

SCRIF Stage 1B Full Business Case

PROMOTER'S INFORMATION			
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SCHEME DETAILS			
Scheme name:	<i>Sheffield Inner Relief Road Junctions</i>		
Scheme location: (Post Code)	<i>Sheffield Inner Relief Road</i>		
Lead delivery organisation:	<i>Sheffield City Council</i>		
Other delivery partners & roles:	<i>Amey LG – Detailed Design & Construction</i>		
Scheme Type (refer to and complete Annex 1)	<i>Highways</i>		
Which category / code (Annex 1) does the majority of your scheme fall within:	<i>T1 - Highways</i>		
Total Scheme investment:	<i>£4,237,000 (based on final cost certainty)</i>		
Total Private investment:	<i>0.00</i>		
Total Other public sector investment (non-SCRIF funding):	<i>£450,000</i>		
Total SCRIF funding sought (£):	<i>£3,787,000</i>	SCRIF as % of total scheme investment:	<i>89.4%</i>

SUMMARY OF THE SCHEME BUSINESS CASE

Please provide a summary description of your scheme (approx. 300 words). Append any graphics.

[Description to include a summary of scheme purpose, required investment, location, and direct and indirect benefits that will be delivered]

Sheffield City Centre remains the major employment centre for the Sheffield City Region. Around 60,000 people work in the city centre and a workforce of over 1 million people live within one hour's drive. The City Centre remains the major driver of the City Region Economy especially for the key growth sectors of Knowledge, Creative & Digital Industries, Higher Education, Culture and Business Services.

The Sheffield City Centre Masterplan (2013) specifically set out to establish and grow the Riverside Business District and in particular to bring forward the West Bar Development, objectives which are maintained in the latest draft City Centre Masterplan which has now be published for consultation.

The Masterplan also recommends the continued removal of general traffic travelling through the City Centre and re-directing that traffic onto the A61 Sheffield Inner Relief Road. This aim continues to take up highway capacity on the Inner Relief Road which was completed in 2008 and has remained unchanged for the last 10 years or so.

The western side of the Ring Road (A61) is included in the DfT's proposed MRN. SCC and SCR have put forward representation that the Eastern side of the Inner Ring Road should also be included in the DfT's MRN plan. This supports the strategic objective of providing good quality access to the regional and national (Highways England) road network

One of the schemes discussed in this business case lies within the new Riverside Business District which contains the largest brownfield office and employment sites within the City Centre. The proposed scheme seeks to reduce traffic congestion in and around the Riverside Business District by adding further traffic capacity. A further development has also been studied in the traffic modelling and economic assessment to demonstrate the fact that the Relief Road is one of the principal traffic routes to all the planned development within the City Centre.

At present, a number of key city centre development sites around the Inner Relief Road are constrained by the lack of highway capacity. Traffic congestion and journey times are increasing particularly during the peak travel hours.

The proposed project will provide an additional traffic lane in each direction on the A61

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Sheffield Inner Ring Road between Corporation Street and Bridge Street which all lie within the Riverside Business District. This scheme will be the first of a number of interventions around the IRR (including Shalesmoor, Brook Hill and Moore Street/Bramall Lane) over the coming years, all designed to help facilitate both existing and new trips.

Given the strategic nature of the Inner Relief Road, it is considered vitally important that there is a positive benefit cost ratio when journey time improvements are aggregated for all development trips accessed from this distributor route.

In addition, there remains a positive impact on benefit cost ratio even when modelled on each individual site.

The addition of a lane in each direction produces a reduction in overall journey time through the area generally and also returns good value for money even when considering access to a single development in the locality, the West Bar Square development.

The scheme involves the alteration and widening of three existing junctions and some loss in existing highway trees and meadow areas in the existing central reserve. These losses will be mitigated by replacement enhancements of adjoining highway areas. In addition, the existing pedestrian and cycling connectivity to Kelham Island and Neepsend will also be maintained.

Research to date has highlighted the presence of significant Statutory Undertakers apparatus within the area of the highway improvement. The detailed design process has determined the precise location of this apparatus and the required treatment of these services in accordance with the New Roads and Street Works Act.

It is also known that a large culvert exists below Bridge Street and that any widening required above the structure will require a structural assessment of the culvert. However, it has now been determined that the structure has already been strengthened sufficiently to accommodate the highway changes.

The proposed scheme area lies entirely within public highway and there is therefore no requirement to acquire additional land to construct the scheme.

Why is the Scheme needed and what it will deliver for the Sheffield City Region (approx. 300 words)

The scheme is needed to address the increasing journey times and congestion already experienced on this important route into and out of Sheffield City Centre and business sector concerns about these problems have been a significant outcome of recent public consultation with the Riverside Business Association and the Chamber of Trade. These

factors have a negative impact on potential future economic growth.

During the existing peak periods, the A61 Sheffield Inner Ring Road experiences the highest level of delay within the entire Sheffield City Region area with travel times commonly being over 30% greater than the off peak period.

The average route delay currently is estimated to be of the order of almost 70 seconds per kilometre travelled which represents an unacceptably high level of congestion.

The vehicular delay caused by new development trips will increase resulting in even greater levels of congestion and an increase in vehicular emissions unless additional highway capacity is added.

The proposed scheme produces a reasonable benefit cost ratio when just background traffic growth is considered. Background traffic growth is simply the year on year increase in traffic numbers experienced around urban conurbations but not associated directly with any new development. However, when the trips associated with a single development in proximity to the scheme is considered, the resulting benefit cost ratio increases significantly representing very high value for money.

The construction of the improvement will therefore provide improved access to the new developments and access to the job opportunities created as a result. The scheme will clearly provide direct benefits to proximate developments but also provide the necessary increase in capacity required to cope with further development sites beyond the immediate area.

Please provide a summary of the value for money your scheme offers (approx. 100 words)

The scheme offers very high value for money over the 60-year assessment period. It delivers strong standard transport benefits and GVA benefits with a transport BCR of 5.2 which offers very high value for money.

In addition to the strong transport benefits the scheme will help to deliver the city centre development aspirations which bring strong job creation and uplift of housing and employment land value. The overall benefit of the land value uplift is £8.72m. Although this significantly enhances the economic case for the scheme, the uplift of land owned by SCC is often used to facilitate earlier development, while capital receipts are part of the mid-term financial strategy of the Council. Consequently, it will not be possible to use

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any potential increase in and value as a contribution to the capital cost of this scheme.

1. STRATEGIC CASE

SHEFFIELD CITY REGION STRATEGIC VISION & OBJECTIVES

Vision: Sheffield City Region will be the best place to collaborate, to invest, to innovate and grow a business, and live, work, play and study. It will be supported by an unrivalled skills base and quality of life.

Objectives: this vision to be delivered by:

- Increasing the Sheffield City Region's Gross Value Added (GVA);
- Increasing the number of jobs in the Sheffield City Region / overall employment rate;
- Rebalancing the economic base of the City Region, by: 1) increasing the proportion of the workforce employed in the private sector; and 2) helping address the economic performance gap that exists between the City Region (as with other northern city regions) and the Greater South East; and
- Capitalising and enhancing the quality of life in the Sheffield City Region and delivering sustainable economic growth.

1.1 SCHEME RATIONALE

What opportunity or barrier will SCRIF investment unlock? Please make specific reference to barriers to economic growth. (approx. 500 words)

The delivery of the Sheffield Economic Policy and Housing Policy will require significant improvement to the existing highway capacity, particularly on the major routes leading to the City Centre.

The existing peak hours suffer significant congestion and journey times continue to increase. At the moment, the A61 Sheffield Inner Ring Road suffers the largest travel delays within the entire Sheffield City Region with an average route delay of almost 70 seconds per kilometre travelled. These conditions present barriers to economic growth and limit the attraction of Sheffield as a place to live, work, study and enjoy leisure activities. These barriers must be addressed in order for the region to realise its true economic potential.

If the plans for significant economic growth within the City Region are to be realised then it is forecast that a further 495,000 trips per day will be made by 2026. 31% of this total increase is expected to take place in Sheffield – making an additional 152,000 trips per day. This is the largest change within the City Region overall and it represents a 15% growth on current demand.

As the Sheffield City Centre Development strategy is largely based upon creating jobs and office

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accommodation within the City Centre, it is believed that the vast majority of the additional 152,000 trips will route via the principal distributor roads, entering the City Centre largely by car or by public transport.

It is also important to consider that the A61 Sheffield Inner Ring Road has been assigned as part of the Major Road Network in the Transport for the North's Strategic Transport Plan. As such, this route has been identified as playing a significant role in pan-Northern connectivity. This is further evidence of the importance of this route in both the regional and sub-regional contexts.

The western side of the Ring Road (A61) is included in the DfT's proposed MRN. SCC and SCR have put forward representation that the Eastern side of the Inner Ring Road should also be included in the DfT's MRN plan. This supports the strategic objective of providing good quality access to the regional and national (Highways England) road network

Given the existing issues, it is clear that by 2026, the additional highway demand will result in increasingly severe congestion within the Sheffield City Region road network, especially on the A61 Sheffield Inner Relief Road. The draft Sheffield City Region Transport Plan highlights this point, predicting that the change in delay over the period 2007-2026 will be between 100 and 200% in this area. The growth in trips confirms that the A61 is in Sheffield City Regions 'top 20' corridors that will be experience delay by 2025.

One of the main objectives for this scheme is to improve traffic congestion and thereby reduce delay to journeys into and out of the City Centre. This improvement is important in accommodating the additional 152,000 trips required to help achieve the desired economic growth in the City Region and can only be delivered with SCRIF investment

As well as improving existing congestion, the Sheffield City Region investment will open the opportunity for residential and employment focused developments such as the Sheffield Retail Quarter and locally the office and hotel sites at West Bar Square, Spitalfields, North Bank 2, Nursery Street, Kelham Island and Chatham Street sites, all of which are desirable in support of delivering economic growth for the region. The scheme will allow the area to realise significant regeneration benefits, with the impact subsequently extending the benefits enjoyed to the whole of Sheffield City Region.

This proposal is the first of a number of highway and transport improvements required to support the growth ambitions for the City and the Region's Economic Plan to be delivered in full. As part of our Housing Infrastructure Fund (Forward Fund) approved Expression of Interest we are currently developing further improvements on the Ring Road at Shalesmoor and A61 Penistone Road which will be complementary to the scheme presented in this FBC.

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In addition, increases in congestion and travel times have environmental impacts which need to be considered and mitigated. The continued growth in trip lengths will lead to an increase in both CO2 emissions and the more serious NOx emissions which both come within the general remit of Air Quality. This is becoming a National problem, with improvement and mitigation schemes an important part of the central Government agenda. The increase in emissions is predicted to be between 12% and 17% which will trigger a greater level of exceedance than is currently the case. Poor air quality has a negative effect on peoples' desire to live and work in a place, as well as affecting the long term health of the population. These factors present barriers to economic development and would be mitigated through SCRIF investment allowing delivery this scheme.

How will your scheme contribute to the achievement of the City Region's Strategic vision and growth objectives?
(approx. 300 words)

The vision that Sheffield City Region will be the best place to collaborate, to invest, to innovate and grow a business, and live, work, play and study is underpinned by four key policy documents

1. Strategic Economic Plan (SCR SEP) (and the current draft refresh)
2. SCR Inclusive Industrial Strategy (2017, draft stage)
3. SCR Integrated Infrastructure Plan (2016)
4. SCR Transport Strategy 2011-2026 and the current draft refresh to 2040.

The scheme will help to facilitate Sheffield's growth objectives and deliver significant levels of business growth through helping to deliver transport improvements which will facilitate the West Bar and Sheffield Retail Quarter (SRQ) developments. These two developments, when fully built out, will help deliver a significant number of jobs and much needed housing units, as well as delivering a GVA increase through land value uplift. These directly support the SCR Strategic Economic Plan, which sets out a 10 year plan which aims to create 70,000 net new jobs, add an additional 6,000 businesses in the region.

The grade A office space delivered will increase the stock of high quality office space within the city and allow it to compete with other northern cities, including Leeds and Manchester as well as London and the south east which will help to rebalance the UK economy as a whole, thereby supporting this objective set out by Sheffield City Region. The vast majority of the new jobs created will be in the private sector which will also help to achieve the objective of increasing the proportion of the workforce employed in the private sector.

The Sheffield City Region Strategic Economic Plan states that one of the three main strategic objectives is to *"provide the conditions that businesses need to prosper and become more resilient; particularly ensuring that we have the right skills and digital, transport and housing infrastructure in place to grow our private sector."* The Strategic Economic Plan recognises the importance of transport connectivity to join up key urban centres and prepare them to maximise

the economic benefits and that with demand and congestion rising ongoing investment in the transport network is needed to enable the Sheffield City Region's economy to prosper and grow. This scheme will help to maximise the efficiency of the existing road network and contribute to ensuring a more reliable and sustainable traffic network to access jobs and other opportunities.

This highways improvement programme directly ensures Sheffield City Region businesses have the support they need to realise their full economic growth potential, by delivering capacity for increased travel demand. It also provides the conditions that businesses need to prosper and become more resilient through labour mobility, in particular:

These key Policy Documents are now considered in greater detail below.

SCR Strategic Economic Plan 2015 (SEP)

The SCR SEP sets out a 10 year plan in which the SCR aims to create 70,000 net new jobs, add an additional 6,000 businesses, increase the number of highly skilled occupations and close the productivity gap with the rest of the UK within an uplift of £3bn.

The three core Objectives of the SEP are:

- Ensure SCR businesses have the support they need to realise their full growth potential.
- Become more outward looking.
- Provide the conditions that businesses need to prosper and become more resilient.

To achieve these objectives the SEP sets out the need to take action in six areas:

1. Facilitate and proactively support growth amongst existing firms
2. Ensure new businesses receive the support they need to flourish
3. Attract investment from other parts of the UK and overseas, and improve our brand
4. Increase sales of SCR's goods and services to other parts of the UK and abroad
5. Develop the SCR skills base, labour mobility and education performance
6. Secure investment in infrastructure where it will do most to support growth

The SEP recognises the importance of public transport connectivity to join up key urban centres and prepare them to maximise the economic benefits from High Speed Rail and that with demand and congestion rising ongoing investment in the transport network is needed to enable the SCR's economy to prosper and grow. Our schemes will help to maximise the efficiency of the existing transport network and contribute to ensuring a reliable sustainable public transport service for residents to access jobs and other opportunities.

The SEP also identifies Sheffield City Centre as one of the key spatial Growth Areas that will be required to accommodate a significant proportion of the 70,000 net new jobs. It is inherent that the constraints in infrastructure capacity are removed to facilitate this growth potential.

SCR Inclusive Industrial Strategy 2017 (Draft)

The SCRIS builds on the original SCR SEP and sets economic plan targets for SCR in 2027 through to 2040. The intention is to turn the SCR £33bn economy to a £55bn economy by 2040. However there is a growing consensus that economic performance should not focus solely on overall GVA growth and should take into account the distribution and quality of growth.

The SCRIS embraces Inclusive Growth to enable as many people as possible to contribute to and benefit from growth, improving the quality of employment and creating the foundations for a fairer economy.

The vision for the SCR is therefore to create a balanced and sustainable economy which breaks down siloes between sectors, and which forges new alliances between businesses, institutions, and communities.

To deliver this vision there are five strategic priorities, two of which relate directly to the Inner Relief Road investment.

- 1) Skills
- 2) Research and Innovation
- 3) Business and Investment
- 4) Place

Each of the City Region's urban and rural areas has their own challenges and opportunities, with different places performing different roles with attributes which we must enhance. A big part of this will be support for local priorities and to target resource to minimise inequality between areas. An integrated package of infrastructure is required to unlock local employment opportunities, as well as creating attractive places to live, work and socialise, with a focus on urban centres, to attract and retain talent. To enable this, the Integrated Infrastructure Plan (IIP) has identified distinct Growth Areas, into which we will target sector specific growth with the majority of this growth expected in these Growth Areas as well as our Urban Centres.

- 5) Transport

The SCRIS identifies the need to have a fully integrated multi modal public transport system, which provides for higher frequency of affordable transport solutions linking SCR residents to key employment sites and urban centres. To enable this to happen it is critical that the arterial routes around Sheffield City Centre have the capacity to enable the most effective and efficient transport solutions.

SCR Integrated Infrastructure Plan 2016

The SEP sets an ambitious target to increase GVA within the City Region by £3.1bn by 2025. Achieving this ambition will strengthen SCR’s contribution to the national economy and its role within the Northern Powerhouse. Securing these outcomes requires enhanced infrastructure, supporting an attractive environment for businesses and residents.

The SCRIP identifies Infrastructure as key to unlocking and driving economic growth, fundamentally enabling businesses to produce and increase productivity.

The SCR IIP presents Spatial Packages for our Growth Areas setting out a package of desirable infrastructure outcomes to support the economic ambition and for Sheffield a key challenge is that of congestion on arterial routes.

The role of the City Centre in contributing to the wider growth of the SCR is captured in the table below:

Growth Area	Total Employment			Total Housing		
	Increase	%change 2014-24	Contribution to SEP (70,000)	Increase	%change 2014-24	Contribution to SEP (70,000)
Sheffield City Centre	20,503	42%	29.3%	12,469	167%	17.8%

Growth Area: Retail, Financial and Professional Services, Creative and Digital Industries, Tourism, Leisure and Sport

Sheffield City Centre is the SCR’s core city and the largest hub for Knowledge, Creative and Digital Industries, Leisure, Higher Education, Culture and Financial and Professional Services sectors. As can be seen from the table it is the key growth area where a significant proportion of new growth is forecast, strengthening the role of the city centre as the economic engine of SCR.

Of the Work Packages identified for the City Centre to accommodate growth the most relevant to this proposal are:

S3: City centre transport capacity & radial delay corridors - One third of the city region’s increased transport delay corridors converge on Sheffield City Centre, which is to provide one half of the City Region’s jobs growth. To provide for this growth, an integrated package of highway improvements, tram extensions, and world-class pedestrian and cycling infrastructure will be required in and around the city centre and its radials, to provide transport capacity to connect the City Region to its single largest jobs growth area.

S12: Inner Ring Road - The ability of the Inner Ring Road to receive traffic from radial routes is a fundamental capacity constraint in respect of the radial delay corridors.

SCR Transport Strategy 2011-2026, draft refresh to 2040

This scheme is necessary to help deliver SCR's draft **Transport Strategy 2018-2040** in particular the following specific policies:

Policy 1 – To improve access to jobs, markets, skills and supply chains

The current travel to work statistics indicate a net influx of journeys into Sheffield from each of the surrounding for work purposes. Many of these journeys into Sheffield use the strategic Motorway network before accessing the A Road radial distributors which lead to the Sheffield City Centre which is enveloped by the A61 Sheffield Inner Relief Road.

The realisation of the Sheffield Economic Policy and the concentration of new jobs within the City Centre will result in a greater influx of trips from other parts of the City Region which of itself will improve the connectivity between major settlements as long as this trip making remains of a reasonable time duration and without high levels of traffic congestion.

Policy 3 – To invest in integrated packages of infrastructure to unlock growth and support local plans.

The Sheffield Economic Plan envisages a significant growth in developments within Sheffield City Centre. Each development will be considered within a planning context but the effect of a development will always be considered on the effect it has on the immediate highway network and also the resulting effects on Air Quality.

New development and regeneration will create new and additional journey demand This normally leads to an increase in journey time particularly within the peak hours. However, with the Sheffield Inner Relief Road already operating at capacity in the peak hours, this will lead to peak hour spreading initially but then network saturation which represents the point at which point no further development trips can be permitted.

It is therefore clear that to deliver the Sheffield Economic Plan; the capacity of the Sheffield Inner Relief Road must be incrementally improved to accommodate additional development traffic.

Policy 2 – To enhance productivity by making our transport system faster, more reliable and more resilient.

This policy is essentially a commitment to reduce congestion and the time lost in travel queues travelling to and from work. The rationale for this improvement is based wholly upon an economic assessment of the value of travel time reductions resulting from the provision of additional highway capacity as a result of the proposed highway improvement.

The worth of the improvement is expressed quantitatively as a Benefit to Cost ratio.

Policy 7– Actively improve air quality, especially in designated AQM areas.

This improvement seeks to reduce the time taken to travel to the new development sites situated within the City Centre. As well as this economic benefit, the reduction in travel time produces an attendant reduction in vehicle emissions when Air Quality is considered.

Outline how the scheme fits with national, sub-regional and local investment plan policies. Also outline whether there are any conflicts, and whether any stakeholder consultation has been undertaken/received. (approx. 600 words)

National Policies

At a National level, it is most important to consider how the scheme fits with four identified policies: The National Planning Policy Framework (NPPF), The Plan for Growth (March 2011), the Industrial Strategy White Paper (2017) and Rebalancing the Economy: Trade and Investment (Business, Innovation and Skills Committee).

The Government’s national Plan for Growth and Industrial Strategy White Paper both emphasise the importance of investment in infrastructure to deliver the Government’s economic growth ambitions. NPPF states that its overall aim is “to help achieve sustainable development” and this is based on three dimensions – an economic, a social and an environmental role. The NPPF and the Plan for Growth highlight the importance of locating developments that generate significant movement in central urban areas where the need to travel will be minimised and the use of sustainable transport modes can be maximised. Sheffield City Centre is the ideal focus for regeneration, serving a mix of retail, creative and digital, academic and residential growth. Investing in the public realm and reallocating road space to improve pedestrian and cycle connectivity improves the attractiveness of the city as a place to invest, work, visit and live.

This highways improvement programme seeks to aid access to the City Centre and enhance its role as a location for learning, research and collaboration. Addressing infrastructure needs will enable leverage of further investment to achieve knowledge-based economic growth, in particular supporting the regions re-emerging lead in modern manufacturing. This follows the direction of national policy indicated in Rebalancing the Economy: Trade and Investment (Business, Innovation and Skills Committee).

Local Policies

There are two local policy documents which it is important to consider in assessing the potential impact of this highways improvements scheme. These are the Sheffield City Council Local Plan and the Sheffield City Centre Masterplan.

The Sheffield City Centre Masterplan recommends the continued removal of general traffic travelling through the City Centre, specifically by re-directing that traffic onto the A61 Sheffield Inner Relief Road. This aim continues to take up highway capacity on the Inner Relief Road which was completed in 2008. This highways improvement scheme will support the Masterplans aims for the City Centre by providing significant additional capacity on the Inner Ring Road.

At present, a number of key city centre development sites around the Inner Relief Road are constrained by the lack of highway capacity. Traffic congestion and journey times in this area are increasing, particularly during peak travel hours. The Sheffield City Council Local Plan identifies resolution of this as key to delivery of development sites in this location.

Stakeholder consultation

Consultations with stakeholders took place in October 2017. A total of 12 yellow backed signs, indicating: 'Major Traffic Scheme Proposed Here', were placed at key junctions and crossings of the Inner Relief Road, between Corporation Street and Savile Street. The signs gave a link to the Council's web site where the proposals could be seen in more detail.

The Sheffield Star also ran a front page article on the proposals the day after the consultation started and all statutory consultees were notified of the proposals including Fire service, Ambulance and Police.

Comments regarding the proposals were wide ranging and included views on other congestion hotspots within the City as well as more scheme specific observations and suggestions.

In total 53 comments were received regarding the proposals.

These have been split and addressed in four groups:

1. Cycle Sheffield has submitted a lengthy objection which includes collated responses from 21 individuals / members.
2. Comments from 18 respondents on the type of proposals the Council are promoting, including discussions on the wider transport strategy for the City and specific mention of Air Quality.
3. Comments regarding the impact on Kelham Island.
4. Scheme specific requests relating to junction layouts and operations within the proposed changes

The comments received have been investigated and wherever possible the suggestions were taken into account in the detailed design.

A meeting with the members of Kelham Island Community Alliance was held on the evening of 15th November, 2017 and was attended by more than 40 residents.

1. The aims and objectives of the scheme were put to the group for their consideration and after a fairly lengthy debate, the group were concerned that the proposals shown to them: Increased the physical separation of the Kelham Area from the City Centre.
2. Did not sufficiently promote mode shift or bring about a significant improvement in Air Quality.
3. Believed that the improvement was aimed at improving journey times for vehicles passing Kelham without improving journey times for trips with origins or destinations within Kelham.

After further discussions, members of the group asked for two measures to be considered as part of the scheme development. The measures are:

1. The installation of a yellow box junction road marking to help keep clear the left turn egress from Alma Street into Corporation Street.
2. The construction of a direct through pedestrian crossing phase between Alma Street and Bridge Street.

Both of these requests have been considered as part of the further scheme development. The traffic “rat running” however is beyond the limits of the proposed scheme and will have to be progressed separately should funding become available for this purpose.

What are the implications if the scheme does not secure SCRIF investment? (approx. 300 words)

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The scheme will not proceed without financial support from the Sheffield City Region due to the lack of any alternative Highway Funding sources available to deal with strategic network interventions.

If the scheme does not secure SCRIF investment, the Do Minimum scenario as modelled in Aimsun is expected. Background traffic will continue to grow with no change in infrastructure to increase in traffic capacity. The current 70 seconds of travel delay per kilometre will increase and the Sheffield Inner Ring Road will remain as the route with the highest level of travel delay per kilometre in the entire City Region.

The increase in travel delay will also result in greater traffic emissions which will adversely affect Air Quality. This creates a case of declining traffic and physical conditions. Future potential developments such as Sheffield Retail Quarter and West Bar will be curtailed due to a lack of efficient and effective connectivity.

The increase in traffic capacity, which this package of highways improvements targets, will benefit all the new and existing development trips accessed along this route. As such, it is not possible to identify a single development site that benefits solely from this scheme. Over time and subject to development approval it might be possible to aggregate contributions from all developments in order to create alternative finance for its construction, but that would mean the new developments would see no immediate traffic benefits until the Economic Plan is delivered in full. However, it is highly unlikely that the Economic Plan will be delivered in part or in full unless timely strategic interventions are made to offset the negative effects on new development trips.

This proposal is therefore the first of a number of highway interventions to help set the traffic conditions to enable the Economic Plan to be delivered in full.

Are the economic outcomes of the scheme dependent upon any other project or investment? (approx. 300 words).

[An example - SCRIF investment helps provide funding for access to a development site, but additional funding (either private or other public) is needed to develop out the site and therefore deliver the economic outcomes].

The broad economic outcome is the successful delivery of the Sheffield Economic Plan and ultimately the full delivery of the Sheffield City Centre Masterplan.

In order to move to the full delivery of this economic output, this project is the first transport intervention towards that goal which will facilitate major proposed developments including

Sheffield Retail Quarter and West Bar Development. These housing and employment focused developments will in turn provide positive economic growth for the region and this has already been recognised by the approval to progress to the next stage of a project within the Housing Infrastructure Fund which includes upgrades to highway infrastructure.

It is argued that the economic outcome is dependent on the timely and incremental construction of a series of capacity improvements along the Relief Road and in areas close to any new development.

1.2 SCHEME OBJECTIVES

What are the scheme's objectives in SMART terms (Specific, Measurable, Achievable, Realistic, Timescales)? Please distinguish between short and longer term objectives. (approx. 300 words)

[explanation to be provided in the guidance notes]

The direct *transport* objectives of the scheme are set out below and more fully detailed in the modelling appendices.

1. By March 2020, additional 2,000 m² of new highway traffic lanes will be constructed.
2. By 2025, there will be a reduction in mean travel times of between 7% and 11% within the corridor of the modelling study and specifically along the journey sub-paths defined in section 5.1 of the modelling report.
3. By 2020, a segregated pedestrian and cycle crossing facility encouraging the choice of quieter routes between Alma Street and Bridge Street in both directions will be constructed

Are there any potential adverse economic, social and/or environmental consequences / disbenefits of delivering the scheme? (approx. 500 words)

One potential adverse environmental consequence of this scheme is the loss of trees and grassed areas which result from the construction of the additional traffic lanes in what are currently landscaped central reserve areas. However, in mitigation of this, there are other areas of the site where planting could be replaced on a 1:1 basis and the original very well received pictorial meadow planting scheme extended.

The current scheme proposal also requires the re-allocation of road space to achieve the

required lane layout. This will result in the loss of two sections of on-carriageway cycle lanes with a total length of around 200m. Both sections will be replaced by an adjacent off-carriageway shared use alternative. Although the requirements of timescale and budget do not allow the acquisition of additional land to replace the on-carriageway route, an improved cycle crossing over the ring road will be provided between Alma Street and Bridge Street. The crossing will be in one light 'phase' rather than two - an important journey time benefit to cyclists that will help mitigate some of the extra cycle journey time for cyclists who choose to use an alternative on-carriageway route via Kelham Island once the on-carriageway cycle lanes are removed.

In the more medium term, an approach has been made to an adjacent Developer to negotiate dedication of land to replace at least some of the City Bound cycle facilities. The City Council already have a Compulsory Purchase Order resolution in place to assemble the necessary development land on behalf of the development partner "Urbo". This would make it possible to redirect the existing cycle lanes and create new routes connecting with local residential developments and employment opportunities in the City Centre. These could perhaps be directed across the Relief Road rather than running in line with it, offering a potential mitigation.

There are no changes proposed to the existing Corporation Bridge which is also a Grade 2 listed structure so no formal planning consent has been sought.

However, there are considerable economic dis-benefits of not taking forward the scheme since simply adding further development trips to the existing network will continue the increase in overall journey times and make the City Centre more difficult to access.

1.3 OPTIONS REVIEW

Outline the options which have been considered, setting out the strengths/weaknesses for each option, outcomes expected and reasons for either rejecting the option or taking it forward as the preferred approach.

A minimum of 3 options should be presented. Options are to be considered in terms of 'No SCRIF investment, Reduced SCRIF Investment, Full or Preferred SCRIF investment'

Aimsun modelling software has been used to evaluate the effect on local traffic that several proposed interventions on A61 Sheffield Inner Ring Road may have – both in isolation and in multiple combinations.

- Stage 1 (May 2017) comprised modelling of fifteen future scenarios.
- Stage 2 (September 2017) comprised modelling of a further eight future scenarios. This led to the identification of a preferred package of improvements.

Due to the nature of this proposal it is not possible to divide the package of works. The preferred

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package has been identified as producing the best value for money and the costs of this cannot be reduced. Due to the lack of alternative funding options for delivery of this highways improvement scheme, options will only be considered in terms of 'Preferred SCRIF investment'.

Option 1: Do Minimum

General background traffic will continue to grow with no change in infrastructure to increase in traffic capacity. The current 70 seconds of travel delay per kilometre will increase and the Sheffield Inner Ring Road will remain as the route with the highest level of travel delay per kilometre in the entire City Region. The increase in travel delay will also result in greater traffic emissions which will adversely affect Air Quality. This creates a case of declining traffic and physical conditions.

Option 2: Do Maximum

This option considers adding additional traffic lanes along the full length of the Sheffield Inner Ring Road and represents hugely significant intervention. This would bring more significant benefits than the identified package of highway improvements which are the subject of this funding application to accommodate the full build out of the City Centre development schedule as well as normal background growth. However, it has been discounted on the basis of significant additional cost and time delays due to the need for 3rd party land, more extensive resource for modelling analysis and extended consultation.

In addition, the traffic generation from the mid to longer term developments would need to be estimated as formal planning applications have not yet been submitted. For this reason, localised assessment based upon a single development has been carried out using the data and flows submitted by the Traffic Consultant as part of the detailed Planning Application.

Whilst this may provide the optimum solution, the cost of this proposal is far in excess of the budget currently available and could not be delivered within the current programme timescales. The preferred scheme identified below represents a cost effective and deliverable solution at this time, and as such an incremental approach is being taken to interventions on the Inner Ring Road.

Options 3-9: Scenario 11 (B, C, D, E & F) and Scenario 12 (A & B)*

*Scenarios are referenced as in Arup's *Aimsun Modelling Report Addendum: NIRR Improvement Schemes*, issued to SCC in September 2017, see **Appendix 1**.

All of the Scenario 11 schemes have a positive impact on the road network compared with the Do Minimum. Journey time is reduced along most of the Aimsun modelling sub-paths.

The aim of the elements included in Scenarios 11C-11F (in addition to the Scenario 11B elements) is to increase capacity along the Inner Ring Road clockwise (towards Parkway) which would provide the biggest benefit in the PM peak, and would have smaller benefits in the AM peak. The PM peak results reflect this; the overall model mean delay reduces the most in 11E, followed by 11F, 11D, 11C and then 11B.

In the PM peak the journey time results suggest that Scenario 11E would have the greatest positive impact on journey time, followed by Scenario 11F, 11D, 11C and then 11B.

All of the scenario 11 models have a positive impact on reducing the virtual queues in both peaks, except for scenario 11B which results in an increase in virtual queue in the AM peak.

The system statistics suggest show that travel time reduces and delay decreases significantly in all of the scenario 11 models. Overall the scenario 11 schemes will result in a less congested network.

The scenario 12 schemes have a smaller positive impact in the AM peak journey times than the scenario 11 schemes. In the PM peak the impact is positive and more in-line with the scenario 11 schemes with significant reductions in journey time.

However, the virtual queue results show that 12A and 12B would be successful at reducing virtual queues in the AM and PM peak – which demonstrates that they increase the capacity of the road network.

The system statistic results suggest that both scenario 12 models would be beneficial to the network overall. In the AM peak the mean delays reduced by 4.8% and 6% respectively and in the PM peak it reduces by 14% and 13% respectively.

Preferred Option: Scenario 11E

Scenario 11E has been identified as the preferred option, due to its strength in offering the greatest reductions in delay in both the AM and PM peak and the greatest positive impact on journey times. The scheme is expected to result in a less congested network.

Details for the preferred package of improvements are as follows:

1. Right turn from Derek Dooley Way to Bridgehouses Roundabout (Clockwise) extended

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and moved towards Savile Street.

2. Stop line on the Inner Ring Road (anti-clockwise) moved closer to Nursery Street.
3. Third lane added for traffic wanting to proceed from the Inner Ring Road to Corporation Street.
4. Pedestrian Crossing removed from Derek Dooley Way.
5. Straight ahead movement onto Chatham Street retained but realigned to pass to the left of the splitter island thereby confining traffic to the nearside lane over Borough Bridge.

The scheme layout of the preferred option is presented in **Appendix 2**.

STRATEGIC CASE ASSESSMENT (TO BE COMPLETED BY THE ASSESSOR)

Does the scheme have a clear strategic rationale and align to SCR Growth Plan objectives?

Are SMART objectives clear and consistent with the nature of the scheme?

Are there any adverse consequences if the scheme goes ahead / does not go ahead?

Poorer economic performance and a general impediment to any future growth.

Has a robust assessment of the alternative options been considered?

2. COMMERCIAL CASE

2.1 DEMAND CASE

Please set out the demand justification for SCRIF investment in this scheme, drawing on and setting out the evidence that you have to support this (approx. 500 words)

The Sheffield City Region Integrated Infrastructure Plan outlines the ambition to create 70,000 net additional jobs and 70,000 new homes across the City Region by 2025. The Sheffield City Centre Masterplan (2013) specifically set out to establish and grow the Riverside Business District and in particular to bring forwards the West Bar Development.

There are also wider plans to deliver other housing and commercial developments in the city centre including the Sheffield Retail Quarter development which will deliver a significant number of additional jobs and bring wider regeneration within the city.

All of these schemes plus background traffic growth will deliver additional highway demand. At present, a number of key city centre development sites around the Inner Relief Road are constrained by the lack of highway capacity. Traffic congestion and journey times in this area are increasing, particularly during peak travel hours.

The scheme is vital to facilitate the level of development and regeneration that is planned for the city centre and to deliver the jobs and houses that this development will bring.

The project returns very high value for money delivering a BCR of 5.2 If the benefits of unlocking employment and housing land and delivering jobs are included, then the benefits increase significantly.

Please outline any market testing which has been undertaken to evidence the demand case, and provide any evidence that demonstrates that the private sector will respond to this opportunity (approx. 300 words).

Traffic counts and evidence of congestion on the network demonstrate the level of demand currently in the area of the scheme. Recent journey time reviews were determined using ANPR camera data and the results conclusively indicate that journey times have and continue to increase and as such it is equally clear that the current section of the ring road provides a constraint to business activity and future development. Nationally there is a strong policy commitment to providing more housing and delivering economic regeneration in northern cities.

The traffic associated with new development has been calculated using the TRICS database. (Trip Rate Information Computer System). This is the Industry standard method for calculating trip generations per development floor area nationwide. (TRICS) Also used by Sheffield City Council as part of Planning determination and also used by the Department for Transport for major scheme assessment.

Will there be sufficient demand to ensure that the scheme is financially sustainable beyond the completion of the SCRIF investment?

The proposed scheme delivers strong benefits for the city centre as a whole and all the developments that will be accessed from this critical route, although, for the benefit of demonstrating economic worth, the highway improvement was originally assessed on the basis of a single development being brought forward at West Bar. However, a further economic assessment of the highway improvement has been carried out by considering the development traffic associated with the Sheffield Retail Quarter which is now more usually referred to as “Heart of the City phase 2”.

The results produced and the benefit/cost ratios calculated later in this submission are based upon the benefits realised to the trips associated with both developments combined.

The scheme also Improves access to jobs, markets, skills and supply chains and enhances productivity by making our transport system faster, more reliable and more resilient.

It is fundamental to note that this proposed capacity improvement is financially sustainable well beyond the SCRIF investment period as the asset will be added to the Maintainable Public Highway and will be maintained by the City Council under its current contractual arrangement with Amey (Streets Ahead) and all other ensuing Highway Maintenance arrangements.

2.2 PROCUREMENT STRATEGY

What is your intended procurement strategy for delivery of the scheme? Are you intending to use framework agreements or contracts?

The project procurement strategy has been completed and a direct award of the design and construction package to the Highway Maintenance Contractor is recommended to achieve the required expenditure timescales. Detailed design is now completed and a start on site in February 2019 has been agreed with Amey and the Highway Co-ordinator. Traffic management during the construction phase will involve the retention on two (albeit

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narrower) lanes in each direction, with some (short term) tasks being required to be undertaken overnight or on Sundays.

This has ensured that the project was designed by Amey to current adoptable highway standards and maintained by them for a period of 20 years until the expiration of the current Maintenance Contract. Amey were appointed following an OJEU compliant process.

There is a potential for some cost savings by using a framework contractor but the time required to execute a mini competition to select a Contractor would extend the delivery timescales and therefore will not be actioned.

COMMERCIAL CASE ASSESSMENT (TO BE COMPLETED BY THE ASSESSOR)

Is the scheme feasible and has market potential / demand been adequately assessed / evidenced?

Is the procurement strategy clear with defined milestones?

3A. ECONOMIC CASE – ALL SCHEMES TO COMPLETE

3A.1 PREFERRED OPTION AND REFERENCE CASE ANALYSIS

With reference to section 1.3, please provide a summary of your preferred SCRIF investment option and outcome in the event that no SCRIF investment is approved (approx. 300 words)

As highlighted previously, the preferred scheme Option is scenario 11E, due to its strength in offering the greatest reductions in delay in both the AM and PM peak and the greatest positive impact on journey times. The scheme is expected to result in a less congested network

This scheme can only be delivered with financial support from the Sheffield City Region Investment fund to the extent identified in the financial case. None of the lower cost options deliver the scale of congestion reduction required to help with the aim of reducing this bottleneck on this key strategic route.

If the City Region is not in a position to support this scheme, then it will not be built and traffic congestion will continue to grow in the immediate area and the A61 Sheffield Inner

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Relief Road will continue to experience the most delay per kilometre travelled within the City Region as a whole.

Failure to deliver the scheme will also make it difficult to deliver the scale of investment in housing and jobs that are planned for the city centre, which would not deliver the strong economic benefits that this development provides. This in itself has been recognised with the overall housing strategy and the in principle approval of funding to upgrade the Inner Ring Road at other locations.

3A.2 PREFERRED OPTION OUTPUTS ANALYSIS

Please complete the following table as a summary of the direct and indirect gross outputs delivered by the Scheme. For Transport Schemes, also complete Section 3B.

Table 3.1: Preferred option – gross outputs

	Direct outputs dependent on or delivered by the Scheme	Indirect outputs associated with the Scheme	Total Gross Outputs
FTE construction job years		10	10
Commercial Floorspace created (record use class)	None directly created.		None directly created.
Potential Commercial Floorspace unlocked			None directly created.
Transport cost savings (£M)	22.15		22.15
Housing units			None directly created.
FTE Jobs		150	None directly created.
GVA		£8.72m land value uplift. Value	£8.72m land value uplift. Value
Private sector investment leveraged			
Other public sector investment leveraged	£450k		
Other (specify)			

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For the outputs presented in Table 3.1, set out below the assumptions from which these have been assessed:

Table 3.2: Preferred option – gross outputs – Key assumptions

	Direct outputs dependent on or delivered by the Scheme	Indirect outputs associated with the Scheme
FTE construction job years		Jobs delivered by construction of the scheme based on an estimate of contractor hours required.
Commercial Floorspace (record use class)		
Potential Commercial Floorspace unlocked		
Transport cost savings	This is the value of the journey time and fuel savings delivered by the scheme (see 3B for more information).	
Housing units		
FTE Jobs	None directly created	150
GVA		This is the land value uplift calculated as per TAG unit A2.3.
Private sector investment leveraged		
Other public sector investment leveraged	This is the SCC contribution to the scheme.	
Other (specify)		

Please complete the following table to indicate where job outputs are expected to be located.

Table 3.3: Preferred option – location of total gross FTE employment outputs

Location	% of total gross FTE employment outputs
Barnsley	
Bassetlaw	
Bolsover	
Chesterfield	
Derbyshire Dales	
Doncaster	
North East Derbyshire	
Rotherham	
Sheffield	100%
Outside SCR	

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Please complete the table at Annex 2 estimating the employment sectors which will best represent the employment outputs to be delivered by the Scheme.

Please complete the following table recording the timing of Gross outputs delivery:

Table 3.4: Preferred option – timing of gross outputs		2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	Post 2020
Gross FTE construction jobs years	Direct						100%	
	Indirect							
Commercial floorspace	Direct							
	Indirect							
Potential commercial floorspace unlocked	Direct							
	Indirect							100%
Transport cost savings	Direct							100%
	Indirect							
Housing Units	Direct							
	Indirect							100%
FTE jobs	Direct							
	Indirect							100%
GVA	Direct							
	Indirect							100%
Private sector investment leveraged	Direct							
	Indirect							100%
Other public sector investment leveraged	Direct					100%		
	Indirect							
	Indirect							

What evidence do you have to demonstrate the link between delivery of the Scheme and the delivery of the direct and indirect outputs presented in tables 3.1 to 3.4 above (approx. 300 words):

The Aimsun modelling has demonstrated that the scheme is essential in facilitating further development in Sheffield City Centre, including the West Bar Square and Sheffield Retail Quarter schemes. Between them these schemes will deliver the housing and employment floor space identified in Table 3.1.

The transport benefits have been calculated as part of a WebTAG based appraisal which is documented in section B3 below.

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For the total direct and indirect employment outputs delivered by the Scheme, please provide the following analysis converting gross to net employment :

Table 3.5: Preferred option – gross to net employment outputs

	SCR Area FTE Gross Employment Outputs	
	%	Number
a. Gross FTEs accommodated		
b. % of gross FTEs which will be taken up by residents living outside the SCR area		
c. Gross SCR FTEs (a-b)		
d. % of gross FTEs which will, through product market displacement/competition effects, be offset by reductions in productive capacity elsewhere in the economy (outside the SCR)		
e. Net local FTEs before multiplier effect (c-d)		
f. Combined supply/income multiplier		
g. Net local FTEs after multiplier effects (e x f)		

[explanation provided in the guidance notes]

As this is a small-scale primarily transport scheme the home location of employees filling jobs has not been modelled in detail.

Please set out the assumptions, benchmarks or research upon which your assessment of additionality presented in table 3.5 above is based.

As this is a small-scale primarily a transport scheme this analysis has not been undertaken.

Preferred Option Value for money assessment. Set out:

Total public sector cost per net job created (Total public sector investment / net jobs created): £362.23

Total SCRIF investment per net job created: £355.60.

Provide a summary of any additional anticipated social, distributional or environmental outcomes attributable to the scheme. Please make reference to any supporting evidence or research to support your response,

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and the objectives of the SCR Growth Strategy (approx. 300 words):

The scheme will help to facilitate the West Bar and SRQ developments by increasing accessibility to these sites and reducing journey times. This will deliver regeneration benefits for the city and wider city region.

The scheme will help deliver emissions reductions by improving traffic flow. The value of these benefits has been calculated as £0.4m over the 60 year appraisal period.

3A.3 No SCRIF INVESTMENT OPTION (THE REFERENCE CASE) OUTPUTS ANALYSIS

Complete the following tables for the no SCRIF investment option:

If the Sheffield City Region cannot fund the scheme, then the scheme will not be delivered as no other Highway funding is currently available.

Table 3.6: No SCRIF investment (Reference case) option – gross outputs

	Direct outputs dependent on or delivered by No SCRIF investment Scheme	Indirect outputs associated with No SCRIF investment Scheme	Total Gross Outputs
FTE construction job years	0	0	0
Commercial Floorspace (record use class)			
Potential commercial floorspace unlocked			
Transport cost savings	0	0	0
Housing units			
FTE Jobs			
GVA			
Private sector investment leveraged			
Other public sector investment leveraged			
Other (specify)			

Complete the following table to show when the gross outputs would be delivered.

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Table 3.7: No SCRIF investment (Reference case) option – timing of gross outputs								
		2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	Post 2020
Gross FTE construction jobs years	Direct						0	
	Indirect							
Commercial floorspace	Direct							
	Indirect							
Potential Commercial floorspace unlocked	Direct							
	Indirect							
Transport cost savings	Direct							0
	Indirect							
Housing Units	Direct							
	Indirect							0
FTE jobs	Direct							
	Indirect							0
GVA	Direct							
	Indirect							0
Private sector investment leveraged	Direct							
	Indirect							0
Other public sector investment leveraged	Direct							
	Indirect							
Other	Direct							
	Indirect							

For the total direct and indirect employment outputs delivered by the No SCRIF investment Scheme, please provide the following analysis converting gross to net employment :

Table 3.8: No SCRIF investment (Reference case) option – gross to net employment outputs		
	SCR Area FTE Gross Employment Outputs	
	%	Number
a. Gross FTEs accommodated		
b. % of gross FTEs which will be taken up by residents living outside the SCR area		
c. Gross SCR FTEs (a-b)		
d. % of gross FTEs which will, through product market displacement/competition effects, be offset by reductions in productive capacity elsewhere in the economy (outside the SCR)		
e. Net local FTEs before multiplier effect (c-d)		
f. Combined supply/income multiplier		

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<i>g. Net local FTEs after multiplier effects (e x f)</i>		
3A.4 SCRIF INVESTMENT PROPOSAL NET ADDITIONAL VALUE FOR MONEY POSITION		
<p><i>Net additional Value for money (VFM) position.</i></p> <p><i>Set out:</i></p> <p><i>A. Total SCRIF investment (preferred option):</i></p> <p><i>B. Total public sector investment (preferred option):</i></p> <p><i>C. Net additional jobs (i.e. Preferred SCRIF investment option net jobs less No SCRIF investment net jobs): up to 150</i></p> <p><i>E. VFM Total public sector investment (B / C):</i></p>		
3A.5 SCRIF INVESTMENT PROPOSAL NET ADDITIONAL GVA POSITION		
<p><i>Net additional GVA position.</i></p> <p><i>Set out:</i></p> <p><i>A. Net additional GVA (i.e. preferred SCRIF investment total GVA created less No SCRIF investment total GVA created:) £8.19m</i></p> <p><i>B. Total SCRIF investment (preferred option): £3,787,000</i></p> <p><i>C. Net GVA per £ spent from SCRIF i.e. (A/B): £2.89</i></p> <p>TAG unit A2.3 outlines a methodology for calculating the value of development that is dependent on a transport scheme. The method is specifically for housing development but can also be applied to commercial development. The transport infrastructure that is the subject of this business case will help to facilitate commercial and housing development at West Bar and the Sheffield Retail Quarter (SRQ).</p> <p>The method involves assessing the ‘planning gain’ arising from the unlocked land in the form of an increase in land value per hectare and then removing any disbenefits such as increased traffic delay arising from the provision of the additional trips on the network.</p> <p>Two runs of the Aimsun model have been undertaken; one with the scheme coded in and the do-minimum matrix and one with the scheme coded and a matrix including the West Bar and SRQ development. This will allow the impact of the additional trips associated with the scheme to be ascertained (increased network delay and increased fuel use).</p> <p>The land value uplift resulting from the full West Bar and SRQ developments was calculated at £8.72m as shown in Table 3A.5.1.</p>		

Table 3A.5.1 Calculation of Land Value Uplift

Land Value per Hectare (£m)	£1.72
Number of Hectares of Unlocked Land	10
Current value of land (industrial use: source VOA, £m)	£0.48
Total Value of Unlocked Land (£m)	£11.74
Value of Increased Delay (60 year appraisal period)	£2.96
Value of Increased Fuel Use (60 year appraisal period)	£0.06m
Value of Unlocked Land Benefit (£m)	£8.72m

3B. ECONOMIC CASE – TRANSPORT SCHEMES ONLY TO COMPLETE

3B ECONOMIC APPRAISAL

The economic case for transport schemes must be supported by evidence produced by following the guidance on the Department for Transport' WebTAG appraisal. The evidence supporting this appraisal should be presented as a series of Annexes to this document.

Approach to Value for Money

The value for money of the scheme has been assessed using WebTAG principles with standard transport benefits used to develop the scheme benefit cost ratio (BCR).

The BCR has been adjusted to include wider economic benefits and other welfare impacts that are not considered in the standard transport appraisal.

It is noted, however, as per above that the principle benefit of the scheme will be the impact of the additional jobs and housing that the scheme helps to facilitate in the city centre and the impact that this has on wider economic benefits and Gross Value Added (GVA), including at West Bar and Sheffield Retail Quarter. The GVA impact does not feature in the BCR but has been identified separately.

Modelling and Appraisal

The scheme has been tested in an Aimsun microsimulation model cordoned from the latest version of the Sheffield Area Aimsun model (SAAM 3.1). The model covers the AM peak period (08:00-09:00) and PM peak period (17:00-18:00). Further details of the

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modelling including the NIRR Modelling Report is contained within the appendices. The appraisal has been conducted in accordance with the guidance set out in WebTAG and all relevant values have been taken from the WebTAG databook (July 2017).

Capital Costs

The project costs have been treated as per the advice in WebTAG Unit A1-2 and have been amended to account for construction inflation, risk and optimism bias and then discounted and adjusted for the impact of indirect tax revenues this is shown in Table 3B.1 below.

Table 3B.1 Project Costs (£m)

Outline Business Case Submission	Total
Base Cost	£3.46
Inflate Cost to Opening Year	£3.49
Risk (25%) Adjusted Cost	£3.84
Cost including Optimism Bias (44%)	£5.52
Rebase to Department's Base Year	£5.04
Discount to Department's Base Year	£4.11
Convert to Market Prices	£4.89
Total	£4.89

Full Business Case Submission	Total
Base Cost (2017 prices)	£4.24
Inflate Cost to Opening Year (2023)	£4.27
Risk (10%) Adjusted Cost (2023)	£4.69
Cost including Optimism Bias ²	£4.83
Rebase to Department's Base Year (2010)	£4.41
Discount to Department's Base Year (2010)	£3.59
Convert to Market Prices (2010)	£4.28
Total (2010)	£4.28

Having completed both detailed design and received C4 detailed client estimates from the Statutory Undertakers for the preferred option, 11E, the included optimism bias has now been reduced (Stage 3) which returns an overall project cost of £4.28M (2010)

Operational and Maintenance Costs

The scheme will not significantly increase the operational and maintenance cost of the network and therefore these costs have been excluded from the appraisal.

Journey Time Savings

The Aimsun model was used to examine the change in vehicle delay across the AM and PM periods the appraisal values are shown in Table 3B.2.

Table 3B.2 Car Journey Time Savings Calculation

	2021	
	AM	PM
DM Mean Delay (Seconds)	345	338
DS Mean Delay (Seconds)	430	419
DM Mean Flow (Vehicles)	20,845	21,278
DS Mean Flow (Vehicles)	20,753	21,193
DM Mean Flow * Mean Delay (hours) *	2,652	2,562
DS Mean Flow * Mean Delay (hours)*	2,479	2,469
Change in Total Network Delay (hours)	-172	-93
Annual Delay Reduction PCU Hrs (253 days)	67,128	
<p>The total journey time was projected throughout the appraisal period (using Temprow growth for 15 years after opening and then capped) and combined with WebTAG values of time for each user class to gain the total discounted benefits.</p> <p>Only the AM and PM peak hour were modelled.</p>		
Discounted Monetary Benefit (60 year appraisal period)	22.15	

**Note this is the sum of the delay for each vehicle type multiplied by the flow for each vehicle type.*

Users are split into commute business and leisure by the factors contained in Table A1.3.4 in the WebTAG databook.

Environmental Benefits

A reduction in vehicle delay will change the emissions characteristics of vehicles. The fuel consumption of vehicles in each scenario was calculated using the method in WebTAG

based on the average speed and average distance travelled within the modelled area. Emissions factors from the WebTAG databook were then used to calculate the total change in emissions between the do-minimum and do-something scenarios.

This was then monetised using the cost of emissions from the WebTAG databook. The total benefit over the 60-year appraisal period is £0.4m.

Wider Economic Impacts

As a strategic transport model was not used it has not been possible to quantify agglomeration impacts for this reason these are not assessed. It was also not possible to quantify the move to more or less productive jobs or taxation impacts as no LUTI model was available; however, some of the wider regeneration benefits are captured in the analysis above.

The output change in imperfectly competitive markets has been calculated as 0.58m over the appraisal period.

Standard Transport Benefits

The standard transport benefits of the scheme are shown in Table 3B.3. This shows that the scheme offers very high value for money with a BCR of 5.21.

Table 3B.3 Standard Transport Benefits (over 60 Year Standard Appraisal Period)

Outline Business Case Submission	Total
Capital expenditure (£ m)	£4.28
PVC	£4.28
Consumers travel time (Commute) (£ m)	£7.24
Consumers travel time (Business) (£ m)	£4.01
Consumers travel time (Leisure) (£ m)	£10.91
Decongestion Benefits (£m)	£0.42
PVB	£22.28
Net Present Value NPV (£ m)	£18.00
Benefit Cost Ratio BCR	5.21

Note: It is important to point out that the PVB being modelled here refers to 2 hrs per day rather than the usual 6 hours modelled, thus other are likely to experience benefits as well.

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Adjusted BCR

As per WebTAG guidance and adjusted BCR is provided which includes a wider range of economic benefits associated with the scheme. This shows that the scheme offers very high value for money.

Table 3B.4 Economic Appraisal (Adjusted BCR over 60 Year Standard Appraisal Period)

Outline Business Case Submission	Total
Capital expenditure (£ m)	£4.28
PVC	£4.89
Consumers travel time (Commute) (£ m)	£7.24
Consumers travel time (Business) (£ m)	£4.01
Consumers travel time (Leisure) (£ m)	£10.91
Decongestion Benefits (£m)	£0.42
Output Change (£m)	£0.58
PVB	£22.68
Net Present Value NPV (£ m)	£18.40
Benefit Cost Ratio BCR	5.3

GVA Benefits

As shown in section 3A above in addition to the strong economic case for the scheme the scheme has indirect benefits in terms of job creation and facilitating housing and employment land. The indirect benefit of the land value uplift as a result of facilitating the West Bar and SRQ schemes is £8.72m. This enhances the economic case for the scheme.

Value for Money Statement

The scheme delivers strong standard transport benefits and GVA benefits with a transport BCR of 5.2 for the final business case which therefore offers very high value for money.

3B.1 APPRAISAL SPECIFICATION REPORT

Promoters should follow the methodology in the Appraisal Specification Report they have agreed with the Central Independent Appraisal Team, please state where it can be found in the supporting documentation

Please outline any deviations from the agreed methodology here:

Due to the scale of the scheme no ASR was completed. The scheme appraisal approach has been discussed and agreed with the Sheffield City Region.

3B.2 SUPPORTING DOCUMENTATION

It is anticipated that the economic case will be supported by the following documentation:

1. Checklist of appraisal and modelling supporting material

Please state where in the supporting documentation you have provided your completed modelling and appraisal checklist (the blank checklist is available from the DfT website by following this [link](#))

Further details of the modelling for the scheme are provided in the modelling report contained in appendix submitted with this business case.

2. Appraisal Summary Table

Please state where in the supporting documentation you have provided your completed Appraisal Summary Table (AST) (a blank AST is available from the DfT website by following this [link](#))

Guidance on the preparation of the AST table is provided in WebTAG Units 2.7.1 and 3.5.2

The AST is provided in the modelling Appendix.

3. Transport Economic Efficiency Table

Please state where in the supporting documentation you have provided your completed Transport Economic Efficiency (TEE) (a blank TEE is available from the DfT website by following this [link](#))

Guidance on the preparation of the TEE Table is provided in WebTAG Unit 3.5.2

The TEE Table is provided in the Appendices.

4. Analysis of Monetised Costs and Benefits Table

Please state where in the supporting documentation you have provided your completed Analysis of Monetised Costs and Benefits (AMCB) Table (a blank AMCB is available from the DfT website by following this [link](#))

Guidance on the preparation of the AMCB Table is provided in WebTAG Unit 3.5.1

The AMCB Table is also provided in the modelling Appendix.

5. Public Accounts Table

Please state where in the supporting documentation you have provided your completed Public Accounts Table (PA) (the blank PA is available from the DfT website by following this [link](#) for highway schemes or this [link](#) for other schemes).

Guidance on the preparation of the PA Table is provided in WebTAG Unit 3.5.1

The PA Table is provided in the Appendices

ECONOMIC CASE ASSESSMENT (TO BE COMPLETED BY THE ASSESSOR)

Have gross and net economic impacts been assessed appropriately?

Does the scheme offer reasonable value for money (making reference to benchmarks and the reference case)?

Assess the wider contribution of the scheme

What Value for Money Category has been ascribed to this scheme?

Have any adjustments been made to the analysis provided by the promoter and why?

What are the key risks, sensitivities, and uncertainties relating to the analysis?

Are there any significant environmental disbenefits or missing analyses?

Are there any significant social and distributional impacts or missing analyses?

4. FINANCIAL CASE

4.1 PREFERRED OPTION SCHEME COSTS

Please complete the following table and indicate whether confirmation of other funders' commitment to contribute to the cost of the Scheme can be provided.

Table 4.1: Preferred Option - Scheme Costs

Total Scheme cost (£)	4,237,000 (based on final cost certainty)			
Total SCRIF investment (£)	3,787,000			
% SCRIF investment	89.4%			
Other public sector investment (£) (direct Scheme costs)	450,000	Confirmed? Y	Timescale for confirmation	
Other private sector investment (£) (direct Scheme costs)		Confirmed? Y / N	Timescale for confirmation	

Please provide a breakdown of scheme funding by year:

Table 4.2: Preferred Option - Scheme Funding Breakdown

	2014/15	2015/16	2016/17	2017/18	2018/19	Post 2019	TOTAL
SCRIF investment sought					1,783,823	2,003,177	3,787,000
Other public investment					0	450,000	450,000
Private sector investment							
TOTAL					1,783,823	2,453,177	4,237,000

The figure shown for 2018/19 includes the historic spend of £304,000 spent in 2017/18 FY

Please provide a breakdown of scheme costs and indicate the cost status (i.e. preliminary cost or definitive cost):

Table 4.3: Preferred Option - Scheme Cost Breakdown

Cost Heading	Total £ all years	Status
Planning/Design	162,906	Amey Design Fees
Land acquisition	0.00	
Building and construction	2,632,733	Detailed Bill of Quantities including premium for a 2019 start on site
Plant and machinery	0.00	
Contingencies/ Risk Items	378,775	Cost Plan Allowance
Management and administration	276,053	Professional fee proposals received
Other – Utility Diversions	786,380	C4 RASWA Detailed Client Estimates
TOTAL	4,236,827	Total Project Cost (based on final cost certainty)

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On what evidence are assumptions relating to costs based? Please outline any additional work required to firm up project costs. (approx. 500 words)

The current cost estimates are based upon a fixed price Bill of Quantities prepared by Amey LG in accordance with the Streets Ahead contract.

The estimated costs of the diversion of Statutory Undertakers equipment are now based upon the “New Roads and Street Works Act stage C4 Detailed Client Estimates” received from each of the utilities. These are the detailed cost estimates which will only be superseded by the actual cost of the completed diversions detailed in a final account statement.

Professional fees are based on actual fees paid for work already completed as well as firm fee proposals received.

A fully priced risk register has also been compiled to deal with any cost changes during construction. These risks generally relate to third party involvement and particularly any additional works required on site to deal with the actual conditions encountered.

What are the main financial risks and how will they be managed? Please rank risks in order of importance with the first being the most important.

1. Increases in the final cost of the Statutory Undertakers Diversions.
2. Additional unchartered services discovered on site leading to an extension of the contract period.
3. Increases in construction costs due to any unforeseen ground conditions encountered including the presence and treatment of UXO's or land contaminated with asbestos or heavy metals.
4. Additional highway work restrictions required by the Traffic Manger to deal with overall traffic delays.

All the significant service diversions will be subject to the detailed procedures specified within the New Roads and Street Works Act – Sharing of costs and, if any dispute in principle or quantum is identified then a leading Cost Consultant will be engaged to

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Full Business Case

determine the final cost audit apportionment and the appropriate inclusion of Client credit allowances.

An costed Risk Register, quantifying the risk budget, is included in Appendix 3

How will cost overruns be dealt with? (approx. 300 words)

Once the contract between Sheffield City Council and the Sheffield City Region is executed, no further cost increases will be passed onto the Sheffield City Region.

The bill of quantities for the highway works is now based upon fixed prices and so a large part of the overall scheme costs is now known and fixed. Any change in these prices would only be considered if any of the circumstances associated with the original fixed price were changed as a result of the actions of third parties.

The majority of the process quoted for the contract statutory undertakers diversions are now C4 detailed client estimates provide under the Road and Street Works Act. Unfortunately, the Act clearly states that “the actual cost of the diversions will be payable by the project sponsor.

This is clearly a project risk but this will be managed by careful co-ordination of the main Contractor and each of the Statutory Undertakers to minimise costs overall. A joint meeting of all the affected utilities will be held immediately prior to contract commencement to examine and exhaust all potential cost saving proposals.

A scheme risk register will be maintained throughout the period of construction. The register will contain estimates of the cost and likelihood of events that lead to the generation of additional cost and an estimate of those costs.

Risk register reviews will be held throughout the construction period but the greatest potential for cost increases lies with the actual costs of completing the stated contract utility diversions. As the scheme progresses, the risk register will be reviewed and risks and costs removed as and when the likelihood of them happening has passed.

The value of the risks associated with the project has been included as part of the project cost and this will be reviewed regularly during monthly project reviews and reporting.

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Once completed, will the Scheme incur revenue costs beyond the SCRIF investment which will need to be met by the public sector and which will need to be taken into account in the overall assessment of value for money?

As this is an investment in Sheffield's strategic Road Network funds will normally be needed to be identified to pay for the commuted sum chargeable to include the asset within the Maintainable Highway as part of the Streets Ahead Contract.

However for this Scheme, the Highways Maintenance Division has confirmed the commuted sum requirement is zero.

4.2 No SCRIF INVESTMENT OPTION SCHEME COSTS

Please complete the following table for the No SCRIF Investment option, and indicate whether confirmation of other funders' commitment to contribute to the cost of the Scheme can be provided.

Table 4.4: No SCRIF Investment Option – Scheme Costs

Total Scheme cost (£)	0			
Other public sector investment (£) (direct Scheme costs)	304,000	Confirmed? Y	Timescale for confirmation	
Other private sector investment (£) (direct Scheme costs)	0	Confirmed? Y / N	Timescale for confirmation	

Please provide a breakdown of scheme funding by year:

Table 4.5: No SCRIF Investment Option – Scheme Funding Breakdown

	2014/15	2015/16	2016/17	2017/18	2018/19	Post 2019	TOTAL
Other public investment				£304,000	0		
Private sector investment							
TOTAL				£304,000			

If there is no SCRIF funding, there will be no scheme and the council will not commit any funds beyond what it has already spent.

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Please provide a breakdown of scheme costs and indicate the cost status (i.e. preliminary cost or definitive cost):

Table 4.6: No SCRIF Investment Option – Scheme Cost Breakdown		
Cost Heading	Total £ all years	Status
Planning/Design		
Land acquisition		
Building and construction	0	
Plant and machinery		
Contingencies	0	
Management and administration		
Other (please specify)	0	
TOTAL		

FINANCIAL CASE ASSESSMENT (TO BE COMPLETED BY THE ASSESSOR)

Have scheme finances been assessed appropriately?

Are financial risks managed appropriately?

Has other funding been confirmed or what is the timescale for confirmation?

5. MANAGEMENT CASE

5.1 MANAGEMENT & GOVERNANCE

Outline the arrangements in place for scheme governance and decision making. Attach an organogram to support your response. (500 words)

The scheme will be reviewed by the Project Board on a monthly basis. The Board will review progress generally and in particular the latest estimates for project completion and out-turn project costs.

Physical progress will be monitored against the submitted construction programme and any variances from that programme will be accounted for. If there is a need for corrective action which involves additional time and/or cost then the approval of the Board to effect such changes will be sought by the Project Manager.

All smaller variations less than £5,000 will be reported to the Board retrospectively by the project manager as a means of securing formal approval.

Outline how the Scheme will be delivered; what project management arrangements are in place; including arrangements to monitor and control the project during its implementation. (approx. 500 words)

The Programme and Project Management Methodology is based on PRINCE2. This approach has been used successfully to date on many similar projects.

In additions, CDS (Capital Delivery Service) is the Centre of Excellence for project delivery in Sheffield council, with the project manager leading this project APM qualified as are other PMs. Therefore, the project is being delivered using Best Practice approached.

Sheffield City Council has a fully embedded Project Assurance system that Independently checks at regular stages in a project that the project requirements, costs and timescales remain valid and aligned both with each other and the business objectives. All schemes associated with this bid will follow this Project Assurance process.

The Project Manager will hold monthly progress meetings with the Contractor to review all contract matters and in particular overall completion and out-turn cost. The results of these monthly progress reviews will form the basis of the next report to the Programme Board.

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Assuming the SCRIF investment sought is approved, give a realistic indication of when the scheme would commence and up-date the timetable and milestone plan provided at Stage 1A

The detailed highway design is completed and C4 detailed client estimates have been received for each of the affected undertakers.

The remaining milestones are as follows:

Item No	Task description	Submission Date (if applicable)	Meeting Date (if applicable)	Comments
1	Amey Final Fixed Costs	03/04/2018	N/A	Achieved
2	Final/Revised SCC OBC 2a with final costs and balanced budget to Economic Growth Programme Group/Board	31/10/2018	12/11/2018	SCC OBC GW2a approval. Previously approved on 26 th July 2018 but requires re-submission to EGPG to reflect revised SCR FBC.
3	SCRIF Final FBC (TEB)	N/A	N/A	FBC going straight to CA
4	SCR Final FBC (CA)	28/08/2018	29/10/2018	Approval of SCR funding and authorisation to proceed to finalise FA
5	Receive Final Funding Agreement from SCR		30/10/2018	Must have this before going to CPG for GW 2b approval
6	CPG GW2b Approval	30/10/2018	21/11/2018	Must have FA from SCR and final Procurement Strategy
7	Cabinet approval		12/12/2018	Required before submission of FBC for 3a GW
8	Gateway 3a (SCC FBC)	02/01/2019	13/01/2019	
9	Gateway 3b CPG	02/01/2019	23/01/2019	
10	Contract Award docs and Amey appointed		13/01/2019	After 3a which implies Cabinet Approval has been obtained (see item 7 above)
11	Amey Starts on Site (SoS)		01/02/2019	4 – 11 weeks lead in time required by Amey but there is room for negotiation on this.
12	Practical completion		01/02/2020	
14	Road Safety and Cycle Audits (Stage 3)		01/07/2020	
13	Completion certificate		01/08/2020	
15	Defects		01/02/2021	
16	Gateway 4 (Closure)		01/02/2021	

Highlighted dates are revised planned dates as previous dates slipped due to delays in CA funding approval meeting. If these new dates are not achieved, Start on Site will be delayed with cost increase implications. It will also reduce the ability of the project to spend the £1.784m profiled for FY2018/19 in Table 4.2

Important Notes:

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Full Business Case

- Trial holes for contaminated land survey has been completed
- Road Safety and Cycle Audits Audit (Stage 2) has been completed
- Stats start on site and completion on site dates – will only be confirmed by Stats companies when they receive an order, which will happen when SCRIF funding is secured. No issues identified in risk log though.
- Amey - key materials with long lead time (such as granite) will be ordered post contract award. Contract award date is shown in the key milestones above.

How will capital assets be managed and maintained beyond the end of SCRIF investment? (approx. 300 words)

The scheme has been designed by the City Council's appointed designer Amey with input from the Urban Traffic Control team as the principal end user. This will ensure fitness for purpose is achieved for the completed scheme.

Amey are also the City Council's appointed maintenance contractor under the Streets Ahead Contract and the use of Amey as both design and maintenance contractor should ensure a smooth transition from one to the other as the construction and maintenance requirements are jointly shared by Amey.

5.2 BENEFITS REALISATION

How will you ensure scheme benefits are realised, maximised and sustained? (approx. 500 words)

The project will realise a physical outcome in the form of an additional traffic lane in each direction once construction is completed. This additional road capacity provides relief to the already increasing congestion being experienced and also allows provision for future development trips from new developments.

The benefits that accrue from the completion of the project will be a reduction in congestion which can be measured as a reduction in overall journey times compared to the Aimsun base model.

The additional traffic lanes will immediately provide additional traffic capacity allowing more vehicles to pass through the same area as a result of the elimination of conflicts and the allocation of dedicated lanes and turning manoeuvres.

The benefits of the scheme will be maximised as all the junctions will be visible and connected to the City Council's Urban Control Centre currently situated within the Town Hall. This visibility and connection will allow the Traffic Control Team to over-ride the standard signal settings and provide a proactive response to any incidents in the proximity of the scheme.

5.3 EVALUATION

What arrangements are in place to evaluate the effectiveness of the project during and after its implementation? (approx. 300 words)

Post completion journey time surveys will be arranged six months after practical completion and in a neutral time period so that a meaningful comparison can be made of the before and after journey times.

The full journey time savings predicted will only be realised when both of the developments considered and modelled have been fully built out.

5.4 KEY RISKS

What are the main delivery and management risks and how will these be managed? Please rank risks in their order of importance with the first being the most important.

1. Demanding Timescales at all stages.

The timescales for delivery of the scheme benefits is already tight and there is no room for further delay in gaining formal approval locally and regionally. Approvals will therefore need to be secured in a timely fashion.

2. Full scheme approval.

A parallel approval process will be required to meet the project start date on site. This will require timely submission to local and regional boards.

3. Cost of Statutory Undertakers Diversions.

A full Road and Street works (RASWA) process has been conducted to

SCRIF Stage 1B Full Business Case

identify and programme any significant diversions of Statutory Undertakers Diversions. This is a key route into and out of the Sheffield City Centre. The Services involved are known to be large in capacity and cost terms.

More detail is included in the (costed) risk register included with this document.

5.5 STATE AID

Does State Aid apply to this scheme?

Yes	No
	x

Details regarding State Aid can be found at: <https://www.gov.uk/guidance/state-aid>, although Scheme Promoters are recommended to obtain their own legal advice or seek further guidance internally on the subject of State Aid.

5.5 A - If Yes, detail the amount of state aid that will be provided and under what scheme. Provide the notification number, date of notification and approval date. Provide any issues and anticipated mitigation plans (if applicable). Any mitigation must also be included in the project risk assessment.

5.5 B - If No, provide an explanation as to why no State Aid is provided for this scheme making specific reference to the State Aid tests.

The activity proposed is not economic in nature and therefore does not represent State Aid.

MANAGEMENT CASE ASSESSMENT (TO BE COMPLETED BY THE ASSESSOR)

Is there a clear project management and delivery plan?

Are monitoring and evaluation procedures in place?

Are the levels of risk acceptable and capable of being managed?

SCRIF Stage 1B Full Business Case

Are State Aid requirements understood and adhered to in a satisfactory fashion?

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Document Sign-Off

This document constitutes the Outline Business Case for a scheme with SCR. The document has four key purposes:

- Fully define what is being delivered, when and how.
- To provide the information required to enable the SCR CA and its Boards to make evidence based decisions.
- Ensure the identified outputs, outcomes, benefits and milestones targets can be managed and met.
- Act as the basis for contracting, progress and performance management.

The Document must be signed off by each of the required signatories prior to submission.

SIGNATURE 1: SCHEME PROMOTER'S SENIOR RESPONSIBLE OFFICER / PROJECT SPONSOR

Signature:

Print Name:

Date:

SIGNATURE 2: SCHEME PROMOTER'S HEAD OF FINANCE / SECTION 151 OFFICER

Signature:

Print Name:

Date:

SCRIF Stage 1B Full Business Case

ASSESSMENT SUMMARY (TO BE COMPLETED BY THE ASSESSOR)

Please summarise your assessment of the scheme's strategic case and set out any recommendations

Please summarise your assessment of the scheme's commercial case and set out any recommendations

Please summarise your assessment of the scheme's economic case and set out any recommendations

Please summarise your assessment of the scheme's financial case and set out any recommendations

Please summarise your assessment of the scheme's management case and set out any recommendations

Summarise your overall assessment of the scheme and recommendations for SCR

Annex 1: Schemes Types

Code	Scheme Type	Description/example	Proportion of Total Scheme (%)
Transport			
T1	Highways	New roads, widening, junction improvements etc.	
T2	Rail	New lines, station improvements, rolling stock, changes in time table, electrification	
T3	Tram	New lines, rolling stock, changes in time table	
T4	Bus (including BRT)	Bus priority, vehicle investment, smart ticketing, park & ride	
T5	Active modes (on a grand scale)	Large scale infrastructure investment eg segregated routes	
T6	Traffic management	SYITS type investment	
Regeneration			
R1	Housing	New development, refurbishment & retrofit (links to Green Deal etc and energy efficiency)	
R2	Commercial development	New development, refurbishment	
R3	Site remediation and preparation	Site demolished and prepared for redevelopment	
R4	Investment in the rural economy	New development, refurbishment	
R5	Development service infrastructure	Provision of water, gas, electric, and drainage (surface water and foul) services	
R6	Site development access roads	Construction of spine roads linking to the highway network	
R7	IT infrastructure including Broadband	Homes and businesses given access to high-speed internet	
R8	Urban design / gateways	Improvement to commercial/residential space. High quality public realm	

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Full Business Case

Code	Scheme Type	Description/example	Proportion of Total Scheme (%)
Energy and water			
E&W1	Energy generation (e.g. sub stations)	High Voltage Cabling, Gas network investment, New substation / upgrade, smart metering	
E&W2	Energy generation (biofuel stations, wind farms)	Production of alternative forms of energy such as biomethane, biogas, wind, energy from waste, geothermal, hydro.	
E&W3	Efficiency (e.g. lighting, insulation)	Replacement of bulbs to low-energy. Retrofit of buildings (commercial, industrial and residential) to improve the fabric of buildings and the lighting, heating, ventilation and cooling systems. Links to investment in housing in particular.	
E&W4	Energy distribution (e.g. Combined Heat and Power network)	Energy efficient processes, extensions to the network – pipework and heat stores.	
E&W5	Water Storage and distribution	New water stores for the supply of water	
Environmental			
E1	Flood defence	Improved and sustainable drainage/new defences/upstream storage	
E2	Land decontamination	Removal of waste	
E3	Green infrastructure (parks and open spaces)	Creation of green space, corridors, wetlands and habitats	
E4	Sewerage	Improved sewerage capacity	
TOTAL			100%

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Annex 2: Employment Sectors

Sector Description	GVA per job (SCR level) [FOR GVA CALCULATIONS]	% of total jobs created projected to be delivered by SCRIF scheme investment
Agriculture, forestry and fishing	£352,000	
Production	£52,890	
Construction	£59,447	
Distribution; transport; accommodation and food	£29,543	
Information and communication	£56,468	
Financial and insurance activities	£86,787	
Real estate activities	£256,726	
Business service activities	£27,051	
Public administration; education; health	£28,636	
Other services and household activities	£27,341	
TOTAL	£38,642 (average)	100%

Notes: Sector based GVA per filled job data for Sheffield City region has been derived using GVA estimates from ONS Sub-national GVA Estimates 2010 (Income Approach), 2012, and employment estimates via ONS Business Register and Employment Survey 2011. All data is for 2010. Due to local level GVA data reporting from ONS, Sector GVA figures include authorities in the East Midlands outside of SCR. Employment data has been aligned accordingly to account for this.

SCRIF Stage 1B Full Business Case

List of Appendices:

Appendix 1: Modelling Report



2017-09-06 NIRR
Modelling Report Add

Appendix 2: Scheme Layout



051018 IRR Scheme
Layout V2_00.pdf

Appendix 3: Costed Risk Register



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IRR_Risk_Register_Jt