

COAST TO CAPITAL LOCAL GROWTH FUND BUSINESS CASE

Project Title:	Intelligent Transport Systems Package – Phase 2 [ITS2]
Lead delivery organisation:	Brighton & Hove City Council
Lead contact name:	Andrew Renaut
Version No:	1.0
Issue Date:	7/9/17

This document provides a template for a Business Case (BC) in support of Coast to Capital's investment in a project to be funded through the Local Growth Fund.

The main purpose of the BC is to put forward the case for change and the preferred way forward identified in an internal Strategic Outline Case (SOC); which establishes the option which optimises value for money; outlines the deal and assesses affordability; and demonstrates that the proposed scheme is deliverable.

In practice, you will find this entails updating the strategic case; undertaking investment appraisal within the economic case; and completing the commercial, financial and management cases, with supporting benefits and risk registers.

Please note that this template is for guidance purposes only and should be completed in accordance with any guidance issued by Coast to Capital and the guidelines laid down in HM Treasury's Green Book which can be found at

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

The OBC should cover the 5 cases – the Strategic case, the Economic case, the Commercial case, the Financial case and the Management case.

Business cases should be robust and well evidenced documents as the Business Case will be evaluated based upon content if called to present.

Coast to Capital Disclaimer

There shall be no expectation of grant payment unless and until a funding agreement is signed by both parties. All the Applicant's costs and charges incurred as a result of making this application shall be for the Applicant's account and cannot be claimed as part of the project except where feasibility funding has been prior awarded.

1. Executive Summary

1.1) Overview of the project including what opportunity or barrier the investment will unlock:

The objectives of Phase 2 of the ITS Package scheme are to build on the successful and ongoing delivery of the first phase, as approved and funded by the LEP/LTB, and continue to:-

- expand and upgrade Brighton & Hove’s traffic management capability;
- enable greater interaction between the Strategic Road Network and the city’s road network more effectively;
- enable better management of traffic congestion and road safety and improve journey time reliability;
- manage traffic for key events on the network more effectively; and
- improve response to unplanned incidents on the network.

There are a number of ITS approaches that will be expanded and/or introduced, which would provide added value to the existing infrastructure. These include:

- Urban Traffic Management and Control [UTMC] system.
- Traffic signal optimisation system for linking junctions [SCOOT]
- Urban Traffic Control [UTC] (fixed time centrally controlled traffic signals)
- Stand-alone and linked junction optimisation system [MOVA]
- Pedestrian user-friendly intelligent crossings [PUFFINs]
- Bluetooth vehicle recognition [BVR] system.

This £2 million package is based on ‘strategic corridor approaches’ to implementing additional ITS infrastructure which will further strengthen the resilience of the city’s transport network on routes which lead to/from, or are within the vicinity of, the 5 priority development areas in the city which are specifically identified within the CtoC LEP’s SEP – the Seafront, Valley Gardens, the New England Quarter [NEQ], the Lewes Road Corridor and Shoreham Harbour Regeneration Project.

This application focuses on a bid for funding to primarily continue investment in ITS along the 3 main Principal Road corridors serving the city and its hinterland. These are the A23, A259 and A270 (plus some key, secondary roads/locations which are linked to them or the 5 SEP Priority Development Locations areas), as these represent the busiest, strategic routes where the benefits of ITS are most likely to be the greatest in terms of minimising congestion and maximising efficient movement. The delivery programme is scalable and flexible, and costs are based on current estimated prices.

1.2) Please choose the theme in which the LGF funding will invest in directly (The project can only fit into one theme so please choose the most appropriate).

Investment in capital expenditure items that promote digital transformation and digital infrastructure

New Innovation and start up business creation

Facilities to provide teaching and research facilities and/or skills based training in digital and innovation areas, across further and higher education sectors in close proximity to the M23, A23 corridor

Increased capacity in sustainable transport and ‘key’ arterial routes where there are ‘bottlenecks’, together with flood resilience and digital infrastructure investment X

Investment in capital projects where there is a demonstrable case that such investment will generate proportionate foreign direct investment and

	<p>international trade</p> <p>Regeneration and housing infrastructure projects that increase capacity and footfall and unlock new employment space <input type="checkbox"/></p> <p>Capital investment to increase high value tourism to the Coast to Capital region <input type="checkbox"/></p>
--	--

1.3) The fit with Coast to Capital Strategic Economic Plan, the Industrial Strategy Response and Business Plan 17/18

a) Objectives and priorities of the SEP

A key objective of the Coast to Capital Growth Deal, published on the 7th July 2014, is to encourage growth across the Coast to Capital region, through targeted investment in infrastructure and innovation, as well as supporting a thriving business base. Priority areas for investment in transport schemes are those which aim to help unlock economic growth across the Coast to Capital area.

Phase 2 of the ITS Package clearly links to the SEP priorities in seeking to expand and upgrade the city's traffic management capability to enable congestion and road safety to be managed more effectively across the City Region and with increased resilience. The scheme directly supports the CtoC aspiration to increase the resilience of the LEP area, providing improved recovery during and after traffic incidents, road works and the effects of adverse weather. The ITS Package will also maintain and improve the strategic connectivity advantages to workforces within the LEP region and will help mitigate the potential impacts of planned employment and housing growth.

By investing in the proposed ITS package, the six priorities of the SEP can all be supported to different degrees.

- 1) Successful growth locations - by creating and enabling more efficient movement on routes to/from and through key areas within the Greater Brighton City Region.
- 2) Successful businesses – by maximising the capacity of the network to enable planned growth to be accommodated, business will benefit and thrive
- 3) Building competitive advantage – by providing additional real-time/vehicle and people-activated infrastructure that complement and support existing measures, enabling their benefits and attraction to be maximised, the Greater Brighton City Region will build on its current resilience and success.
- 4) Skills and workforce – information will enable the most talented students and employees to access new technology and the locations where it is developed.
- 5) Digital growth – the ITS Package naturally connects with this area, given the technologies that underpin it, and it will also provide development opportunities for relevant businesses to explore.
- 6) Housing and infrastructure – better management of the transport system through ITS will increase the opportunity to support planned growth in a sustainable and efficient manner.

The ITS package will enable better links and movement between all 5 SEP Priority Development Location areas identified within the city – the NEQ, Lewes Road, The Seafront, Valley Gardens and Shoreham Harbour – and therefore enhance the offer of these areas in terms of transport access and travel information using any form of transport.

The Five Transport Objectives

The proposed ITS package, when connected to existing systems, will enable all five of the SEP's transport objectives to be met.

- **Connectivity**: *“Can I get where I want to go?”*: This will be achieved by providing accurate information for all forms of transport and users and prioritising certain forms of transport. This will benefit businesses, freight operators and commuter traffic by informing them of incidents on the network and prioritising certain routes based on real-time information. For example, it will deliver improved movements between the city and East and West Sussex by reducing congestion on the A259 by smoothing traffic flows through optimised traffic signals or, in the event of an incident, through the rerouting of vehicles onto alternative corridors.
- **Reliability**: *“Will I arrive when I expect?”*: This will be achieved by providing and using real-time information and maximising the capacity of the network. Tackling current congestion and improving journey time reliability through the use of ITS will improve accessibility to key residential and employment areas, industrial estates and major employment sites and will help to unlock the potential in many areas of the city.
- **Capacity**: *“Will I get a seat, a parking space, a clear road?”*: This will be achieved by ensuring information includes all essential journey data for all users to allow them to make informed decisions on their route. ITS measures will allow for a smoothing of traffic flows through optimised traffic signals or, in the event of an incident, through the rerouting of vehicles onto alternative corridors.
- **Quality**: *“Will my journey be healthy, safe, clean, sustainable and enjoyable?”*: This will be achieved by providing information on all travel options and the consequences and implications for users and local people, ensuring safer journeys when incidences occur.
- **Resilience**: *“Will transport be there when I need it – 24/7?”*: This will be achieved by providing information about all available transport options. To underpin the local and regional economy, transport networks must be resilient, able to withstand traffic incidents, road works and the effects of adverse weather. This scheme seeks to improve the resilience of the local road network by keeping traffic moving, helping improve the reliability of the routes to meet the needs of the travelling public, businesses and services.

b) Industrial Strategy Response

The primary element of the LEP's April 2017 response to the Government's Industrial Strategy that this application best fits with is the section on 'Upgrading Infrastructure'. It involves investment and innovation in infrastructure that will help minimise disruption, increase capacity and safety for people and vehicle movements, and therefore help overcome the identified lack of resilience in the C2C transport network, which is a stated barrier to the LEP area's future, planned growth.

c) Business Plan 17/18

One of the LEP's Business Plan's top priorities is to deliver its Local Growth Fund projects on time and on budget, which the council's LGF-funded ITS Phase 1 Package has successfully achieved during 2015/16-2017/18. This further phase will follow the same, strong track record. The 7 proposed themes within the new SEP align closely with those of the Government's Industrial Strategy and therefore this Package will directly support the delivery of upgraded infrastructure and indirectly support a number of the other 6 themes. It will especially help achieve environmental resilience by reducing congestion and creating/increasing capacity and connectivity to underpin growth, and support the use and operation of sustainable transport as part of the growth

agenda. The package also fits with the new LEP Pillars as a project that will provide increase capacity in sustainable transport and ‘key’ arterial routes where there are ‘bottlenecks’, such as the A259 and A23, and it will also support the strategy and policy work that will inform the development and delivery of the new SEP.

1.4) Expected Total Project Cost and source of funding. Please also complete the funding breakdown tab on the supporting spreadsheet. Matched funding must be at least the required percentage of the total project costs. This is 15% for transport projects and 50% for all others. (Please name the source of match funding).

	Amount	% of Total Cost
Total Project Cost	£2,352,000	100%
Applicant own funds	£452,000*	19%*
Other public funds	£0	0%
Private sector funds	£0	0%
Funding requested from Coast to Capital LEP	£1,900,000	81%

* - All final decisions regarding the council’s funding contribution to the project will be subject to committee approval.

1.5) Expected tangible core outputs/outcomes: Please also complete the outputs tab of the supporting spreadsheet

Output/outcome	Metric	Number to be delivered
Employment- created and/or safeguarded	No.	6,000+*
Businesses assisted- financial and non- financial	No.	*
Skills- new learners and/or apprentices	No.	*
New housing unit completions	Units	2,000+*
New floor space constructed/refurbished- learning	Sq mtr	*
New floor space constructed/Refurbished- Commercial	Sq mtr	81,000+*
Length of new roads/cycle ways	km	0
Improvement to journey times	Minutes per mile	To be confirmed
Carbon reduction	Tonnes of CO2	To be confirmed

* - *Figures are based on the priorities and narrative for the 4 Priority Development Locations in Brighton & Hove within the SEP. Resilience schemes include traffic management measures will contribute to their delivery and success. However, achieving resilience does therefore not, by itself, directly deliver tangible outputs such as homes and jobs. However, infrastructure and information systems can play a vital role in reducing the effects of congestion or a traffic incident e.g by giving accurate information to drivers about road closures and delays. The SEP acknowledges that there is a substantial funding gap for resilience schemes, and that the Local Highway Authorities in the Coast to Capital area have identified more than £150 million of improvements which could be made and help unlock economic growth, including traffic management measures.*

1.6) Main risks and issues the project will need to manage? Please also submit a full risk register as an annex to this document

The proposed package includes technology, infrastructure and delivery methodologies/mechanisms which are well-established and used on a regular basis by BHCC and other local highway authorities, including the first phase of this programme which has been delivered during 2015/16 to 2017/18. Lessons learnt from that programme will be applied to

this package and therefore the level of risk is considered to be minimal.

The funding programme is indicative and is sufficiently flexible and scaleable to respond to any changes in funding proposals or requirements with respect to either of the two primary funding sources. All works will take place within the public highway and the cost estimates include some provision for risk, and it is anticipated that many of these will be reduced as the project is delivered.

A risk register is attached at Annex 3 to this application.

DOCUMENT STATUS

REVISION HISTORY

Revision Date	Version No.	Summary of changes	Author/editor
7/9/17	1.0	None – Final submission to LEP	AJR

DOCUMENT AUTHOR

Name	Title	Organisation	E-mail address	Telephone
Andrew Renaut	Head of Transport Policy & Strategy	Brighton & Hove City Council	andrew.renaut@brighton-hove.gov.uk	01273-292477

DOCUMENT OWNER

Name	Title	Organisation	E-mail address	Telephone
Andrew Renaut	Head of Transport Policy & Strategy	Brighton & Hove City Council	andrew.renaut@brighton-hove.gov.uk	01273-292477

DISTRIBUTION LIST

CtoC LEP
Chair of BHCC Environment, Transport & Sustainability Committee
BHCC Executive Director – Economy, Environment & Culture
BHCC Transport officers
Greater Brighton Economic Board Business Manager

2. The Strategic Case

2.1) Describe the compelling case for change.

This investment will enable a further step change in the delivery of Intelligent Transport Systems [ITS] within Brighton & Hove. It will play a key role in supporting the Greater Brighton City Region's economic growth by reducing congestion and enhancing the economic viability of the wider Coast to Capital [CtoC] LEP region. The council and its partners have undertaken significant development of technology in the city and have made good progress to date in investing in ITS to manage the traffic and highway network in the city. This package will build on existing investment, especially the first phase of the ITS Package being delivered with LGF, and will enable the council to exert far greater control over the use and management of the city's road network, and will help responds to the challenges caused by traffic congestion and high levels of people movement.

2.2) Investment Objectives- detail the specific objectives to achieve the anticipated outcomes.

The approved and funded first phase of the ITS Package has a LEP Funding Agreement, approved by the LEP's Accountable Body, that includes a number of objectives/indicators and outcomes that will be monitored. These include:-

- Average daily traffic by peak/non-peak periods
- Average AM and PM peak Journey time on key routes
- Accident rate
- Casualty rate

This Phase 2 Package will be expected to deliver the same/similar outcomes and further information is provided in Section 3.

2.3) Stakeholder Engagement carried out.

No formal engagement has been carried out regarding this proposed package as this is not generally necessary or feasible given the nature and content of the package. Where required, Traffic Regulation Orders will be prepared for individual sites and this legal process involves consultation with local people and businesses and elected councillors. However, the first phase of the council's ITS Package, which was funded with LGF, has been considered and approved by the LEP and its LTB and this has included consultation on the submitted Business Case [BC]. That BC and the associated programme of works has also been considered and approved by the council's Environment, Transport & Sustainability Urgency Sub-Committee in order to ensure that the funding requirements for the package would receive full approval for funding.

2.4) List the key stakeholders and their interest areas.

Stakeholder	Interest area
Siemens	Specialist contractor
Pedestrians & cyclists	Road users
Drivers/motorcyclists	Road users
Sussex Police	Collision and casualty reduction
Sussex Safer Roads Partnership	Collision and casualty reduction

2.5) What are the strategic issues, risks and constraints that may impact successful delivery of the project?

The proposed package includes technology, infrastructure and delivery methodologies/mechanisms which are well-established and used on a regular basis by BHCC and other local highway authorities, including the first phase of this programme which has been delivered during 2015/16 and 2017/18. Any lessons learnt from that programme will be applied to this package and therefore the level of risk is considered to be minimal.

All decisions regarding the council's funding contribution to the project will be subject to committee approval.

2.6) Project Dependencies

There are none.

2.7) Project disruption

The funding programme is indicative and is sufficiently flexible and scaleable to respond to any changes in funding proposals or requirements with respect to either of the two primary funding sources. The estimates include some provision for risk, and it is anticipated that many of these will be reduced as the project is delivered.

The council's approach to the delivery of transport projects, initiatives and schemes in the city by any party (including the council) ensures that work on the highway is co-ordinated in a way that minimises disruption and maximises efficiency and benefits. The recent introduction of a highly successful Permitting System has further ensured that disruption is avoided or mitigated.

3. The Economic Case

3.1) Please describe the options that have been considered in selecting the project proposal, completing both box 1 and 2.

Box 1:

Option Name:	Description:	Total cost:	Amount requested:	Core outputs (see 1.6)
Do nothing, minimum or status quo	Maintain current level of investment in ITS from existing LTP and revenue budgets.	£250,000	£0	Minimal improvement to journey times
Proposed option	Significant increase in investment in technology (as described within OBC)	£2,352,000	£1,900,000	Maximised improvement to journey times
Alternative options:	Reduced or selective level of investment which would focus on delivering junction or crossing improvements e.g MOVA and PUFFINS.	£2,070,000	£1,759,500	Significant improvement to journey times

Box 2:

Option Name:	Advantages:	Disadvantages:
Do nothing, minimum or status quo	None.	No significant change in capacity or capability to manage traffic and movement which would help unlock growth.
Proposed option	The package will:- <ul style="list-style-type: none"> •expand and upgrade Brighton & Hove's traffic management capability; •enable greater interaction between the Strategic Road Network and the city's road network more effectively; •enable better 	None.

	management of traffic congestion and road safety and improve journey time reliability; •manage traffic for key events on the network more effectively; and •improve response to unplanned incidents on the network	
Alternative options:	Would maximise the earliest and most significant benefits that can be achieved for the transport network.	Does not provide comprehensive coverage of Bluetooth which assists in allowing accurate and timely information to be relayed to road users and would allow for pre-emptive re-routing to avoid congestion and incidents.

3.2) The preferred option
The preferred option for Phase 2 of the council's ITS investment is set out in the attached programme (Annex 2) to this OBC.

3.3) Issues with preferred option.
There are none.

3.4) What are the top 5 risks of this option?

Risk	Consequence	Mitigation	Impact
Highway land width is not adequate for technology. Unable to meet minimum clearance requirements between technology and other infrastructure and road network. Unsuitable locations identified for required sight lines.	Need to review initial siting of technology, incorporating additional site Visits. Additional design mitigation costs. Possible need for rationalisation of street furniture/infrastructure or tree removal.	Existing sites or initial design provides indicative locations. Investigation of alternative sites in the design process. Collaboration with agencies responsible for infrastructure etc.	Extended on-site investigation /redesign work. 2 week delay.
Incomplete or late delivery of outputs by design teams/project management resource due to other workload pressures/lack of staff.	Delay to procurement streams, delay to booking permits to work on the network, and/or delay to implementation.	Additional design resources will be commissioned within the Traffic Systems Team, if required. Decisions on project management resource will be	2 month delay.

		made immediately post-detailed design completion.	
Long lead times for new Statutory Undertaker service provisions/existing apparatus diversions.	Delays in technology installation/operation.	Early completion of detailed work and subsequent prompt generation of purchase orders. Close working with BHCC Streetworks and Permit System Teams to secure works approval.	2 month delay.
Incumbent contractor/s goes into liquidation.	Delay in procurement of some elements, and delay to works on site. Need to re-tender elements.	Ongoing engagement/review with incumbent contractors on their financial status and performance. Measures in place pre-tendering to ensure companies' financial viability. Need for potential mini-tendering has already been built into programme, if required.	3 month delay.
Lack of public support.	Delay in installation of equipment.	Continuation of existing investment programme approved in council's LTP capital programme. Committee approval specifically secured for ITS funding application in February 2015.	1 month delay.

Please complete the boxes below, answering only those relevant for the theme of your project, referring to the guidance available. **Please also complete the outputs tab of the supporting excel spreadsheet.**

3.5) Economic impact

A) Expected economic benefits [*economic growth*]:

Retention of existing jobs or creation of new jobs

- The city has a well-established and growing relationship with its surrounding area in terms of economic activity and access to jobs. This includes Greater Brighton, Coastal West Sussex, Coast to Capital (including Gatwick) and London. The 2011 Census data show that there are over 35,000 daily journeys between the region and Gatwick/Crawley and Central London showing a reliance on the north-south links; and significant journeys into Brighton & Hove and Chichester. For example, 32% of Lewes based workers and 33% of Adur workers commute to Brighton & Hove, indicating the importance of east-west movement. Access between some of these areas for journeys to work is still reliant on movement by car, as well

as public transport, and therefore the ITS Package will benefit existing and planned businesses and commuter journeys in all directions.

- By 2031, a further 57,000 jobs are expected to be created in the Greater Brighton and Coastal West Sussex, generating additional demands on the road network. Up to 105,000sqm of new employment floorspace and 25,000sqm of new retail floorspace are planned within the council's City Plan. Longer distance destinations within the region, such as Gatwick Airport, are also significant attractors of movement and planned growth. The ITS Package will enable driver information to be communicated more quickly and widely in the event of any incidents or problems on routes between the city and airport.
- The corridors which will form part of the ITS Package currently experience significant levels of link and junction congestion throughout the year, especially at peak visitor periods during weekends and the summer. This is primarily a result of travel demand outstripping the available road capacity and means that there is limited resilience left in the network to cope with uncontrollable events such as accidents, incidents involving emergency traffic management or adverse weather related events. This issue will be exacerbated in future as additional development related traffic growth will result in higher levels of congestion and amplify its negative economic, environmental and social impacts. The ITS Package will offer a form of mitigation and enable more efficient and effective operation of the highway network by improving traffic flows, reducing delays and congestion, and improving junction performance and journey time reliability. The scheme will have a significant benefit on both a local and regional level, and will help to support economic growth over a wide area.
- The provision of ITS along key transport corridors and in areas of significant activity (both existing and planned) will therefore provide greater opportunities to manage the operation of the highway network and improve access to sites, creating additional incentives for businesses and residents to locate in these areas and helping to unlock the potential in many areas in the city which might otherwise be constrained by greater congestion.
- Reducing the existing high levels of congestion in the peak periods will improve business operations and competitiveness and aid economic growth. It will also benefit the local labour market, with more reliable journey times facilitating greater labour supply. These effects improve the productivity of local businesses and will increase output, as well as improving economic competitiveness. Lower levels of congestion on the road network can encourage investment and new employment and improve retention for existing employment with businesses remaining in the area. Furthermore, reductions in congestion will improve the amenity value and attractiveness of town centres which will in turn encourage
- The ITS project is focussed on routes which lead to/from, or are within the vicinity of, the 5 priority development areas in the city which are specifically identified within the SEP – the Seafront, Valley Gardens, the New England Quarter, the Lewes Road Corridor and Shoreham Harbour Regeneration Project. The proposed primary corridors for ITS investment are the A23, A259 and A270 (including some key, secondary roads linked to them or the 5 SEP development areas). Improvements to these key corridors will assist in more efficient operation of the highway network in terms of journeys to, from and within the city, especially for existing businesses and prospective employers and traders.
- Provision of ITS along key transport corridors and in areas of significant activity, especially those where future planned development is proposed will provide greater opportunities to manage and improve access to existing sites, and create additional incentives to future businesses.

Unlocking or improving access to new dwellings

- The council's City Plan is proposing that up to 13,000 new homes will be provided within the city. Limited land opportunities mean that more dense development of existing sites, a number of which are served by the main A road corridors, is likely. The ITS Package will therefore enable more efficient access to and from such areas.

- Tackling current congestion and improving journey time reliability through the use of ITS will improve accessibility to these key residential and employment areas and will help to unlock the potential in a number of areas in the city. The attractiveness of planned housing sites will be enhanced if improvements to the primary highway network are in place prior to them being ready for the market.
- The ITS Package will improve the key strategic access routes to and from these committed development sites. In turn, this is likely to increase the pace at which housing may sell, thus helping to achieve local housing targets and growth of communities, as well as supporting the planned job growth. The provision of new housing will support job creation in key local employment areas by ensuring that there is a supply of local labour to meet demand. This will help to support the city and the City Region's economic competitiveness.

Encouragement of new businesses, or protection of existing businesses

ITS naturally links to the anticipated growth in digital technology that is occurring in the city, given the principles that underpin it, and will also provide development opportunities for relevant businesses to explore.

B) Expected economic benefits [*transport and scheme related*]:

Value for money, including BCR

- The development and deployment of ITS across the UK is increasing understanding of the benefits it can bring to cities and road users. Although this project does not have a calculated BCR, owing to the complex combination of measures along each corridor, the highest economic benefits are expected to come from reductions in travel time and improvements in journey reliability, plus safety gains. There will also be significant potential economic benefits in health, well-being and absenteeism where ITS encourage and support a shift towards the use of more active forms of travel. Key areas where benefits can accrue include linking signals, responding quickly to unforeseen events, reduced lost-time looking for parking spaces, and more reliable and quicker bus journey times.
- The above benefits, coupled with those associated with economic growth, environmental and social indicators (as specified in the next sections of this application) are sufficient for this ITS Package to be considered as having **High** Value for Money.
- Financial savings can also include cashable savings from reducing revenue costs for communications. ITS may reduce maintenance costs and allow better use of existing resources. Procurement and funding are related as they can impact on the overall costs and particularly the capital/ revenue split. For example, implementing wireless communications may be more expensive in capital costs than leased lines but offers longer term revenue cost advantages to providers.

Journey times, reliability and resilience

- According to the 2006 Eddington Transport Study, good connectivity is vital to the future economic growth of urban areas, estimating that a 10% reduction in travel time can increase productivity by 0.4%-1.1%.
- Through real-time monitoring of incidents using CCTV and Bluetooth receiver units, coupled with more effective road safety management, increasing the coverage of VMS equipment will allow accurate and timely information to be relayed to road users which would allow for pre-emptive re-routing to avoid congestion and incidents.
- This will reduce journey times between origins and destination and thus improve journey time reliability, in addition to improving public safety and security. The use of the proposed CCTV cameras will allow informed and necessary changes to be made to the management of the network e.g at traffic signals, remotely and instantly to help alleviate traffic congestion.
- The ITS measures proposed include Urban Traffic Management Control [UTMC] enhancements that are essential to ensure that the city's transport network operates at

optimal efficiency, by enhancing the operation of the most congested corridors/locations, which act as critical movement arteries for the city.

- The city's UTMC is controlled through the TCC which provides the facility to integrate a wide variety of information on highway network conditions from separate sources, supporting network management and providing comprehensive travel information across a wide range of communications networks. The UTMC system can be used to link traffic control systems (predominantly traffic signals) together to deliver reduced journey times and increased journey time reliability across all vehicles using the highway network. This can reduce congestion and therefore enhance the economic competitiveness of the urban area (and surrounding areas of the City Region) where it is implemented.
- ITS will provide improvements in journey time reliability and therefore reduce some travel costs by enabling more efficient movement. Its implementation will be prioritised along certain, key corridors in the city and in locations where journey benefits could be maximised.
- Research in Worcester and Southampton has demonstrated that SCOOT-controlled junctions can reduce delays between 23% and 30% compared to vehicle-actuated signals, and between 12% and 27% when compared to fixed time signals.
- TRL Report 279 calculated the expected economic benefits of installing MOVA would include a 12% reduction in delay at upgraded, medium size traffic signal junctions, based on benefits to car drivers and bus passengers using standard, DfT values of time.
- The flexibility that ITS measures can provide would also be used to maximise the opportunity to increase the resilience of the network during unique or infrequent episodes e.g emergencies or periods of bad weather.

Sustainable travel

- ITS (through the implementation of various types of applications) will help to improve sustainability through delivering safer, more secure, more efficient transport movements on the network.
- The local bus network is a successful and integral part of the transport system in the Greater Brighton City Region. Continued growth in bus passenger numbers are the highest in the UK outside of London, providing valued, high frequency transport provision within the city for many communities, supporting the economy and connecting with other towns & villages. Bus journey time reliability will be improved as a result of reduced congestion on the network. The proposed measures will support a shift to sustainable transport as an alternative to the car for some journeys, and support commercial growth for local bus operators.
- Improved provision for pedestrians and cyclists within the Package through upgraded traffic signals and new Puffin crossings will enhance journeys made in these ways.

Road safety casualties

- Managing and observing traffic more effectively can also improve safety and reduce collisions and associated casualties. Measures would be prioritised to maximise the efficiency of the network at all times of the year, and could assist in casualty reduction at priority locations along each corridor, in addition to achieving effective diversions if collisions occur.
- Prior to 2014, there has been a substantial reduction in the number of fatal road casualties in the city. In 2013 there were 3 fatal casualties whereas in 2010 there were 8. Although serious injuries have increased slightly from 128 to 142 in the same period, overall totals have decreased from 1110 to 908. ITS measures have been prioritised on the main corridors to maximise the efficiency of the network at all times of the year, and will assist in casualty reduction at priority locations.
- Information provided through CCTV cameras can be used to direct traffic away from accidents using VMS and signal control and will alert emergency services as soon as an

incident occurs.

- As well as the economic impacts of lost output and sick leave of the casualties, the burden on the health sector and emergency services, and the personal pain grief and suffering experienced by those involved, each of these collisions is an incident that leads to congestion on this strategic route while the collision debris, vehicles and casualties are removed. In the most serious cases the road may be fully closed while the police conduct a detailed investigation.

Valuing public realm

- The prioritised corridors are primarily within the built-up area of the city, and include residential and important local, commercial and retail centres. High volumes of traffic passing through these areas result in congestion at busy times which has a negative impact on the streetscape and air quality, and contributes to a poor environment for pedestrians and cyclists. This can also impact upon journey time reliability for bus users.
- The ITS Package measures will help to enhance local environments, economic activity and urban vitality and provide more attractive environments for businesses and residents by reducing congestion within the corridors, thereby improving the public realm for all users. In addition, opportunities will also be taken to improve the public realm when designing and installing new infrastructure.

Other transport benefits

- Improving the resilience of the corridors where the ITS Package is proposed will help facilitate and complement other transport projects to reduce congestion and increase safety on the network.
- These improvements, such as the Valley Gardens project, the Lewes Road LSTF project and the Eastern Road/Edward Street Better Bus Area project, support the council's objectives and are consistent with those of the wider LEP area, supporting growth in local, regional, national and international trade.
- The Package directly supports the CtoC LEP's aspiration to increase the resilience of the road network within its area, providing mitigation for planned events, unexpected road works and adverse weather conditions.
- Such measures also have a strong role to play in reducing overall asset maintenance costs and allow better use of existing resources as the use of ITS measures enhance the efficiency of constrained transport networks. In doing so, the need to construct and maintain additional highway infrastructure is significantly reduced.
- The benefits of the ITS Package are expected to benefit users of the improved corridors from neighbouring local authorities within the City Region, as all 3 of them are cross-boundary – the A23, A259 and A270.

Joint working

- The implementation of the ITS measures included within the city will facilitate better co-operation with other highway authorities, the emergency services, businesses and organisations in the CtoC LEP region, including Sussex Police and Highways England, allowing for improvements in the sharing of information.
- The council's ability to communicate and share information will be improved by the upgraded capability. It is anticipated that this would have a highly beneficial impact on the effective and efficient operation of the highway network both within and beyond the city.
- Opportunities to create effective diversion routes to deal with significant events or incidents which lead to the closure of sections of roads are limited because of the historic street pattern within the central area. Wherever possible, traffic is diverted onto agreed and signed

routes, minimising congestion on other local and less suitable roads. The enhanced provision for traffic management that the ITS Package will deliver throughout these corridors will improve the overall performance of the network, and therefore provide a means of mitigating the effects of additional traffic.

3.6) Environmental Impact

Carbon Emissions

- Congestion not only has a negative impact upon the economic competitiveness of the city but also can have a negative impact upon the natural environment and urban environment. Transport is a major contributor to global climate change. Carbon dioxide emissions from transport in the UK grew by 98% between 1971 and 2001 and transport's share of total emissions is predicted to increase from 24% in 2006 to 30% in 2022 according to the Committee on Climate Change. Acting on transport's role in mitigating against this is an increasing local and national priority.
- The proposed ITS will make a significant contribution to:-
 - carbon reduction by more efficient use of roadspace and therefore reducing congestion and reducing exhaust emissions;
 - improved air quality and reduced noise by enabling a smoother flow of traffic through optimised traffic signals;
 - reducing unnecessary idling and circulation and smoothing traffic flow thereby reducing emissions resulting from stop-start driving behaviour, and making some transport options more safe and therefore more attractive;
 - reducing traffic levels and congestion by decreasing vehicle miles and avoiding congested areas/routes through improved vehicle route-planning and use of VMS.
- These benefits can be increased in conjunction with other applications such as cleaner engine technology, especially in larger vehicles.

Air quality, noise/natural and urban environment

- The ITS Package measures will reduce congestion and stop-start driving which can reduce fuel consumption and greenhouse gas emissions by around 30% compared with normal driving conditions. By prioritising the introduction of ITS within, and on, routes to and from designated AQMAs and in 'important areas' as identified in current Defra noise maps, it will be possible to maximise the positive impacts for those most at risk of the effects of these pollutants. The council has declared 2 AQMAs in the city. One covering roads in the centre and west of the city and one in Rottingdean High Street. These AQMAs include or are in close proximity to the corridors included within the ITS Package, especially the A259 and A270.

3.7) Social Impact

Regeneration & deprivation impact

- Although a full assessment of Social Distribution Impacts has not been undertaken, high level qualitative analysis has concluded a number of impacts.
- Parts of the city are amongst the least deprived areas of the country. 3 of the city's wards (East Brighton, Queen's Park and Moulsecoomb & Bevendean) are in the 10% most deprived in England. They are in the east of the city and directly bounded or served by the A270 and A259. Another 5 wards are in the 20% most deprived (Regency, St Peter's & North Laine, Hollingbury & Stanmer, Hangleton & Knoll, and Central Hove) and these are also served or bounded by the above roads, plus the A23 and A293. There are marked differences in physical and mental health and life expectancy between the most deprived and most affluent neighbourhoods in the city. Reducing the gap between deprived neighbourhoods and the rest of the city is a priority.

- There are also several pockets of deprivation where residents are likely to be disproportionality affected by the impacts of congestion. In these areas, congestion will result in longer and less reliable journey times for those who require public transport as a means of accessing employment and training.
- By enabling more efficient use of the transport network and providing advance or real-time information to those travelling, some measures will help improve journey reliability and times and therefore enhance the attractiveness of the city, or create better links to and from some parts of the city.
- The regeneration of Shoreham Harbour has been a long-term aspiration of the city and West Sussex County Councils, and therefore ITS on the A259, and routes leading to it, will deliver benefits to the local road network and residents that are consistent with the objectives of the Regeneration Strategy.

Severance, physical activity, accessibility

- The scheme will improve the public realm in urban areas by reducing congestion, thereby contributing to the revitalisation of local centres of activity creating a desirable location for businesses and shoppers. The ITS Package will also improve accessibility and journey times for a larger pool of potential employees.
- Reducing severance and increasing accessibility in certain locations will assist in reducing social inclusion and help create more sustainable neighbourhoods, and therefore enable an increase in physical activity through more walking and cycling.
- Replacing existing pedestrian crossings with PUFFINs and upgrading signal junctions with MOVA will provide greater opportunities to achieve priority when required, and therefore make some forms of transport more attractive, therefore overcoming physical or perceived barriers that create severance.
- The ITS Package will improve accessibility to places of employment/retail, public services, skills and learning through reduced congestion and delays. This is of particular importance to those who use public transport to access employment and education opportunities. The ITS Package will also support the housing growth objectives in the city and help to unlock development sites and aid in the creation of safer and more attractive place to live, work and visit.

Reductions in journey time provided by the measures proposed, and operating and time costs, will become lower for road users which will therefore improve personal affordability.

3.8) The number of people and businesses positively impacted by the intervention?

Please refer to Section 3.5 A).

3.9) Follow on Investment

Please refer to Section 3.5 A).

3.10) Skills projects only- Impact on Skills Provision

N/A

3.11) Business and enterprise projects only- Impact on business growth

N/A

3.12) Infrastructure and Regeneration and Housing projects only- Physical and aesthetical impact- Does the project make a positive and lasting contribution to the physical, human and cultural environment?

The prioritised corridors are primarily within the built-up area of the city, and include residential and important local, commercial and retail centres. High volumes of traffic passing through these areas result in congestion at busy times which has a negative impact on the streetscape

and air quality, and contributes to a poor environment for pedestrians and cyclists. This can also impact upon journey time reliability for bus users.

The ITS Package measures will help to enhance local environments, economic activity and urban vitality and provide more attractive environments for businesses and residents by reducing congestion within the corridors, thereby improving the public realm for all users. In addition, opportunities will also be taken to improve the public realm when designing and installing new infrastructure.

3.13) If your project results in service and other improvements then please provide baseline data below.

Metric	Baseline		What the intervention will achieve	
	Figure	Year	Figure	By when
N/A				

4. The Commercial Case

4.1) Please provide details of your envisaged procurement route.

The council will be procuring the necessary services and infrastructure to deliver this project in line with its approved procurement requirements/standards and Standing Orders. The strategy can be accessed here:-

: <http://www.brighton-hove.gov.uk/content/council-and-democracy/contracts-and-tenders-council>

4.2) Involvement of private development partners.

See above - contractors will be expected to deliver a significant element of the proposed package of infrastructure and works.

4.3) Procurement plan and timescales.

Individual elements of infrastructure or works will be procured when required, and in a way that is the most cost-effective/value for money, in order to deliver the full package of measures. The primary contractors will be secured via the council’s term maintenance contracts and may include Edburton’s, RJ Dance, Siemens and ChromaVision.

Timescales for procurement will be dependent on a finalised, prioritised programme and the progress made in delivering it.

4.4) How will the project contribute towards social value?

By enabling more efficient use of the transport network and providing advance or real-time information to those travelling, some measures will help improve journey reliability and times and therefore enhance the attractiveness of the city, or create better links to and from some parts of the city, for many people, as well as businesses.

4.5) State Aid Compliance.

Please refer to the State Aid summary provided with the bid application guidance and provide your justification to show that your project is state aid compliant.

In support of the above please provide as an annex to this business case

- Practising solicitor's letter or counsel's advice/ independent legal advice setting out compliance with state aid tests set out in the summary document provided.

The council will be exercising powers in relation to infrastructure that cannot be economically exploited and therefore they will not constitute "undertakings" and therefore the funding provided will not equate to State Aid.

The funds received by downstream participants will not equate to State Aid, as the council will be procuring the necessary services and infrastructure to deliver this project in line with its approved procurement requirements/standards and Standing Orders. The strategy can be accessed via the above link in Section 4.1 for the council's Procurement Strategy.

A letter from a council lawyer confirming this is attached as Annex 4.

5. The Financial Case

5.1) what is the estimated total project cost and the amount of LGF being applied for? Please complete the funding breakdown tab in the supporting excel spreadsheet.

Year	Total project cost	LGF
17/18	£570,000	£570,000
18/19	£782,000	£730,000
19/20	£400,000	£300,000
20/21	£600,000	£300,000
Total	£2,352,000	£1,900,000

5.2) Please set out the project expenditure items – No rounding up please

Please state the date of this estimate-

7/9/17

Projects costs (delete as appropriate)	Total cost (£)	LGF (£)	Match funding (£)
Land Acquisition	0	0	0
Planning and Feasibility studies	20,000	0	20,000
Surveys	70,000	0	70,000
Construction, inc- materials, equipment and labour	1,900,000	1,900,000	0
Fit out (inc. equipment and furnishings not included in construction)	0	0	0
Project management	27,000	0	27,000
Consultancy	100,000	0	100,000
Other (please specify)	0	0	0
Contingency*	235,000	0	235,000
Total Net Cost	2,352,000	1,900,000	452,000
VAT	0	0	0
Total Gross Cost	2,352,000	1,900,000	452,000

* - estimated at an average 10% of costs.

Please ensure the matched funding and LGF amount to the total costs and that the LGF requested does not exceed the percentage allowed for the type of project ie. 85% for transport and 50% for all other projects.

5.3) Net Present Value cash flow analysis.

Options	NPV
Do nothing, minimum or status quo	To be confirmed
Proposed option	To be confirmed
Alternative option	To be confirmed

Please detail your project assumptions and discount rate used-
N/A

5.4) Value for money

- The development and deployment of ITS across the UK is increasing understanding of the benefits it can bring to cities and road users. Although this project does not have a calculated BCR, owing to the complex combination of measures along each corridor, the highest economic benefits are expected to come from reductions in travel time and improvements in journey reliability, plus safety gains. There will also be significant potential economic benefits in health, well-being and absenteeism where ITS encourage and support a shift towards the use of more active forms of travel. Key areas where benefits can accrue include linking signals, responding quickly to unforeseen events, reduced lost-time looking for parking spaces, and more reliable and quicker bus journey times.
- Although no formal BCR has been calculated for this package, the above benefits, coupled with those associated with economic growth, environmental and social indicators (as specified in other sections of this application) are sufficient for this ITS Package to be considered as having **High** Value for Money i.e expected to achieve a BCR of at least 2:1.
- Financial savings can also include cashable savings from reducing revenue costs for communications. ITS may reduce maintenance costs and allow better use of existing resources. Procurement and funding are related as they can impact on the overall costs and particularly the capital/ revenue split. For example, implementing wireless communications may be more expensive in capital costs than leased lines but offers longer term revenue cost advantages to providers.

5.5) VAT status

Not applicable – the council is a local authority.

5.6) Financial Sustainability

The installation of new infrastructure or upgraded systems should require minimal maintenance in the short-term, but will be maintained within the council's available budgets for such works which will be prioritised in line with its emerging Highway Asset Management Plan [HAMP].

6. The Management Case

6.1) In which financial year do you expect your project to commence? 2017/18

6.2) In which financial year do you expect your project to complete? 2020/21

6.3) Please set out the key milestones related to the project.

Milestone	Start date	Completion date
Scope and confirm works programme	Q4 – 2017/18	Q1 – 2018/19
Procure and purchase equipment and services (ongoing)	Q4 – 2017/18	Q4 – 2020/21
Review data requirements for similar measures – MOVA	Q2 – 2018/19	Q3 – 2018/19

junctions, Puffins, Bluetooth, VMS, etc.		
Establish data collection and baseline information	Q3 – 2018/19	Q4 – 2018/19
Undertake development/implementation of similar measures or corridor improvements	May 2015	Q4 – 2020/21
Undertake monitoring to assess performance against PIs, (where sufficiently robust data are available)	Q1 – 2022/23	Q4 – 2022/23

6.4) Project management arrangements

The project will be managed in accordance with PRINCE2 principles and follow the same methodology that is being used for the originally approved ITS Package, which is currently delivering measures on time and to budget. Spend will be monitored monthly by the council's LTP Capital programme monitoring group.

6.5) Key project roles and responsibilities

Senior Responsible Owner - Mark Prior (Assistant Director – City Transport)

Ultimately be responsible for the delivery of the project and will oversee any significant meetings or key decisions that may be required.

Contract and Finance Lead – David Fisher/Caroline Panting (Interim/Acting Heads of Traffic Management)

Responsible for procurement, contract management and associated finance.

Project Manager – Sean Power (Urban Traffic Control Engineer)

Responsible for technical aspects of the project and will have direct day to day management of the project and its contractors.

6.6) Governance, oversight and accountability

The existing ITS Package Project Delivery Team will continue to work on and progress the delivery of the project; and will attend meetings at regular intervals to report on progress with delivery and spend.

6.7) Communications and stakeholder management

Political Champion:

The Chair of the council's Environment, Transport & Sustainability Committee will provide political support and report progress to colleagues and relevant Committees.

Stakeholder Representatives:

Stakeholder representatives will provide stakeholder input, when required, and report back progress to other interested parties.

Communications Officer:

Responsible for all communications associated with the project and develop a clear strategy to assist in promoting the project, its progress and benefits.

6.8) Benefits management

The management of the ITS2 Package and its benefits will be undertaken by the council's UTC Engineer, and input will also be provided to support the council's HAMP

6.9) Project evaluation

The ITS2 Package will be monitored against the same indicators agreed for the LGF-funded 2015 ITS Package. This will include:-

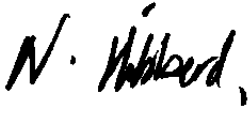
- Average daily traffic by peak/non-peak periods
- Average AM and PM peak Journey time on key routes
- Collision rate
- Casualty rate.

Recommendation/ Declaration

Recommendation- please state clearly the recommended action this business case supports.

This OBC is requesting significant financial support (£1.9 million) from the LEP's LGF for the period 2017/18 - 2020/21 for investment in infrastructure and systems which include:-

- Urban Traffic Management and Control [UTMC] system.
- Traffic signal optimisation system for linking junctions [SCOOT]
- Urban Traffic Control [UTC] (fixed time centrally controlled traffic signals)
- Stand-alone and linked junction optimisation system [MOVA]
- Pedestrian user-friendly intelligent crossings [PUFFINs]
- Bluetooth vehicle recognition [BVR] system.

Declaration:	I certify that the information provided in this Business Case is complete and correct at the time of submission.
Signature:	
Print Name:	NICK HIBBERD
Title:	Executive Director – Economy, Environment & Culture
Date:	7/9/17

Before submitting your Business Case ensure you have all the required supporting documentation:

- One electronic copy of the business case template, signed and dated ✓
- Excel Spreadsheet (both tabs completed) ✓
- Full risk register ✓
- Any other Supporting documents and evidence required (e.g. letter of support from Area Partnership) ×
- Written evidence to the satisfaction of the Coast to Capital Accountable Body from a practicing solicitor / Counsel that the project is compliant with the EU state aid rules. ✓
- VAT external advice if applicable. ×