

South East Blackburn Growth Corridor

Social and Distributional Impacts
Appraisal
November 2019



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1. Introduction

1.1 Report Context

Capita Real Estate and Infrastructure Ltd has been commissioned by Blackburn with Darwen Borough Council (BwDBC) to prepare a full business case in support of proposed highway and junction improvements around south east Blackburn. This Social and Distributional Impacts Appraisal Report is written in support of the business case for the proposed scheme, and forms part of the transport appraisal process informing the business case for a transport investment proposal.

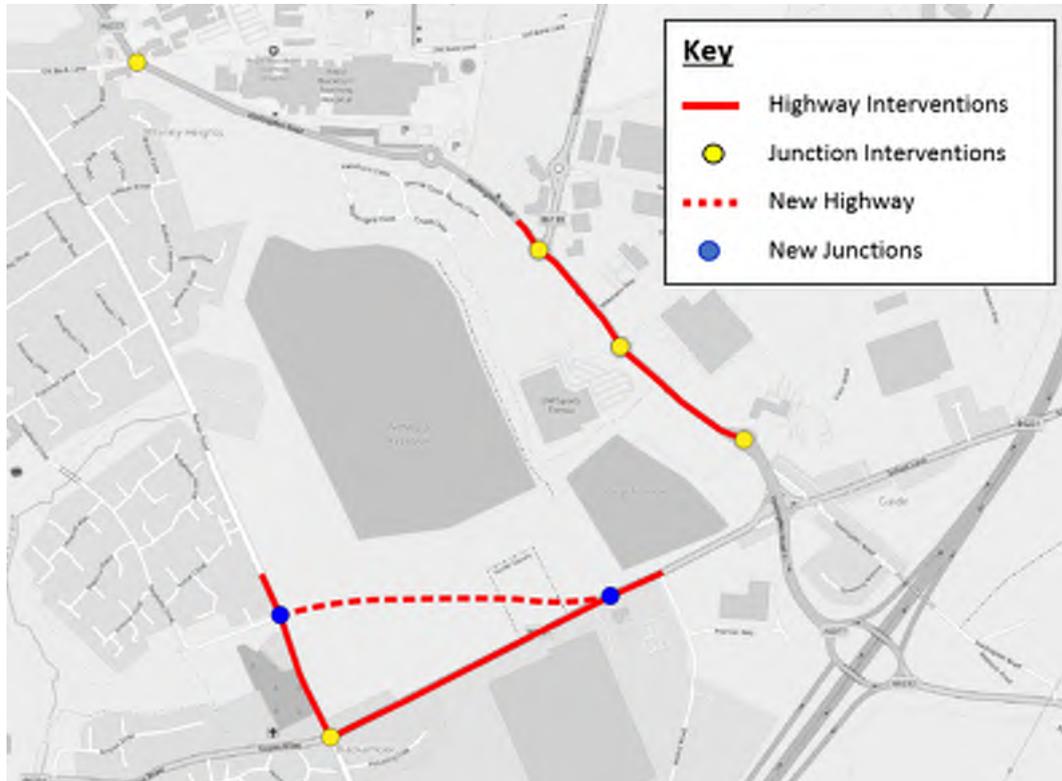
The overall package of schemes is subject to a approximate £10m funding bid by BwDBC to the Lancashire Local Enterprise Partnership (LEP). The Lancashire LEP represents the body responsible for administering allocated Growth Deal 3 (GD3) funding, the latest round of Growth Deal funding made available by central government.

1.2 Scheme Overview and Objectives

The South East Blackburn Growth Corridor, promoted by Blackburn with Darwen Borough Council is one of the priority schemes within Blackburn with Darwen Council's Local Plan (December 2015) and includes three distinctive infrastructure interventions as follows:

- Widening of the A6077 Haslingden Road between Lions Drive and Shadsworth Road to four lanes with associated geometric improvements at junctions;
- Delivery of the Blackamoor Link Road including two new junctions at Roman Road and Blackamoor Road and associated changes at the existing Roman Road / Blackamoor Road junction; and
- Improvements to the Haslingden Road / Old Bank Lane junction to also include a new access to the Royal Blackburn Teaching Hospital.

Indicative locations of the location of specific interventions can be found in Figure 1.1 overleaf.

Figure 1.1 - Scheme Intervention Locations

The following objectives have been devised for the South East Blackburn Growth Corridor Scheme which should sufficiently address the identified issues:

- Enable Blackburn with Darwen Borough Councils growth ambitions to be realised without adversely impacting on the current level of service (congestion) provided by the Haslingden Road corridor and adjoining local highway network;
- Improve air quality at the Blackamoor Road / Roman Road junction to bring nitrogen dioxide levels within the (annual mean) objective as specified in the Air Quality (England) Regulations 2000 (as amended) to enable the revocation of the Blackamoor AQMA;
- Enable further development of employment opportunities by facilitating the delivery of over 47,894sqm of new commercial floorspace creating over 3,862 jobs; and
- Supporting future housing growth by enabling the delivery of over 643 additional houses within the borough.

1.3 Overview of Appraisal Approach

Social impacts cover the human experience of the transport system and its impact on social factors, not considered as part of the economic or environmental impacts. Potential adverse or beneficial social impacts associated with the proposed scheme should be identified. A baseline situation is identified and is then used to inform an overview social and distributional assessment. The social impacts appraisal has been carried out under the sections, definitions and guidance provided in the WebTAG Unit A4.1: *Social Impact Appraisal*. This document outlines eight social impacts to be considered during scheme appraisal:

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

Social impacts are not typically monetised and are assessed using qualitative and quantitative information and include impacts such as physical activity, journey quality and severance.

Distributional impact assessments consider the variance of transport intervention impacts across different social groups, ensuring that the proposals will not adversely impact disadvantaged or potentially vulnerable groups. This includes analysis of both beneficial and adverse distributional impacts, and the identification of any specific social groups affected.

The distributional impacts study has been undertaken in accordance with WebTAG Unit A4.2: *Distribution Impact Appraisal*, and outlines eight distributional impacts to be considered during scheme appraisal:

- Impact of User Benefits;
- Impacts of Noise;
- Impacts of Air Quality;
- Impact of Accidents;
- Impact of Severance;
- Impact of Security;
- Accessibility Impact; and

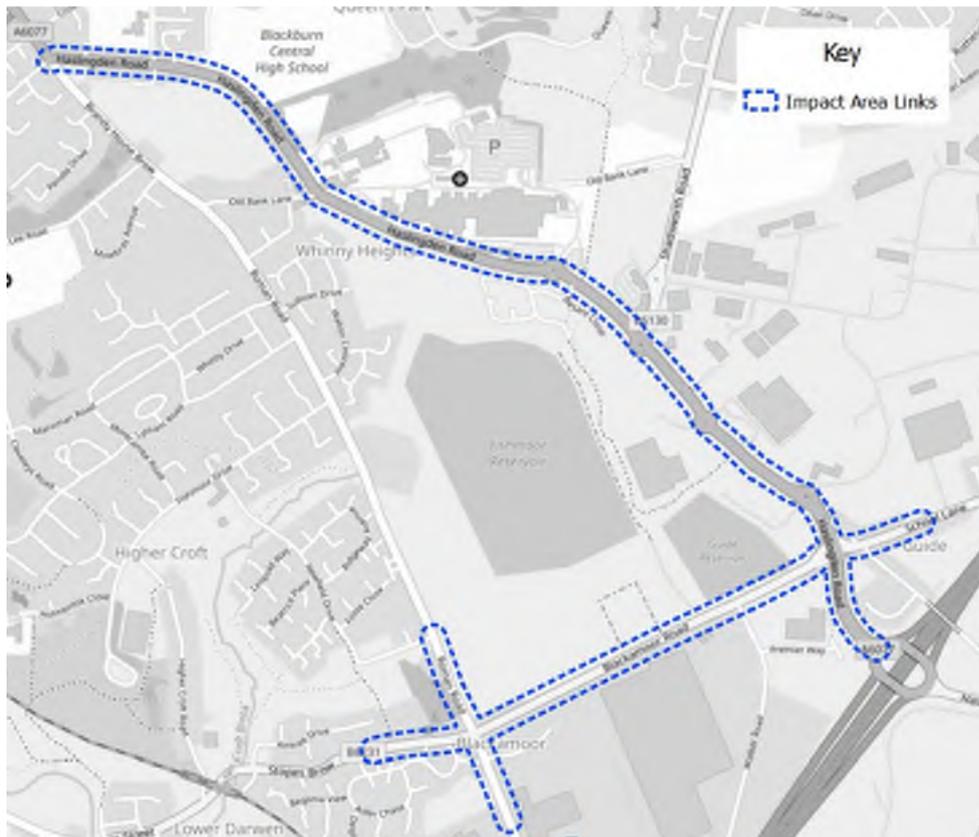
- Personal affordability Impacts.

At all stages of both social and distributional impacts appraisal, a proportionate approach should be adopted; excessive detail should be avoided – the level of detail should be no more than is needed for robust decisions to be taken. The results of both the Social and Distributional Impacts Appraisal are ultimately recorded in the Appraisal Summary Table (AST) and the main Business Case document.

1.4 Appraisal Study Area

Key links forming the main area of focus for appraisal of social and distributional impacts can be found in Figure 1.2 below. This contains the main routes and highway link sections expected to form the focus of the proposed intervention. The relative social and distributional impacts of the proposed scheme will be considered in relation to the areas highlighted below and their surrounding areas across south east Blackburn.

Figure 1.2 - Appraisal Study Area Key Route Links



1.5 Report Structure

The remainder of the report will take the following structure:

Chapter 2: Social Impact Assessment;

Chapter 3: Distributional Impacts Appraisal – Methodology and Screening; and

Chapter 4: Distributional Impacts Appraisal – Appraisal of Impacts (Step 3).

2. Social Impacts Appraisal

2.1 Accident Impacts

Transport interventions may alter the risk of individuals being killed or injured as a result of accidents. Accidents occur across all modes of transport and affect non-users as well as users.

Accident appraisals have been undertaken using the DfT's COBALT spreadsheet-based tool, following the guidance in WebTAG Unit A4.1 and the COBALT manual. COBALT estimates the expected change in accident rates between 'With-Scheme' and "Without-Scheme" scenarios, in both present and future years across the appraisal period. This gives an estimate for the expected change in the number of accidents at a given scheme location, as well as the expected change in associated cost.

An initial accident analysis exercise has been undertaken using the DfT's COBALT software for assessing the relative costs and benefits of transport schemes on the rate of traffic collisions.

The outputs from the COBALT analysis over a 60-year appraisal period are shown in Table 2.1 below.

Table 2.1. COBALT Accident Analysis Results

Location	Accidents Without Scheme	Accidents With Scheme	Accidents Saved by Scheme	Accident Benefits Saved by Scheme (£)*
Old Bank Lane/A6077 Haslingden Road Junction	66.4	71.7	-5.3	£191,900
Blackamoor Link Road and Roman Road Junctions	295.4	411.9	-116.5	-£4,339,100
A6077 Haslingden Road Corridor	449.3	443.9	5.5	£130,300
Total	811.1	927.5	-116.3	-£4,016,900

*Benefits in 2010 market prices and values

The outputs indicate that the proposed scheme will have a monetised beneficial impact on traffic collisions at certain locations within the proposed scheme, in particular along the links and junctions of the A6077 Haslingden Road corridor and at the proposed new RBH access roundabout at Old Bank Lane.

The slight increase in overall accident rates at the A6077 Haslingden Road/Old Bank Lane junction can be attributed to additional traffic using the junction's new access arm to Royal Blackburn Hospital, although this intervention gives an overall net monetised benefit from a reduction in collision severity. Provision of a roundabout junction will also act as a traffic calming measure along the route reducing vehicle speeds.

An overall dis-benefit is observed along the new Blackmoor Link Road portion of the scheme, due to the increased traffic flows on Roman Road travelling south from the new Roman Road/Fishmoor Link Road/Newfield Drive Junction. It is expected, however, that these dis-benefits will be partially offset by other social and highway safety benefits not captured in COBALT analysis.

Stopping up of the Blackmoor Road approach to the Roman Road/Stopes Brow junction will allow for enhanced pedestrian provision at the junction and an improved signal staging arrangement, with fewer give way right turn movements where space is constrained by buildings adjacent to the carriageway. Enhanced pedestrian crossing facilities around the Roman Road/Fishmoor Link Road junction will also improve safety for pedestrians looking to cross Roman Road.

It is considered that the scheme will have a '**slight negative**' impact on accidents, although it should be noted that a number of aspects of the scheme are likely to bring about highway safety improvements for both active mode and vehicle users not captured in COBALT analysis, with reduced traffic flow speeds at specific locations and enhanced pedestrian crossing facilities.

2.2 Physical Activity Impacts

There is increasing recognition of the interrelation between transport, the environment and health. Physical inactivity is a primary contributor to a broad range of chronic diseases such as coronary heart disease, stroke, diabetes and some cancers. The quality and nature of transport provision can affect levels of physical activity through mode choice, while the provision of sufficient and appropriate transport infrastructure can play a large role in encouraging active travel modes.

A qualitative only assessment has been undertaken for the proposed scheme in line with WebTAG Unit A4.1, which states that for “*schemes that are demonstrated to have a relatively insignificant impact on physical activity, such as inter-urban road building, it will be satisfactory to enter a qualitative indicator in the AST*”.

While the current proposals do not specifically aim to improve provision for active travel modes, wider improvements are proposed enhanced pedestrian and cyclist accessibility across the wider south east Blackburn area. Proposals for new cycle routes around the Fishmoor Reservoir currently being developed, looking to connect existing local cycle routes and Weavers Wheel routes with residential and employment areas across south east Blackburn. This is to be funded through Local Transport Plan funding and S106 developer contributions and is likely to improve overall levels of physical activity across the study area.

Enhanced footway and pedestrian provision at key junctions along Haslingden Road are likely to be provided with current scheme proposals, improving pedestrian safety across Haslingden Road. In addition, proposals to move traffic away from the Roman Road/ Blackamoor Road junction is likely to improve conditions for pedestrians and active travel modes at this location.

It is not anticipated that there will be an overall net detrimental physical activity impact as a result of scheme proposals. As a result, it is considered that the scheme will have a ‘**neutral**’ impact on physical activity, with any further analysis considered disproportionate to the scale of the project and nature of the proposed intervention.

2.3 Security Impacts

Transport interventions may affect the level of security for transport users. Assessment of these impacts should reflect both the changes in security and the likely numbers of users affected. Overlap exists between security and journey quality social impacts, the latter of which is detailed in Section 2.5.

WebTAG Unit A4.1 gives no formal guidance for road user security, which form the majority of trip modes through the study area, however suggests guidance provided for public transport users can readily be applied to road users. These include formal and informal surveillance, landscaping features, lighting, visibility and emergency call facilities.

The proposed scheme is likely to have a negligible impact on user security and this does not form a main focus of scheme objectives. User security both with and without the proposed intervention in future years is expected to remain consistent, with no detrimental impact to users. As a result, it is considered that the scheme will have a ‘**neutral**’ impact on security, with

any further analysis considered disproportionate to the scale of the project and nature of the proposed intervention.

2.4 Severance Impacts

WebTAG Unit A4.1 defines community severance as the separation of residents from facilities and services they use within their community. Severance can be caused through substantial changes in the transport infrastructure or by changes in traffic flow and will only be an issue where vehicle flow is significant enough to impede pedestrian movement or infrastructure presents a physical barrier of movement.

Severance mainly concerns non-motorised modes, particularly pedestrians. In accordance with Unit A4.1, in order to ensure a consistent approach classification should be based on pedestrians only. The impact of severance on cyclists will differ for two reasons: they travel more quickly; and crossing facilities may not be available to them.

Severance can be classified into four categories and includes:

- **None** – *Little or no hindrance to pedestrian movement*
- **Slight** – *Those wishing to make pedestrian movements will be able to do so, but with some hindrance to movement*
- **Moderate** – *Pedestrian journeys will be longer or less attractive; some people are likely to be discouraged from making journeys on foot*
- **Severe** – *It is anticipated that people are likely to be deterred from making pedestrian journeys to the extent where they will reorganise their activities. This could lead to a change in location of centres of activity and may lead to a permanent loss of access to certain facilities for a particular community. Those travelling on foot will experience considerable hindrance.*

The difference in level of severance between with-scheme and without-scheme cases can be made using Table 2.2 overleaf. It would usually be appropriate to consider severance at a number of locations across a network. Given the focused and localised nature of scheme proposals, severance will be considered as a whole across the study area.

Table 2.2 – Change in Severance Assessment

		With-Scheme Severance Score			
		None	Slight	Moderate	Large
Without-Scheme Severance Score	None	None	Slight negative	Moderate negative	Large positive
	Slight	Slight positive	None	Slight negative	Moderate negative
	Moderate	Moderate positive	Slight positive	None	Slight negative
	Large	Large positive	Moderate positive	Slight positive	None

The A6077 Haslingden Road has a locally severing effect on active travel mode, with high traffic volumes and congestion creating a physical barrier to pedestrians and cyclists looking to cross the route. While demand for active travel mode users looking to cross Haslingden Road is low, provision for these users is currently poor.

The Roman Road/ Blackamoor Road junction also has a severing effect for active travel mode users, with poor pedestrian provision for users looking to cross the carriageway at the junction. There are no pedestrian facilities bar dropped kerbs, despite the residential nature of the junction and nearby amenities, with below standard footway widths between 1.0 and 1.5m around the junction. Pedestrians are forced to cross the junction during inter-green signal periods.

Increasing the width of the A6077 Haslingden Road, upgrading the route from S2 to S4 carriageway increasing the number of lanes in each direction may increase the perceived severing effect of Haslingden Road. However, existing pedestrian crossings along the route are will be retained, with junction upgrades along the route likely to include improved pedestrian provision, with better aligned dropped kerbs and tactile paving along desire lines.

Pedestrian Severance around the Roman Road/ Stopes junction is also likely to reduce as a result of changes proposed at this location, as well as an increased amount of traffic utilising the new Blackamoor Road Link Road junction located to the north.

Overall, based on the criteria provided in Table 2.2, it is considered that the scheme will have a 'neutral' impact on severance, with any further analysis considered disproportionate to the scale of the project and nature of the proposed intervention.

2.5 Journey Quality Impacts

Travel is a derived demand that arises from people's desire to engage in activities. A high-quality journey, when experienced, is often taken for granted whereas a poor-quality journey is easily recognised. Journey quality can be affected by travellers and the environment through which they are travelling as well as network providers and operators.

Journey quality is a measure of the real and perceived physical and social environment experienced while travelling. 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 and so on. The journey quality impacts considered here are those aspects of quality not considered elsewhere in the appraisal (e.g. journey times, reliability).

The journey quality factors may be an important influence on the travel choices made by individuals. Poor quality may deter individuals from using certain modes of transport and interventions that aim to improve this quality may induce different modes of choice.

As described in WebTAG Unit A4.1, journey quality impacts can be sub-divided into three groups according to their nature:

- Traveller care: aspects such as cleanliness, level of facilities, information and the general transport environment;
- Travellers' views: the view and pleasantness of the external surroundings in the duration of the journeys; and
- Traveller stress: frustration, fear of accidents and route uncertainty.

Journey quality can be assessed both qualitatively and quantitatively dependent on the nature of the scheme. A qualitative approach is deemed appropriate in this case, given journey quality impacts are expected to be affected indirectly as a result of scheme proposals.

Of the three journey quality groups outlined above, the proposed road improvement scheme will affect driver stress. The proposed highway interventions are expected to reduce congestion, user delay and queueing along both the A6077 Haslingden Road and the B6231 Blackamoor Road, all of which would be expected to improve the overall journey quality for road users travelling along impacted links, reducing traveller stress and frustration.

Given improving journey quality is likely to be a secondary benefit of the proposed scheme and does not form a primary objective, a qualitative approach to assessing the relative impact of the scheme on journey quality has been undertaken. In accordance with WebTAG Unit A4.1, the following guidelines are defined in relation to expected scheme impacts on journey quality:

- The assessment is likely to be slight (beneficial or adverse) where the numbers of travellers affected is low (less than 500 a day, say);
- The assessment is likely to be large (beneficial or adverse) where the numbers of travellers affected is high (more than 10,000, say); and
- The assessment is likely to be moderate (beneficial or adverse) in all other cases.

As a result, it is considered that the scheme will have a **'moderate positive'** impact on journey quality.

2.6 Personal Affordability Impacts

There is a substantial body of research to demonstrate that the monetary costs of travel can be a major barrier to mobility for certain groups of people, with particularly acute effects on their ability to access key destinations. Although poorer people spend less money on travel in absolute terms than the rest of the population, this often accounts for a far greater proportion of their income¹.

Consideration of personal affordability issues should take place throughout the appraisal process. In most cases, affordability impacts may arise as indirect consequences of an intervention. This is because transport interventions are usually conceived to improve transport efficiency, accessibility and/or safety; nonetheless, there may be cases where the overall effects are positive, but some groups suffer adverse affordability impacts. Similarly, if among the other benefits such as highway time savings some low income or vulnerable groups enjoy positive affordability impacts, this should also be reported in the appraisal.

¹ 'Making the Connections': Social Exclusion Unit, 2003

As defined in WebTAG Unit 4.2, personal affordability of transport can relate to the following metrics:

- **Parking charges** (including where changes in the allocation of free or reduced fee spaces may occur);
- **Car fuel and non-fuel operating costs** (where, for example, rerouting or changes in journey speeds and congestion occur resulting in changes in costs);
- **Road user charges** (including discounts and exemptions for different groups of travellers);
- **Public transport fare changes** (where, for example premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new ticketing technologies); and
- **Public transport concession availability** (where, for example 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).

Of the key metrics defined above, the current scheme relates solely to car fuel and non-fuel operating costs. The proposed highway interventions are expected to reduce congestion, user delay and queueing along both the A6077 Haslingden Road and the B6231 Blackamoor Road, with the intended impact of reducing congestion, user delay and journey times. These will likely lead to a minor positive impact on the affordability of car travel for road users across south east Blackburn.

As a result, it is expected the scheme will provide a '**slight positive**' impact on transport affordability, with any positive impacts expected to be negligible within the context of existing transport conditions.

2.7 Option and Non-Use Value Impacts

Option and Non-Use Values are only assessed if the scheme being appraised includes measures that will substantially change the availability of transport services within the study area. This is not proposed as part of the South East Blackburn scheme, and as a result, the impact of the scheme on Option Values and Non-Use Values is considered to be '**neutral**'.

2.8 Accessibility Impacts

Accessibility is a term that has a number of meanings within the transport profession ranging from the physical access onto a public transport vehicle, the ability to a given place (for example a hospital), to the accessibility of information about a particular public transport service.

As described in WebTAG Unit A4.1, 'Making the Connections'¹ identified five key barriers impacting on 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.

The current proposed scheme is mostly limited to highway only improvements, with improvements for Non-Motorised Users (NMUs) around the Roman Road/ Blackamoor Road Junction. It does not significantly impact any of the barriers outlined above. As a result, it is therefore considered that the scheme will have a **'neutral'** impact on Accessibility.

2.9 Social Impacts Appraisal Summary

A summary of each of the social impacts defined in previous sections and the relative level of the expected impact resulting from the scheme can be found in Table 2.3 below.

Table 2.3 - Social Impacts Summary

Social Impact	Level/ Nature of Impact
Accidents	Slight Negative
Physical Activity	Neutral
Security	Neutral
Severance	Neutral
Journey Quality	Moderate Positive
Personal Affordability	Slight Positive
Option and Non-Use Values	Neutral
Accessibility	Neutral

3. Distributional Impacts Appraisal – Methodology and Screening

3.1 The Distributional Impacts Appraisal Process

In order to understand the impacts of the scheme on different social groups, including those which are potentially more vulnerable to changes in transport provision, a Distributional Impact (DI) appraisal has been undertaken. The DI analysis is mandatory in the scheme appraisal process and as a minimum is required for the following five impacts: User Benefits, Noise, Air Quality, Accidents, and Personal Affordability. Results are presented as part of the Appraisal Summary Table (AST).

The appraisal of DI is undertaken in line with WebTAG Unit A4.2 Distribution Impact Appraisal, and in accordance with DfT guidelines is undertaken in a manner which is appropriate and proportional to the scale of the scheme to be appraised. Figure 3.1 below shows an extract from WebTAG giving an overview of the process.

Figure 3.1 - Overview of the DI Appraisal Process

Table 1 Overview of the DI appraisal process		
Step number	Step description	Output
1	Screening Process: Identification of likely impacts for each indicator	Screening Proforma
2	Assessment: Confirmation of the area impacted by the transport intervention (impact area); Identification of social groups in the impact area; and Identification of amenities in the impact area.	DIs social groups statistics and amenities affected within the impact area.
3	Appraisal of Impacts: Core analysis of the impacts Full appraisal of DIs and input into AST	Appraisal worksheets and AST Inputs

3.2 Step 1 – Screening Process

DI appraisal applies to all transport interventions and can be time and resource intensive. In order to ensure that a proportional approach is undertaken, each indicator is assessed using a screening proforma to determine whether it needs to be appraised further. When undertaking the screening process consideration should be given to whether:

- The transport intervention may have positive or negative impacts on specific social groups including: children, the elderly, people with a disability, race, people without access to a car and those on low incomes;
- Some / all of the expected negative impacts can be eliminated through some form of amendment / design of the initial intervention;
- There are any positive impacts and if negative impacts cannot be eliminated, are the impacts sufficiently minor and socially and / or spatially dispersed such that a detailed DI appraisal is disproportionate to the potential impacts. Where impacts are either significant or concentrated, a full appraisal of the impacts should be undertaken.

The completed proforma is available in Appendix A.

The conclusions drawn from Step 1 are summarised as follows:

- Further analysis of User Benefits is required;
- A qualitative distributional analysis of Accidents is required;
- A qualitative distributional analysis of Air Quality is required;
- The impact of the scheme on Noise is considered neutral and will not be assessed further;
- In view of the scale of the project, further consideration of Severance, Security, Accessibility and Personal Affordability and is not deemed necessary. These impacts have been considered qualitatively as part of the Social Impacts Appraisal and have been determined to be either neutral or slight beneficial, with further analysis considered beyond the scope of the expected benefits.

3.3 Step 2a – Confirmation of Distributional Impact Area

In order to define an appropriate impact area for DI appraisal, consideration has been given to the methodology adopted in developing the traffic model for appraisal of transport user benefits, as well as the requirement for DI appraisal of specific impacts defined above. Strategic assignment modelling has not been undertaken for the proposed scheme, with low scope for transference of trips to or from other routes following implementation of the proposed scheme.

A similar approach has been taken in determining the impact area for distributional analysis. Impacts will be assumed to be distributed amongst those currently utilising the route. In the absence of any detailed origin-destination data or wider network modelling, it is assumed that the main beneficiaries will be existing users traveling within the study area to and from larger distributor roads.

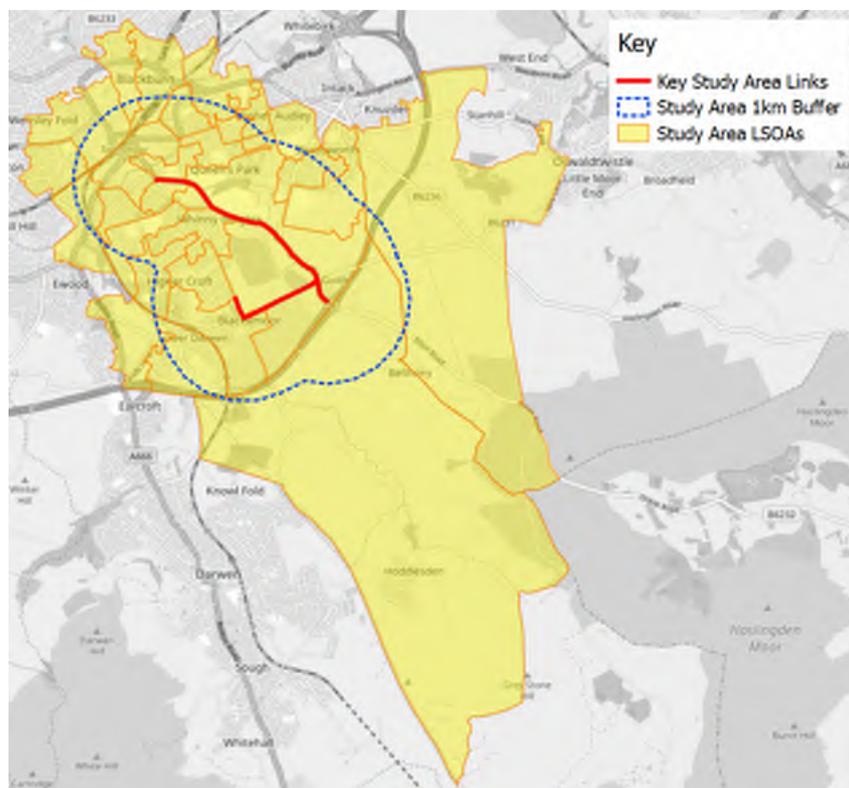
Key road links around the proposed highway interventions are defined as follows:

- A6077 Haslingden Road: Between the Grimshaw Park/ Rockcliffe Street junction (north) and the M65 J5 (south);
- B6231 Blackamoor Road: Between the Roman Road junction (west) and the Haslingden Road/ Guide junction (east); and
- Roman Road: Between the Newfield Drive junction (north) and the B6231 Blackamoor Road junction (south).

Given the above, the distributional impacts appraisal will only consider benefits for those currently utilising the above links, rather than attempting to capture any benefits to those that could potentially utilise the route in future.

Around these links, a 1km buffer has been established to consider the impacts of an intervention on these links on surrounding areas. Within the 1km buffer impact area, census Lower Super Output Areas (LSOAs) are identified within the buffer boundary as individual units of spatial aggregation for assessing demographic and land use characteristics across the study area. Key links and the established study area can be found in Figure 3.2 below.

Figure 3.2 - Impacts Appraisal Study Area



3.4 Step 2b – Identification of Vulnerable Groups

This step requires analysis of the socio-economic, social and demographic characteristics of:

- The transport users that will experience changes in travel generalised costs resulting in intervention;
- The people living in areas who may experience impacts of the intervention even if they are not users; and
- The people travelling in areas identified as likely to be affected by the intervention.

The following sections describe the social and demographic characteristics of the study area compared against the Local Authority (LA) averages. Any significant concentrations of the key social groups of interest within the affected areas are also identified with some consideration of how these groups might be affected by the development proposals.

It is important to analysis the likely effect of the intervention to people in the area and should be undertaken though mapping social characteristics of interest at a suitably disaggregate level.

Table 3.1 below details the required Socio-Demographic Analyses required for Distributional Impacts.

Table 3.1 - Socio-Demographic Analyses Required for DIs

Dataset / Social Group	User Benefits	Noise	Air Quality	Accidents	Security	Severance	Accessibility	Affordability
Income Distribution	✓	✓	✓				✓	✓
Children: proportion of population aged <16		✓	✓	✓	✓	✓	✓	
Young adults: proportion of population aged 16-25				✓			✓	
Older people: proportion of the population aged 70+				✓	✓	✓	✓	
Proportion of the population with a disability					✓	✓	✓	

Proportion of the population of Black and Minority Ethnic origin					✓		✓	
Proportion of households without access to a car						✓	✓	
Carers: proportion of households with dependent children							✓	

The following impacts were identified to be taken forward for distributional analysis during Step 1 – Screening in Section 3.2:

- User Benefits;
- Accidents; and
- Air Quality.

Based on the requirements outlined in Table 3.1, the following demographic data are required to assess the above impacts:

- Income distribution data (IMD Income Deprivation Domain);
- Proportion of population aged <16 (2011 Census);
- Proportion of population aged 16-25 (2011 Census);
- Proportion of the population aged 70+

The demographic data defined above is available at Lower Super Output Area (LSOA) level. GIS has been used to provide detailed information about those potentially affected by the road improvement scheme in order to accurately analyse the Distributional Impacts. 2011 Census data for analysis has been obtained from the NOMIS database. Indices of Multiple Deprivation (IMD) data will be obtained from the Department for Communities and Local Government (DCLG).

3.5 Impact Area Context

In order to provide a qualitative assessment of the DI, and present additional context to the spatial analysis, a profile of Blackburn with Darwen² has been prepared, covering the broad area of focus from the implementation of the South East Blackburn Growth Corridor Scheme.

² <http://www.lancashire.gov.uk/lancashire-insight/area-profiles/local-authority-profiles/blackburn-with-darwen#Health>

3.5.1 *Children and Young People*

There are more child benefit claimants than any other Lancashire authority. Only a small proportion of families have opted out due to the high-income benefit charge.

3.5.2 *People and Communities*

The population of the authority has been on an upward trend over recent years. The percentage of vacant dwellings is high in the authority. The 2015 Indices of Multiple Deprivation (IMD) revealed Blackburn with Darwen was ranked as the 24th most deprived area out of 326 areas in England.

3.5.3 *Economic Development*

The manufacturing sector has shed jobs over the years whilst the service sector has grown to become a far greater source of employee jobs. The authority has a history of low overall employment rates. The authority has a large number of employment and support allowance claimants as well as high numbers of housing benefit recipients. In comparison to the national average, there is a high percentage of the working age population that is reliant on welfare benefits.

3.5.4 *Community Safety*

Blackburn with Darwen has a crime rate above average for the Lancashire. In 2016, 71 people were killed/seriously injured in road traffic collisions.

3.5.5 *Environment and Transport*

Very high proportion of its land designated as green belt at 38.4%, although 290 hectares were taken out of the designation in 2016 for major housing developments.

3.5.6 *Health and Wellbeing*

The Blackburn with Darwen Health Profile, published by Public Health England, reveals that health of people in the area is considerably worse than average.

3.5.7 *Older People*

The population aged 65 or over is projected to increase to 30,600 by 2039.

4. Distributional Impacts Appraisal – Appraisal of Impacts (Step 3)

4.1 Introduction

Based on the screening process and proportionality of impact area defined in Chapter 3, this Chapter will consider distributional impact on vulnerable user groups for the following expected scheme impacts:

- User Benefits;
- Accidents; and
- Air Quality.

This Chapter will also highlight amenities present within the impact area in relation to the proposed highway intervention locations.

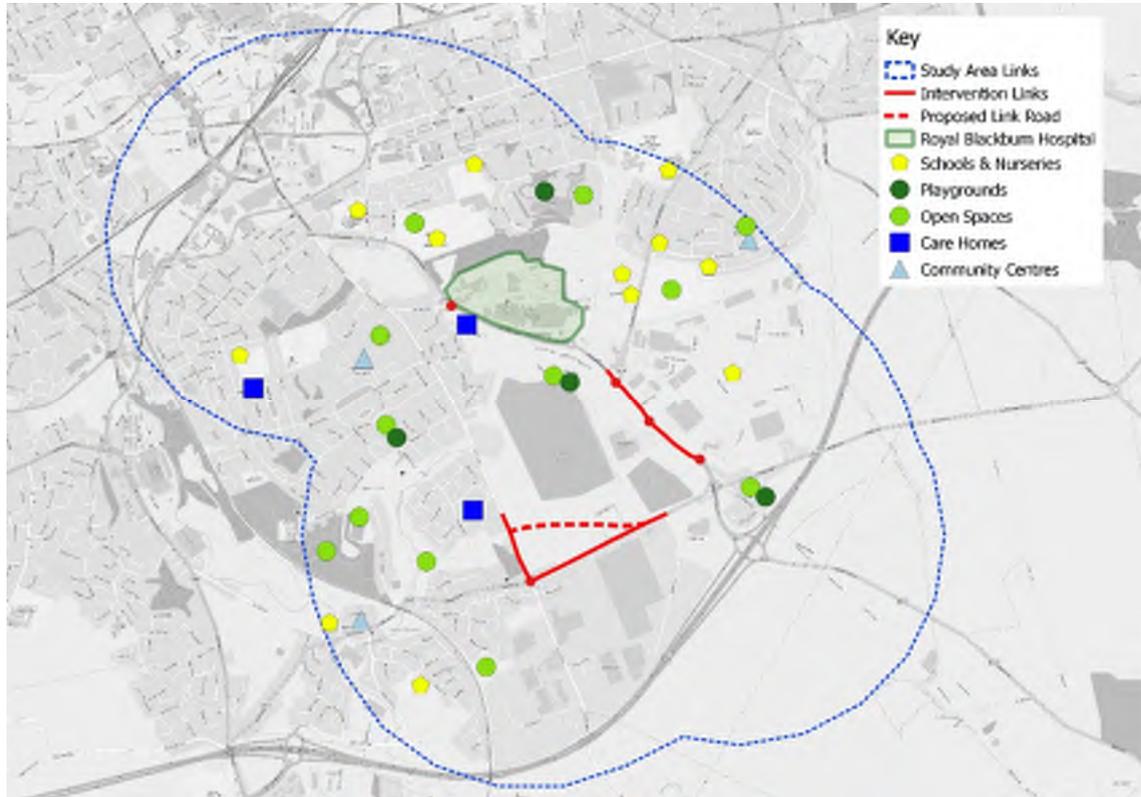
4.2 Local Amenities and Residential Areas

Figure 4.1 overleaf highlights the location of the following amenities present within the defined DI study area:

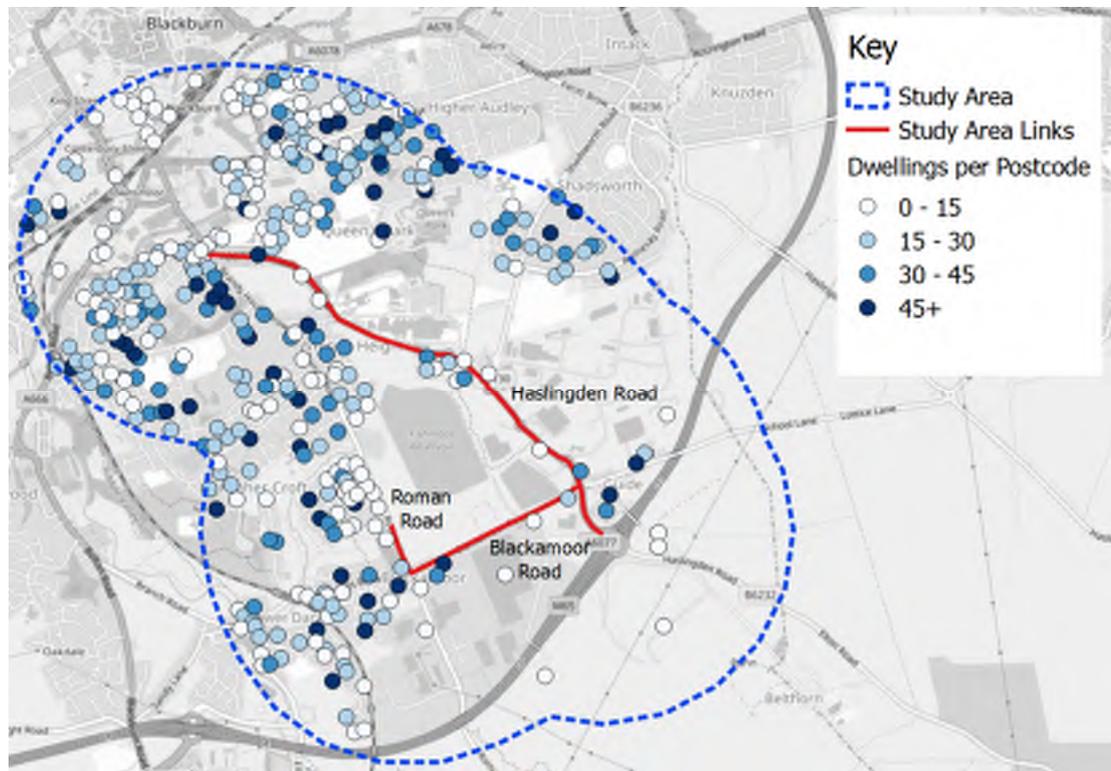
- Schools/ Nurseries;
- Playgrounds;
- Parks and Open Spaces;
- Hospitals;
- Care Homes; and
- Community centres.

This indicates a number of amenities across the study area, notably the Royal Blackburn Hospital (RBH) site located to the north of Haslingden Road. A significant number of schools and nurseries can be identified, located in more residential areas at the east and west of the study area. Most amenities lie away from areas directly adjacent to the locations of highway interventions proposed as part of the scheme.

Figure 4.1 - Local Amenities Across the DI Study Area



The relative distribution of residential areas across the scheme study area is identified in Figure 4.2 below. This plots the distribution of postcode centroid locations identified within the 1km buffer and also defines the relative number of dwellings associated with each post code. A total of 397 postcodes are located within 1km of key study area links.

Figure 4.2 - Postcode Distribution and Dwelling Density

4.3 User Benefit Impacts

User benefits are experienced in certain areas and by certain groups of people. Whilst it is not possible to attribute social impacts to user benefits, there are distributional impacts that have not, in most cases, been considered previously in the appraisal process.

The process for determining the DI of user benefits follows the guidance given in the TAG Unit A4.2. Analysis of user benefits has only been considered for on non-business users given the cost of these journeys are borne by the private users and not a separate business or organisation.

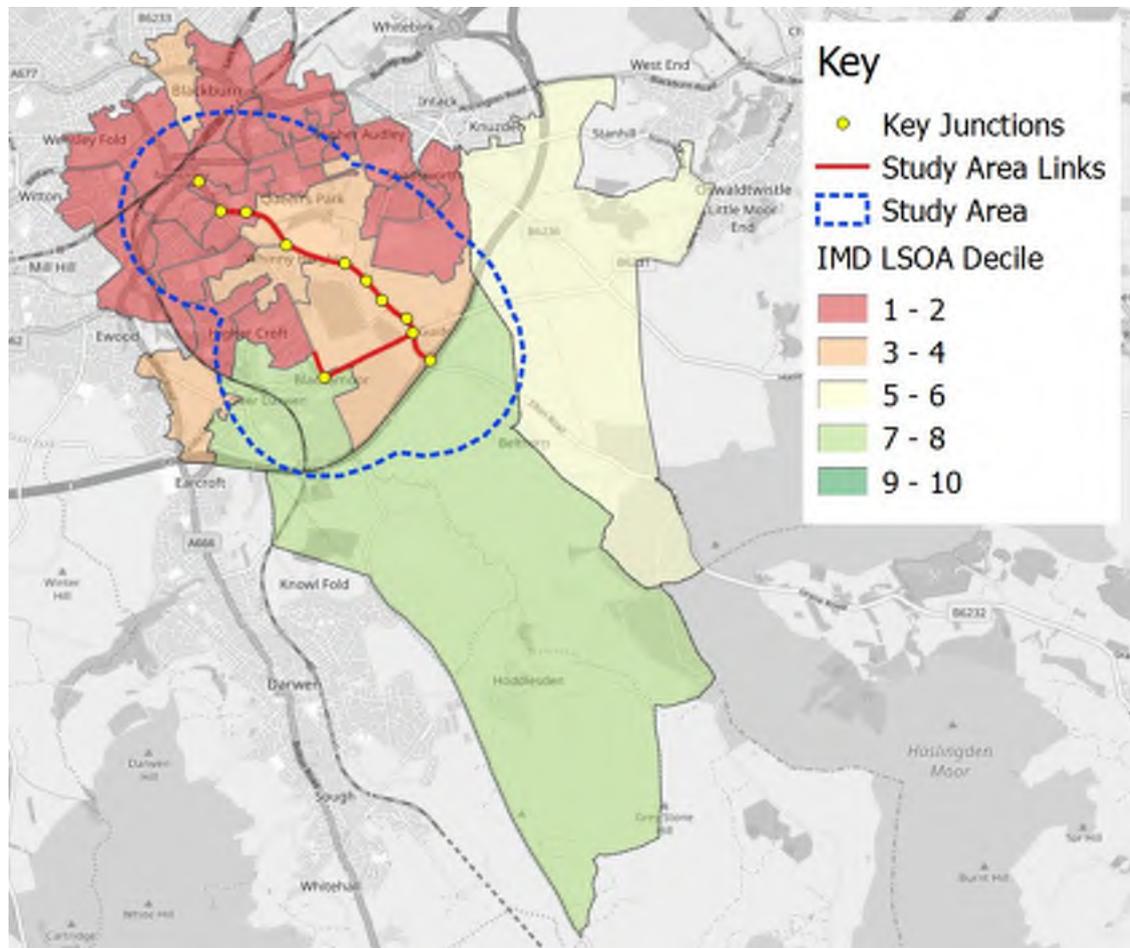
Given the scale of the scheme and level of analysis carried completed, it has been considered appropriate and proportional to assume that user benefits resulting from of the South East Blackburn Growth Corridor Scheme will be distributed equally evenly across the DI study area.

The Income Deprivation domain of the English Indices of Deprivation³ has been used as a proxy for the number of low-income households/individuals. This statistic does not measure areas of affluence but measures the proportion of the population experiencing deprivation relating to low income. The definition of low income used includes both those people that are out-of-work, and those that are in work but who have low earnings (and who satisfy the respective means tests). The ranks and deciles published for the Indices of Deprivation are based on scores: the larger the score, the more deprived the area. For example, if a given area (in this case LSOA) has a score of 0.38 in the Income Deprivation Domain, this means that 38 per cent of the population is income deprived in that area. Income Deprivation Domain scores are broken down into deciles, with deciles 1 and 2 indicating a given LSOA is in the 10% and 20% most deprived areas nationally.

Figure 4.3 overleaf shows the variation in levels of income deprivation across the Impact area for each LSOA. 18 out of a total 26 LSOAs across the DI study area are considered in the lowest two deciles nationally in relation to income deprivation, indicating these areas are amongst the 20% poorest in the country. None of the LSOAs across the DI study area are shown to be within deciles 9 and 10, highlighting that no areas are amongst wealthiest (or least income deprived) 20% of areas nationally.

³ <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>

Figure 4.3 - Study Area Index of Multiple Deprivation LSOA Deciles



The total population within each LSOA can be used to assess the total population within the defined DI study area within each LSOA IMD Income Domain deciles. These values are defined in Table 4.1 below. This indicates that over two-thirds (67%) of the total population across the DI study area are considered to reside within the 20% most income deprived areas nationally.

Table 4.1 – Population Proportion in each Deprivation Range

Level of Deprivation	Income Deprivation Domain	Total Population within the Impact Area (% Value)
Most Deprived	1 – 2 (0 – 20%)	29,147 (67%)
	3 – 4 (20% - 40%)	7,484 (17%)
	5 – 6 (40% - 60%)	1,598 (4%)
	7 – 8 (60% - 80%)	5,292 (12%)
Least Deprived	9 – 10 (80% - 100%)	0 (0%)

The DI Grading criteria specified in TAG Unit A4.2 is shown in Table 4.2 below.

Table 4.2 – WebTAG DI Grading Guidance

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 dis-benefits experienced	Neutral
A dis-benefit which is 5% or smaller than the proportion of the group in the total population	x
A dis-benefit which is in line (+/- 5%) with the proportion of the group in the total population	x x
A dis-benefit which is 5% or more greater than the proportion of the group in the total population	x x x

The results of this assessment using the criteria in Table 4.2 is summarised in Table 4.3 below.

Table 4.3 – DI Assessment Results Summary

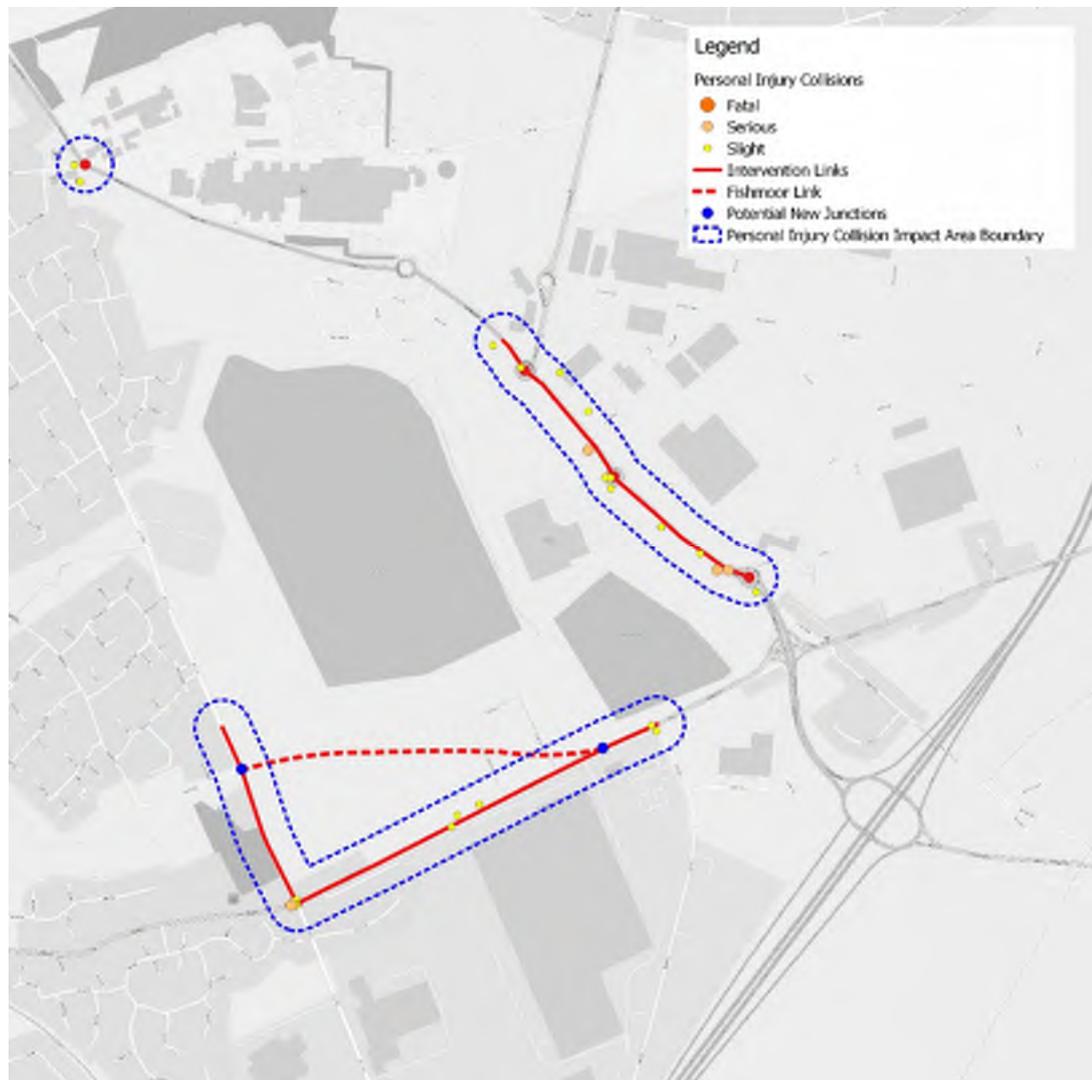
	Income Deprivation (%)					Total
	Most deprived areas ← → Least deprived areas					
	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100	
Number of LSOAs in Impact Area	18	4	1	3	0	26
Population in Affected Area	29,147	7,484	1,598	5,292	0	43,521
	67%	17%	4%	12%	0%	100%
Proportion in National Population	20%	20%	20%	20%	20%	100%
Assessment	✓✓✓	✓✓	✓	✓	neutral	-

4.4 Accidents

4.4.1 Scope of Assessment

The main aims of the South East Blackburn Growth Corridor Scheme include alleviating congestion issues, improving journey times and enabling housing and employment growth across the area. While interventions will be designed with consideration for improving highway safety and enhancing provision for active travel mode users, the main focus of the scheme is not the reduce the number of personal injury collisions. An initial COBALT assessment completed for the scheme indicated that there may be a slight net disbenefit to accident rates across the south east Blackburn intervention area, however it is expected the scheme will bring highway safety benefits not captured in COBALT analysis

A total of 26 accidents can be identified along key study routes on intervention links within the defined study area Study Area for the five-year period of 2013 to 2017. 22 of these are considered 'slight' PICs, with four considered 'serious. None of the PICs were recorded as fatal. The locations of these collisions are highlighted in Figure 4.4 overleaf. WebTAG Unit A4.2 (5.4.8) states that where the number of expected accidents on the affected links is below 50 in a five-year period, a qualitative assessment should be undertaken. This analysis will provide information on the likely impact on vulnerable groups based on demographic analysis across the study area.

Figure 4.4 - Personal Injury Collision Locations

4.4.2 *Impact on Vulnerable User Groups*

Most transport related accidents, injuries and deaths occur on the road network. Vulnerable groups (in terms of accident risk) include children, the elderly (particularly as pedestrians) young males and motorcyclists. There is a link between deprivation and road accidents: children from social class V are five times more likely to be involved in a fatal road accident than those from social class I. Young males are also relatively vulnerable as drivers and should also be considered if there is evidence that they form a significant proportion of casualties on the road network.

As defined in Table 3.1, the distributional impact of accidents will be reviewed for following vulnerable social groups:

- Proportion of population children aged <16 (2011 Census);
- Proportion of population young adults aged 16-25 (2011 Census); and
- Proportion of the elderly population aged 70+.

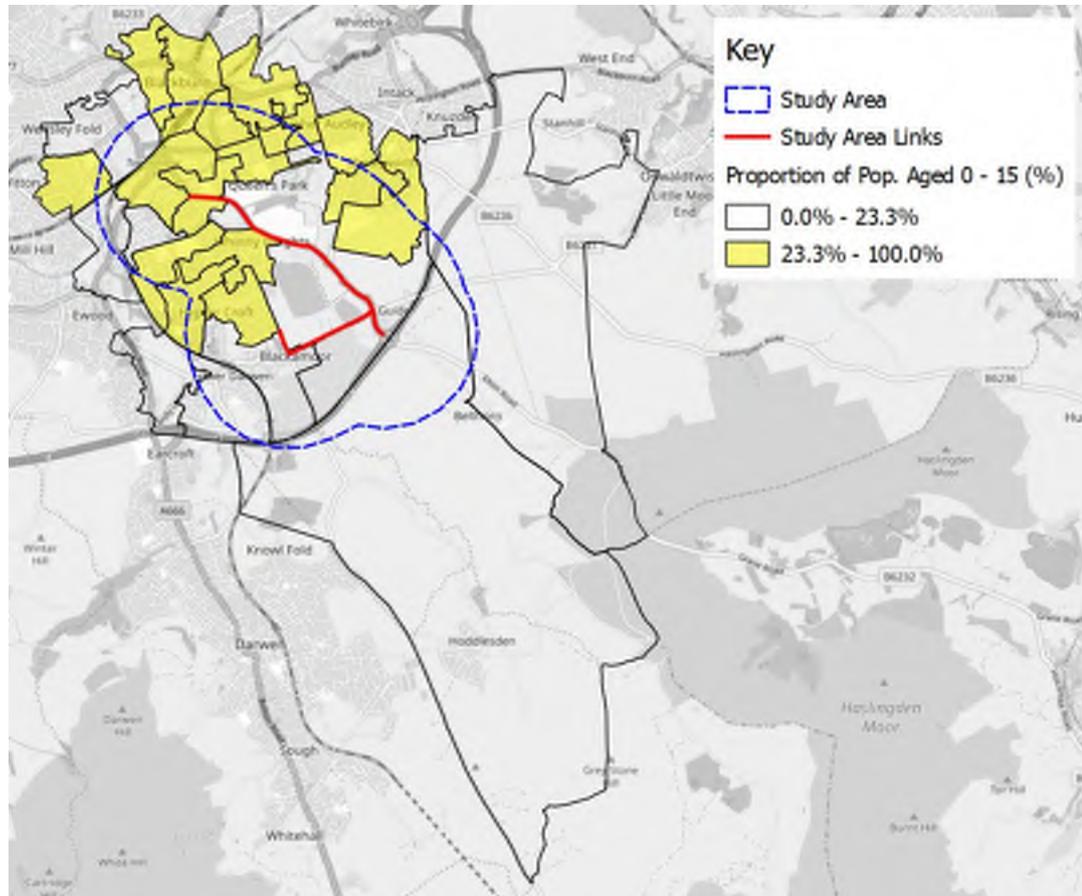
As defined by 2011 census data the total 'Usual Resident Population' across Blackburn with Darwen was 147,489, of which 34,367 (23.3%) were aged below 16, 17,647 (12.0%) were aged 16 to 24 and 19,061 (12.9%) were aged 65 and older.

GIS has been used to map those LSOAs across the defined study area with above average Local Authority (LA) proportions of people considered to be within a vulnerable age group. Figure 4.5 overleaf identifies LSOAs with an above LA average of those aged below 16.

A total of 16 out of a total 26 LSOAs across the defined study area have an above LA average proportion of children living in these areas. These are located predominantly towards the north and west of the study area towards Blackburn town centre, away from areas immediately adjacent highway intervention locations along Haslingden Road and Blackamoor Road.

Across all LSOAs within the study area, the proportion of children aged below 16 is 24.8%, compared to a LA average of 23.3%. Overall, therefore, any distributional accident impact resulting from the scheme on those aged below 16 is likely to be slight.

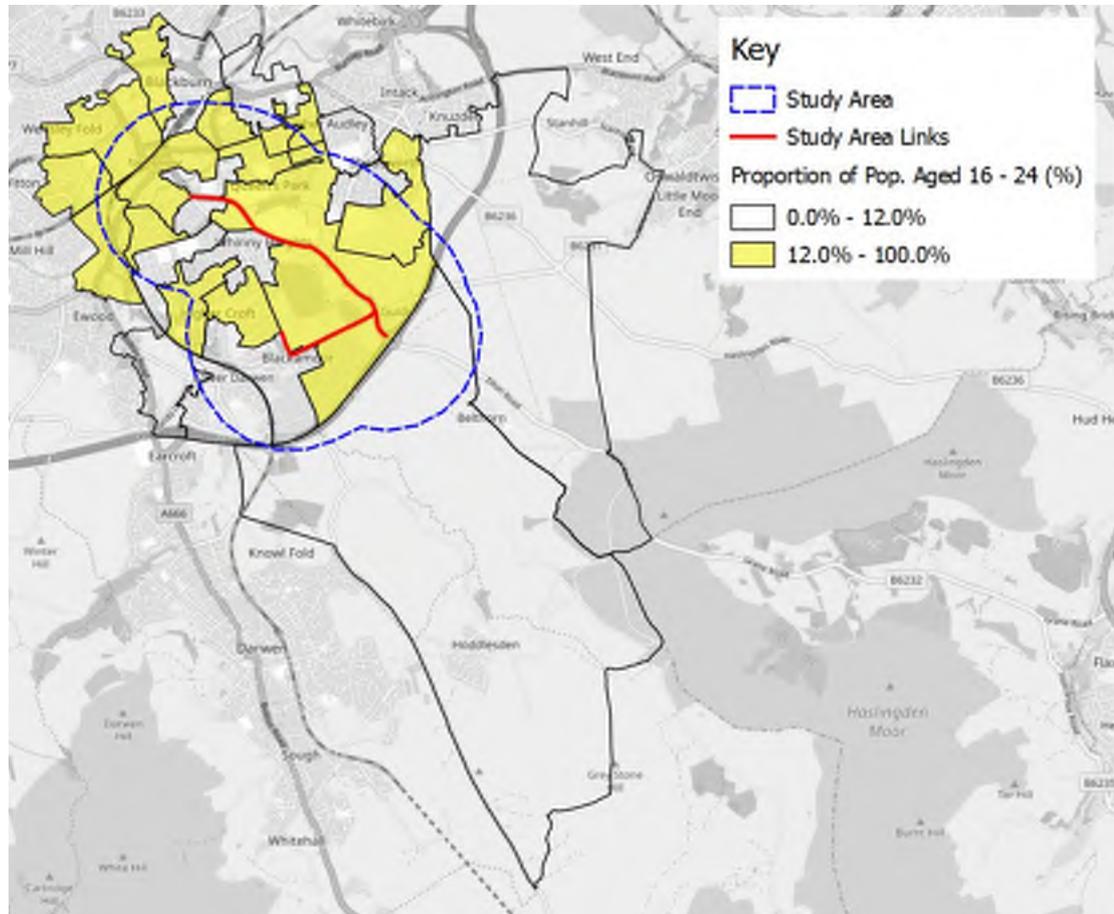
Figure 4.5 - LSOAs with an Above Local Authority Average proportion of Children (Ages 0 – 15)



A total of 11 out of a total 26 LSOAs across the defined study area have an above LA average proportion of young adults living in these areas. These are generally distributed across the study area, including adjacent to intervention locations forming part of the current proposed scheme.

Across all LSOAs within the study area, the proportion of young adults is 12.9% compared to a LA average of 12.0%. Overall, therefore, any distributional accident impact resulting from the scheme on young adults is likely to be slight.

Figure 4.6 - LSOAs with an Above Local Authority Average proportion of Young Adults (Ages 16 – 24)



A total of eight out of a total 26 LSOAs across the defined study area have an above LA average proportion of elderly residents living in these areas. These are distributed across the study area, however are generally away from areas immediately adjacent highway intervention locations along Haslingden Road and Blackamoor Road.

Across all LSOAs within the study area, the proportion of elderly residents is 10.4%, compared to a LA average of 12.9%. Overall, therefore, any distributional accident impact resulting from the scheme on young adults is likely to be slight.

In relation to air quality impacts on children, Figure 4.1 indicates that a number of a number of local amenities including, schools, nurseries, playgrounds and open spaces have been identified across the study area utilised by children and younger people. The scheme is expected to have a net positive impact on air quality across the study area, leading to an overall benefit to these local amenities.

Figure 4.5 indicates areas across the impact area with an above average proportion of residents aged below 16. The overall proportion of children across the study area (24.8%) is roughly in line with that across local authority area (23.3%) and above the proportion nationally (18.9%), indicating that any air quality benefits resulting from the scheme will disproportionately benefit those aged below 16.

Appendix A – Distributional Impacts Proforma

Distributional Impact Appraisal Screening Proforma

Scheme description: The A5063 Trafford Road Improvement Scheme proposes a package of measures to support access to the Quays, which introduces improved optimisation at signalised junctions, provides additional traffic lanes to assist turning traffic and improves facilities for pedestrian and cyclists.

Indicator	(a) Appraisal output criteria	(b) Potential impact (yes / no, positive/negative if known)	(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 - Moderate Positive	User benefits expected for vehicle users of highway routes across south east Blackburn. Benefits are expected to be felt across a number of areas with high levels of income deprivation.	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.	No - Neutral	No benefits/ dis-benefits expected	No
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 - Slight Positive	An overall slight beneficial impact on air quality would be expected following implementation of the scheme from reduced congestion at constraining junctions and improved traffic flow speeds during peak travel periods along the A6077 Haslingden Road.	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 - Slight Negative	An overall slight negative impact on accidents would be expected following implementation of the scheme	Yes
Security	Any change in public transport waiting/interchange facilities including pedestrian access expected to affect user perceptions of personal security.	No - Neutral	No benefits/ dis-benefits expected	No
Severance	Introduction or removal of barriers to pedestrian movement, either through changes to road crossing provision, or through introduction of new public transport or road corridors. Any areas with significant changes (>10%) in vehicle flow, speed, %HGV content.	No - Neutral	Increasing the width of the A6077 Haslingden Road may increase the perceived severing effect of Haslingden Road. However, existing pedestrian crossings along the route are will be retained, with junction upgrades along the route likely to include improved pedestrian provision. Improved provision for pedestrians around the Roman Road/ Stopes junction as well as controlled pedestrian crossing facilities at the Roman Road/ new Link Road junction will likely reduce perceived severance around the Fishmoor area and across Roman Road	No
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).	No - Neutral	No benefits/ dis-benefits expected	No
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 and non-fuel operating costs (where, for example, rerouting or changes in journey speeds and congestion occur resulting in changes in costs); Road user charges (including discounts and exemptions for different groups of travellers); Public transport fare changes (where, for example premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new ticketing technologies); or Public transport concession availability (where, for example 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[1]).	No - Neutral	No benefits/ dis-benefits expected	No

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