A629 Phase 2 - Full Business Case Plus

Social and Distributional Impacts Report

Calderdale Metropolitan Borough Council

May 2023

Delivering a better world

Quality information

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1. Introduction

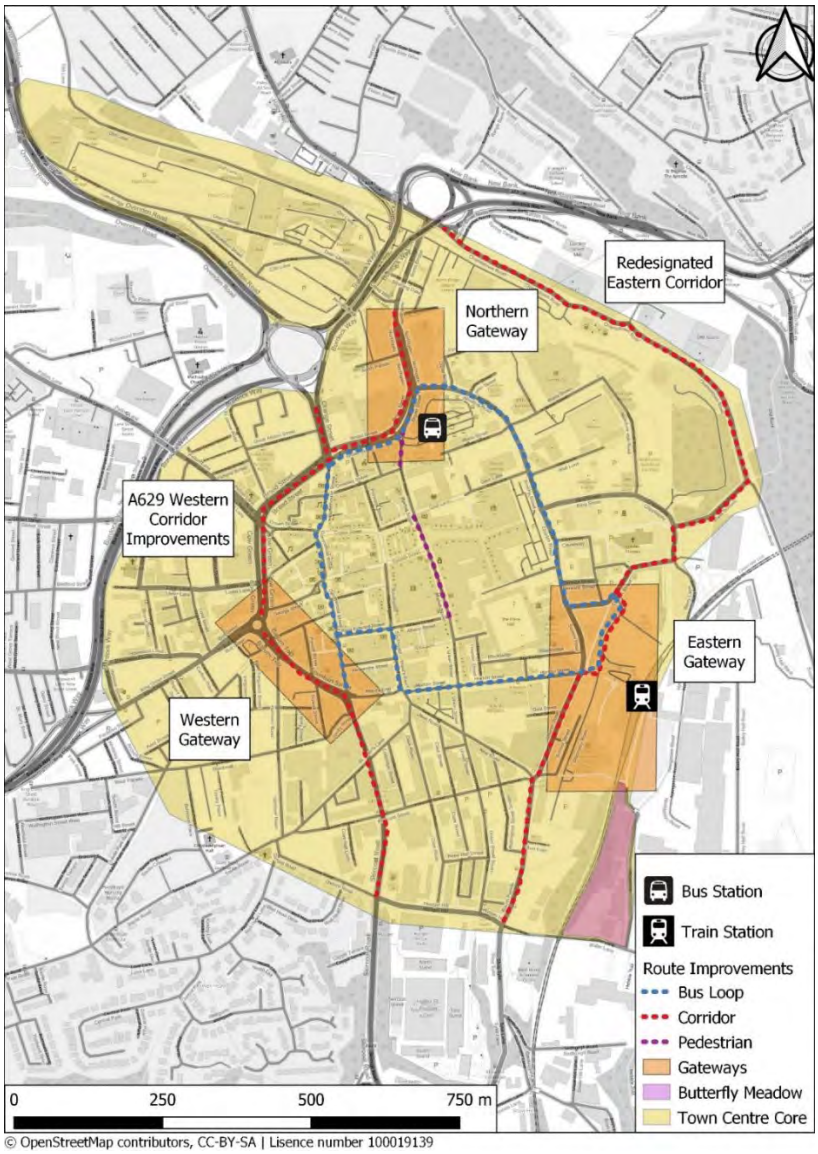
Background

This Social and Distributional Impact (SDI) Report presents results from the appraisal of the social and distributional impacts of the A629 Phase 2 scheme in and around Halifax town centre. This is a requirement of the wider transport appraisal process, and follows guidelines provided by TAG Units 4.1 (DfT, November 2022) and 4.2 (DfT, May 2020).

Scheme Overview

The A629 Phase 2 is part of wider works linking Halifax and Huddersfield. The scheme will improve pedestrian and cycle access into and around the town centre area by addressing severance, re-routing of traffic and capitalising on placemaking opportunities through pedestrianisation and the creation of public spaces. A revised bus network around the town centre will be implemented providing greater coverage and improved connections between the railway and bus stations. The scheme elements that can be summarised are shown in **Figure 1-1** below.

Figure 1-1: Scheme overview



The key scheme features are outlined below:

- Gateway entry points to improve the sense of arrival into Halifax town centre from the North, (South) East and (South) West, in particular for pedestrians and cyclists;
- Public realm improvements including the pedestrianisation of Market Street and part of Northgate, and public space at the Eastern Gateway .
- Provision of electric vehicle charging points;
- Creation of an anti-clockwise 'bus loop', maximising bus penetration to the town centre core, as well as boosting access to development sites to the East (e.g. Cripplegate and the Library);
- Enhanced bus-rail interchange opportunities at the Eastern Gateway;
- Re-designation of the eastern corridor to improve the efficiency and attractiveness of the route, thereby reducing through traffic in Halifax town centre and re-balancing traffic movements on the eastern and western corridors;
- Modified A629 western corridor to improve the efficiency and attractiveness of the route, reducing through traffic in Halifax town centre.

Scheme Objectives

The objectives A629 Phase 2 are rooted in the wider vision for Calderdale 2024, which aims to promote distinctiveness, kindness & resilience, and enterprise & talent as the core values of the borough, with the ambition of being 'the best borough in the north'. Separately, a vision for A629 Phase 2 is as follows:

To capitalise on Halifax's unique identity, of placing people, business, connectivity, diversity and heritage at the heart of its inclusive growth, to strengthen Halifax's regional and national significance as a location for business, education, culture and leisure.

The objectives of the A629 Phase 2 scheme are centred around five key themes as outlined below:

1. **Town Centre prosperity** – encourage prosperity in the town centre through the expected increase in footfall because of the improvements to the public realm as well as active mode facilities
2. **Increased active and sustainable travel** – promote inclusive growth in line with equality, diversity, and inclusion (EDI) themes, encourage modal shift from the private car, reduce congestion and improve public health
3. **Environment** – contribute to the objectives of the Climate Change Emergency through reduced emissions and improve public health.
4. **Safety** – reduce conflict in traffic movements, as well as between motorised vehicles and non-motorised transport means
5. **Town Centre Highway routing** – reduce congestion, improve air quality, improve active mode environment as well as reducing town centre severance on the western corridor

Structure of the Report

The remainder of the report is structured as follows.

Section 2 – Scope and Screening

Section 3 – Social Impacts Assessment and Appraisal

Section 4 – Distributional Impacts Assessment and Appraisal

Section 5 – Summary

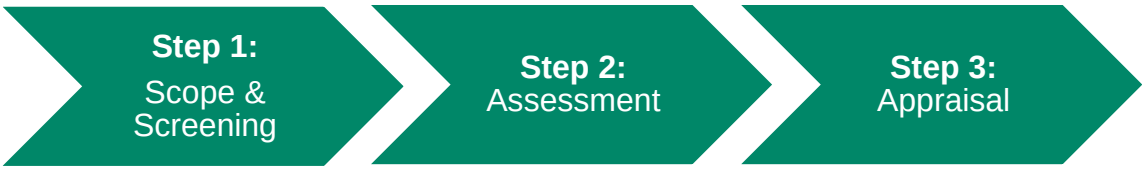
Section 6 – Appendices

2. Scope and screening

Introduction

The appraisal process entails three distinct processes as outlined in the DfT TAG Guidance and is summarised in the figure below. This section deals with step 1, with subsequent steps addressed in sections 3 and 4 respectively. The screening process is where we determine which of the social impacts listed in the guidance is relevant for assessment in light of the scheme objectives.

Figure 2-1: Social and distributional impact appraisal process



Social impacts

Social impacts refer to the overall human experience of a transport system and its impact on social factors that are separate from the economic or environmental impacts. Each individual social impact must be assessed, and the results entered into an Appraisal Summary Table (AST). All social impacts identified in TAG A4.1 must be assessed unless there is strong evidence discarding the need to do so. **Table 2-1** shows results of the screening exercise and what factors/indicators have been taken forward for further appraisal.

Table 2-1: Social impact scoping

Social impacts	Appraised?
Accidents	**Yes**
Physical Activity	**Yes**
Security	**Yes**
Severance	**Yes**
Journey quality	**Yes**
Accessibility	**Yes**
Option values and non-option values	Not assessed
Personal affordability	Not assessed

Distributional impacts

Distributional impacts (DIs) consider the variance of transport intervention impacts across different social groups and analysis of these is a mandatory part of the appraisal process. Both beneficial and /or adverse impacts of transport interventions need to be considered, along with the identification of social groups likely to be affected.

Drawing on guidance contained in TAG Unit A4.2, appraisal of DIs considers the benefits from a transport intervention, their distribution among different social groups as well as the extent to which each group experiences the said benefits and or its adverse impacts.

All DIs need to be assessed unless there is a strong reason to exclude them. A screening proforma that identifies which indicators require more detailed appraisal has been derived and recommendations made where appropriate. **Table 2-2** contains the scoping outcome for distributional impacts.

Table 2-2: Distributional Impact Scoping

Indicator	(a) Appraisal output criteria	(b) Potential impact	(c) Qualitative Comments	(d) Proceed to Step 2
User benefits	The TUBA user benefit analysis software or an equivalent process has been used in the appraisal; and/or the value of user benefits Transport Economic Efficiency (TEE) table is non-zero.	Yes, negative	Negative impact due to highway re-routing and introduction of signals which can cause delays to users. This may be offset by modal shift towards public transport. The overall impact is expected to be slightly negative	Yes
Noise	Any change in alignment of transport corridor or any links with significant changes (>25% or <-20%) in vehicle flow, speed or %HDV content. Also note comment in TAG Unit A3.	Yes, negative	Slight negative due to rerouting of traffic and introduction of signals which can cause delays to users. This may be offset by the benefits of removing traffic from the centre of the town. The impact overall is expected to be slightly negative.	Yes
Air quality	Any change in alignment of transport corridor or any links with significant changes in vehicle flow, speed or %HDV content: • Change in 24-hour AADT of 1000 vehicles or more • Change in 24-hour AADT of HDV of 200 HDV vehicles or more • Change in daily average speed of 10kph or more • Change in peak hour speed of 20kph or more • Change in road alignment of 5m or more	Yes, negative	Slight negative due to rerouting of traffic and introduction of signals which can cause delays to users. This may be offset by the benefits of removing traffic from the centre of the town. The impact overall is expected to be slightly negative.	Yes
Accidents	Any change in alignment of transport corridor (or road layout) that may have positive or negative safety impacts, or any links with significant changes in vehicle flow, speed, %HGV content or any significant change (>10%) in the number of pedestrians, cyclists or motorcyclists using road network.	Yes, positive	Slight reduction in number of accidents post scheme	Yes
Severance	Introduction/removal of barriers to pedestrian movement, e.g. through changes to crossing provision, or through introduction of new public transport or road corridors. Any areas with significant changes (>10%) in vehicle flow, speed %HGV content.	Yes, positive	Reduced severance on the western side of the town centre	Yes

Security	Any change in public transport waiting/interchange facilities including. pedestrian access expected to affect user perceptions of personal security.	Yes, positive	Overall positive impact given improved public realm and natural surveillance resulting in more positive perceptions of personal security	Yes
Accessibility	Changes in routings or timings of current public transport services, any changes to public transport provision, including routing, frequencies, waiting facilities (bus stops / rail stations) and rolling stock, or any indirect impacts on accessibility to services (e.g. demolition & re-location of a school).	Yes, positive	Yes – changes to routing of public transport and relocation of some stops gives a better service to users	Yes
Affordability	In cases where the following charges would occur; Parking charges (including. where changes in the allocation of free or reduced fee spaces may occur); Car fuel & non-fuel operating costs (where, e.g. rerouting or changes in journey speeds and congestion occur resulting in changes in costs); Road user charges (including. discounts & exemptions for different social groups); Public transport fare changes (e.g. premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new technologies); or Public transport concession availability (e.g. concession arrangements vary as a result of a move in service provision from bus to light rail or heavy rail, where such concession entitlement is not maintained by the local authority).	No impact - neutral	Public transport fares are not being changed and the impact of costs on other users will be minimal.	No.

3. Social Impacts Assessment and Appraisal

Introduction

This section presents the results for the social impacts that have been assessed for inclusion in the Appraisal Specification Table (AST).

Following the screening stage, the next step is to assess the selected indicators. This section assesses and appraises scheme impact on each social indicator as outlined in TAG unit A4.1. The broad assessment ensures that a thorough understanding of the social impacts a scheme may have is known before investment decisions are made. The social impact indicators required for assessment are as below:

- Accidents
- Physical Activity
- Security
- Severance
- Journey Quality
- Option Values and Non-Option Values
- Accessibility
- Personal Affordability

The appraisal methodology varies between indicators due to the wide range of issues assessed. The methods include economic evaluation, Active Mode Appraisal Toolkits, and qualitative narratives. The assessment methods employed mirror the TAG guidance to ensure reliability and appropriateness relative to the scale of development proposed. The sections that follow will examine the scheme impact on each indicator in turn.

Accidents

The key measure of a scheme's impact on accidents is the estimated difference between the number of casualties and accidents between the with-scheme and without-scheme scenarios. This figure is then combined with values for the prevention of casualties and accidents to estimate a monetary value of the accident-related costs or benefits of proposed transport interventions.

The impact of casualties differs depending on the severity of the injuries sustained. Three groups are usually differentiated and are defined as:

- **Fatality**: any death that occurs within 30 days from causes arising out of the accident
- **Serious injury**: records casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality
- **Slight injury**: where casualties have injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside

Methodology

COBALT (Cost and Benefits to Accidents – Light Touch v2.0 Beta) is a tool provided by the Department for Transport that has been used to assess the impact of accidents. The programme calculates the total cost of accidents on a road network by multiplying the change in number of accidents, between the without-scheme and with-scheme scenarios, by a value of prevention of an accident.

The key inputs to this process are base year flows from the SATURN model appropriately factored to AADTs as required by COBALT and link characteristics information taken from the SATURN model and overhead/on street photography. Links and junctions were treated separately. Accident data contained in COBALT and traffic flows from the Calderdale and Kirklees Transport Model (CKSTM) were used to ascertain the number, severity and cost (2010 prices) of accidents for the scheme over a 60-year period.

Results

Results from the assessment showed that the cost of accidents without the scheme is £142,955 and £140,731 with the scheme in place, resulting in a benefit of £2,224. This is summarised in **Table 3-1** below.

Table 3-1: Key results from the COBALT assessment 2027

	Accident Costs
Total Accident Costs (£000) Without-Scheme	£142,955.62
Total Accident Costs (£000) With-Scheme	£140,731.24
Net benefit/ disbenefit With-scheme (£000)	£2,224.38

Source: AECOM

The costs identified above correspond to 4055 accidents without scheme and 3983 after scheme opening, leading to a net decrease of 71 accidents. The number of Personal Injury Accidents (PIAs) is summarised in **Table 3-2**.

Table 3-2: Number of accidents (PIAs)

	No. of Accidents
Without-Scheme	4054.5
With-Scheme	3983.1
Net Benefit of Scheme	71.4

Source: AECOM

A comparative overview and breakdown of casualty severity with and without scheme is summarised in **Table 3-3** below.

Table 3-3 Comparative number of casualties by severity without and with scheme options

	Level of severity (without scheme)			Level of severity (with scheme)			Impact of Scheme		
	Fatal	**Serious**	**Slight**	**Fatal**	**Serious**	**Slight**	**Fatal**	**Serious**	**Slight**
2027	0.3	6.8	86.2	0.3	6.8	84.5	0.0	0.1	1.6
2042	0.3	6.7	86.0	0.3	6.6	84.3	0.0	0.1	1.7
All Years	**20.4**	**403.0**	**5149.7**	**20.3**	**398.2**	**5049.6**	**0.2**	**4.8**	**100.1**

Source: AECOM

Overall, the assessment is considered **slight beneficial** due to an overall minor reduction in accidents across the network as a result of the scheme**.** It is worth nothing, that the COBALT approach does not consider the design detail of junction or link design beyond the potential classifications the software uses. Therefore, it is possible that the design detail will lead to an even greater reduction in accidents than that calculated by COBALT.

Physical activity

There is common understanding of the interrelation between transport, the environment and health. Transport can affect levels of physical activity, which is a primary contributor to a broad range of chronic diseases such as coronary heart disease, stroke, diabetes and some cancers. Physical activity also has an important role to play in preventing obesity and improving mental health.

Methodology

TAG Unit 4.1 recommends appraising the impact of an intervention on physical activity that arises from active travel in terms of life years gained. In essence, a scheme that leads to an increase in the number of people walking and cycling and therefore improved health would reduce the relative risk of death. Where death is avoided, this effectively corresponds to increased lifespan and therefore a health benefit of the scheme. Likewise, any transport intervention that inhibits active travel by walking or cycling can be said to contribute to lost life years and can therefore be monetised as a health disbenefit.

A629 Phase 2 has been designed with new, and in some areas significant improvements, to existing provision for pedestrians and cyclists and is therefore expected to potentially attract more users of active modes, and in so doing provide a health benefit.

The DfT's Active Mode Appraisal Toolkit (AMAT) has been used to appraise benefits arising out of the scheme. A bespoke methodology for establishing the baseline and deriving expected user numbers post intervention is provided in more detail within **Appendix F5** of the FBC.

Results

Scheme assessment results are shown in **Table 3-4**.

Table 3-4: AMAT Assessment Results – Pedestrians and Cycling

Benefit	Cyclists (£000s)	Pedestrians (£000s)	Total
Mode Shift	£251.34	£2,051.70	£2,303.04
Health	£2,656.62	£41,733.68	£44,390.30
Journey Quality/Ambience	£64.77	£575.07	£639.84
Total	**£2,972.72**	**£44,360.45**	**£47,333.17**

Source: AECOM

The majority of benefits (~94%) come from health benefits (reduced risk of premature death and absenteeism). The remaining benefits are shared between mode shift (5%) and journey quality (1%), with the impact on the latter being negligible. The scheme will increase the number of trips people make to, and within, the town centre using active modes. On balance, results from the overall the impact is assessed as **large beneficial**.

Security

Any transport scheme has the potential to impact on the security of its users, which will ultimately impact on their decisions to use a scheme or not. TAG Unit 4.1 recommends that the following indicators be assessed as a measure for changes to security of transport users.

- Any change to site perimeters
- Changes to lighting or visibility
- Changes to landscaping
- Changes to formal surveillance
- Changes to informal surveillance
- Emergency call facilities

Methodology

A qualitative assessment has been undertaken to assess scheme impact on personal security levels for users. TAG worksheets have been used to assess security for the following environments:

- Highway environment;
- On-street bus stops environment;
- Pedestrian environment.

Results

Assessment results for all three environments can be found in **Table 3-5**, **Table 3-6** and **Table 3-7.**

Table 3-5: Summary of security worksheet completed for the Highway environment

Security Indicator	Relative importance	Without scheme	With scheme
	(High/Medium/Low)	**(Poor/Moderate/High)**	**(Poor/Moderate/High)**
Site perimeters, entrances and exits	Low	Moderate	Moderate
Formal surveillance	Medium	Moderate	Moderate
Informal surveillance	Medium	Moderate	Moderate
Landscaping	Medium	Moderate	High
Lighting and visibility	Medium	Moderate	High
Emergency call	Low	Moderate	Moderate

Table 3-6: Summary of security worksheet completed for the On-Street Bus stops environment

Security Indicator	Relative importance	Without scheme	With scheme
	(High/Medium/Low)	**(Poor/Moderate/High)**	**(Poor/Moderate/High)**
Site perimeters, entrances and exits	Low	High	High
Formal surveillance	High	Moderate	Moderate
Informal surveillance	High	High	High
Landscaping	High	Moderate	Moderate
Lighting and visibility	High	High	High
Emergency call	Low	Moderate	Moderate

Table 3-7: Summary of security worksheet completed for the Pedestrian environment

Security Indicator	Relative importance	Without scheme	With scheme
	(High/Medium/Low)	**(Poor/Moderate/High)**	**(Poor/Moderate/High)**
Site perimeters, entrances and exits	Low	Moderate	Moderate
Formal surveillance	High	Moderate	Moderate
Informal surveillance	High	Moderate	High
Landscaping	High	Moderate	High
Lighting and visibility	High	Moderate	High
Emergency call	Low	Moderate	Moderate

Overall, the security assessment for the highway and for bus-stop users has been appraised as neutral, with a large positive result for pedestrian environments. The overall appraisal score has been assessed **as slight beneficial**.

Severance

Community severance is defined as the separation of residents from facilities and services they use within their community as a direct result of a transport intervention. Severance will only be an issue where either vehicle flows are significant enough to significantly impede pedestrian movement or where infrastructure presents a physical barrier to movement. This indicator primarily concerns those using non-motorised modes, particularly pedestrians. The impact of severance on cyclists will differ for two reasons: they travel more quickly; and crossing facilities may not be readily available.

Methodology

A qualitative assessment has been undertaken to ascertain the social impact on severance at the notable areas of impact near the scheme. Severance is classified according to the following four broad levels:

- **None** - Little or no hindrance to pedestrian movement.
- **Slight** - All people wishing to make pedestrian movements will be able to do so, but there will probably be some hindrance to movement.
- **Moderate** - Pedestrian journeys will be longer or less attractive; some people are likely to be dissuaded from making some journeys on foot.
- **Severe** - People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. In some cases, this could lead to a change in the location of centres of activity or to a permanent loss of access to certain facilities for a particular community. Those who do make journeys on foot will experience considerable hindrance.

A TAG worksheet for severance has been used to assess severance at the key junctions on the eastern and western corridors, in key locations in the town centre core and along Winding Road. It should be noted that available data sources have been used to estimate the number of people affected at each junction. However, there are locations not covered by the surveys, in these circumstances an “X” has been placed against the appropriate change in severance. however, in the absence of total number of people affected it has been revised down to **slight beneficial** and can be seen as a conservative estimate in the absence of survey data.

Results

Particular improvement is expected in the western part of the town centre, improving connectivity to the core. The mix of signalised and non-signalised crossings, segregated cycle movements at certain junctions and improvements to the public realm means a more connected core.

Table 3-8: Summary of severance worksheet

Change in Population Affected Severance

	Market Street	Winding Road	Square Road (Central Library)	Northgate	King Edward Street/ Albion Street	A629/ Hunger Hill/Oxford Road	A629/ Commercial Street/ Ward's End	A629/Bull Green/ George Street/Rawson Street	A629- Pellon Lane	A629/ Orange Street	Northgate/Broad Street	Northgate/Winding Road	North Bridge/Cross Hills/ Northgate	A58/ Charlestown Road	Charlestown Road/Retail Parks	Bank Bottom/Lower Kirkgate/ Church Street	Total Affected
Large negative																	**0**
Moderate negative																	**0**
Slight negative																	**0**
Neutral					6299							X		X			**6299>**
Slight positive		X		3731		X									X		**3731>**
Moderate positive	17170		X				X	X	2105	X	X		X			X	**19275>**
Large positive																	**0**

Journey quality

Travel is a derived demand that arises from people's desire to engage in activities. Therefore when a high-quality journey is experienced it is often taken for granted. However, a poor journey quality, when experienced, is easy to recognise. Journey quality can be affected both by travellers and by network providers and operators. It is a measure of both the real and perceived physical and social environment experienced. This includes factors such as public information provision, perceptions of safety (e.g., street lighting, CCTV cameras, segregated cycle paths away from traffic), provisions for accessibility, physical crowding on public transport services etc.

Methodology

A qualitative assessment has been undertaken following the TAG guidance. The biggest benefits are anticipated to be experienced by pedestrians, with some factors being experienced by highway and bus users.

The TAG worksheet has been used to assess journey quality for the following users:

- Highway users (those in vehicles, excluding buses);
- Bus users;
- Pedestrians (including those who arrive into Halifax by rail).

Results

Worksheets results for the three user groups can be found in **Table 3-9 to Table 3-11.**

Table 3-9: Summary of results for the worksheet of Journey Quality of Highway users

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness		✓	
	Facilities		✓	
	Information		✓	
	Environment		✓	
Travellers' Views	-		✓	
Traveller Stress	Frustration		✓	
	Fear of potential accidents	✓		
	Route uncertainty		✓	

Table 3-10: Summary of results for the worksheet of Journey Quality of Pedestrians

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness	✓		
	Facilities	✓		
	Information	✓		
	Environment	✓		
Travellers' Views	-	✓		
Traveller Stress	Frustration	✓		
	Fear of potential accidents	✓		
	Route uncertainty	✓		

Table 3-11: Summary of results for the worksheet of Journey Quality of Bus users

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness		✓	
	Facilities		✓	
	Information		✓	
	Environment		✓	
Travellers' Views	-		✓	
Traveller Stress	Frustration	✓		
	Fear of potential accidents		✓	
	Route uncertainty	✓		

On balance, the scheme will have a **moderate beneficial** impact on overall journey quality for users. The highest benefits are expected to be experienced by pedestrians (**large beneficial),** with highway users experiencing **slightly beneficial** impact on their journey due to less congestion. Bus users can expect the scheme to yield **moderate beneficial** impact on their journey quality mainly due to anticipated improvements in journey times as buses are re-routed within the town centre.

Accessibility

Increasing car use has provided greater opportunity for people to travel and access the goods and services they require. However, one in four households does not have access to a car for reasons including cost, disability and choice. These people rely on public transport, walking, cycling or lifts from friends, family or community organisations. The reliance on such 'networks', which are often limited, can lead to social exclusion. Consideration of accessibility issues should take place throughout the appraisal process, commencing with the consideration of current and future transport challenges, in which the opportunity should be taken to consider options to tackle identified accessibility problems.

TAG Unit 4.1 identifies the following barriers to accessibility:

- **The availability and physical accessibility of transport**: For some people in isolated urban and rural areas there are limited or no public transport services or the services are unreliable, or do not go to the right places or at the right times
- **Cost of transport**: Some people find the costs of personal or public transport very high or unaffordable,
- **Services and activities located in inaccessible places**: Developments including housing, hospitals, business and retail are often located in areas not easily accessible to people without a car,
- **Safety and security**: Some people will not use public transport or walk to key services because of the fear of crime or anti-social behaviour; and
- **Travel horizons**: Some people are unwilling to travel long journey times or distances, or may not know about or trust transport services

Methodology

Accessibility has various interpretations within TAG Unit 4.1, not least, the ability to get to a given place. Other interpretations provided within the guidance include the physical access onto a public transport vehicle or indeed being able to access information about a particular public transport service

Accessibility was assessed by AECOM in September 2015. The assessment considered two scenarios, including DS3, which was proposed as part of the A629 Phase 2: Halifax Town Centre scheme. The detailed methodology can be found in **Appendix A**, and was undertaken to TAG requirements.

Results

Of the fourteen worksheets utilised, two have been scored a slight beneficial, six have been scored moderate beneficial, and six have been scored as large beneficial. Overall, the scheme has been assessed as **moderate beneficial** impact on accessibility, particularly for key town centre destinations. This is mainly because buses operating within and around the vicinity of the scheme and wider impact area will reap direct benefits of improvements to journey times and journey time reliability arising from re-routing effects and reduced congestion as a result of the scheme.

Option values and non-use values

Following the guidance from TAG Unit A4.1, this indicator should only be assessed if the scheme being appraised includes measures that will significantly change the availability of transport services within the impact area. This indicator was not assessed as the nature of the scheme does not concern transport service preservation.

Personal affordability

Research shows the cost of travel can be a barrier to mobility for some groups of people in terms of their ability to access some destinations. Similar to option values and non-use values, this scheme does not directly affect the monetary cost of public transport travel, and for this reason this indicator has been discounted from the assessment.

Summary

A summary of the scheme's impact on social indicators is provided in **Table 3-12** below.

Table 3-12: Summary of Assessment for SIs

Social Indicator	Assessment Conclusion
Accidents	**Slight beneficial**
Physical Activity	**Large beneficial**
Security	**Slight beneficial**
Severance	**Slight beneficial**
Journey Quality	**Moderate beneficial**
Accessibility	**Moderate beneficial**
Option Values and Non-Option Values	**Not assessed**
Personal Affordability	**Not assessed**

4. Distributional Impacts Assessment and Appraisal

Introduction

This section presents the results from the distributional impact assessments. The results have been derived following the guidance in TAG unit A4.2. The initial stage to undertaking a Distributional Impact (DI) assessment is to first identify the broad impact area of a particular intervention based on a robust evidence base, and then assess spatial impacts in detail. Each DI indicator and its impact within the impact area is then appraised. Any changes to the impact area are discussed in the relevant sub-section.

Within the DI analysis is the need to identify social groups that are particularly impacted by a transport intervention. The identification of social groups requires the analysis of the socio-economic, social and demographic characteristics of the transport users and residents in areas that may be impacted by the intervention. This includes variations in factors such as age, income, ethnicity, and access to private vehicles.

Following this, an assessment of the amenities in the impact area is included, which could have an impact on the social groups travelling within the impact area. For example, a school is likely to result in a greater number of children and/or families travelling in its vicinity that require extra consideration within the assessment. The local amenities likely to be used by different social groups for each DI indicator have been identified, and this amenity data allows qualitative assessments to be made and provides a wider assessment than just that of the resident population.

Data Sources

As per the guidance data used in the analysis has some from the data sources identified in TAG unit A4.2, with most data sets using the 2011 Census to provide consistency between population and demographic data used. Where appropriate, 2020 population estimates have been used as the latest population data, instead of the 2021 population outputs due to changes in LSOA boundaries in the latter set, relative to the original assessment. Hence the 2011 census LSOA boundaries, and associated data (e.g. ethnicity, gender, disability, car ownership) have been maintained for consistency. Furthermore, the 2019 Indices of Multiple Deprivation (IMD) has been used as a proxy for income, and the income rank has been used to estimate the varying levels of wealth across the impact area. The available data set for England was divided into quintiles to identify which LSOAs came under each wealth/deprivation quintile.

Lower Super Output Areas (LSOA) have been used, except in the identification of populations affected by noise and severance, where the output area population was used. Output areas were used, as they provide an opportunity to accurately identify resident populations affected, as the scheme area is largely located within one LSOA within the town centre.

Step 2: Assessment

The impact area assessed is detailed in the assessed indicators in the sub-sections that include the results. The impacted population often refers to the resident population, unless stated, as a detailed socio-demographic and geographical breakdown of bus station users is not available. A qualitative analysis (narrative) will be provided for accidents, security and accessibility due to the absence of data.

Step 3: Appraisal of impacts

Identification of social groups

Identification of social groups has been undertaken as per TAG guidance. However, that since users to Halifax town centre generally do not reside here, the benefits are dispersed over a considerable geographical area. The grading criteria for each social group are summarised in **Table 4-1.**

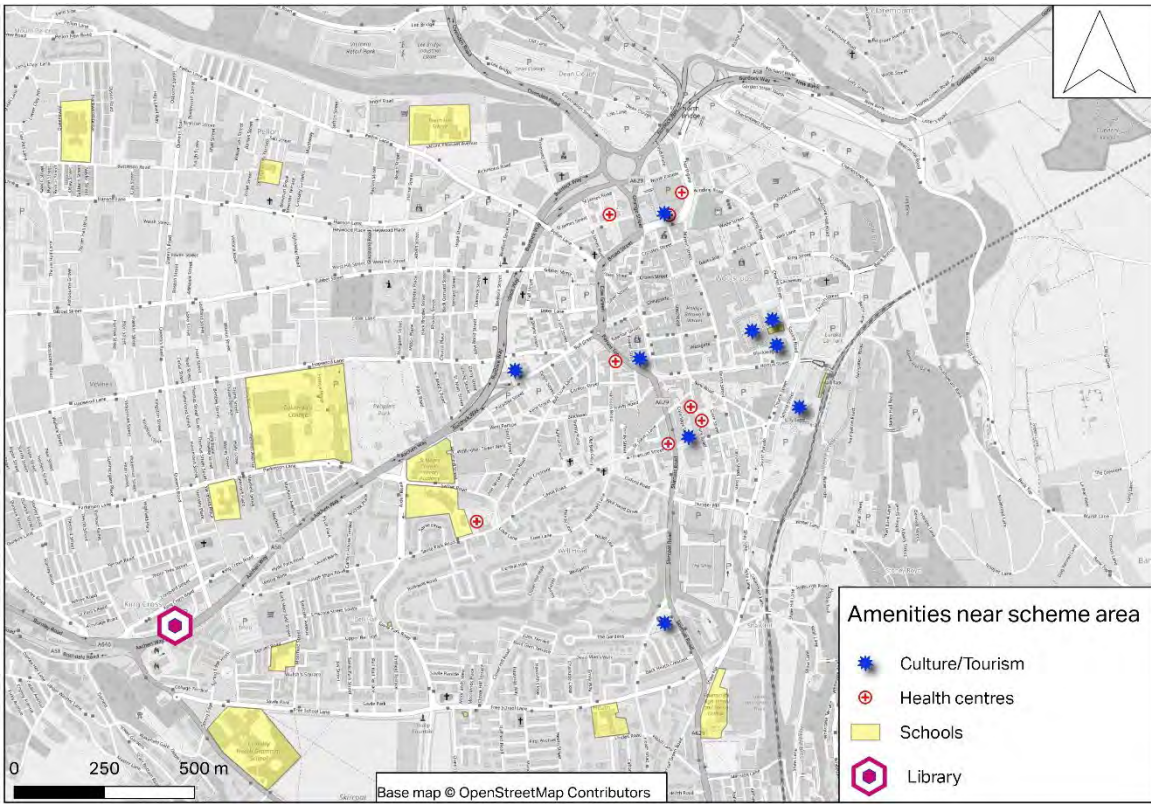
Table 4-1: Grading Criteria for Grading DIs in each Social Group

Impacts	Assessment
Beneficial and the population impacted is significantly greater than the proportion of the group in the total population	Large Beneficial ✓✓✓
Beneficial and the population impacted is broadly in line with the proportion of the group in the total population	Moderate Beneficial ✓✓
Beneficial and the population impacted is smaller than the proportion of the group in the total population	Slight Beneficial ✓
There are no significant benefits or disbenefits experienced by the group for the specified impact	Neutral
Adverse and the population impacted is smaller than the proportion of the population of the group in the total population	Slight Adverse ×
Adverse and the population impacted is broadly in line with the proportion of the population of the group in the total population	Moderate Adverse ××
Adverse and the population impacted is significantly greater than the proportion of the population of the group in the total population	Large Adverse ×××

Amenities in local area

Since a town centre context is being considered, there are a range of amenities available to both residents and visitors in the study area, as shown in **Figure 4-1.**

Figure 4-1: Amenities in Immediate Scheme Area



User benefits

Impact Area

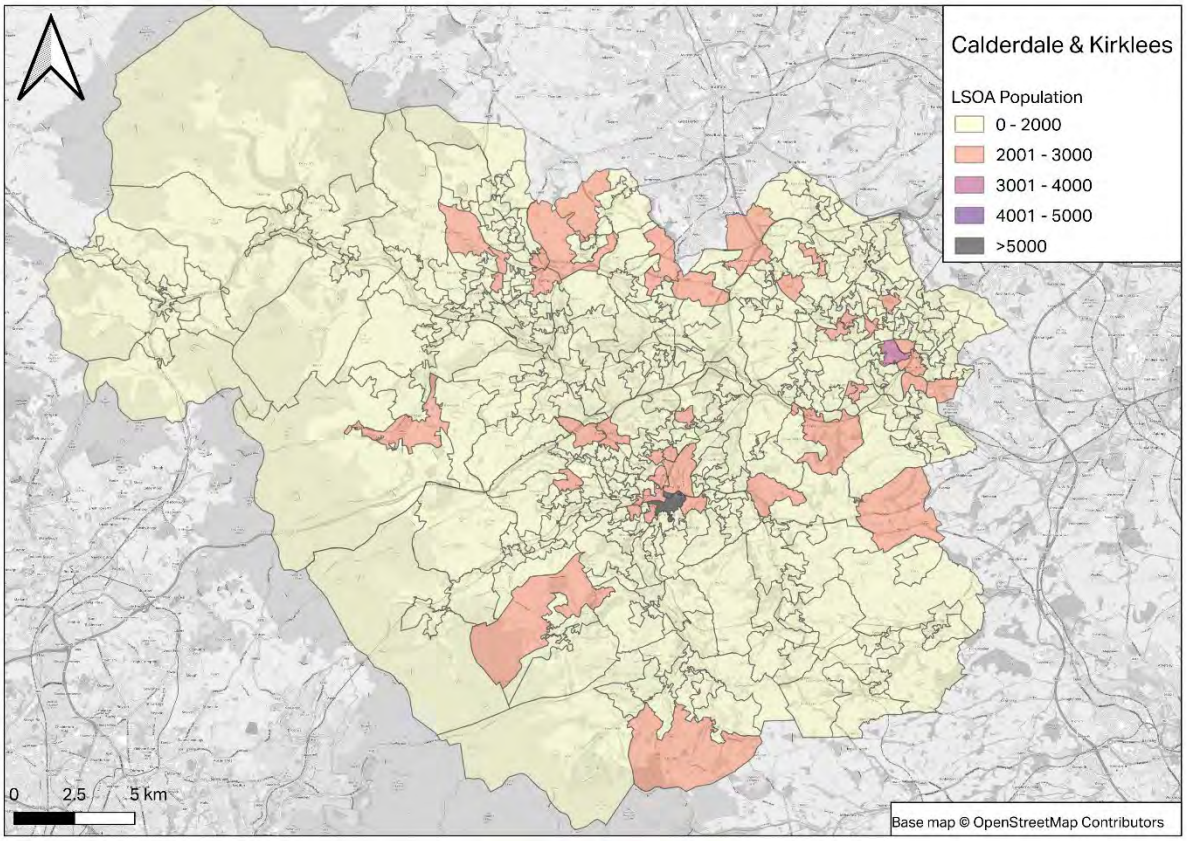
The impact area for this scheme has been identified as including areas across both the Kirklees and Calderdale local authority boundaries, with a total population of 653,246 (2020 estimates). Within this total, there is a range of income brackets meaning that each household and individual will experience a different set of benefits and disbenefits, and it is important to recognise and consider all these scenarios.

Identification of social groups

Following TAG guidance, local income data from IMD 2019 was used to identify the distribution of incomes in line with each census zone and model zone within the impact area. The analysis involved identifying corresponding populations for each zone based on census output areas, and this information was then disaggregated back to LSOA level to assign benefits based on income quintiles, as per the IMD data.

User benefits considers the income of the population within a given area; in this case the area is defined by existing LSOA boundaries as shown on **Figure 4-2** to maintain consistency with model build and outputs used in other assessments. The largest proportion of study area has up to 2000 persons in each LSOA, predominantly in the suburbs and rural areas, while higher concentrations are found within the urban areas of Huddersfield, Halifax, Dewsbury.

Figure 4-2: Total Population of the Scheme Impact Area by LSOA



Methodology and Assumptions

In accordance with TAG Unit A1.3, TUBA was used to monetise the benefits that transport users will experience from the scheme. TUBA was run for both highway and public transport users. This method separates benefits by type, mode, and journey purpose. This section focusses on the distribution of impacts on non-business journeys, as journeys for business impact the business rather than the individual. Benefits were then assigned to a zone before an exercise to identify the Lower Super Output Area (LSOA) affiliated to each zone. The output was then matched to the National Indices of Deprivation (IoD) income domain data to illustrate the distribution of user benefits amongst different income groups.

The classification of the impact was undertaken as set out in TAG Unit A4.2, and shown below in **Figure 4-3**.

Figure 4-3: Transport User Benefits DIs grading system for each social group

Table 8 System for Grading of Transport User Benefits DIs for each of the social groups	
Beneficial and 5% or more greater than the proportion of the group in the total population	✓✓✓
Beneficial and in line (+/-5%) with the proportion of the group in the total population	✓✓
Beneficial and 5% or more smaller than the proportion of the group in the total population	✓
There are no transport user benefits or disbenefits experienced	**Neutral**
A disbenefit which is 5% or more smaller than the proportion of the group in the total population	x
A disbenefit which is in line (+/- 5%) with the proportion of the group in the total population	xx
A disbenefit which is 5% or more greater than the proportion of the group in the total population	xxx

Source: TAG Unit 4.2

Results

The results from the user benefits assessment can be found in **Table 4-2**, and only apply to highway users.

Table 4-2: Summary of results for User Benefits - Highway

	Most Deprived			Least Deprived		Total
	0%<20%	20%<40%	40%<60%	60%<80%	80%<100%	
Total Population	202,430	141446	120471	129887	58495	652,729
No. LSOAs in Study Area	117	83	73	78	36	387
Total benefits (∑LSOAs)	-	-	-	-	-	
Total disbenefits (∑LSOAs)	-203,498	-36,567	-56,991	-41,369	-12,470	-350,894
Share of user benefits	-	-	-	-	-	
Share of user disbenefits	58%	10%	16%	12%	4%	100%
Proportion of overall population	31%	22%	18%	20%	9%	100%
Assessment	×××	×	××	×	×	
	Large Adverse	Slight Adverse	Moderate Adverse	Slight Adverse	Slight Adverse	

The results of the user benefit analysis show that the most deprived quintile 0-20% (31% of the population in the study area) incur 58% of the disbenefits (-£203,497). The wealthiest segment (81-100%) comprises 9% of the population in the area, but only incur 4% of the disbenefits at only -£12,470. The disbenefits accruing to the second most deprived quintile i.e. 20-40% is 10% at -£36,567 compared to the share of the population (22%) hence impact is considered slight adverse. The middle-income group 41-60%, who although comprise 18% of the area population, incur a disbenefit almost proportional to the population at 16% of the disbenefits, hence impact is considered moderate adverse. The second least deprived quintile (60-80%) where the proportion of the population (20%) experience 12% of the disbenefits at -£41,369, hence the impact is considered slight adverse.

Analysis of the scheme on user benefits for highway users reveals an overall **slight adverse** effect. It is important to note that user benefits calculated in TUBA normally focus on motorised modes, so it is not surprising that the scheme will lead to disbenefits for motorised users as a result of traffic diversions from the core, and other network improvements geared at improving conditions for pedestrians and cyclists. Furthermore, for this analysis only commuting and other purposes have been considered.

Scheme results for public transport users are shown in **Table 4-3.**

Table 4-3: Summary of results for User Benefits – Public Transport

	Most Deprived			Least Deprived		Total
	0-20%	21-40%	41-60%	61-80%	81-100%	
Total Population	202,430	14,1446	120,471	129,887	58,495	652,729
No. LSOAs in Study Area	117	83	73	78	36	387
Total benefits (∑LSOAs)	314,124	69,506	66,962	43,864	8,392	502,848
Total disbenefits (∑LSOAs)	-	-	-	-	-	
Share of user benefits	62%	14%	13%	9%	2%	100%
Share of user disbenefits	-	-	-	-	-	
Proportion of overall population	31%	22%	18%	20%	9%	100%
Assessment	✓✓✓	✓	✓✓	✓	✓	
	Large Beneficial	Slight Beneficial	Moderate Beneficial	Slight Beneficial	Slight Beneficial	

Assessment of user benefits for public transport users shows a very large benefit for the most deprived quintile. They comprise 31% of the population in the area, and reap 62% of scheme benefits, hence impact is considered large beneficial. Public transport users from the second most deprived quintile (21-40%) experience a slight benefit from the scheme, incurring 14% of total benefits yet they make up 22% of the population in the study area. All the other quintiles experience slight benefits from the scheme as the benefit calculated is smaller than the proportion of the population in the group. Overall, it is concluded that the A629 Phase 2 scheme has **slight beneficia**l impact on users of public transport.

Amenities in local area

Appraisal of amenities is not required for User Benefits because the analysis is mainly focussed on impact across income deprivation quintiles, in accordance with TAG Unit 4.2. For this reason, this element has been excluded from the analysis.

Noise

In addition to the focus on annoyance, which remains an important impact of noise, there is clear evidence of links between environmental noise and health outcomes including cardiovascular disease, cognitive impairment in children and sleep disturbance.

Identification of social groups

This indicator is likely to have the greatest impact on children, young people, older individuals and those with underlying health conditions more than any other social group. These groups also tend to be among households on low incomes and may therefore be unable to soundproof their homes to a decent standard, either through double glazing or other means. **Figure 4-4**, **Figure 4-5** and **Figure 4-6** show the distribution of the afore-mentioned groups within the scheme impact area.

Figure 4-4: Income Decile of Population in Scheme Impact Area

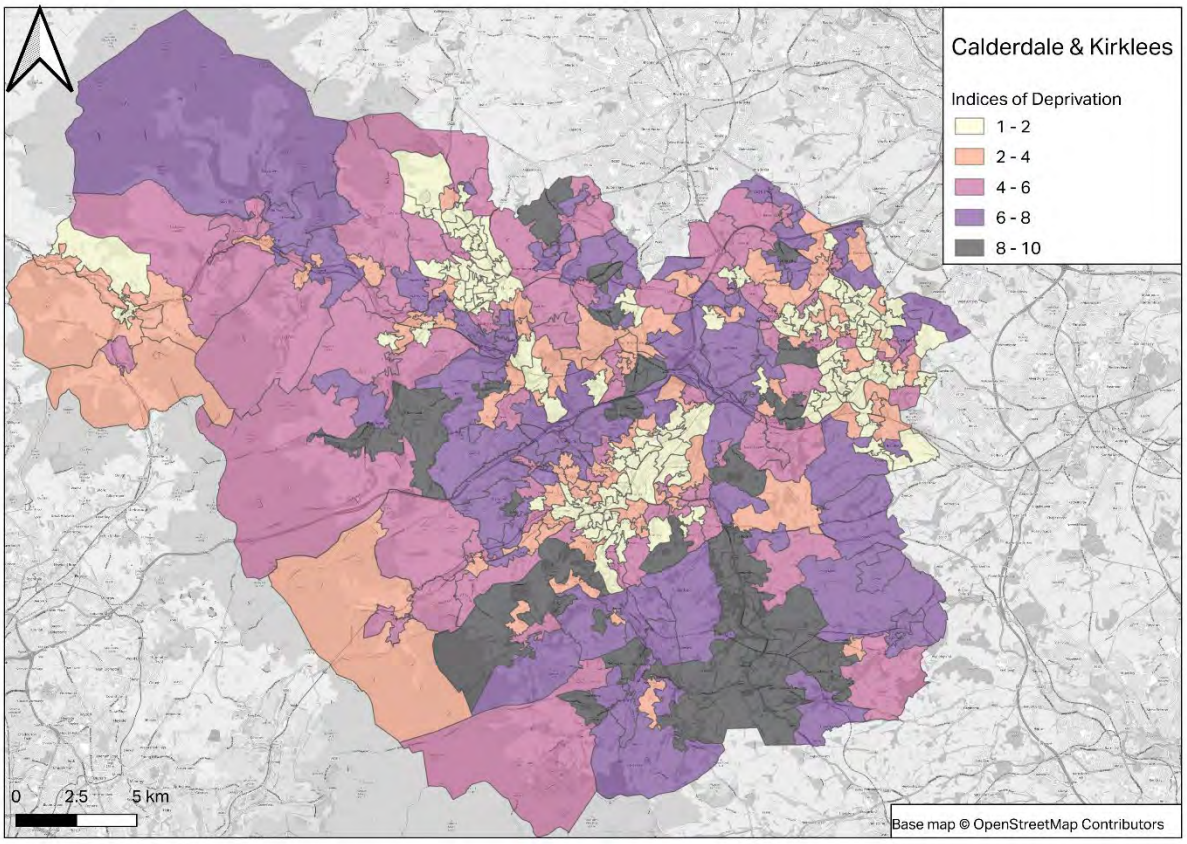


Figure 4-5: Distribution of Older People (65+) in the Scheme Area

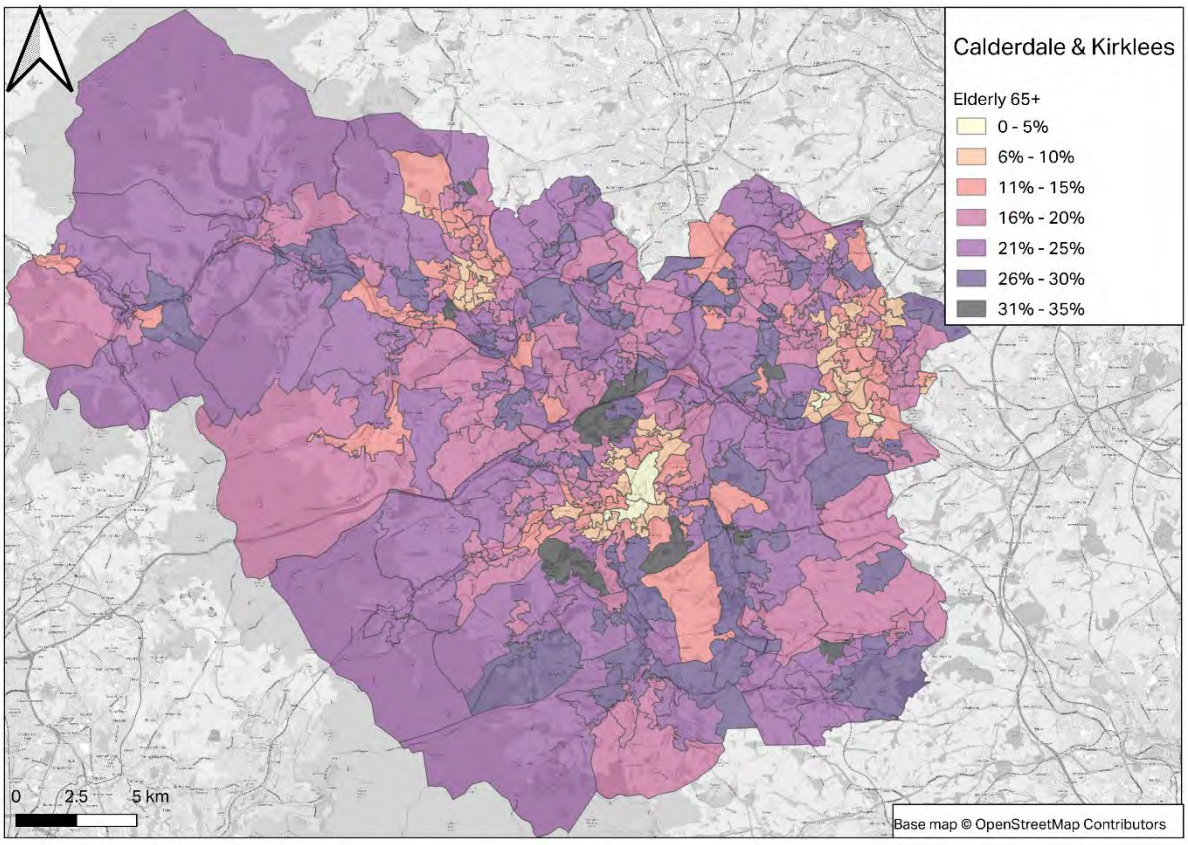
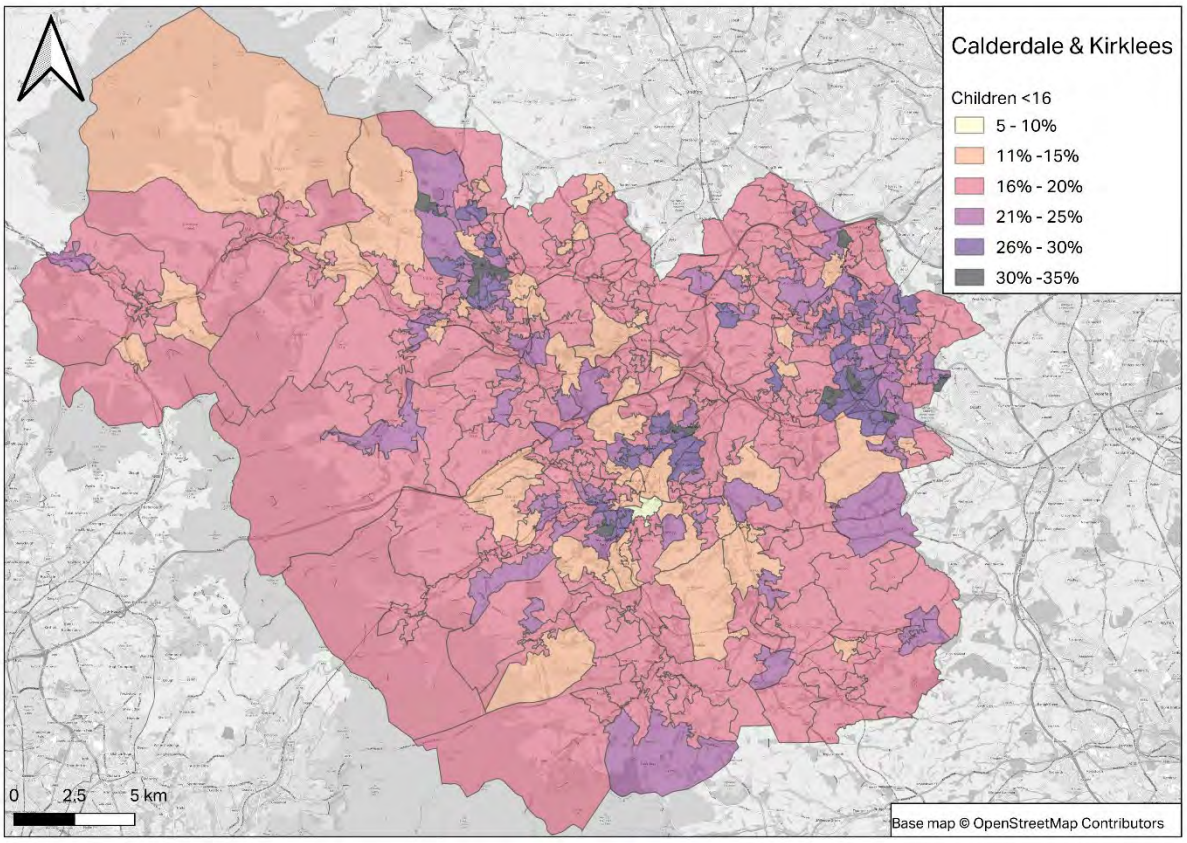


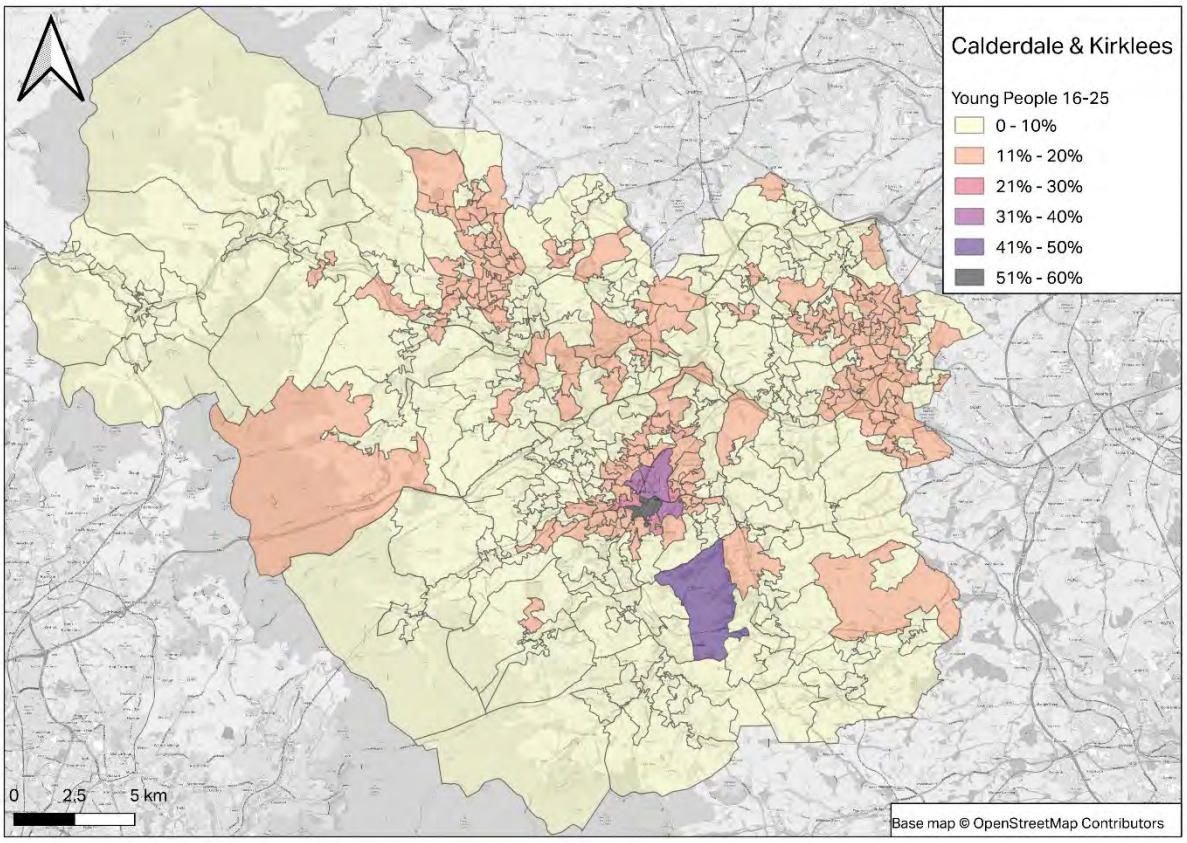
Figure 4-6: Distribution of Children (<16) in the Scheme Area



Most of the scheme impact area lies within the 2nd and 3rd quintile of derivation, with more affluence noted in the suburbs and rural areas. There are pockets of deprivation in the immediate scheme vicinity and in some outer rural areas of the area. The elderly and children under 16 comprise up to 35% households in the scheme area.

Large parts of the scheme area comprise a small percentage of young people, majority of LSOAs having up to 10% of their resident population aged 16-25 as demonstrated in Figure 4-7. These vulnerable groups require protection from the noise impacts of any new transport scheme.

Figure 4-7: Distribution of Young People (16-25) in the Scheme Area



Amenities in local area

It is worth noting that different amenities will attract different types and numbers of people depending on people's incomes, and hence the distributional impacts of noise will vary. In particular, noise may prove problematic especially for people living in very close proximity to the scheme area.

Results

At this stage the impact on noise has not been quantified so this indicator has not been assessed at this stage

Air Quality

The impacts of air quality are largely spatial. As poor air quality problems are often experienced in areas of deprivation, in which people already suffer relatively poor health, health problems can be exacerbated for such deprived communities. Evidence also suggests that children are at more risk from air pollution due to the fact that they generally spend more time outside and are therefore more exposed to harmful pollutants that impact on lung development. It is therefore recommended that consideration is given to the changes in air quality that are experienced by children.

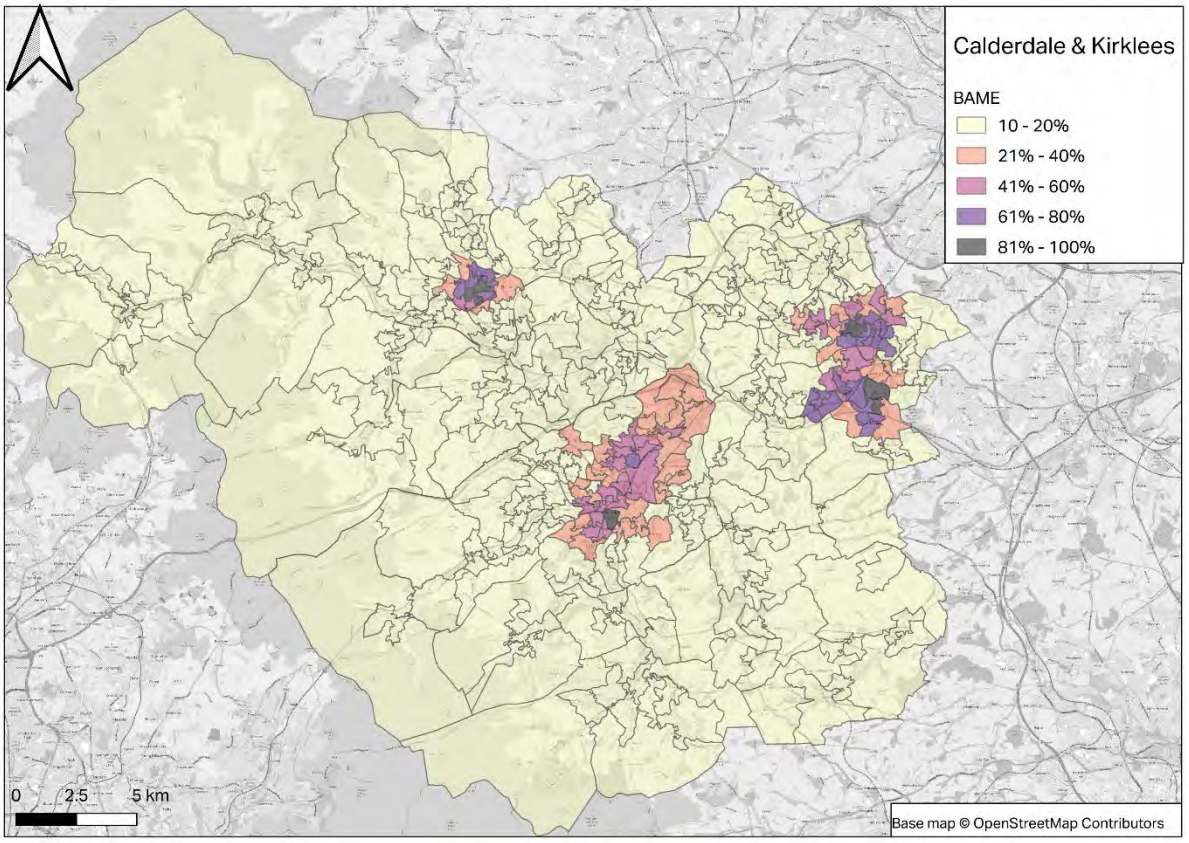
The poor air quality experienced in some areas of low car ownership is a clear issue as these people experience the impacts of car use, but do not themselves have access to a car. Hence, it is key to concentrate the analysis of changes in air quality on the impacts on households in areas of relatively high-income deprivation as a proxy.

Identification of social groups

Changes to air quality will affect children, older individuals and those with underlying health conditions more than any other social group. Particular attention has therefore been paid to the population within the scheme impact area that are over the age of 65, and under the age of 25 and the distribution of

these groups in the scheme area has already been illustrated. However in addition, Black and Minority Ethnic (BAME) is another social group that has been identified as potentially prone to disproportionate negative impact of air quality, and the distribution of this social group is illustrated in **Figure 4-8.**

Figure 4-8: Population of BAME in Scheme Area



The scheme area is not very ethnically diverse, but there are very high concentrations of BAME in the urban areas of Huddersfield, Dewsbury, Batley and Halifax, in some instances up to 99% of the resident population being from BAME groups. As these areas lie outside of the scheme impact area the impact on the BAME population is **neutral.**

Amenities in local area

There are lots of local amenities along the scheme corridor that are potentially large trip attractors, not least Piece Hall, Eureka. Because the scheme will largely impact buses and active modes, it is anticipated that any increase in travel/patronage on the buses or walking and cycling will have minimal negative impact on air quality.

Results

At this stage the impact on air quality has not been quantified so this indicator has not been assessed at this stage.

Accidents

The majority of transport-related accidents, injuries and deaths occur on the road network, and it is of high priority for any scheme to aim to reduce the number of accidents likely to be experienced for all users. It is also of note within the TAG guidance that there tends to be a strong link between deprivation and road accidents, with a disproportionate number of accidents occurring to users in lower income thresholds.

The screening process for accidents considers any change in road alignment or transport or a new transport corridor, and also investigates whether the intervention will cause any changes in vehicle flow,

speed, HDV use or pedestrian and cyclist numbers. As this scheme will impact on these factors, an assessment of the accidents and their possible impacts has been carried out.

Methodology and Assumptions

The distributional impact assessment of accidents has been undertaken through the following methodology.

Accidents were analysed to understand the current accident rates on links and how they compare with default accident rates to identify any areas of high casualty rates for vulnerable groups.

Changes in flow and proposed changes to the network were then analysed to inform an assessment of the potential positive or negative impacts of the scheme. This appraisal was undertaken according to the guidance in TAG Unit A4.2, Section 5.

Results

The overall assessment for all assessed links was compounded, according to the guidance. The results showed either a slight beneficial or neutral impact for each user group (**Table 4-4**).

Table 4-4: Accident assessment results (number of links, per user group)

	Children <16	Older People 65+	Young Men 16-24	Pedestrian	Pedal Cycle	M/cycle
Large beneficial	1	5	3	7	0	0
Moderate beneficial	7	7	5	4	1	0
Slight beneficial	3	3	0	0	1	2
Neutral	37	23	26	15	5	4
Slight adverse	3	1	6	1	0	0
Moderate adverse	6	3	2	1	0	2
Large adverse	0	3	0	1	0	0

The results of the assessment indicate a largely neutral impact across all vulnerable user groups. Furthermore, users in all social groups experience a reduction in casualty rates, particularly among children, the elderly and pedestrians. Overall, the impact of the scheme on accidents is considered to be **Neutral**.

Severance

Changes in severance are often an unintended consequence of a measure to address other problems. This measure refers to any alterations made to how ‘cut off’ an individual or household is from accessing facilities, services, or meeting other needs. Increases in severance are often seen as longer journey times, or when users are required to use routes that are inappropriate and/or difficult to use.

It is expected that the scheme will result in higher pedestrian activity in the area with the inclusion of enhanced and new pedestrian crossing opportunities. It is likely that people will be more inclined to navigate around the area on foot, to access services and public transport opportunities.

Methodology and Assumptions

The immediate impact area is the links within Halifax Town Centre, and the eastern and western corridors. According to TAG 4.2 It is recommended to use resident population at Output Area level to estimate the number of people that could be impacted by the scheme. For ease of reference the distributional impact is based along the broadly defined corridors i.e. Easter, Western and the Town centre core, as that is where the majority of the impact is expected to be felt. It is also assumed that residents within a 1km radius of the scheme area boundary can be reasonably expected to benefit from

or be impacted by the scheme, hence output areas within this radius have also been included in the assessment. The Output Areas used to carry out the assessment are listed in **Table 4-5** below.

Table 4-5: List of Output Areas for assessment of Severance

OA11CD	Corridor
E00055411	Eastern
E00055120	Eastern
E00055419	Eastern
E00055420	Eastern
E00055421	Eastern
E00055407	Central
E00055408	Central
E00055409	Central
E00055412	Western
E00055425	Western
E00055309	Western
E00055311	Western
E00055414	Western
E00055278	Western
E00055274	Western
E00168687	Western

Visitors to Halifax (arriving by bus, rail and private vehicle) are not included within this appraisal. Employees working for business locations within or near the town centre (including Lloyds Banking Group and Dean Clough) are also not included in this appraisal.

It is possible that the users from the OAs who do not use active modes to cross the corridors or use the town centre on a weekday will be offset by the number of people who do experience the severance accessing businesses and leisure sites in the vicinity of the eastern and western corridors and the town centre.

This appraisal was undertaken according to the guidance in TAG Unit A4.2, Section 6.

Identification of social groups

Severance is likely to particularly impact households without access to a car, the disabled, parents with buggies, the elderly (with or without mobility aids such as scooters/walking aids) and also possibly households that have a lower-than-average household income. Pedestrians are affected by severance more so than cyclists, as cyclists typically travel faster and crossing facilities are not always available to them.

It is also helpful to narrow down the pool of potential pedestrians and cyclists by identifying what proportion of the social groups identified are within the immediate vicinity of the scheme corridor, as they are the ones most likely to use the provisions, and if the latter is unavailable, they would be the

ones to face the most inconvenience. This has been done by identifying the relevant Output Areas (OAs) within which the key links/routes of scheme lie.

Results

The results show that the western corridor has an overall slight positive impact on the eastern and western corridors as a result of the more pedestrian connections and improved pedestrian crossing facilities. The estimates for affected users in the town centre is unquantifiable at the moment, but it can be deduced that improvements for active mode travel in the core will also reap positive benefits. The overall assessment is **slight beneficial**.

Table 4-6: Severance assessment results

Social group		Eastern Corridor	Western Corridor	Town Centre
All Social Groups	Change in severance [A]	Slight positive (+1)	Slight positive (+1)	Slight positive (+1)
	No. people affected [B]	5,555	32,817	3,738
	Overall effect [A*B]	5,555	32,817	3,738
No-car households	Change in severance [A]	Slight positive (+1)	Slight positive (+1)	Slight positive (+1)
	No. people affected [B]	466	3,523	709
	Overall effect [A*B]	466	3,523	709
Young people	Change in severance [A]	Slight positive (+1)	Slight positive (+1)	Slight positive (+1)
	No. people affected [B]	604	4,945	452
	Overall effect [A*B]	604	4,945	452
Older people	Change in severance [A]	Slight positive (+1)	Slight positive (+1)	Slight positive (+1)
	No. people affected [B]	903	3,084	517
	Overall effect [A*B]	903	3,084	517
People with disabilities	Change in severance [A]	Slight positive (+1)	Slight positive (+1)	Slight positive (+1)
	No. people affected [B]	3,582	21,265	2,060
	Overall effect [A*B]	3,582	21,265	2,060

Amenities in local area

The town centre location has many amenities, not least shopping centres, leisure, cultural and heritage, businesses, health and wellbeing facilities etc. It is anticipated that the improvements for pedestrian and cycle provision will encourage greater uptake of walking and cycling modes, particularly to access services within the scheme catchment area.

Security

There are several ways that the personal security of transport users can be altered, ranging from changing the landscaping of an area to adding or removing formal pedestrian crossing facilities. How safe individuals and family groups feel using a transport facility is of significant interest and importance as it will likely impact their decision to use, or not to use, a scheme's infrastructure.

Methodology and Assumptions

A qualitative appraisal was undertaken according to the guidance in TAG Unit A4.2, Section 7. Halifax Town Centre is a busy location and has over 10,000 visitors to the area. The location of the bus and railway stations on the periphery of the town centre core help bring people into the town centre before continuing their journey on foot (or using connecting transport options).

Results

A completed worksheet can be found in **Table 4-7**. The results show a slight improvement (+1) to three security indicators (informal surveillance, landscaping and lighting and visibility).

When it comes to the sub-categories of affected users there are no datasets available that indicate the proportion of all users who are older people, female or young people. Therefore, there is no overall assessment score available for these user groups and the decision has been reached qualitatively (as per guidance).

Overall, across the impact area, there is little change to the urban landscape with the exception of the enhancement of public realm on Market Street, Northgate (part of), Eastern Gateway and at A629/Wards End/Commercial Street junction. It is these public realm enhancements that improve the three security indicators, with security improving slightly at other locations with scheme interventions (such as at junctions).

Given that improvements to security are generally restricted to four locations, with limited improvements elsewhere, the overall security score can be considered neutral. However, given the high number of users within the town centre on a daily basis (>10,000), the small benefits at these locations will be felt on a larger scale and the overall result could be considered to be beneficial. Therefore, the overall security result is **slight beneficial**.

Table 4-7: Security assessment results

Security Indicator and element of entire journey	Performance for each security indicator			Relative importance of each indicator [B] (High / Medium / Low) (=3 / 2/ 1/)						Weighted score for each indicator [C] = [A] * [B]3					
	Without Scheme	With scheme	Change [A] (0/+1/+2)	All users	Older People	Women	Young People	BAME	Disabled	All users	Older People	Women	Young People	BAME	Disabled
Access on foot from origin to the public transport stop	Moderate	Moderate	0	Medium	High	High	Medium	High	Medium	0	0	0	0	0	0
Site perimeters, entrances and exits	Moderate	Moderate	0	Medium	Medium	Medium	Medium	Medium	High	0	0	0	0	0	0
Formal surveillance	Moderate	Moderate	0	Medium	Medium	Medium	Medium	Medium	Medium	0	0	0	0	0	0
Informal surveillance	Moderate	High	1	Medium	Medium	Medium	Medium	Medium	Medium	2	2	2	2	2	2
Landscaping	Moderate	High	1	Medium	Medium	Medium	Medium	Medium	Medium	2	2	2	2	2	2
Lighting and visibility	Moderate	High	1	Medium	High	High	Medium	High	High	2	3	3	2	3	3
Emergency call	Moderate	Moderate	0	Medium	High	High	Medium	High	High	0	0	0	0	0	0
Staffing of facility	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Public transport journey between the boarding and alighting stops	Moderate	High	1	Medium	Medium	Medium	Medium	Medium	High	2	2	2	2	2	3
Access on foot from the alighting stop to the destination	Moderate	Moderate	0	Medium	High	High	Medium	High	Medium	0	0	0	0	0	0
Total security improvement score [D] = ∑[C]$_n$										**8**	**9**	**9**	**8**	**9**	**10**
No of users affected (<500 users / day is low, >10,000 is high) [E]										**>10,000**	**Unknown**	**Unknown**	**Unknown**	**Unknown**	**Unknown**
Overall assessment of security impacts (all users and vulnerable groups)															

Accessibility

The appraisal of the accessibility indicator focuses on the public transport accessibility aspect in terms of accessing employment, services and social networks. This provides a holistic approach to considering the accessibility needs of a variety of different groups of people, considering a wide range of factors including journey times, service frequencies and provision of accessible boarding at stops.

The changes contained in the proposals are expected to enhance accessibility to existing services and destinations, while at the same time opening up new opportunities for other areas and or services to be reached as a result of the anticipated improvement in bus efficiencies in terms of journey time duration and quality. The anticipated changes adhere to government accessibility guidelines on inclusive mobility.[1]

Methodology and Assumptions

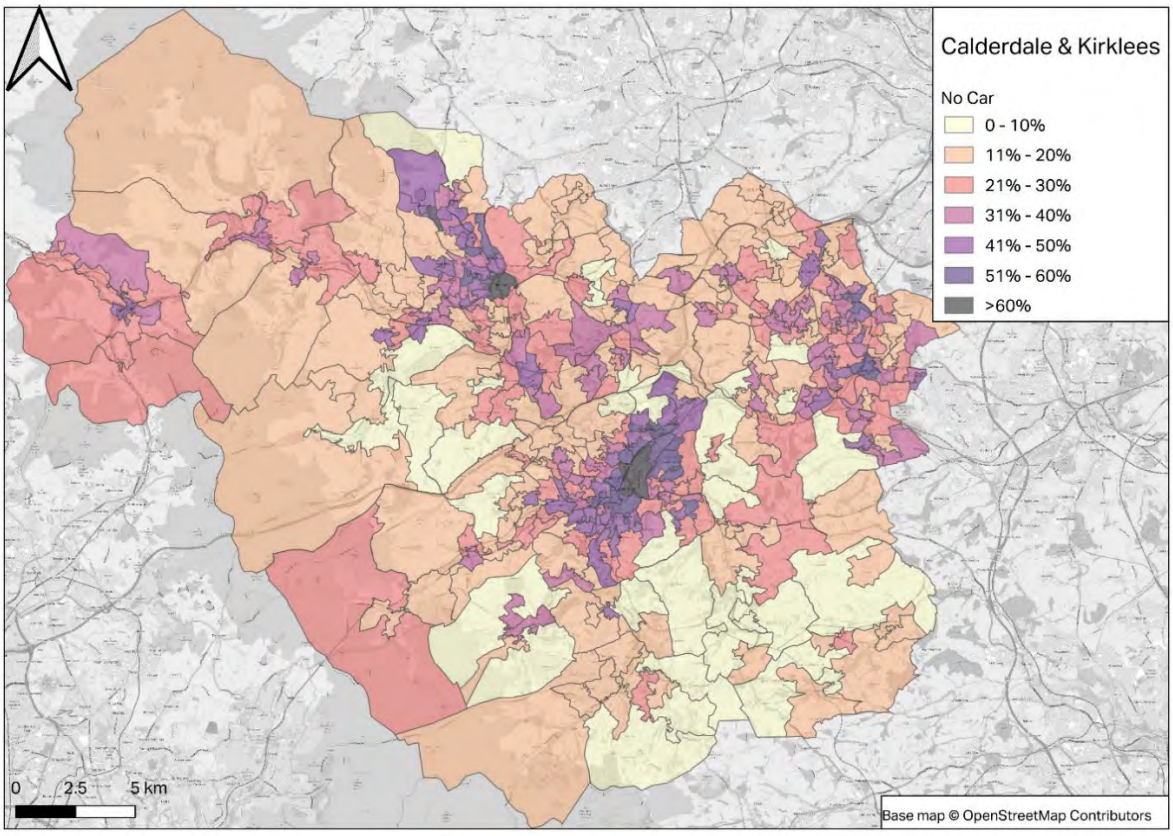
An accessibility study has previously been undertaken. Please refer to **Appendix A** for the accessibility results.

An accessibility audit has been undertaken with focus on the key destinations of main centre (Halifax Town Centre) and employment sites (e.g. Dean Clough and Lloyds Banking Group). Education establishments and healthcare facilities have not been included, as these are dispersed around Halifax and not focused on the scheme area. Of the fourteen worksheets utilised for the strategic accessibility assessment, two were scored a slight beneficial, six have been scored moderate beneficial, and six have been scored as large beneficial.

Identification of social groups

From an accessibility standpoint, the social groups that will require the most consideration are individuals with a disability, households with no access to a private car, disabled persons and households with dependents. These are shown in **Figure 4-9** and **Figure 4-10**, respectively

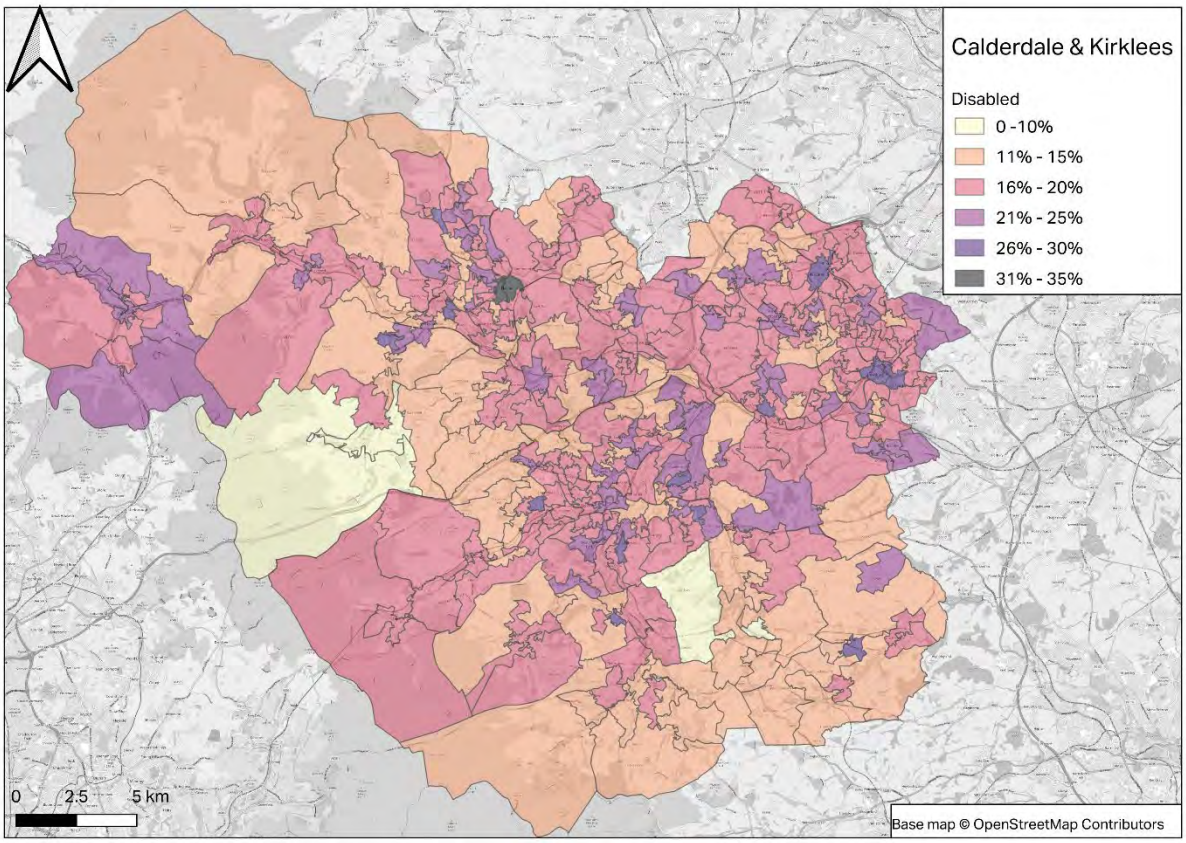
Figure 4-9: Households without access to a car



[1] DfT 2005, Inclusive Mobility, gov inclusive mobility

The map shows that between 20-50% of no car households are in close proximity to the scheme, underlying the importance of the proposed scheme in improving access to goods and services by means other than car.

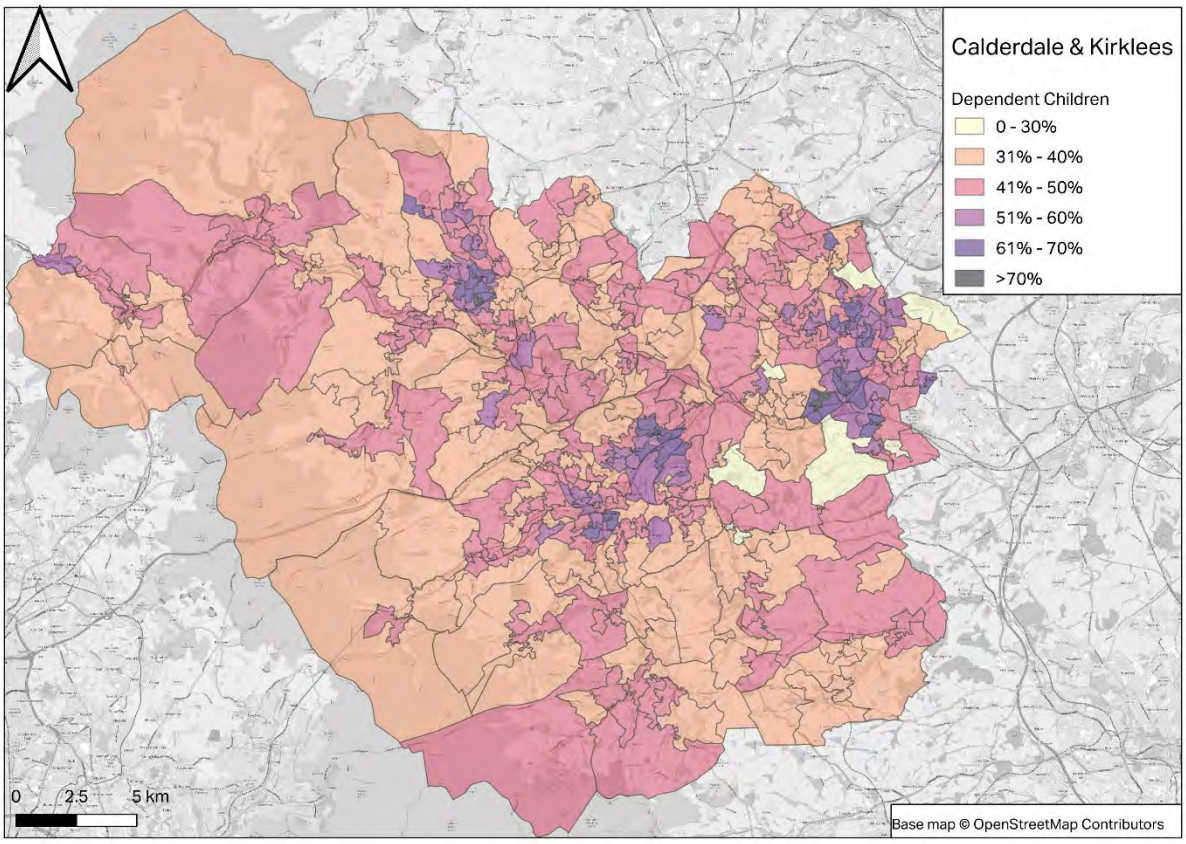
Figure 4-10: Households with Disability or Long-term Illness



Another identified group of people to whom accessibility is important are the disabled and people living with long-term health conditions. Up to 30% of people with a disability or long term illness live within the immediate scheme area. This boosts the case for improvements to crossing and other facilities to improve access to goods and services by means other than car, especially where it would be considered reasonable to walk or cycle. This would mean this vulnerable group does not have to venture further than necessary to access basic goods and services.

Households with young dependents are also within the vulnerable groups of people whose accessibility can be significantly impacted by transport interventions. As shown in **Figure 4-11** 40-60% of households living in the scheme vicinity have dependent children. The improved walking, cycling and crossing facilities will not only improve access for these households, but also provide a safer travel environment for those without a car, and also encourage a modal shift towards more active travel.

Figure 4-11: Households with dependents in Study Area



Results

Overall, the scheme has been assessed as **moderate beneficial** impact on accessibility, particularly for key town centre destinations.

Personal Affordability

In appraising the distributional impacts of a scheme on personal affordability, TAG Unit 4.2 recommends that the following indicators are considered:

- Parking charges
- Car fuel and non-fuel operating costs
- Road user charges
- Public transport fare changes
- Public transport concession availability

As the scheme does not alter public transport fares and has minimal impact on out-of-pocket travel costs for users a distributional analysis has not been undertaken.

Summary

A summary of the assessment results for all distributional impact indicators is presented in **Table 4-8** below.

Table 4-8: Summary assessment results for Distributional indicators

Distributional Indicator	Assessment Conclusion
User Benefits (highway)	**Slight adverse**
User Benefits (public transport)	**Slight beneficial**
User Benefits (combined)	**Slight beneficial**
Accidents	**Neutral**

Severance	**Slight beneficial**
Security	**Slight beneficial**
Accessibility	**Moderate beneficial**
Personal Affordability	**Not assessed**
Noise	**Not assessed**
Air Quality	**Not assessed**

5. Summary

This report has examined the social and distributional impacts the A629 Phase 2 in accordance with guidance from TAG Units A4.1 (social impacts) and A4.2 (distributional impacts). **Table 5-1** summarises the assessment conclusion for both social and distributional impacts.

Table 5-1: Summary Table of Results

Assessment Type	Indicator	Assessment Conclusion
Social Impact	Accidents	**Slight beneficial**
	Physical Activity	**Large beneficial**
	Security	**Slight beneficial**
	Severance	**Slight beneficial**
	Journey Quality	**Moderate beneficial**
	Accessibility	**Moderate beneficial**
	Option Values and Non-Option Values	**Not assessed**
	Personal Affordability	**Not assessed**
Distributional Impact	User Benefits	**Slight adverse**
	Security	**Slight beneficial**
	Accessibility	**Moderate beneficial**
	Accidents	**Neutral**
	Severance	**Moderate beneficial**
	Personal Affordability	**Not assessed**
	Noise	**Not assessed**
	Air Quality	**Not assessed**

Overall, the A629 Phase 2 scheme is mostly l beneficial for both social and distributional indicators. Large benefits are especially observed for physical activity while moderate benefits are observed for severance and accessibility from both a distributional and social impact stance. This is because the scheme design aims to improve connectivity between peripheral areas and the town centre core via the network of improved and new crossing points. The scheme also results in slight benefits for accidents, security and accessibility, as a result of more segregated cycle movements at key junctions and improved public realm which enhance natural surveillance. Given the constraints of the COBALT it is possible that the benefit yielding from accidents could be even greater if detailed scheme design e.g. junction layouts and road closures etc. are taken into account. As noted, earlier option values and personal affordability have not been assessed as the scheme is not expected to impact on either indicator. User benefits for highway users (distributional impact) are slightly adverse, while user benefits for public transport users yielded a slightly positive result hence a scheme benefit.

Appendix A – Accessibility to Services

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