedical Campus via Great Shelford, Stapleford and Sawston to a new travel hub near A11 with connections to Babraham Research Campus and Granta Park. The route would be entirely off-road, interacting with other traffic. Junctions between existing roads and the new public transport route would be controlled by traffic lights.

The CSET Scheme will also include the following facilities:

- Travel Hub with capacity for around 2800 cars at the A11 Travel Hub Site with pick-up and drop off point, coach parking, waiting room and welfare facilities, connections to active travel path, secure cycle parking, recharging points for electric powered vehicles
- Signalised junctions with priority for High Quality Public Transport vehicle where the route crosses existing roads (e.g. Granham's Road, Hinton Way, Haverhill Road, Sawston Road and High Street.
- Non-motorised user path for the full length of the CSET Scheme
- Appropriate landscaping and environmental mitigation along the route.

Do you have any questions before we move on to the questions?

Q1. Can you start by telling me a bit about yourself and the organisation or community that you are representing?

PROMPT:

- How long have you been in your role or representing your community?

Answer:
Q2. From your experience and from the work you do with local communities, what are your/ your community's opinions of the proposals in terms of equality? **Prompts:** • Positive / negative impact on Protected Characteristic Groups (disabled people, children, young people, old people….) • Would people use it regularly? Who and why? • Do the proposals positively or negatively discriminate anyone? And why? *(if they don't give specific answers, we can ask about public transport/stops/park and ride in general)*
Answer:
Q3. What do you think the potential <u>positive</u> effects of the proposed works could be on different sections of the local population? **CONSIDER:** **Construction:** **Environmental and social effects (air quality, noise, community cohesion, public realm)** **Economic effects (employment, increased population/spend locally)** **Operation:**

A new bus route from Babraham – Cambridge Biomedical Campus via Sawston, Stapleford and Great Shelford

New travel hub near A11/A1307 junction

New active travel path – for walkers, cyclists, horse riders…

Cambridge Autonomous Metro

Environmental and social effects (air quality, noise, community cohesion, public realm)

Economic effects (increased access to employment)

Prompts:

The specific group or groups that you work with or represent

Other local people

Other social groups (older or younger people, disabled people, LGBT people, people from ethnic minority communities, people from religious communities, women or men)

Q4. What do you think the potential <u>negative</u> effects of the proposed works could be on different sections of the local population?

CONSIDER:

Construction:

- Environmental and social effects (air quality, noise, community cohesion, public realm)
- Economic effects (travel to work, etc.)

Operation:

- A new bus route from Babraham – Cambridge Biomedical Campus via Sawston, Stapleford and Great Shelford
- New travel hub near A11/A1307 junction
- New active travel path – for walkers, cyclists, horse riders…
- Cambridge Autonomous Metro
- Environmental and social effects (air quality, noise, community cohesion, public realm)

Economic effects (access to work)

Prompts:

- The group or groups that you work with or represent.

• Other local people • Other social groups (older or younger people, disabled people, LGBT people, people from ethnic minority communities, people from religious communities, women or men?)
Answer:
Q5. How might any negative effects that you have identified be managed or mitigated against? **Prompts:** • What measures could be implemented to mitigate any negative effects? Could anything be done to lessen the effects? • Are there other options that should be considered? • Are there specific design changes that could be made? • Communication? Engagement? Other work with local people / groups?
Answer:
Q6. Thinking about the communities with whom you work, what features, or facilities ensure such transport schemes are accessible and inclusive? **Prompts:** • Bus stop location / provision (transport links) • Road and personal safety • Connectivity between villages and Cambridge • Cost of transport • Amenities at park and ride hubs • Access to services (education, employment, open space, leisure/retail)
Answer:
Q7. Are there further opportunities to improve or enhance equality of access or use through the changes proposed as part of the project? **Consider:** • What else could Greater Cambridge Partnership and partners do to improve accessibility and social inclusion in the area? • How could this be achieved? • What else could be done to foster security, safety and sustainability in the local area?
Answer:

Q8. Is there anything else you think we ought to consider when doing our Equality Impact Assessments, or any other groups we should contact?
Answer:
[Thank you and close] • Confirm whether they are happy to be mentioned as having taken part in an interview • Thank participant and close interview