Worcestershire Local Transport Body

Annex C (to Appendix A): WLTB Conditional Approval Business Case Pro-Forma for Major Schemes

Note

Major Local Transport Schemes are those with a cost of £5m or greater.

For these schemes there are three stages of assessment:-

1. Outline Business Case (to determine whether the scheme is a candidate for funding)
2. Conditional Approval Business Case – the key decision to confirm that the business case for the scheme is sound and to confirm the principle that it will be funded.
3. Final Approval – once procedures and procurement have been completed.

This pro-forma is to be used for the Conditional Approval business case.

For some major schemes, which are to be delivered in separate phases, the Conditional Approval will deal with the Business Case for the whole scheme, and there will then be separate Final Approval submissions for each phase.

January 2016

STRATEGIC CASE	
Scheme Name A38 Bromsgrove Major Scheme – Package 1	Date August 2018

Case for Change

Summary of Strategic Case

Set out the context for the scheme and relate to the strategic aims and responsibilities of the promoting organisation. This should include:

- An analysis of the existing and forecast transport problems and how these are contributing toward preventing the achievement of adopted policies, strategies and priorities, including economic growth
- An explanation of how the preferred scheme was selected, and whether other options were tested
- A summary of the predicted impacts (including the wider economic benefits) and the extent to which these will support the delivery of adopted policies, strategies and priorities.
- An explanation of how the scheme will interact with existing infrastructure and other planned investments (e.g. wider transport strategy and packages and associated Infrastructure Delivery Plans)
- An outline of the strategic fit with transport objectives, and wider Government / regional / other objectives. This should explain the place of the scheme within a coherent transport or wider strategy

This section should include a location plan and the supporting appendices should include a layout plan of the proposal.

Overview of the scheme

The A38 Bromsgrove Major Scheme will support the sustainable growth of Bromsgrove, Redditch and South Birmingham by enhancing the existing A38 Bromsgrove Eastern Bypass. The full scheme comprises ten junction enhancements on the A38 corridor between its junctions with M5 (Junction 4) to the north and the B4091 in the south, as shown on Figure 1. These works have been split into 5 packages and this Conditional Approval Business Case (CABC) addresses **Package 1**.

The A38 is an important corridor for traffic travelling between residential areas in Bromsgrove and Redditch and employment areas in South Birmingham. Bromsgrove and Redditch are recognised as important areas of development and economic growth for Worcestershire as a County and for the rest of the West Midlands as a whole.

This Major Scheme targets locations where delay and congestion are currently experienced, and where conditions are predicted to deteriorate further without intervention. The proposed works differ at each junction but typically include carriageway widening, lengthening of approach lanes, creation of new lanes for turning traffic, reconfiguration of traffic signals and enhanced pedestrian facilities.

Figure 1 – Major scheme and package locations

The Major Scheme will help to:

- Support the delivery of housing and employment growth as outlined in the Bromsgrove Development Plan and the Redditch Local Plan;
- Reduce congestion and transport costs;
- Maximise the efficiency of the road network; and
- Increase journey time reliability.

This CABC is for Package 1 and addresses three of the junctions within the Major Scheme, as shown on Figure 1. The junctions are also shown on the more detailed location plan included as Appendix 1.

Improvements to **M42 Junction 1** comprising:

- Widening of the A38 southbound approach to Junction 1 to add a 3rd lane (flare) on the existing approach;
- Widening of the A38 Birmingham Road northbound away from Junction 1 to 2 lanes, for a distance of approximately 35 metres before merging to tie-in to the existing road layout at the Topaz Business Park;
- A service road for the properties facing the A38 southbound approach to allow vehicles to access their properties safely and without affecting traffic on the A38 once it has been widened. The service road would be a level surface with non-motorised users.

Improvements to **M5 Junction 4**, including:

- Widening of the A38 Halesowen Road northbound approach to the motorway roundabout. Two lanes will be provided from around 100 metres in advance of the existing stop line, increasing to three lanes for the last 35 metres;
- Widening of the A38 Halesowen Road southbound away from Junction 4 to 2 lanes, merging back to the existing single lane prior to Lydiate Ash Road;
- The repositioning of the footway to accommodate the southbound widening; and
- This improvement requires two parcels of land in third party ownership. On the western side of the road, land is required to create the proposed visibility splay for the A38 northbound approach. On the eastern side, land is required for the road widening and new footway. It is

hoped that this land can be secured by agreement with the land owner. If this is not possible, then there may be a requirement for a CPO process.

Improvements to the junction with **Barley Mow Lane**, including:

- The conversion of the junction to a ghost island junction;
- Retention of the existing footways, with the signalised pedestrian crossing being relocated further north from its current position;
- Relocation of two bus stops; and
- The existing road width is sufficient, so no road widening is required.

These works are prioritised as Package 1 because:

- These junctions play a strategic role on the wider network and are key strategic links between the local road network (A38) and the Strategic Road Network;
- These junctions are a source of delay to cars, lorries and public transport services; and
- Completion of improvements at these junctions will provide housing and business interests with confidence to realise the full development potential of allocations in both the Bromsgrove District Plan and the Redditch Local Plan, helping to support the aims of both the Worcestershire Local Enterprise Partnership (WLEP) and the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) which focus on creating stronger conditions for growth.

Existing and future transport problems

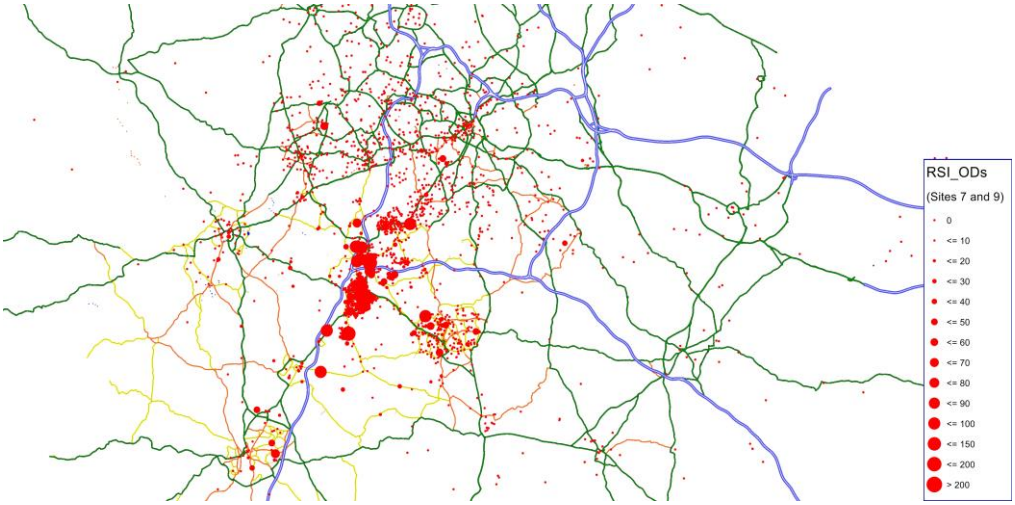
Role of the A38

The A38 within Bromsgrove fulfils two primary functions. It is the principle distributor for Bromsgrove town, as well as acting as a through route to the M42 and M5 motorways and thus into Birmingham. Between M42 Junction 1 and M5 at Junction 4, the A38 has an additional 'pseudo-strategic' role as a consequence of the absence of west facing slip roads at M42 Junction 1. This attribute of M42 junction 1 means that traffic originating in the Bromsgrove area and wishing to access the M5 (and vice versa) has to route via the A38 between M42 Junction 1 and M5 Junction 4 to access the M5 motorway for destinations to the north of the town. A substantial amount of traffic at M42 Junction 1 is, therefore, 'through traffic' which crosses the circulatory and continues along the A38 to access the M5 at Junction 4.

To support the future assessment of schemes on the A38 corridor, a new traffic model is being prepared. This has been informed by recent Road Side Interview (RSI) surveys. Using two RSI surveys undertaken on the A38 (one south of M5 Junction 4 and the other south of M42 Junction 1), the importance of the A38 corridor as a means of providing access between Bromsgrove and the south Birmingham area can be demonstrated.

Figure 2 shows the dispersal of origin and destination locations taken from RSI sites on the A38 corridor. The size of the dot is proportional to the number of trips with an origin or destination at that postcode location over a 12 hour period (0700-1900). They show that journeys passing along the A38 corridor have a clear relationship with the south Birmingham area as well as with Bromsgrove and Redditch.

Figure 2: Roadside Interview data



The key problems that Package 1 aims to address are outlined in Table 1 below. These are discussed further below. The Options Assessment Report (OAR; see Appendix 4) contains a full description of the problems and issues.

Table 1 – Problems

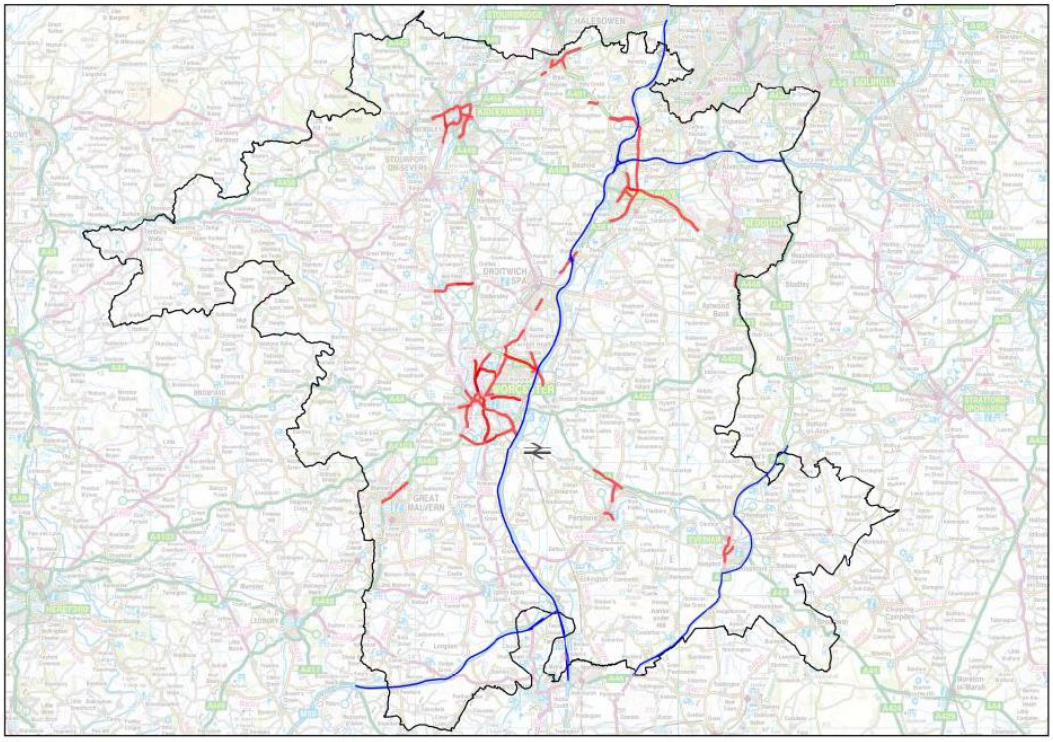
No	Problem
1	The existing traffic demand on the A38 corridor means that the existing highway has reached capacity, which at peak times means that the corridor experiences congestion.
2	The exiting highway provision on the A38 corridor does not have sufficient capacity to accommodate future housing growth.
3	As the A38 corridor has reached capacity, the inability to accommodate additional traffic is constraining access from Bromsgrove and Redditch to the full range of employment opportunities in the West Midlands.

Problem 1 - The A38 corridor has limited capacity, resulting in congestion

The A38 corridor currently experiences significant weekday morning and evening peak congestion, with considerable delay at junctions, resulting in unreliable journey times. Ultimately, congestion, queuing and unreliable journey times on the A38 are hindering local access and access to the Strategic Road Network, specifically to the M5 and the M42. The traffic using the A38 corridor is also contributing to poor air quality at M42 Junction 1, which has been designated as the Lickey End Air Quality Management Area (AQMA).

The WLEP Strategic Economic Plan (SEP) highlights the A38 in Bromsgrove as a significant area of congestion within the county (see Figure 3) and recognises that *"access to and from the Strategic Road Network is constrained in parts of the county due to capacity constraints on the local highway network, particularly around urban areas, with Worcester and Bromsgrove having particularly acute problems."* It notes that this is constraining economic growth and that investment in Worcestershire's transport infrastructure and services is essential to provide businesses with improved access to markets and employees and to encourage economic growth.

Figure 3: Areas of congestion highlighted in the Worcestershire Strategic Economic Plan



Source: Worcestershire County Council (2014)

The levels of existing congestion and delay are hindering the achievement of the following policies and priorities:

- **Department for Transport (DfT) Transport Investment Strategy** – This includes a key aim to create a more reliable, less congested and better-connected transport network. The existing conditions on the A38 corridor are contrary to this aim as the current network is unreliable and congested.
- **DfT White Paper, 'Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen' –** This includes an objective to "Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion". At present, congestion is hindering growth and congestion is increasing.
- **WLEP SEP** – The SEP recognises that pinch points to the strategic transport networks are constraining economic growth and that investment in Worcestershire's transport infrastructure and services is essential to provide businesses with improved access to markets and employees and to encourage economic growth. Limited capacity on the A38 corridor is currently hindering access to markets and workforce.
- **GBSLEP SEP** – The SEP aims to ensure that appropriate infrastructure is in place to facilitate development and to enable residents to access employment opportunities.
- **Worcestershire LTP** – This includes a key aim to support capacity enhancements at key pinch points to support development growth, tackle congestion and improve road safety and air quality. The current conditions are contrary to this.

Problem 2 - The A38 corridor does not have sufficient capacity to accommodate future housing growth

The Local Plan allocated additional housing and employment growth across both Bromsgrove and Redditch (including key strategic sites and cross border allocations as shown in Figure 4) will further increase the pressure on the A38 corridor. In total:

- The Bromsgrove District Plan allocates a total of 7,000 dwellings and 28 Hectares of employment land; and

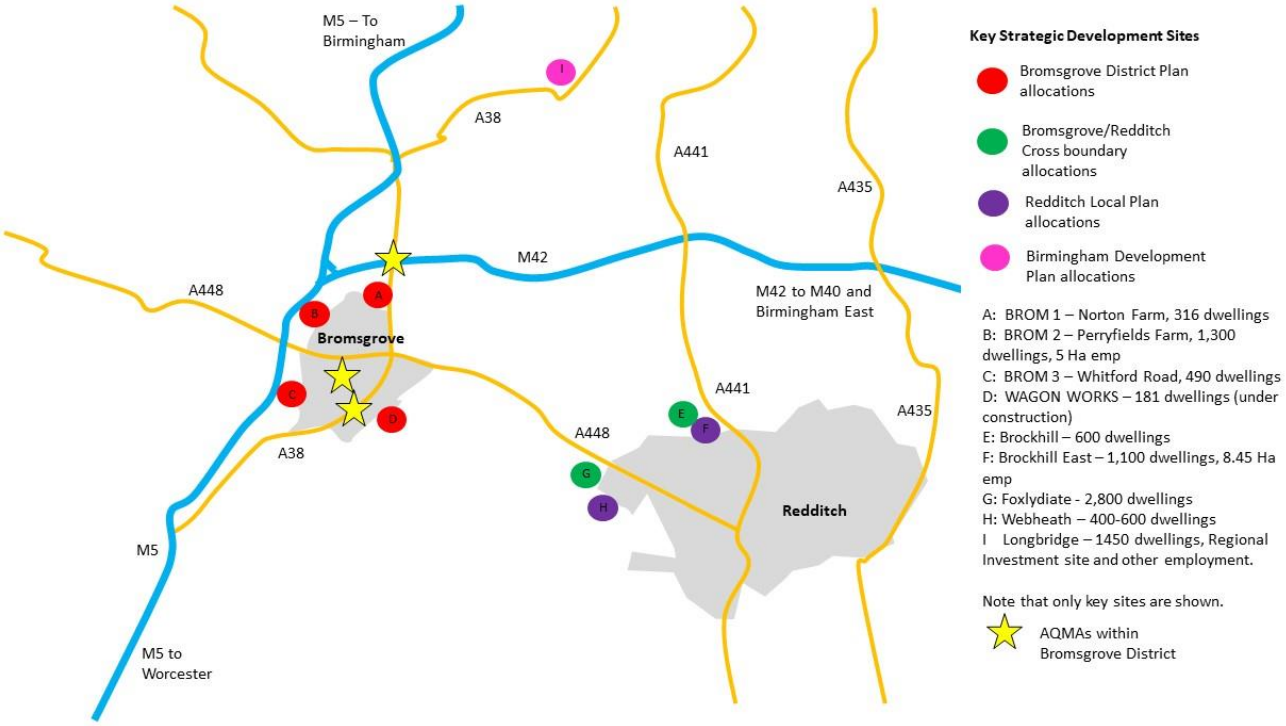
- The Redditch Local Plan allocates a further 6,400 dwellings and 55 Hectares of employment land in the period up to 2030, of which 3,400 homes are to be located as cross-border allocations, within Bromsgrove.

In terms of allocated development, the sites identified in Table 2 and shown on Figure 4 are particularly relevant to Package 1.

Table 2 – Details of key development sites

Site	Authority	Status
Perryfields Farm	Bromsgrove	Outline application submitted April 2016 (awaiting determination). 1,300 dwellings, 200 bed care facility, 5 Hectares of B1 employment space, mixed-use local centre and associated community infrastructure.
Brockhill	Redditch	Outline application granted in October 2011. 171 dwellings and 4,738m^2 B1 employment space
Brockhill East	Bromsgrove	Outline application granted in granted in March 2014 for up to 200 dwellings and 5,000m^2 B1 employment space
Foxlydiate	Bromsgrove/Redditch	Hybrid application submitted in March 2016 and awaiting determination. 2,800 dwellings, up to 900m^2 local centre, up to 900m^2 health and community facilities, a 3-form-entry first school and associated community infrastructure. A detailed application has been made for the primary access, drainage, landscaping and utilities works.
Norton Farm	Bromsgrove	Consent granted for 316 dwellings. Construction underway.

Figure 4 – Development Context



Thus, the scale of growth proposed in Bromsgrove and Redditch cannot be satisfactorily accommodated on the Strategic Road Network without improvement to M42 Junction 1 and M5 Junction 4. To sustain the level of growth envisaged, additional highway capacity will be required to ensure that the additional economic growth does not lead to deterioration in the functionality of the highway network.

Indeed, Highways England (HE), in its responses to both the Bromsgrove District Plan and the Redditch Local Plan, identified that improvements to both M42 Junction 1 and M5 Junction 4 were necessary due to the cumulative traffic impacts of planned development arising. This was accepted at the examination in public of the two Local Plans and the improvement of both M42 Junction 1 and M5 Junction 4 are recorded in the Infrastructure Development Plans of both authorities as a key transport infrastructure requirement. Therefore, whilst no individual allocated site has planning conditions (i.e. a Grampian condition) that restrict development to delivery of the A38 corridor Schemes, including Package 1, there are linkages between the A38 Major Scheme and the wider Local Plan requirements.

The extent of the predicted future problems is indicated in Table 3. This compares the 2017 base year with the scheme opening year, of 2021 (but without the scheme in place). This shows that the average and total delay to vehicles increases significantly between 2017 and 2021 in both peak periods. This shows that the network is under greater pressure as a result of traffic growth on the corridor.

Table 3 – Vehicle network performance statistics for the 2017 and 2021 without scheme scenarios

Parameter	2017 AM Base	2021 AM Without Scheme	2017 AM Base	2021 PM Without Scheme
Average delay time per vehicle [s]	115.1	132.1	119.1	164.1
Average speed [miles/h], All Vehicle Types	43.2	41.6	43.5	39.6
Total delay time [h]	862	1034	907	1310
Total Distance Travelled [km]	144655	151232	153418	158291

Source: Value for Money Report, Appendix 6.2

The Package 1 schemes will support the delivery of key strategic housing and employment sites in Bromsgrove and Redditch by helping to improve capacity and reliability at key junctions. In combination with other Packages contained in the A38 Bromsgrove Major Scheme, the highway network will be significantly upgraded to accommodate traffic from allocated development sites.

The shortfall in highway capacity would, if allowed to continue, hinder the achievement of the following policies and priorities:

- **DfT Transport Investment Strategy** – This includes a key aim to support the creation of new housing. Without additional capacity, the A38 cannot support significant additional housing growth.
- **WLEP SEP and GBSLEP SEP** – Both economic strategies focus on realising the full potential of Bromsgrove as an important centre for local growth and employment. Without capacity enhancements to the highway infrastructure the ability to meet this objective would be compromised.
- **WCC LTP** – The economic objective aims to support economic competitiveness and growth through delivering a safe, reliable and efficient transport network. As noted above, without additional capacity, the achievement of this objective would be compromised.
- **Bromsgrove Development Plan and the Redditch Local Plan** – both aim to deliver significant housing and employment growth. As noted above the importance of improvements to M42 Junction 1 and M5 Junction 4, in enabling this development to come forward, was established through the Local Plan process.

Problem 3 – Limited capacity on the A38 corridor is constraining access to the full range of employment opportunities in the West Midlands

The WLEP SEP recognises that pinch-points on the strategic transport networks are constraining economic growth and that investment in Worcestershire's transport infrastructure and services is essential to provide businesses with improved access to markets and employees and to encourage economic growth.

This is echoed in the GBSLEP SEP which recognises that transport networks are enablers of growth and key to ensuring that people have access to both economic and leisure opportunities.

Limited capacity on the A38 currently means residents are disadvantaged in accessing employment opportunities across the wider West Midlands region. This problem is likely to be exacerbated over time as the demand to use the limited highway capacity increases.

Why these problems require public sector intervention

Tackling these problems requires public sector investment because the scale of the overall intervention is such that it is not possible to fund the scheme wholly from private sector contributions.

Package 1 is bringing together funding from Section 106 agreements, Highways England Growth and Housing Fund (GHF), GBSLEP and WLEP. Public sector funding support is required as private sector contributions alone would not be sufficient to address the congestion issues at the motorway junctions, which carry large volumes of strategic as well as local traffic.

Consequence of not securing funding

If funding is not secured for all scheme Packages, the consequence would be that:

- The attractiveness of Bromsgrove for a location for housing and employment growth will diminish;
- Existing congestion at junctions will continue to worsen leading to increased journey time unreliability and an increased cost to the existing economy;
- Conditions in the designated AQMA area are likely to deteriorate;
- Conditions for public transport services will deteriorate; and
- Conditions for pedestrians and cyclists will deteriorate.

Selection of the preferred scheme

The process of optioneering the schemes for each of the junctions included within Package 1 is summarised in the Options Assessment Report (OAR), which is included as Appendix 4 to this CABC. The OAR describes an optioneering process which involved the following key steps:

- High level optioneering, which included consideration of the feasibility of a potential Western Bypass for Bromsgrove. This work concluded that it would be challenging to make a sustainable business case for a bypass and, on this basis, the decision was made to focus on the development of schemes for the existing A38 corridor.
- Initial development and assessment of scheme options to support the Outline Business Case (OBC), submitted to WLEP in 2016. For both M42 Junction 1 and M5 Junction 4, this work considered a range of options, some of which had been previously drawn up and some of which were developed specifically as alternatives to be considered as part of the OBC process. For both motorway junctions a preferred scheme was identified, based on consideration of benefits and feasibility. For the Barley Mow Lane junction, a single option was considered.
- Further development of scheme options to support the GHF application to Highways England. Initially the schemes for M42 Junction 1 and M5 Junction 4 identified at OBC stage were submitted to Highways England for initial sifting. The feedback received indicated that funding would be more likely to be secured if the schemes were to focus more specifically on the immediate vicinity of the Strategic Road Network junctions. Hence, revised schemes were drawn up to target works over a smaller area, and the immediate approaches to the junction only.
- At the stage of the Expression of Interest (EoI) to GBSLEP both the cut down GHF stage designs, and the full original OBC stage designs were presented for consideration. Following review of the EoI submission, GBSLEP confirmed that they were only able to support the cut-back scheme and this therefore became the preferred scheme due to funding constraints.
- In May 2018, a CABC was prepared for a four lane bridge widening at M42 J1 scheme, and associated Strategic Road Network improvements in line with the GHF application, this was developed as a preliminary design layout at this stage. Barley Mow Lane and M5 Junction 4 were also developed to a preliminary design phase.

- This CABC further refines the option at M42 Junction 1 following a value management exercise to evaluate changes to the scheme to minimise works and thus disruption to the Highways England bridge deck and along the slip road. This CABC therefore considers a revised M42 Junction 1 scheme which provides three lanes on the Northbound bridge and no slip road widening and is now the scheme presented for construction (subject to funding). Layout plans of these options, which form the basis of this CABC bid, are included as Appendix 2 to this CABC.

Why the preferred scheme demonstrates value for money

The preferred scheme for Package 1 represents value for money because, as part of the wider Bromsgrove A38 improvements, in making best use of the existing infrastructure, the highway capacity and journey time reliability for journeys on the A38 through Bromsgrove will be improved. Consideration was given to alternatives which would have required significant additional highway alignment and structures to be built, which would represent a greater design and delivery risk. These would also have had greater environmental and financial implications. Hence, making best use of existing assets represents value for money, and lower overall risk to delivery.

Predicted impacts and Critical Success Factors (CSFs)

The predicted impact of Package 1 is shown by the forecast assessment results from the VISSIM model as shown in Table 4 below. This shows that the detrimental impact of traffic growth associated with the Local Plan development and background traffic growth would be reduced as a result of the implementation of the Package 1 schemes. The table shows that the average delay for each vehicle and total delay is reduced, notably in the PM peak hour. Average speeds in the modelled network are increased as a result of the Package 1 schemes.

Table 4 - Vehicle network performance statistics for the 2021 with and without scheme scenarios

Parameter	2021 AM		2021 PM	
	Without Schemes	With Schemes	Without Schemes	With Schemes
Average delay time per vehicle [s]	132.1	131.2	164.1	154.0
Average speed [miles/h], All Vehicle Types	41.6	41.7	39.6	40.4
Total delay time [h]	1034	1024	1310	1232
Total Distance Travelled [km]	151232	150997	158291	159444

Source: Value for Money Report, Appendix 6.2

Table 5 notes the problems identified and the predicted impacts of Package 1 and explains how the impacts of the scheme support key policies, strategic ambitions and identified priority issues. It also highlights the CSFs for the project (as opposed to delivery CSFs which are set out in the Commercial Case), relating to increased capacity, delivery of housing and employment allocations and improved connectivity.

Table 5 - Impact and relationship to policy and priorities

Problem	Impacts and critical success factors (CSFs)	How this supports key policy, strategy or priorities
The A38 corridor currently has limited capacity resulting in congestion	Increased capacity will be provided on the A38 corridor. This will result in reduced congestion, reduced queue lengths and more reliable journey times.	By addressing a recognised traffic congestion issue, the scheme will improve the perception of Worcestershire as a County where the movement of people and freight is reliable in accordance with the aims of the SEP and enhance the perception of Bromsgrove as a town open for business. This means that business can locate to Worcestershire with confidence that the infrastructure is able to accommodate the demand for movement. The scheme will benefit longer distance trips with an origin or destination in the Bromsgrove/south Birmingham area by easing congestion on a key route

		thus allowing a redistribution of trips to more appropriate routes, including the A38 corridor. *This supports the policies and priorities outlined in the WLEP SEP, the GBSLEP SEP and the WLTP.*
The A38 corridor does not have sufficient capacity to accommodate housing future growth.	Help to deliver homes and employment as part of the Bromsgrove District Plan and Redditch Local Plan.	By increasing the capacity of the highway network in the Bromsgrove area, the ability to accommodate the growth contained in the Bromsgrove District Plan and Redditch Local Plan as well as address existing congestion issues is improved *This supports the policies and priorities outlined in the WLEP SEP, GBSLEP SEP, Redditch Local Plan and the Bromsgrove District Plan.*
Limited capacity on the A38 corridor is constraining access to the full range of employment opportunities in the West Midlands.	Increased capacity will be provided on the A38 corridor enabling improved connectivity between employers and potential workforce.	Increased capacity will make it easier for residents to access employment opportunities in the wider West Midlands region. *This supports the policies and priorities outlined in the WLEP SEP and the GBSLEP SEP.*

Interaction with existing infrastructure and planned investments

Package 1 is the first in a series of improvements planned for the A38 corridor. Other enhancements to the corridor are planned for delivery as Packages 2 to 5, as shown on Figure 1.

Package 1 is not dependent on any other infrastructure or investment.

Strategic fit with transport objectives, wider Government / regional / other objectives

As outlined above, Package 1 has a strong strategic fit with wider policies and objectives and is closely aligned with the objectives of WLEP, GBSLEP, Worcestershire County Council and the District Councils. These links are highlighted in Table 6. A full description of the strategic and policy context is provided in the OAR (Appendix 4).

Table 6 - Overview of strategic fit

Policy	Objectives	Strategic fit with Package 1
DfT Transport Investment Strategy	To deliver a high performing integrated network of transport infrastructure that connects communities and businesses and helps to deliver balanced growth.	By targeting improvements at key junctions, Package 1 will help to deliver the overall objectives of the Transport Investment Strategy.
DfT White Paper, 'Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen'	Sets out key objectives: to tackle climate change and deliver economic growth recognising that tackling local road congestion and allowing transport to be an engine for economic growth are key priorities.	The A38 schemes complement this policy by tackling locations which are currently experiencing congestion and are predicted to worsen in the future and helping to improve access to residential and employment areas.
WCC Corporate Plan	The Corporate Plan highlights being 'open for business' as the key priority for the Worcestershire County Council. The Corporate Plan focusses on boosting the economy, creating jobs and delivering new homes. Continued investment in transport infrastructure is noted as essential and the Plan states that "Transport infrastructure investment will be targeted to unlock the potential of key employment and housing development site across the county."	By assisting the delivery of housing and tackling a congestion pinch-point this package will help to deliver the objectives of the Corporate Plan.

	Reducing journey times is also noted as a key objective.	
WCC Economic Strategy	The Economic Strategy provides a long-term vision, focus and context for economic development and regeneration across Worcestershire and sets out, as one of its three strategic objectives, the importance of 'Supporting the sustainable development of the county through infrastructure development especially transport."	By providing targeted infrastructure improvements Package 1 will help to deliver the objectives of the Economic Strategy.
Worcestershire LTP 4	The Economic Objective: To support Worcestershire's economic competitiveness and growth through the delivery of a reliable and efficient transport network	The enhancements will help to deliver more reliable journey times and reduced delay. The package will deliver infrastructure which will help to support housing and employment growth.
	The Environment Objective: To reduce the impacts of transport in Worcestershire on the local environment, by reducing transport-related emissions of carbon dioxide and other greenhouse gases, with the desired outcomes of tackling climate change and reducing the impacts of transport on public health. LTP Policy AQ1 also outlines WCC's commitment to develop measures to deal with AQMAs.	Within Package 1 the scheme for M42 Junction 1 is located within an AQMA. The assessment of this package has taken account of the sensitive air quality context.
WLEP SEP	Aims to create a world class location, world class skills and world class innovation in order to achieve the overall vision for Worcestershire. Supporting economic growth is a key priority. Identifies that additional investment in Worcestershire's transport infrastructure and services is essential to provide businesses with improved access to markets and employees and to encourage economic growth. Includes a package for Bromsgrove (under the heading of City and Town Centre Investment Programmes) and a key part of this is "significant work to major junctions' on the A38 corridor	Package 1 will enhance accessibility between key economic centres within the LEP area to accommodate the travel demand associated with the growth aspiration.
GBSLEP SEP	Includes a key strategic priority to create stronger conditions for growth and sets out an ambition to support planned housing growth, improve connectivity and accessibility and ensure Bromsgrove town centre can thrive. Identifies enhanced connectivity and mobility as a key 'pillar' requiring investment in infrastructure to enable faster more reliable journeys. Also identifies the need to secure investment to support infrastructure required to help deliver new homes and jobs Appendix B specifically mentions the A38 corridor improvements, noting that the impact of these improvements will be to help in "Optimising economic growth through development at motorway junctions…"	The overall scheme will deliver improvements in journey times to help enable the network to support the level and quality of growth outlined in the SEP.
Bromsgrove District Plan and Redditch Local Plan	Both the Local Plans outline significant requirements for housing and employment growth. This quantum of development requires enhancements to transport infrastructure in	Package 1 will support the delivery of key large-scale housing and employment sites in Bromsgrove and Redditch.

	order to support the delivery of housing and employment.	
Joint Infrastructure Delivery Plan	The IDP recognises that improvements to the A38 will be required to support housing and employment growth and a number of specific schemes are included. All of the junctions included in the A38 major scheme are recognised as problems areas in need of intervention and are specifically included within the IDP. The current A38 major scheme therefore has a firm policy basis within the BDP.	This Package delivers improvements specifically referenced within the IDP and recognised during the Local Plan process as being critical to support the proposed levels of employment and housing growth.

Objectives and Outputs

Set out the aims of the proposed scheme, and indicate how they address the problems identified and how they will be achieved.

Establish specific, measurable, achievable, realistic and time-bound objectives that will solve the problem identified. The approach to measuring against these objectives will be set out in the Benefits Realisation and Monitoring and Evaluation Plan.

Table 7 provides an overview of the objectives and outputs. Further detail is provided in the Benefits Realisation Plan which is included as Appendix 13.

Table 7 - Objectives

Objective 1	Support the delivery of housing and employment growth as outlined in the Bromsgrove Development Plan and the Redditch Local Plan
Measure of Success	Delivery of homes and businesses in line with the Bromsgrove District Plan and the Redditch Local Plan.
Timescale	One full year after scheme opening (2022) to 5 full years after opening (2027).
Indicators	See Benefits Realisation Plan (Appendix 13)
Dependencies, Risks, Constraints	See QRA (Appendix 10)

Objective 2	Reduce congestion and transport costs.
Measure of Success	Reduced queue lengths and delays on A38
Timescale	One full year after scheme opening (2022) to 5 full years after opening (2027).
Indicators	See Benefits Realisation Plan (Appendix 13)
Dependencies, Risks, Constraints	See QRA (Appendix 10)

Objective 3	Maximise the efficiency of the road network
Measure of Success	A38 fulfils role as primary north south route through Bromsgrove.
Timescale	One full year after scheme opening (2022) to 5 full years after opening (2027).
Indicators	See Benefits Realisation Plan (Appendix 13)
Dependencies, Risks, Constraints	See QRA (Appendix 10)

Objective 4	Increased journey time reliability
Measure of Success	More reliable journey times on A38.
Timescale	One full year after scheme opening (2022) to 5 full years after opening (2027).
Indicators	See Benefits Realisation Plan (Appendix 13)
Dependencies, Risks, Constraints	See QRA (Appendix 10)

Complete the box above for each objective. It is suggested that a maximum of 4 objectives is specified.

Please see above.

Explain how the scheme objectives address the problems identified and align with the organisation's strategic aims.

Table 8 shows how the scheme problems and objectives align with the strategic aims of WCC.

Table 8 – Problems, objectives and scheme contribution

Problems	Scheme Objective	Organisation's Objective (Worcestershire CC)	Contribution of Scheme Proposal
The A38 corridor currently has limited capacity resulting in congestion.	Reduce congestion and transport costs. Maximise efficiency of road network. Increased journey time reliability.	WLEP SEP– to invest in transport infrastructure to provide businesses with improved access to markets and employees and to encourage economic growth LTP – to support capacity enhancements at key pinch points to support development growth, tackle congestion, improve road safety and air quality.	Package 1 delivers on Worcestershire's stated objectives to invest in tackling key pinch points. The scheme will provide additional capacity at a location where problems are currently evident, and are likely to be exacerbated in the future with further growth.
The A38 corridor does not have sufficient capacity to accommodate	Support delivery of housing/employment growth as outlined in	SEP – The SEP spatial strategy is based on the objective of realising the full potential of	By targeting an area where significant Local Plan development is planned, the schemes will help to support the

housing future growth.	Bromsgrove Development Plan and Redditch Local Plan.	Bromsgrove as an important centre for local growth and employment. LTP - Economic objective to support economic competitiveness and growth through delivering a safe, reliable and efficient transport network	economic growth of the Bromsgrove and Redditch area.
Limited capacity on the A38 corridor is constraining access the full range of employment opportunities in the West Midlands.	Reduce congestion and transport costs. Maximise efficiency of road network. Increased journey time reliability.	SEP– to invest in transport infrastructure to provide businesses with improved access to markets and employees and to encourage economic growth LTP – The economic objective is to support economic competitiveness and growth through delivering a safe, reliable and efficient transport network	The scheme will help to improve access to employment opportunities across the West Midlands region.

Where the scheme delivers, or contributes to delivery of, specific outputs they should be shown in the table below.

Table 9 shows how the Package 1 scheme contributes to the delivery of both housing and employment. Further detail of this assessment and the assumptions on which this is based are presented in Appendix 6.1.

It should be noted that this assessment builds on the assumptions used to support the GHF bid. This identified that 397 housing units and 649 FTE jobs would be supported by the proposed improvements to M42 Junction 1 and M5 Junction 4 and as direct outputs of the funding contributed to these schemes by Highways England and GBSLEP.

The Package 1 schemes presented in this CABC include improvements to Barley Mow Lane junction in addition to the motorway junctions, therefore this CABC Package supports, in total, additional benefits over and above those assessed via the GHF. The additional outputs associated with the Barley Mow Lane junction improvements are estimated to be 35 housing units and 58 FTE jobs. Of these, 27 housing units and 44 FTE jobs can, on a cost proportionate basis, be directly attributed to the funding being sought from WLEP via this CABC.

These outputs will be realised in the period to 2030 as set out in Table 10. Outputs are assumed to accrue from 2018 because:

- There are no specific planning conditions preventing development from coming forward without Package 1; and
- Approval of funding would give developers certainty that this scheme would come forward, allowing progress development in the confidence that the scheme will 2021.

Note that for employment a linear build up has been assumed from 2018 to 2030. For housing, the trajectory (from 2018-2030) reflects that adopted in the GHF analysis.

Table 9 – Total outputs attributable to the Package 1 scheme

Delivery of Development	Houses	Jobs / Employment Floor Space	Retail Floor Space
Development delivered / unlocked by Package 1 (funded by S106, GHF, WLEP and GBSLEP)	432 housing units	707 gross FTE jobs (across 16,173 square metres of employment floorspace)	0
Development delivered / unlocked by WLEP funding sought via this CABC. Outputs associated with Barley Mow Lane junction improvements and attributable based on a cost proportionality approach.	27 housing units	44 gross FTE jobs (across 1,004 square metres of employment floorspace)	0
Development that Package 1 would contribute to delivering	n/a	n/a	n/a

Table 10 – Likely timescale for realisation of outputs

Housing	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**Total**
Package 1 impacts (funded by S106, GHF, WLEP and GBSLEP)	1	4	10	11	51	54	61	61	48	40	36	32	23	**432**
Barley Mow Lane impacts	0	0	1	1	4	4	5	5	4	3	3	3	2	**35**
Attributable to WLEP Funding	0	0	1	1	3	3	4	4	3	3	2	2	1	**27**

Employment	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**Total**
Package 1 impacts (funded by S106, GHF, WLEP and GBSLEP)	54	54	54	54	54	54	54	54	54	54	54	54	54	**707**

Barley Mow Lane impacts	4	4	4	4	4	4	4	4	4	4	4	4	4	**59**
Attributable to WLEP Funding	3	3	3	3	3	3	3	3	3	3	3	3	3	**44**

Constraints

Identify any high level internal/external constraints e.g. technological environment, industry capacity, etc. which may impact upon successful delivery of the project.

Table 11 highlights issues identified as potential constraints. These have been proactively addressed in the design response, and will continue to be a focus of attention, ensuring that any risks are mitigated.

Table 11 - Key constraints

Constraint	Issue	Design Response
Highways England consent	Necessary to comply with Highways England approvals processes for design and construction of a Highways England asset on their network.	Liaison with Highways England is progressing in parallel to the CABC being authorised.
Departures from standard	Package 1 would require departures from standards to be approved at M42 Junction 1 and M5 Junction 4.	Liaison with highway authorities to ensure that departures are acceptable.
Working within a AQMA	Works at M42 Junction 1 are within the Lickey End AQMA. This triggers the need for assessments, as stipulated by Worcestershire Regulatory Services (WRS).	The proposed scheme has been submitted for screening opinion and no concerns have been raised by WRS which would result in the need for a planning application.
Underground services	Obtaining the level of utility design maturity required to provide cost certainty early in the project lifecycle.	C2 utility searches undertaken to inform scheme design. C3s have been partially received and have been included where responses received. Close liaison with utility companies regarding diversion options.
Protected species	There is potential for presence of protected species within some of the habitats that would be affected by the proposed scheme. The Environmental Report contained as Appendix 8.1 provides details.	Surveys in progress to assess potential for protected species. See Appendix 8.1 for details. Develop the design to avoid or minimise loss/ disturbance of habitat. Develop and implement mitigation measures to reduce the levels of impacts
Local communities	Noise impacts during construction and operation.	Operational noise impacts are not anticipated to be significant. Appropriate working methods to be implemented during construction to minimise disturbance.

Inter-dependencies

Set out any key Internal/external factors upon which the successful delivery of project are dependent.

Table 12 highlights issues identified as important inter-dependencies.

Table 12 - Interdependencies

Constraint	Issue	Design Response
Funding availability	Package 1 requires funds from Section 106, WLEP, GBSLEP and Highways England to proceed. Insufficient scheme funding may prevent the scheme progressing/result in partial funding being handed back after award.	Early liaison with all funding partners.
Land ownership	Land in third party ownership is required to create an appropriate visibility splay and to accommodate the footpath at M5 Junction 4. It is anticipated that this land can be secured by negotiation. However, if this is not possible there may be a requirement for a CPO process.	Early negotiation with land owners. Early preparation for CPO to reduce impact of delay on programme.

Stakeholders

Outline the main stakeholder groups and their contribution to the project. Note any potential conflicts between different stakeholder groups and their demands. What are the attitudes of key groups (e.g. the general public, residents, businesses and wider stakeholders) to the proposed scheme and how have those attitudes informed the strategic plan?

A Stakeholder Management Plan (SMP) for the project is presented as Appendix 12. The main stakeholders, their contribution to the project and their views are summarised in Table 13.

Table 13 - Stakeholder analysis

Stakeholder	Influence/interest	Current view, where known
Worcestershire LEP	Ultimate budget holder/assurance body. Value for money, delivery to programme, project assurance. Contribution to overall economic objectives	Supportive. Approved OBC submission in 2016.
Greater Birmingham and Solihull LEP	Budget holder. Value for money, delivery to programme, project assurance. Contribution to overall economic objectives.	Supportive. Approved EoI submission in 2017. Through this process they have commented on the options, as described in the previous section.
Worcestershire County Council (Officers and Elected Members)	Scheme promoter. Wider impacts. Delivery to programme and to budget.	Supportive. Officers have day to day involvement in progressing the project. Members receive regular briefings.
Bromsgrove District Council and Redditch Borough (Officers and Elected Members)	Synergy with Local Plan. Extent to which scheme will support housing and employment growth.	Supportive. Some involvement through OBC and EoI process.

	Contribution to local economy.	
Highways England	Interaction with the M42 and M5.	Highways England has indicated support for the scheme through the Growth and Housing Fund process. Through this process they have commented on the options, as described in the previous section.

Other stakeholders include:

- The Environment Agency;
- Local MPs;
- Parish Councils (Catshill and North Marlbrook and Bournheath);
- Local Groups;
- Business leaders;
- User groups and interest groups;
- Road users;
- Landowners;
- Adjacent property owners;
- Wider local residents.

A full list is provided in the SMP (Appendix 12).

ECONOMIC CASE	
Scheme Name A38 Bromsgrove Major Scheme – Package 1	Date August 2018

Table 14 provides an overview of the Value for Money assessment.

Table 14 – Economic summary

Economic Summary:		Value for Money Category
PV Benefits (£m)	18.810	**See DfT guidance:**
PV Costs (£m)	6.199	(link to DfT guidance below)
BCR	3.03	High

Link to DfT guidance on VfM

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/630704/value-for-money-framework.pdf

Assessment Approach and Assumptions

Set out the methodology which has been used to assess the impact of the proposal and calculate the Benefit to Cost ratio. This should include:-

- Information about the base data on which the assessment has been conducted
- Evidence regarding the validation of this base data
- A statement of the assumptions made about future years (e.g. growth in housing and employment)
- Information on the modelling approach used
- Confirmation that the methodology is compliant with Webtag

Traffic Modelling

A microsimulation traffic model in VISSIM has been developed to appraise the A38 Package 1 scheme in Bromsgrove.

An existing VISSIM model of the M5 (Junction 4 to Junction 5) and M42 (M5 interchange to Junction 3) was developed previously for Highways England in 2016 by JMP/Systra and was made available to CH2M (now Jacobs) last year. The relevant network sections of this model, mainly M5 Junction 4, M5 Junction 4a, M42 Junction 1 and the adjoining motorway sections were used to assist in the development of the A38 Bromsgrove Major Scheme Model.

In addition to the motorway and motorway junctions that have been based upon the Highways England Model, the A38 Major Scheme VISSIM model covers the A38 corridor through Bromsgrove. The model covers the area just north of M5 Junction 4 and ending just south of the A38/B4094 Worcester Road roundabout to the south. The model extents are shown in Figure 5.

Figure 5: A38 VISSIM model extents

Base models of the following time periods, inclusive of a 60-minute 'warm-up' period, have been developed using observed data collected in June 2017:

- 2-hour Weekday AM peak between 07:00 and 09:00; and
- 2-hour Weekday PM peak between 16:00 and 18:00.

Automatic Number Plate Recognition (ANPR) data was collected on 6th June 2017 and used as the main source of origin and destination data collection for the model. The ANPR cameras achieved an overall sample rate of 83% across the 12-hour period.

The ANPR data was provided in the form of 12-hour trip chains from 07:00 to 19:00. These trip chains contained the detailed paths of each vehicle throughout the day, including each ANPR camera it passed through and at what time. These trip chains were read into the initial VISSIM model and the model was run for the 12-hour period. From this model run, origin-destination (OD) data could be extracted for the peak hours and used to generate OD matrices for the final VISSIM model.

In circumstances where distinctive hourly profiling is present, it can be necessary to assign traffic in smaller time slices than 1 hour so as not to underestimate delay. In this case, hourly demand for light and heavy vehicles has been disaggregated into 15-minute intervals using the profiles from ATC data collected at various locations feeding into the A38 corridor.

Manual Classified Count (MCC) surveys were carried out on the same day and were used for the model calibration. Turning flows have been calibrated in a 60-minute interval in each of the two

2-hour models. A summary of the 'goodness-of-fit' achieved by the models based on an average of 10 simulation seed runs can be seen in Table 15.

Table 15: Base Model Calibration - Modelled Turning Flows

Model Period	GEH Turns <5.0	Flow Criteria
AM (08:00-09:00)	96% (152 out of 158 movements)	98% (155 out of 158 movements)
PM (17:00-18:00)	97% (153 out of 158 movements)	100% (158 out of 158 movements)

A comparison of modelled journey times along the A38 versus independently collected observed data has been used to provide an overall assessment of model robustness. Travel times were collected along the A38 between the southern edge of the model, just north of the A38 Worcester Road/Webbs Garden Centre Roundabout, and just south of M5 Junction 4 and were used for validation purposes. This route was split into three main sections:

- Between A38/Webbs Roundabout and A38/A448 Roundabout;
- Between A38/A448 Roundabout and M42 Junction 1; and
- Between M42 Junction 1 and M5 Junction 4.

All 6 route sections (3* 2 directions) validated in the AM and 5 route sections out of 6 validated in the PM within TAG criteria.

Details on the model calibration and validation are reported in the A38 VISSIM Micro-Simulation Model Local Model Validation Report (LMVR), appended to this CABC submission as Appendix 5.

Traffic Forecasting

The VISSIM model produced has been developed to extend the work undertaken in the Outline Business Case to assess the impacts along the A38 corridor, and to understand implications for journey times along it in 2021 as a result of implementing the Package 1 scheme.

Two forecast scenarios have been assessed in the economic assessment in accordance with the CABC proforma requirement:

- Core Scenario; and
- Low Growth option.

Travel demand growth was based on TEMPRo v7.2 and NTM 2015 growth factors between 2017 and 2021. Forecast models were developed only for the opening year 2021. Whilst it is standard practice to model 15 years from year of opening, using only the opening year forecasts for this application is in line with GHF funding application submitted by Highways England for improvements to M42 Junction 1 and M5 Junction 4.

Trip matrix totals for the base and forecast year have been shown in Table 16. As the model has been based on a fixed demand, the without scheme and with scheme demands are the same.

Table 16: Total Base and Forecast Trips by Mode

		2017 Base Matrix Totals	2021 Forecast Matrix Totals	Growth
AM	Light Vehicles	21914	22963	4.7%
	Heavy Vehicles	1823	1881	3.1%
PM	Light Vehicles	23114	24171	4.6%
	Heavy Vehicles	1326	1368	3.2%

For the Low Growth option, adjustment factors were derived using the approach in TAG Unit M4-Forecasting and Uncertainty. For a forecast period of 4 years from the base, the proportion of base demand to be reduced from the Core scenario was 5%. This meant that the Low Growth option would be lower than the base year demand. Therefore, the base year demand was considered indicating a 'zero growth' as the Low Growth demand.

The network performance of the Core scenario in the forecast years for the 'Without Scheme' and 'With Scheme' scenarios was analysed. In the AM peak, the model predicts that the network should experience slightly lower delays in the 'With Scheme' scenario when compared to the 'Without Scheme' scenario. The implementation of the proposed schemes should lead to a decrease in average delay time per vehicle from 132.1 seconds to 131.2 seconds and a slight increase in average speed from 41.6 mph to 41.7 mph. In the PM peak the implementation of the proposed schemes should lead to a more significant decrease in delays in the network overall. Average delay time per vehicle in the 'With Scheme' scenario reduces from 164.1 seconds to 154.0 seconds when compared to the 'Without Scheme' scenario. Average speed also increases from 39.6 mph in the 'Without Scheme' network to 40.4 mph in the 'With Scheme' network.

The journey times along the A38 corridor in the forecast years for the 'Without Scheme' and 'With Scheme' scenario have been provided in Table 17. The predicted times show the scheme reduces the journey time taken using the A38 between M5 Junction 4 in the north and A38/Webbs to the south of Bromsgrove.

Further details of the Core scenario and Low Growth option are provided in the Forecasting and Economics Report appended to this CABC submission as Appendix 6.1.

Table 17: Modelled journey time differences

	Direction	From	To	Distance (m)	2021 Without Scheme	2021 With Scheme	With Scheme - Without Scheme
AM Peak	NB Total	A38/Webbs	M5 J4	10448	00:20:13	00:20:11	-00:00:02
	SB Total	M5 J4	A38/Webbs	10552	00:21:36	00:21:08	-00:00:28
PM Peak	NB Total	A38/Webbs	M5 J4	10448	00:25:38	00:25:33	-00:00:05
	SB Total	M5 J4	A38/Webbs	10552	00:21:19	00:20:48	-00:00:31

Overview of Economic Assessment Approach

An economic appraisal of the scheme has been undertaken using a spreadsheet TUBA based approach based on guidance in TAG Unit A1.1: Cost-Benefit Analysis. As the modelling for this scheme has been based on the A38 VISSIM model (microsimulation), a bespoke spreadsheet based tool has been developed in line with WebTAG guidance and consistent with the Highway England GHF application submission process.

The outputs from the VISSIM traffic model show changes in vehicle hours and kilometres travelled between the 'Without Scheme' and the 'With Scheme' scenarios. These form the inputs to the economic appraisal. The assessment year assumed was the scheme opening year 2021.

Key assumptions of the economic assessment are:

- Appraisal over 60 years, opening year of 2021;
- Appraisal based on model opening year 2021, and model output data for the AM and PM periods of 07:00 – 09:30 and 16:00 – 18:30;
- Annualisation factor of 253;
- With and without scheme scenarios will be modelled for the 2021 scenarios;
- Value of Time (VOT) and Vehicle Operating Costs (VOC) as defined in the WebTAG Data Book (Dec 2017 values);
- Optimism Bias has been applied at the WebTAG Unit A1.2 recommended rates for the relevant stage (15%);
- Discount rate as per Green book guidance of 3.5% for first 30 years and 3.0% for the next 30 years; and
- The economic appraisal has been undertaken for different user classes using purpose splits from Roadside Interview Surveys undertaken in Bromsgrove in June 2017:
  - Car– Home based work;
  - Car– Employers business;
  - Car– Other journey purposes;
  - LGV; and
  - HGVs.

Outputs from the two modelled periods (AM and PM) and the opening year (2021) have been taken to generate the economic appraisal results. These results have been monetised where possible and qualitative assessment of other economic impacts (reliability, regeneration, wider impacts); social (accidents) and distributional impacts has been undertaken.

Key Risks, Sensitivities and Uncertainties

Set out how changes in different variables affect the Benefits and BCR. In addition to the Core scenario a Low Growth option should be tested and reported. The risk profile should show how likely it is that these changes will happen.

The data for this table comes from the Analysis of Monetised Costs and Benefits

An important part of the economic assessment has been to consider how changes in different variables affect the benefits and BCR. The following variables were considered to assess the impact on the benefits and BCR. These are taken from the analysis of monetised costs and benefits:

- Travel time;
- VOC;
- Indirect Tax;
- Other monetised benefits;
- Total monetised benefits; and
- BCR.

Risk to scheme costs were identified through a risk workshop and quantified in a Quantified Risk Assessment as per WebTAG unit A1.2- Scheme Costs, section 3.2. The QRA (Appendix 10) includes risks associated with project delivery, including risks associated with statutory undertakers infrastructure, ground conditions, land, technical approvals timescale.

Table 18 – Scenarios

Scenario	Travel Time	VOC	Indirect Tax	Other monetised benefits	Total monetised benefits	BCR
Core Scenario	£19.613m	-£0.005m	£0.0001m	-£0.807m	£18.810m	3.03
Low Growth	£5.505m	£0	-£0.	-£0.803m	£4.701m	0.76

Overall assessment - Appraisal Summary Table

The overall impact of the proposal should be set out in an Appraisal Summary Table which will be an Appendix to the Business Case. Notable impacts, both positive and negative, should be summarised below. Worksheets should be available for review if requested.

The overall impact of the package is summarised in the AST included within Appendix 7. Notable impacts are highlighted in Tables 19 and 20.

Table 19 – Positive impacts

Impacts	Positive Impacts not Included in BCR	Scale of Impact
Regeneration.	Package 1 is required to help support the levels of development envisaged in the Bromsgrove District Plan and the Redditch Local Plan. In particular, Package 1 will support the development of key development sites at	Medium beneficial

	Perryfields Farm, Brockhill, Brockhill East, Foxlydiate and Norton Farm.	
Wider impacts	Package 1 will support the delivery of homes and the creation of jobs. The impacts associated with Package 1 correspond to the following economic indicators; 16,173 sq m of employment floor space, 707 FTE jobs and 432 housing units. However, as part of a GHF successful funding bid the impacts associated with improvements at M42 Junction 1 and M5 Junction 4 have been attributed to GHF. Thus, only the residual impacts associated with the Barley Mow Lane junction scheme can be attributed to WLEP. Barley Mow Lane would help unlock 1,324 square metres of employment floor space, 58 gross FTE jobs (resulting in £3.6m in GVA uplift) and 35 housing units. Based on proportional funding, WLEP can claim 76% of these benefits, equating to 1,004 square metres of employment floor space, 44 gross FTE jobs (resulting in £2.7m in GVA uplift) and 27 housing units.	Medium beneficial
Further Comments: See Appendix 7 for further details.		

Table 20 – Negative impacts

Impacts	Negative Impacts not Included in BCR	Scale of Impact
Biodiversity	One Local Nature Reserve and 11 Local Wildlife Sites are located within 2km, but not affected by the proposed scheme. Habitat of low value would be affected but following mitigation would re-establish. (Note: No international or nationally designated sites in the vicinity of the scheme.)	Slight adverse impacts on medium and low value species in Opening Year. This would reduce to neutral through mitigation including use of method statements during construction, re-establishment of habitats and inclusion of habitat enhancements where required.
Landscape	The landscape surrounding the proposed works locations is of local value. The southernmost scheme locations have been identified as more sub-urban with the M5 Junction 4 location being more rural. The features of the landscape are general	Impacts would be slight adverse in the short term reducing to neutral in the longer term.

	substitutable and the effects of the proposed scheme would be mitigated through sensitive reinstatement and screening planting, although these may take time to establish. (Note: No Conservation Areas or other landscape designations have been identified.)	
Greenhouse gases	Overall the scheme is likely to lead to a net increase in vehicle kilometres travelled across the road network which has a potential to result in an increase in CO2 emissions	Slight adverse.
Further Comments: See Appendix 7 for further details.		

Value for Money Statement

Conclusion from value-for-money assessment and VfM category.

Table 21 summarises the value for money assessment. Further detail is provided in Appendix 6.2.

Table 21 – Value for Money

Criteria	Scheme
Value for Money	The scheme offers: a **high** value for money for the 'initial' and 'adjusted' BCRs, which is supported by a PVC of £6.2m and PVB of £18.81m (initial):
NPV	The scheme has a NPV of: £12.62m
Initial BCR	The scheme has an initial BCR of: 3.03
Adjusted BCR (inc Wider Economic Benefits)	The scheme has an adjusted BCR of: 3.47
Significant non-monetised impacts	Economy, beneficial for reliability. Environmental, three of the impacts have been assessed as slight adverse, with the remainder as neutral, there are therefore no significant environmental impacts. Social, all neutral impacts except for severance, where a slight adverse impact is expected. See AST contained within Appendix 7 for more information.
Key risks, sensitivities and uncertainties underlying the appraisal	Key Risks - scheme scope changes; statutory approvals; unmapped utilities; unforeseen ground conditions.

	A Low Growth option test has been conducted. This showed initial value for money as Poor, but this increased to Low when adjusted. Key uncertainties - traffic growth.
The scheme has been assessed by utilising the A38 VISSIM Corridor model, impacts have been monetised for transport user and wider economic impacts. The environmental and social impacts have been assessed qualitatively.	

FINANCIAL CASE								
Scheme Name:	A38 Bromsgrove Major Scheme – Package 1			**Date:**	August 2018			
Summary Financials								
Overall Cost of Scheme	**£7.59m**	**LTB Contribution**	**£2.27m GBSLEP** **£1.31m WLEP**	**Available Budget**	**£ m**	**Contingent Liabilities**	£ m	
Scheme Costs								
Main Expenditure Items (include project income separately) (£m)	**Previous Years**	**FY 15/16**	**FY 16/17**	**FY 17/18**	**FY 18/19**	**FY 19/20**	**FY 20/21**	**Total**
Scheme preparation costs including design and project management	-	-	£9,475	£288,469	£467,921	£0	£0	£765,865
Land and compensation including Part 1 claims	-	-	£0	£0	£8,516	£0	£774,999	£783,515
Works construction including stats costs (including risk and optimism bias)	-	-	£0	£93,705	£626,691	£3,595,296	£1,520,187	£5,835,878
Site supervision and other external costs	-	-	£0	£0	£19,497	£132,685	£53,431	£205,613
TOTAL COST	-	-	**£9,475**	**£382,174**	**£1,122,624**	**£3,727,981**	**£2,348,617**	**£7,590,871**

Budgetary Impact Summary								
Forecast Net Budget profile (£m)	**Previous years**	**FY 15/16**	**FY 16/17**	**FY 17/18**	**FY 18/19**	**FY 19/20**	**FY 20/21**	**Total**
Total Required Budget	-	-	£9,475	£382,174	£1,122,624	£3,727,981	£2,348,617	£7,590,871
Total Local Contribution (Secured) + S106 Cash Flow	-	-	£9,475	£382,174	£0	£0	£949,898	£1,341,547
Total Local Contribution (Unsecured)	-	-	£0	£0	£0	£0	£0	£0
Total HE GHF Contribution (Unsecured)	-	-	£0	£0	£250,000	£2,028,119	£404,975	£2,683,094
Total LTB Requirement (WLEP)	-	-	£0	£0	£458,501	£266,115	£579,621	£1,304,237
Total LTB Requirement (GBSLEP)	-	-	£0	£0	£414,123	£1,433,747	£414,123	£2,261,993

Anticipated Funding & Financing Arrangements

Summarise the funding arrangements for the scheme. Indicate the situation with regard to third party funding and/ or borrowin g. Outline risks associated with delivery of external funding and repayment of borrowing.

Package 1 funding is being sought from a combination of sources, as follows:

- GHF – Contribution of £2.683 million sought.
- WLEP – Contribution sought as set out above.
- GBSLEP – Contribution sought as set out above.

Section 106 contributions. WCC has developed a Section 106 Contribution model to secure monies from all development proposals within Bromsgrove and Redditch. These Section 106 monies will be allocated towards improvements to the transport network necessary to support growth. The proposed scheme is part of these improvements. WCC is currently in negotiations with the developers of two large strategic sites for which £1.34 million of S106 monies are planned to be allocated to Package 1 schemes. It is likely that WCC will need to make provision for a situation where S106 receipts have not been received prior to construction commencing.

Scheme Cost Estimate and Key Financial Risks

A detailed cost estimate and a quantified risk assessment should be included as Appendices.

Summarise in the table below key risks to cost forecasts or to budgetary impacts.

A detailed cost estimate is provided as Appendix 9 and a Quantified Risk Assessment (QRA) is include as Appendix 10. Table 22 summarises the key risks to cost forecasts or to budgetary impacts.

Table 22 – Key risks to cost forecasts or budgets

Risk No	Risk	Mitigation status	Calculated Risk Value
Risk 020	Statutory undertakers C3 cost estimates higher than anticipated.	Currently in process of obtaining all C3 estimates during prelim phase – awaiting responses from telecommunications companies, and Centrica.	Expected: £406k Range: £312k to £1.25m
Risk 027	Scheme costs greater than estimated resulting in inadequate budget available.	Undertake additional assessment and further scheme refinement to achieve construction estimate price as scheme progresses. Will need allowance in QRA unless fixed price contract used.	Expected: £230k Range: £63.6k to £636k
Risk 028	Scheme cost inflation uncertainty leading to higher than expected out-turn costs resulting in inadequate budget available.	QRA allows for higher risk cost.	Expected: £133k Range: £127k to £318k
Risk 031	Unmapped utilities encountered during construction leading to delay to construction programme, redesign and extra costs.	Include allowance in QRA. Allowance to allow for complications caused by phased approach.	Expected: £169k Range: £156k to £625k

Risk 039	Unforeseen ground conditions including contaminated land leading to increase in costs/ programme delay.	Ground investigations will be undertaken during detailed design to establish the level of risk anticipated during construction phase.	Expected: £162.5k Range: £150k to £600k

Notes: Estimated Values agreed at Risk Workshop, and have not been obtained from @RISK software, as this is not an output from the software model.

Accounting and Budgeting Issues

Where relevant, specify particular issues relating to the accounting treatment and budgetary classification including the impact on the balance sheet

Attach Independent Audit of Cost Estimate (if available)

Not available.

COMMERCIAL CASE

Scheme Name: A38 Bromsgrove Major Scheme – Package 1	Date: August 2018

Introduction

The commercial strategy addresses the key project risks and enables the development of the project to programme whilst also ensuring an effective procurement and cost confidence. Key issues affecting the procurement strategy include the funding and its timeline and the multi-disciplinary requirements of the project scope.

The Commercial Case for the project takes into account the resources available to The Council, the risks associated with the project and assesses the procurement routes to deliver the project in the most efficient way possible.

Outline the critical success factors for delivery of the project.

The Critical Success Factors (CSFs) for the delivery of the project will be developed and used to assess the procurement options available to the project. These are summarised as:

- Achieving 'cost confidence' that the project can be delivered within the available funding constraints;
- Delivering the project to realise the Local Transport Plan and the benefits in the Worcestershire LEP's Strategic Economic Plan;
- Meeting the programmed construction completion date;
- Minimising further preparation costs;
- Including contractor input into the project design and construction to encourage innovation and reduce capital costs;
- Including contractor input to the risk management strategy and appraisal process to reduce risk.
- Minimising future maintenance costs; and
- Safety.

Capability, Skills and Evidence of Previous Project Delivery

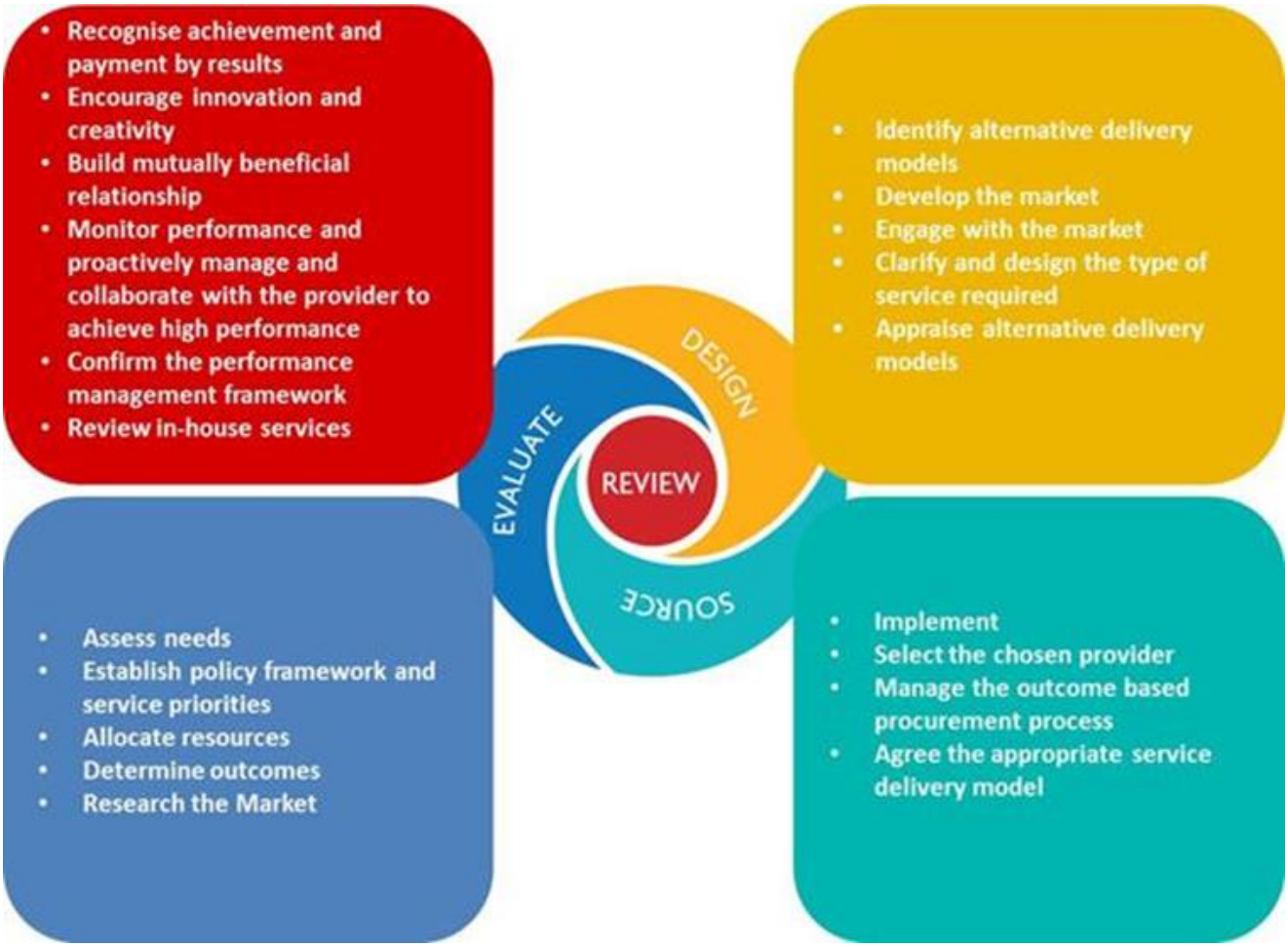
Describe internal/external expertise assigned to the project. Illustrate the appropriateness of this resourcing, and the responsibilities of the respective parties.

WCC has extensive in-house strategic and technical procurement expertise and a wealth of knowledge and experience, with a proven track record of delivery, with different types of contracts.

WCC is establishing itself as a strategic commissioning organisation that will only directly provide services where there is no viable alternative. Supporting this WCC has a commercial vision is to "drive commercial excellence through developing an open, challenging and pro-active culture and deploying effective commissioning strategies to source the right service from the right provider at the right cost."

Figure 5 describes WCC approach to commissioning and procurement and has influenced the choice of the procurement approach to the project.

Figure 5: Approach to commissioning and procurement



Having recently appointed contractors to deliver several strategic infrastructure projects, including Worcestershire Parkway Railway Station and the Design Development stage of the Worcester Southern Link Road Phase 4, the Council has recent and relevant market intelligence and commercial data to inform its decision-making and procurement plan. This is complemented by technical expertise from our term professional services supplier providing the breadth of both commercial and technical expertise required to prepare for and deliver the right contractual arrangements for the project. Market engagement specifically focused on this project is included in the procurement programme.

Procurement Strategy & Sourcing Options

Summarise the proposed procurement strategy and specification for delivery, providing evidence to justify the approach

A supporting Commissioning Strategy is contained in Appendix 14. A summary of the proposed strategy is provided below and includes evidence to justify the approach.

Use of the Council's newly-awarded Infrastructure Engineering Term Contract is the preferred route as it provides the best result in the options to outcomes analysis and facilitates a healthy environment to maximise opportunities for cost down initiatives. Additionally, it complements the Council's strategic approach to commissioning.

The term contractor is engaged for a number of years to deliver small to medium-sized projects for the Council and has been engaged following an Open procurement under OJEU and the Public Procurement Regulations.

Rates and prices agreed at the outset of the contract are benchmarked against inflation indices to ensure they remain competitive and maintain cost-effective pricing. Incentives are included to ensure the contractor is engaged in delivering Early Contractor Involvement (ECI) solutions that not only reduce project costs but also optimise programmes and resources. In a long-term contract, the contractor works with The Council to find ways to provide the works inside the funding profile and the budget constraints.

The contractor, being a long-term supplier, is familiar with The Council's aims and objectives, the Local Transport Plan and the Worcestershire Economic Plan and works collaboratively to achieve those goals.

Design finalisation and asset management including whole life costs are optimised because the contractor is able to comment and influence designs at the earliest opportunity.

Having the contractor engaged early broadens the project team which in turn helps to identify and manage risks early in the project resulting in improved cost certainty for the latter construction phases.

Financing Arrangements and Payment Mechanisms

Outline financing arrangements, and future mechanisms including incentives.

A method of payment allowing for monthly assessments of the costs accrued is included in the contract as this allows for optimal cash flow for the supplier, the supply chain and The Council. Similarly, quality and standard of final construction will be managed through retention clauses and performance management.

Clauses requiring fair payment terms throughout the supply chain along with measures to audit this in contract form an integral part of the terms and conditions.

Risk Allocation and Transfer

Summarise how risk is transferred as part of contracting process.

An initial assessment has been undertaken on how the types of risk might be apportioned or shared, with risks allocated to the party best placed to manage them, subject to achieving value for money. The contract will include clauses to facilitate the transfer of appropriate risks from The Council to the contractor.

The risk of costs being higher than currently predicted remains until the tendering process is complete, which is the point that this risk can be transferred to the contractor (on project award). The indicative allocation of risks resulting from the contractual and procurement arrangements is summarised in Table 23. At this stage, ticks have been provided to indicate where each risk type rests or whether these risks are shared between the two.

Table 23 - Risk allocation

Risk Category	The Council	Supplier	Shared
Construction		✓	
Implementation			✓
Operations	✓		
Termination			✓
Financing	✓		
Legislative			✓

Contract Length
Set out scenarios for contract length (with rationale) and proposed key contractual clauses. An indicative programme of contract duration has been developed, as detailed in Appendix 11. See Management Case for further details on how the contract will be managed.
Human Resources Issues
Identify key personnel/people management/trade union implications, where applicable, including any impact of TUPE regulations. No relevant personnel/people management/trade union implications, including TUPE regulations have been identified for this project. Essential to the successful running of the contract are high-quality project management skills, complemented by specialist cost control expertise and sufficient support resources. These are required from the outset of project development right through to post-completion. This will be supplemented by a project governance structure more fully described in the Management Case.

MANAGEMENT CASE	
Scheme name: A38 Bromsgrove Major Scheme – Package 1	**Date:** August 2018

Introduction

Outline the approach taken to assess if the proposal is deliverable.

The approach taken to ensuring the Package 1 scheme is deliverable has involved consideration both of engineering feasibility and funding availability.

Engineering feasibility

A number of options have been considered at various stages of the Package 1 scheme development and these have been summarised in the Options Assessment Report (OAR, Appendix 4). The OAR considers the constraints and engineering difficulty associated with each of the Package 1 junction schemes. Key criteria affecting delivery were considered, including:

- Engineering feasibility, and ability to construct the scheme within appropriate design standards;
- Need or otherwise for third party land;
- Impact on statutory undertakers' plant or third-party assets; and
- Estimated construction cost.

The deliverability assessments undertaken have resulted in further refinement of the design, to give a scheme which is deliverable and ensure progressively increasing confidence that the scope of works and associated construction programme and pricing are robust.

Funding

A key part of ensuring the deliverability of Package 1 has been to take steps to secure funding. Since the WLEP OBC stage, the following key actions have been undertaken:

- Successful EoI submission to GBSLEP, which led to further discussion and agreement for WLEP to lead subsequent phases of the business case submission as the main assurance body; and
- An application has been made to Highways England GHF, for £2.683 million contribution towards Package 1.

Evidence of Similar Projects

If possible, provide evidence of similar projects that have been successfully completed, to support the recommended project approach. If no similar projects are available for comparison, outline the basis of assumptions for delivery of this project e.g. comparison with industry averages for this kind of work.

Worcestershire County Council (WCC) has considerable experience of:

- Delivering similar transport schemes and packages on time and on budget
- Successfully obtaining consents for major infrastructure schemes and packages
- Developing and maintaining good working relationships with key partners and stakeholders
- Internal resourcing and governance requirements for major schemes and packages
- Delivering schemes and packages via a suite of term contracts.

Examples of schemes and packages recently and successfully implemented by WCC include:

- **The Worcester Southern Link Road (SLR),** phases 1, 2, 3 which has delivered dualling and significant capacity improvements to roundabouts on the A4440 between Ketch and Whittington, completed on programme.
- **Worcestershire Parkway Railway Station**. Construction is in progress on this high-profile scheme to deliver a new station as part of a £50 million strategy of rail investment in the county.
- **The £19.5m Worcester Transport Strategy (Phase 1) Major Scheme (WTS)**. This scheme comprised of a series of improvements to the network (walking, cycling, public transport and vehicular improvements) in and around the city of Worcester including improvements to key corridors into Worcester city centre.
- **The Hoobrook Link Road (Phase 2)** in the South Kidderminster Enterprise Park. The £16m scheme to complete a link road to the south of the town centre with a new bridge over the Worcester Canal and River Stour. The scheme was completed in summer 2016.

Programme or Project Dependencies

Identify any deliverables or decisions that are external to the project, which are fundamental to its successful completion. Distinguish between those which impact on the timing/ programming of the project, and those without which the project cannot be completed or would not achieve its objectives.

Table 24 highlights the dependencies and their significance.

Table 24 - Dependencies

Deliverable/decision	Issue/impact	Mitigation
Appropriate consents from Highways England, including relevant approvals and sign-off relating to, for example, the design and highway layout, road safety audit and departures from standard.	Project could not be completed without Highways England approval.	Ensure engagement with Highways England on the detail of the scheme design takes place in the next stage of the project.
Need for land acquisition for works to the M5 Junction 4. It is hoped this can be secured via landowner negotiation.	Impact on programme if compulsory purchase required.	Ensure early discussion with landowners.

Governance, Organisational Structure & Roles

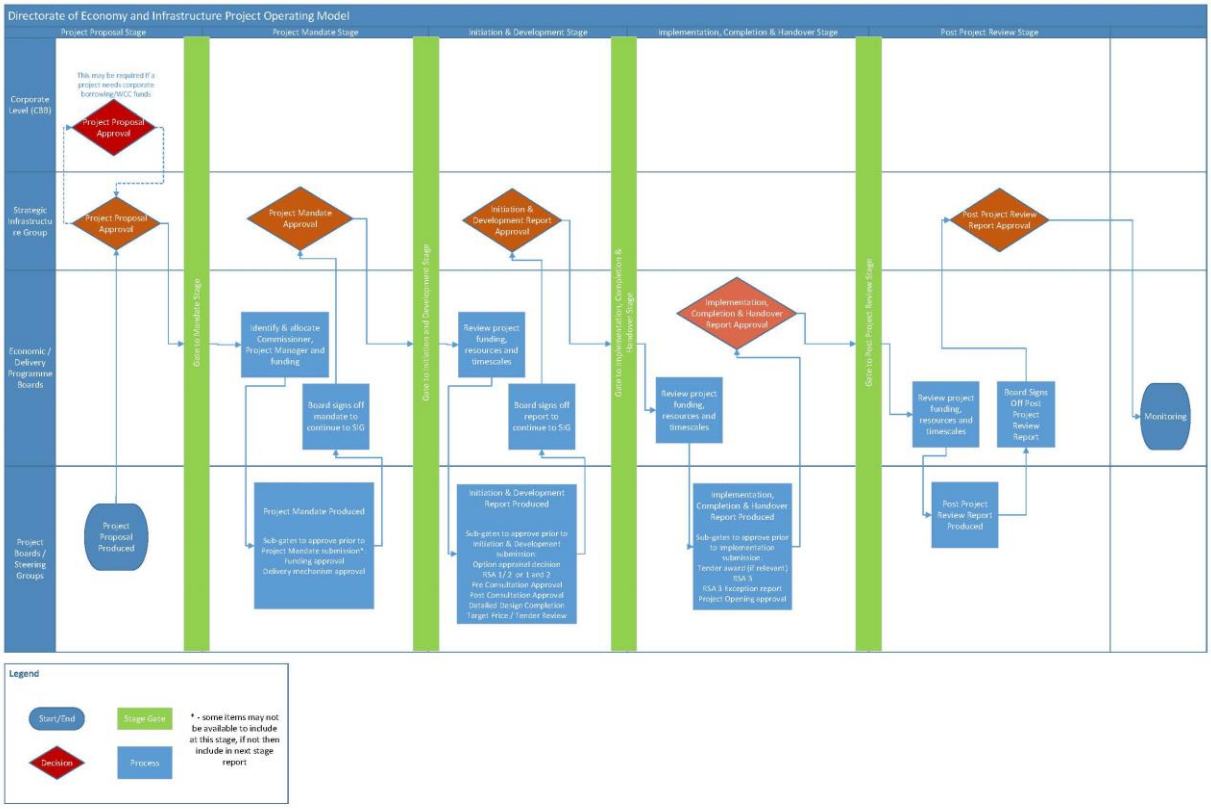
Senior Responsible owner: Nigel Hudson	Project Manager: Penny Lillie

Include a brief description of the governance structure, linking roles and responsibilities with accountability including delegations. Indicate who is in overall charge and set out the structure of the project board or similar.

Outline the allocation of roles and responsibilities between the promoter and delivery partners. Indicate who has responsibility for committing funding/accepting risk.

The project is being delivered in accordance with the WCC Directorate of Economy and Infrastructure's Project Operating Model (POM) which is a PRINCE2 based project delivery framework characterised by a governance structure and gateway review controlled stages of project development and delivery as shown in Figure 6 below.

Figure 6 -Project Operating Model



Key project roles are set out in Table 25. The paragraphs below then provide further detail.

Table 25 - Key Project Members

Member	Key Roles and Responsibilities	Resourced
Cabinet	Overall responsibility	Yes
Project Board	Design and financial approval	Yes
WCC	Project Management	Yes
CH2M/Jacobs	Design and scheme development partner including CDM Principal Designer	Yes
Place Partnership	Land Agent	In progress
Alun Griffiths	Infrastructure Engineering term contractor	Yes

The package is overseen by a Project Board. Their role is one of governance, accountability and decision making. Members of the Project Board have been involved in key elements of the project to date, including the risk workshop and preparation of the QRA. Membership is set out in Table 26.

The Project Board meet at key milestones throughout the life of the project to ensure Project Assurance objectives are met. Going forward meetings will be timed to ensure the Project Board can take an active role in procurement decisions as well as design and financial approval in the next stages of the project.

Table 26 - Project Board Membership

Member	Organisation/Position	Role
Rachel Hill	WCC/Strategic Commissioner Major Projects.	Senior Responsible Officer (Project Delivery)
Nigel Hudson	WCC/Head of Strategic Infrastructure and Economy	Senior Responsible Officer (Project Conception)
Andrew Baker	WCC/Transport Planning and Commissioning Manager	Project Commissioner
Abhi Bhasin	WCC/Senior Transport Planner	Business Case Lead
Penny Lillie	Jacobs/Project Manager	Project Manager
Mike Dunphy	Bromsgrove District Council & Redditch Borough Council/Planning Policy Manager	District Council representative
Christopher Bird	WCC/Transformation and Development Finance Manager	Finance Lead
Jonathan Elmer	North Worcestershire Economic Development and Regeneration	North Worcestershire Economic Development and Regeneration representative

The Senior Responsible Officer (SRO) is Nigel Hudson. The role of the SRO is to lead the management and delivery teams and provide the interface with the executive team. In this instance, the SRO is required to:

- Report to and receive feedback from the Project Board;
- Ensure the appropriate resources, project management and technical expertise are in place for the project;
- Make decisions and approve changes within agreed tolerances or seek authorisation if required;
- Monitor and evaluate project progress against milestones and assess outcomes; and
- Provide guidance, support and direction to the Project Manager and project team.

The Project Manager is Penny Lillie. She will lead the management and delivery teams, providing an interface between the various approval boards and delivery teams, in accordance with WCC Project Operating Model (POM). She manages the project using PRINCE2 methods within set tolerances as agreed by the Project Board. She leads the work of the Project Teams and is a member of the Project Board.

The role of the Project Manager is to:

- Lead and coordinate the project team and its work-streams;
- Procure consultants and contractors;
- Prepare and report project budgets;
- Manage project risks and issues;
- Report to and receive feedback from the responsible officer; and
- Produce periodic progress reports to relevant committees.

The Project Manager is supported by a project team covering all related disciplines. In most cases a discipline has a lead officer or consultant who is, where relevant, supported by a co-ordinator and wider team.

Risk Management Strategy

Include a summary of the main risks derived from scheme risk register, together with an assessment of the effectiveness of any mitigating actions.

A Quantified Risk Assessment (QRA) together with a description of the proposed risk mitigation strategy is included within Appendix 10. The main risks to the delivery of the project are set out in Table 27. Risks related to finance and budget are included within the Financial Case.

Table 27 – Risks

Risk No	Risk	Mitigation status	Calculated Risk Value
Risk 003	Project Sponsor/key stakeholder key decisions affect programme delivery (e.g. amendments to scheme scope).	Keep involved via Project Board and regular stakeholder briefings.	Expected: £18k Range: £16.5k to £59k
Risk 006	Land acquisition. Not all land obtained via negotiation requiring a CPO with a risk of Public Inquiry resulting in delay to programme.	Secure all land by agreement, engage with local land owners.	Not costed at this stage.
Risk 009	Statutory and other approvals / agreements leading to delays to programme / full approval / construction delay.	Identify and prioritise all approvals / agreements required. Approvals to be sought in a timely fashion. Early engagement with relevant bodies to be undertaken - ongoing. Maintain approvals / agreement register to monitor status.	Expected: £5k Range: £5k to £25k
Risk 010	Statutory and other approvals / agreements leading to delays to programme / full approval / construction delay.	Early engagement with relevant authorities.	Not costed at this stage.
Risk 011	Highways England approvals take longer than programmed resulting in delay to programme.	Early discussions with Highways England to agree programme.	Not costed at this stage.
Risk 012	Loss of stakeholder (including pressure groups and media) and public support resulting in delay to programme and/or reduction in scope of scheme.	Communications strategy and communication plan to be produced where relevant. SMP included as Appendix 12 – to be maintained as live document.	Not costed at this stage.
Risk 023	Drainage strategy has not yet been carried out, there is a risk that a requirement for attenuation and designated outfalls may require	Undertake drainage strategy as part of next phase of work.	Not costed at this stage.

	additional land if the design required cannot be implemented within the existing public highway.		
Risk 024	Highways England may not approve proposed departures from standard resulting in scope reduction.	M42 slip road widening scheme would not happen if fully compliant design required	Not costed at this stage.
Risk 031	Unmapped utilities encountered during construction leading to delay to construction programme, redesign and extra costs.	Include allowance in QRA. Allowance to allow for complications caused by phased approach.	Expected: £169k Range: £156k to £625k
Risk 039	Unforeseen ground conditions including contaminated land leading to increase in costs/ programme delay.	GI will be undertaken during detailed design to establish the level of risk anticipated during construction phase.	Expected: £162.5k Range: £150k to £600k

Notes: Estimated Values agreed at Risk Workshop, and have not been obtained from @RISK software, as this is not an output from the software model.

Project Plan

Attach a Project Plan and Programme as an Appendix.

Identify in this section the key milestones and dependencies. Outline the resources required to deliver the project.

The Project Plan is included as Appendix 11. This identifies key resources, responsibilities and dependencies. Key milestones are summarised in Table 28.

Table 28 - Project Programme

Milestone	**Target date**
Conditional Approval	May 2018
Full Approval (Barley Mow Lane)	December 2018
Full Approval (M42 Junction 1 / M5 Junction 4)	August / September 2019
Detailed design (All Junctions)	December 2019
Land negotiations (and CPO if required) (All Junctions)	September 2019
Procurement of ECI Contract	September 2018
Project award (Construction Phase)	November 2018
Commencement of works on site	February 2019
Scheme opening (All Junctions)	January 2021
Monitoring and evaluation	January 2022 to 2027

Communications and Stakeholder Management

Outline the approach to communications and stakeholder management which will be adopted during the life of the project. A Communications and Stakeholder Management Plan should be included as an appendix. This should reference any previous Consultation, Consultation Report, and Stakeholder Analysis.

A Stakeholder Management and Engagement Plan for the project is included as Appendix 12. An overview of the key issues is provided below.

Previous consultation

Consultation for the A38 Major Scheme has been undertaken indirectly in several different forms. For example, the inclusion of schemes for the A38 in the Worcestershire LTP for example means that they have been subject to various high-level consultations as part of both LTP3 and LTP4. In addition, reference to the need for enhancements to the A38 in the Bromsgrove and Redditch Local Plans, means that these schemes have been subject to consultation and discussion through the Local Plan process.

As part of the development of the overall A38 Major Scheme, and Package 1 specifically, there has been some targeted engagement with project partners. However, to date there has been no scheme specific engagement with wider stakeholders or the general public.

Stakeholder analysis

The Stakeholder Management Plan (Appendix 12) provides a list of key stakeholders. For each, it identifies role, attitude and interest. This analysis will be updated as the project progresses and used to help ensure that resources are directed towards engaging with the most influential/powerful stakeholders.

Approach to communications and stakeholder management – pre-construction

Key next steps will be to engage more widely with stakeholders and share scheme designs with local residents and network users. This process will be based around a public exhibition and sharing of information via a website, letters and leaflets. This would take place ahead of final designs being finalised in order that comments can be taken into account before scheme construction. The Stakeholder Management Plan proposes that these activities take place in spring/summer 2018.

Assurance & Approvals Plan

Include a summary of the assurance processes used e.g. Gateway Review, Peer review, independent challenge. Indicate if there is independent assurance in place?

Project activities are identified and defined by a professional services scope which is predominantly administered via WCC's PID system. Within this context project deliverables are subject to checking and, for elevated risk items, peer review before finalisation.

Further to this, the WCC Project Operating Model defines a series of approval processes which govern the progress of the project through the project stages. Together with the function of the Project Board these approval processes afford the opportunity for challenge from WCC non-project team members.

Statutory Powers and Acquisitions

Set out the powers necessary to progress the scheme, such as planning consent, environmental licences and approvals.

Outline the position with regard to acquiring any necessary land or rights.

The approvals and consents required to deliver Package 1 are set out in Table 29.

Table 29 - Consents; licenses and approvals required.

Statutory Powers and Consents Required		
Description	Act or Legislation	**Comments**
Permitted Development Rights	The Town and Country Planning (General Permitted Development) Order 1995	A screening assessment has been submitted and a screening opinion response has been received from Worcestershire County Council's planning team. The Planning Authority has determined that further to the information provided that there would be no requirement for an EIA and thus no planning permission is required for the scheme and thus the development of the junctions is considered to be permitted development.
Compulsory Purchase Order (CPO)	Highways Act 1980	It is intended that the area of land required at M5 Junction 4 can be acquired by negotiation. If this is not possible, a CPO may be required and would be determined by the Secretary of State.
Traffic Regulation Orders (TROs)	Road Traffic Regulation Act 1984	TROs will be required, and will be considered at the next stage of the project.
Highways England approval for departures from standard		Appropriate consent from Highways England, including relevant approvals and sign off relating to the design and highway layout, assessments and departures from standard.
WCC approval for departures from standard		Appropriate consent from WCC, including relevant approvals and sign off relating to the design and highway layout, assessments and departures from standard relevant to their network.

Contract Management

Summarise outline arrangements. Confirm arrangements for continuity between those involved in developing the contract and those who will subsequently manage it.

The procurement strategy has considered the need for continuity and envisages appointing a contractor to work alongside the current project team to assist with design finalisation and target pricing of the construction works prior to award of the construction works. The procurement strategy identifies the use of the Council's newly-awarded Infrastructure Engineering Term Contract (IETC) as the preferred procurement route as it provides the best result in the options to outcomes analysis and facilitates a healthy environment to maximise opportunities for cost down initiatives. Furthermore, it complements the Council's strategic approach to commissioning. The timing of this appointment and contract incentives ensure the contractor is engaged and able to influence the design to improve buildability, reduce project costs and optimise programmes and resources prior to the finalisation of the scheme.

The contractor will be appointed as CDM Principal Contractor and at present it is envisaged that Jacobs will continue in its role as Principal Designer. However alternative CDM arrangements may be used either at the point the contractor is first appointed or at the point at which the construction contract is awarded.

During construction WCC, together with their design partner Jacobs, will manage and administer the construction contract. The project team will continue to report to Project Board until completion of any guarantee period also including any monitoring and evaluation period.

Key Issues for Implementation

Summarise key issues likely to affect delivery and implementation.

Land acquisition - As noted above an area of land is required at M5 Junction 4. Whilst it is planned to deliver this land by negotiation there is a risk that a full CPO process and public inquiry could ultimately be required. This could result in land not being available to meet the programme for the proposed construction contract.

Traffic management – It will be important to ensure effective traffic management and phasing of the works in order to minimise disruption to end users and Bromsgrove residents. The construction works and associated traffic management arrangements will be programmed and coordinated with Highways England and WCC infrastructure works in the area to minimise congestion.

Approvals - Approval from Highways England and WCC. Obtaining design approvals from Highways England for the retaining wall could delay the start of construction.

Benefits Realisation and Monitoring and Evaluation Plan

Identify the high-level benefits and how they will be managed, measured (both quantitative & qualitative) and monitored. There should be a clear relationship between the Objectives and Outputs included in the Strategic Case and the approach to monitoring

Attach Benefits Realisation and Monitoring and Evaluation Plan as an Appendix.

Table 30 shows the objectives of Package 1 and how the desired impacts/benefits of the Package relate to the objectives. The Benefits Realisation Plan is included as Appendix 13 this explains in detail how the benefits will be managed, measured and monitored.

Table 30 - Objectives and impacts

No	Objective	Desired Impact
1	Support the delivery of housing and employment growth as outlined in the Bromsgrove Development Plan and the Redditch Local Plan	Delivery of homes and businesses in line with the Bromsgrove District Plan and the Redditch Local Plan, particularly sites at Perryfields Farm, Brockhill, Brockhill East and Foxlydiate.
2	Reduce congestion and transport costs.	Reduced queue lengths and delays on the A38
3	Maximise the efficiency of the road network	The A38 fulfils role as primary north south route through Bromsgrove.
4	Increased journey time reliability	More reliable journey times on the A38.

These Desired Impacts will be monitored in a range of ways, as set out in the Benefits Realisation Plan. These will include:

- ATC data
- Manual counts
- Journey time data
- Consultation feedback
- Information from the local planning authority.

Contingency Plan

Summarise outline arrangements for contingency management such as fall-back plans if service implementation is delayed.

Assumed not applicable.

Business Case Appendices Provided	
1	Location Plan
2	Layout Plan of scheme
3	Appraisal Specification Report
4	Options Assessment Report
5	Report of data collection and model validation 5.1 – Traffic Data Collection Report 5.2 – Local Model Validation Report
6	Forecasting and Economics Report 6.1 – Traffic Forecasting and Economics report 6.2 - Value for Money Report
7	Appraisal Summary Table
8	Reports on Social & Distributional Impact, Environment, etc. as defined in the Appraisal Specification Report 8.1 – Environmental Report 8.2 – Social Impacts Report
9	Scheme cost estimate
10	Quantified risk assessment
11	Project plan and programme
12	Communications and Stakeholder Management Plan
13	Benefits Realisation and Monitoring an Evaluation Plan
14	Commissioning Strategy

Senior Responsible Owner DECLARATION	
As Senior Responsible Owner for A38 Bromsgrove Major Scheme – Package 1, I hereby submit this request for funding consideration to the Worcestershire Local Transport Body.	
Name: Nigel Hudson	Signed:
Position: Head of Strategic Infrastructure and Commissioning	
Section 151 Officer DECLARATION	
As Section 151 Officer for Worcestershire County Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Worcestershire County Council has allocated sufficient budget to develop and deliver this scheme on the basis of its proposed funding contribution	
Name: Steph Simcox	Signed:
Position: Head of Strategic Infrastructure Finance and Financial Resources	

CONTACT DETAILS FOR FURTHER ENQUIRIES	
Lead Contact: Andy Baker Position: Transport Planning and Commissioning Manager Tel: 01905 843084 E-mail: ACBaker@worcestershire.gov.uk	
Alternative Contact: Abhi Bhasin Position: Senior Transport Planner Tel: 01905 846817 E-mail: ABhasin@worcestershire.gov.uk	