

The template

*This document provides the business case template for projects seeking funding which is made available through the **South East Local Enterprise Partnership**. It is therefore designed to satisfy all SELEP governance processes, approvals by the Strategic Board, the Accountability Board and also the early requirements of the Independent Technical Evaluation process where applied.*

It is also designed to be applicable across all funding streams made available by Government through SELEP. It should be filled in by the scheme promoter – defined as the final beneficiary of funding. In most cases, this is the local authority; but in some cases the local authority acts as Accountable Body for a private sector final beneficiary. In those circumstances, the private sector beneficiary would complete this application and the SELEP team would be on hand, with local partners in the federated boards, to support the promoter.

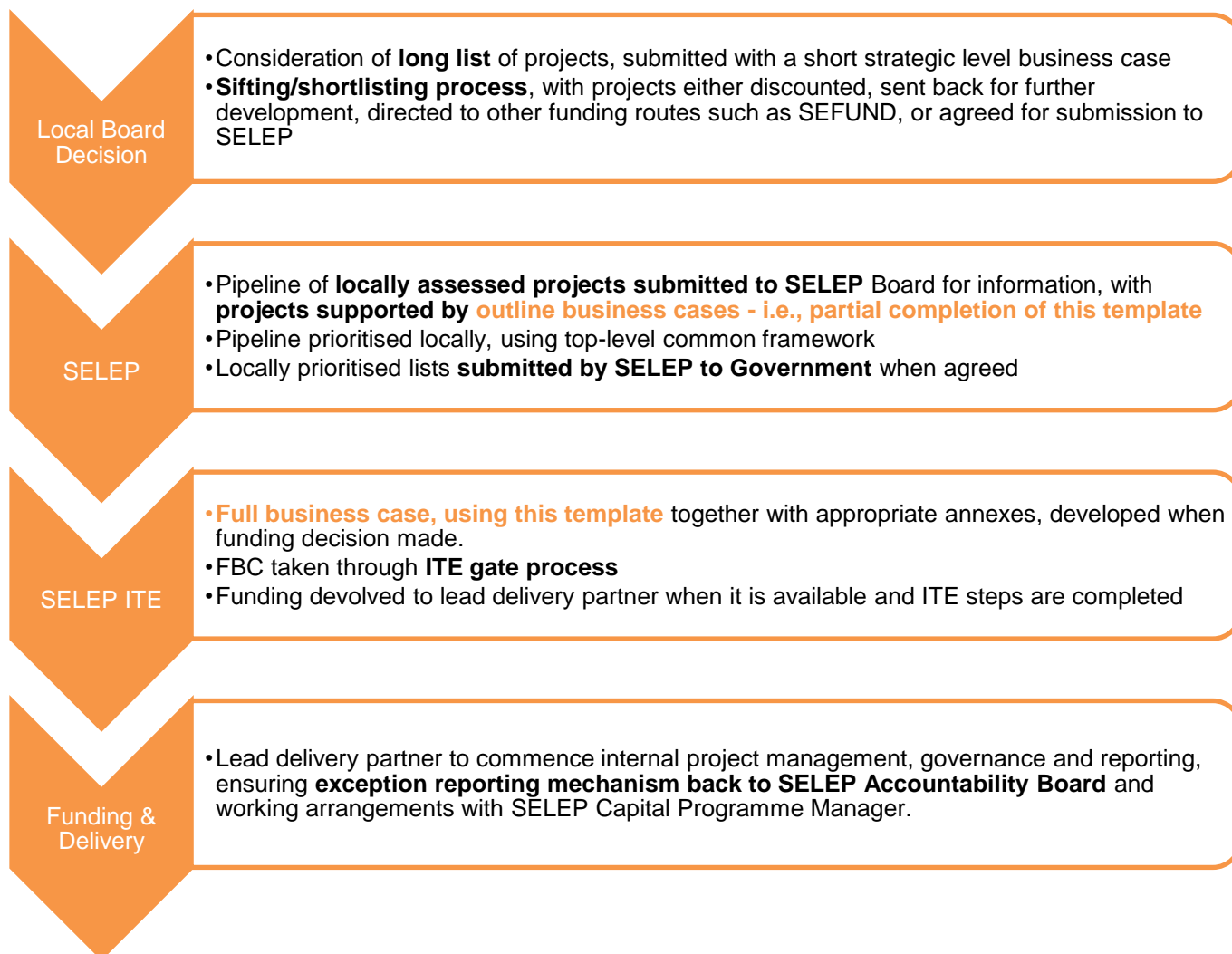
Please note that this template should be completed in accordance with the guidelines laid down in the HM Treasury's Green Book. <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>.

As described below, there are likely to be two phases of completion of this template. The first, an 'outline business case' stage, should see the promoter include as much information as would be appropriate for submission through SELEP to Government calls for projects where the amount awarded to the project is not yet known. If successful, the second stage of filling this template in would be informed by clarity around funding and would therefore require a fully completed business case, inclusive of the economic appraisal which is sought below. At this juncture, the business case would therefore dovetail with SELEP's Independent Technical Evaluation process and be taken forward to funding and delivery.

The process

This document forms the initial SELEP part of a normal project development process. The four steps in the process are defined below in simplified terms as they relate specifically to the LGF process.

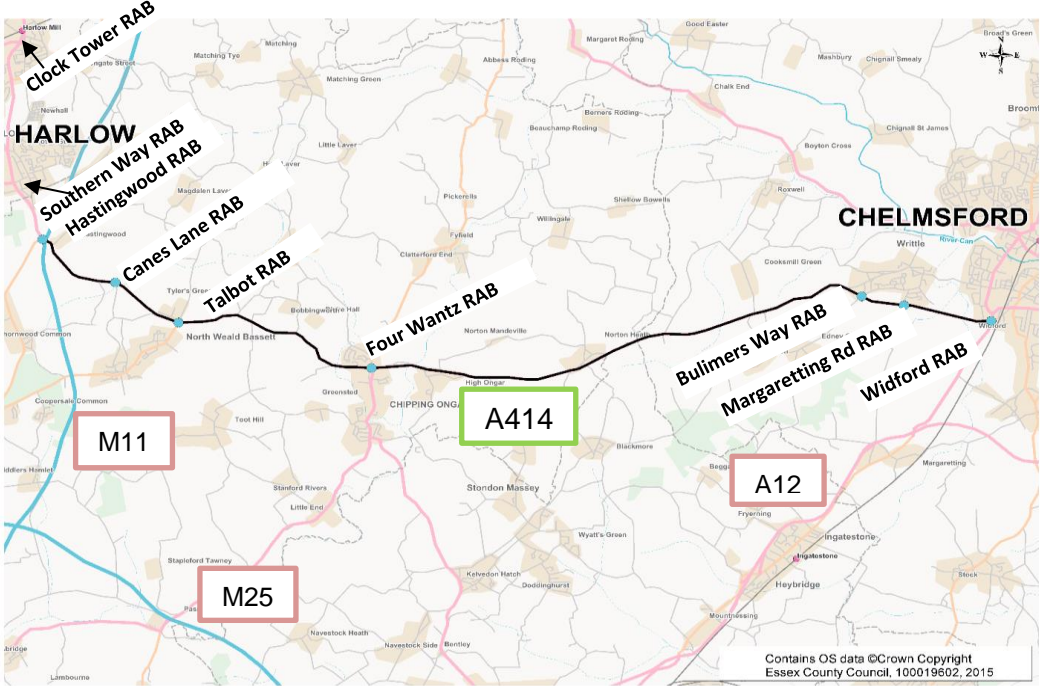



Note – this does not illustrate background work undertaken locally, such as evidence base development, baselining and local management of the project pool and reflects the working reality of submitting funding bids to Government.



In the form that follows:

- **Applicants for funding for non-transport projects should complete the blue sections only**
- **Applicants for funding for transport projects should complete both the blue and the orange sections**

Version control	
Document ID	Chelmsford to Harlow Route Based Strategy Business Case
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Date authorised	

1. PROJECT SUMMARY	
1.1. Project name	Chelmsford to Harlow Route Based Strategy Business Case
1.2. Project type	Corridor Improvements – Highways Capacity, Passenger Transport and Safety
1.3. Location (incl. postal address and postcode)	<p>Chelmsford to Harlow Corridor</p>  <p>Figure 1: Chelmsford to Harlow Corridor</p>
1.4. Local authority area	<p>Essex County Council / Chelmsford City Council / Harlow District Council</p> <div data-bbox="442 1182 716 1352">  </div> <div data-bbox="729 1256 1098 1352">  </div> <div data-bbox="1106 1182 1422 1352">  </div>
1.5. Description (max 300 words)	<p><i>Drawings of the proposed improvements can be found at Appendix A.</i></p> <p>The A414 is a key east-west route providing connections with Chelmsford and Harlow, and beyond.</p> <p>The purpose of this bid is to deliver a package of schemes to provide highways capacity, passenger transport and safety improvements for the Chelmsford to Harlow corridor.</p> <p>From a list of twenty options, the following top five priority improvements were identified from a Route Based Strategy (RBS) study undertaken last year, which included site visits, workshops, consultations and the publication of recommendations / reports:-</p> <ul style="list-style-type: none"> • Widford Roundabout – extend and formalise 2 lane approach and departure • Four Wantz Roundabout – Resize roundabout and improve lane designation • Signalise Four Wantz Roundabout • Ban right turn into Hastingwood Road • Public Transport – Liaise with bus operators to increase frequency of services. <p>Subsequently, further detailed analysis refined the list of priorities to the following:-</p> <ul style="list-style-type: none"> • Widford Roundabout – extend entry flair from A414 west to improve capacity

	<ul style="list-style-type: none"> • Four Wantz Roundabout – Resize roundabout, widen approaches, improve lane designation and introduce new Toucan crossing • Widening (two lanes each way) – Southern Way (A1169) to Clock Tower roundabout (Second Avenue A1025) • Various Safety Improvements (resulting from safety audit) – lighting, signs and lines • Public Transport – Bus stop improvements – new / upgraded shelters, information and footways. <p>In summary, the methodology used was as follows - a baseline report was produced after conducting detailed analysis of junction counts, traffic flows, congestion and speeds, together with historical collision data and safety audit results. This was assessed versus public transport alternatives and relating potential growth along the corridor from all known developments. A number of options to improve the route were developed, which were discussed at a workshop where all interested stakeholders were invited to provide their input. All of the resulting data was then analysed using a bespoke tool, based on the DfT EAST tool, which resulted in prioritisation of the twenty options which were then presented for final review.</p> <p>Following further traffic modelling and consultations, a final list of options was produced, which now forms the basis of this bid.</p> <p><i>Drawings of the proposed improvements can be found at Appendix A.</i></p> <p><i>Copies of the full Route Based Strategy Reports are available on request.</i></p>										
1.6. Lead applicant	Essex County Council (ECC)										
1.7. Total project value	£4.346m										
1.8. SELEP funding request, including type	£2.173m SELEP funding is requested from the LGF to match the £2.173m funding to be provided by ECC. This request has reduced from when the original bid as a number of packages of works that were originally envisaged as being part of this programme have been completed through other contracts. In particular work at the M11 7a junction will be contained in a specific project focused on the junction.										
1.9. Rationale for SELEP request	<p>The SELEP SEP included a list of thirteen Route Based Strategies in Essex that were identified for improvement work. The first route based strategy, A414 Chelmsford to Maldon, was approved by SELEP and work was completed by December 2016. The second route based strategy, Chelmsford to Braintree was approved in November 2016 and work is due to start in Autumn 2017.</p> <p>This request follows on from these first two RBSs and is felt to be the next route that provides the greatest opportunity for network improvements.</p>										
1.10. Other funding sources	ECC funding has been approved and is guaranteed.										
1.11. Delivery partners	<table border="1"> <thead> <tr> <th>Partner</th><th>Nature and / or value of involvement (financial, operational etc)</th></tr> </thead> <tbody> <tr> <td>Chelmsford City Council</td><td>Support for scheme</td></tr> <tr> <td>Harlow District Council</td><td>Support for scheme</td></tr> <tr> <td>Epping Forest District Council</td><td>Support for scheme</td></tr> <tr> <td>Epping Town Council</td><td>Support for scheme</td></tr> </tbody> </table>	Partner	Nature and / or value of involvement (financial, operational etc)	Chelmsford City Council	Support for scheme	Harlow District Council	Support for scheme	Epping Forest District Council	Support for scheme	Epping Town Council	Support for scheme
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Epping Forest District Council	Support for scheme										
Epping Town Council	Support for scheme										
1.12. Key risks & mitigations											

	Type	Description	Responsibility	Mitigation / Proposed Resolution	Probability	Impact
	Design	Design and construction scope changes	Essex Highways / ECC	Clear communication and early confirmation of scope	Low	Medium
	Utilities	Discovery of undetected utilities during construction	Essex Highways	Undertake early surveys with trial holes	Medium	Medium
	Ground Conditions	Unforeseen soft spots and voids requiring redesign	Essex Highways	Undertake early surveys with trial holes	Low	Medium
	Traffic Management	Potentially complex and costly with approvals required	Essex Highways	Consult early and work closely with Network Management	Low	Medium
	Tender Prices	Tender prices at variance with estimates and client budget	Essex Highways	Obtain early estimates, compare with other recent information and work with suppliers	Low	Medium
	Costs	Construction costs escalation	Essex Highways	Monitor regularly and develop alternative actions as necessary	Low	Medium
	Stats Costs	C3 Prices at variance with estimates	Essex Highways	Timely requests, utility mapping and trial holes	Low	Medium
	Approvals	Time consuming processes with legal and cost implications	Essex Highways	Commence approval process early	Low	Low
	Weather	Adverse conditions could jeopardize programme timing	Essex Highways	Plan programme taking account of likely weather conditions and provide programme float	Low	Low
	Project	Lack of capacity to deliver the programme in full	ECC	Ensure resources are allocated and identify potential contingency support	Medium	Medium
<p>As Junction 7 is currently the only access from Harlow on to the M11, it will be essential to ensure that appropriate traffic management is put in place to minimize disruption to the network on any road leading to this junction. Similarly, Four Wantz is a key junction to the north of Ongar on the A414 and will have to be managed correctly to avoid disruption.</p> <p><i>Further detailed risks are shown as part of the QRAs which can be seen at Appendix E.</i></p>						
1.13.	Start date	<p>A phased package of improvements, with construction commencing formally in March 2018, although initial design work and costings have already been undertaken.</p> <ul style="list-style-type: none"> • Widford – April 2019 • Four Wantz Roundabout – January 2019 • Widening of Southern Way to Clock Tower roundabout – March 2018 • Bus and Safety Improvements – January 2019 				
1.14.	Practical completion date	<ul style="list-style-type: none"> • Widford – September 2019 • Four Wantz Roundabout – September 2019 • Widening of Southern Way to Clock Tower roundabout – September 2018 • Bus and Safety Improvements – September 2019 				
1.15.	Project development stage	<p>All – Draft designs, costs and programmes have been produced. Detailed designs are being developed and will be available to support this bid.</p>				
1.16.	Proposed completion of outputs	<p>Individual components will be completed and opened as they are finished on a planned phased basis:-</p> <ul style="list-style-type: none"> • Widford – September 2019 • Four Wantz Roundabout – September 2019 • Widening of Southern Way to Clock Tower roundabout – September 2018 • Bus and Safety Improvements – September 2019 				
1.17.	Links to other SELEP projects, if applicable	<ul style="list-style-type: none"> • A414 First Avenue / Gilden Way Junction Improvements – completed 2016 • Chelmsford to Maldon RBS – work completed December 2016 • A414 Enterprise Zone Access Improvements – completed 2017 • A414 Edinburgh Way and junction with Cambridge Road – due for completion Autumn 2017 • Gilden Way Improvements – approved July 2016 to be submitted for February 2018 Accountability Board • M11 J8 Improvements – approved July 2016 (to be submitted concurrent with this bid) • Chelmsford to Braintree RBS – approved November 2016 • M11 J7A – Initial DfT funding approved for new junction • Chelmsford City Growth Package – Business Case to be submitted for February 2018 Accountability Board. 				

2. STRATEGIC CASE

2.1. Challenge or opportunity to be addressed

Route Based Strategy

A Route Based Strategy identifies areas for targeted investment in the short and longer term. A package of schemes are identified to improve safety and reliability, solve the operational issues on the route and assist in releasing land for growth. The A414 Chelmsford to Harlow, route based strategy is one of the key RBSs identified in the SELEP Strategic Economic Plan.

Each RBS aims to provide:

- improved journey times and reliability for all users with traffic management, capacity enhancements and congestion relief measures;
- passenger transport improvements along the routes;
- walking and cycling improvements along the routes where appropriate;
- targeted safety improvements; and
- highway asset renewal.

Chelmsford

Chelmsford is the county city of Essex with an important regional and sub-regional role, providing jobs, shopping, healthcare, education, leisure and recreation. Being able to provide good access to the city, without delay, is a key element in maintaining Chelmsford's prosperity and supporting future growth.

The City of Chelmsford is undergoing significant growth and it is essential to keep people and goods moving freely into and around the city. There is a severe lack of capacity on the city's roads and surrounding routes and, with impending developments, the situation will only get worse.

Chelmsford City Council plans for 10,875 new homes to be built in and around the city before 2036. The first of the areas targeted for development, named 'Central and Urban Chelmsford', is set to provide 3,200 new properties. The majority of these, some 2,000, are intended to be built on brownfield sites in and around the city centre, with an additional 4,000 m² set aside for office space and 11,500 square metres for food and retail.

Harlow

Harlow is a primary economic and growth centre in the west of Essex, with up to 15,000 homes and 12,000 jobs planned for future delivery. By 2036, an increase in overall traffic volume is forecast of up to 30% across Harlow's network in peak periods, associated with new development, economic and demographic factors. Consequently, a marked deterioration in traffic conditions across the network is forecast in the future. Traffic volumes will increase across the primary routes, and especially the A414, which is a key urban distributor road and primary access point for Harlow from the east or the west.



Figure 2: Typical Harlow traffic

Currently, major improvements, funded by SELEP, are being introduced along the A414, within Harlow, at strategic junctions associated with Harlow's expanding Enterprise Zone

which is based in three locations along the A414 (Harlow Science Park, Kao Park, Templefields). This will put increased pressure on the network and the A414, in particular.



Figure 3: Harlow Enterprise Zone

Harlow's population is forecast to grow over the next 20 years and more homes will be required. Evidence shows that between 12,000 and 15,000 new homes will be needed to meet the needs of Harlow. The Council is also planning the creation of between 8,000 and 12,000 new jobs and will be supporting investment from new businesses to broaden the town's employment base and to provide opportunities for the town's growing workforce.



Figure 4: Harlow

Harlow has traditionally been a good location for manufacturing and industrial businesses. Compared to the national average, Harlow has a much higher proportion of employment in Manufacturing, Wholesale and Retail Distribution, Administrative and Support Services and Health and Social Work.

A414

The A414 is the primary route between Chelmsford and Harlow, and their surrounding areas, covering 14.5 miles, along which there are 5 roundabouts and 2 zebra crossings. The route carries daily average volumes of up to 27,000 vehicles and includes access to Hylands Park, Chipping Ongar and North Weald Airfield.

The road is known to act as a diversion route for the M11, south of J7, and the M25 between J27 and J28, further highlighting its importance as a key strategic route.

Over the years, the route has been improved in stages by removing sharp bends, straightening and widening, all of which has improved the safety of the road, but more needs to be done.

Chelmsford, Epping and Harlow are all currently formulating ambitious growth plans which would have a future impact on the route. DfT data shows that growth varies along the route, with an average annual rate of +0.52% pa.

Census data

- The population of Chelmsford District and Harlow District is 168,300 and 84,000 respectively, representing 12 percent and 6 percent of the Essex County (excluding the unitary authorities) population.
- Compared with the 2001 Census, the total population of Chelmsford District has grown by 7.2%, compared with an overall Essex increase of 6.3%. Harlow District has increased by 4% since 2001.

Traffic Congestion

The following diagrams show the congestion flows based on recent Trafficmaster data. It can be seen that the significant issues in the AM Peak are westbound towards the M11 and westbound towards the Four Wantz roundabout in Epping. The PM Peak shows congestion heading eastbound towards the Four Wantz and eastbound towards Widford.

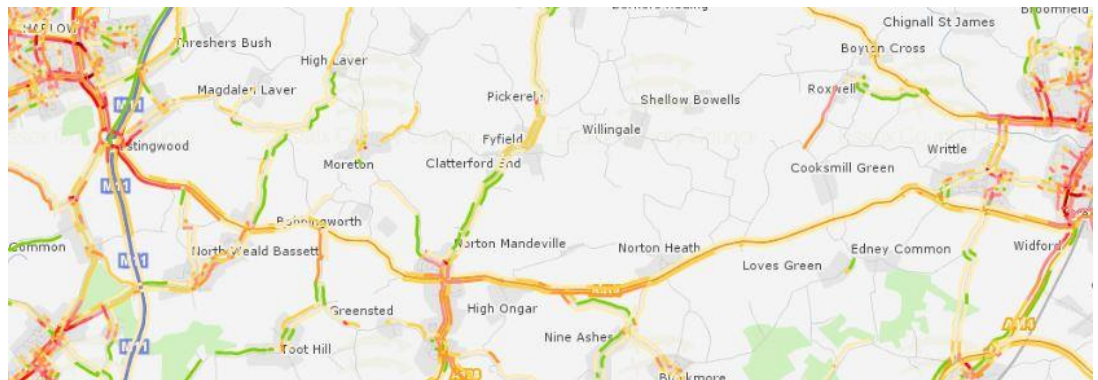


Figure 5: AM Peak Hour Congestion Indicator – Chelmsford to Harlow

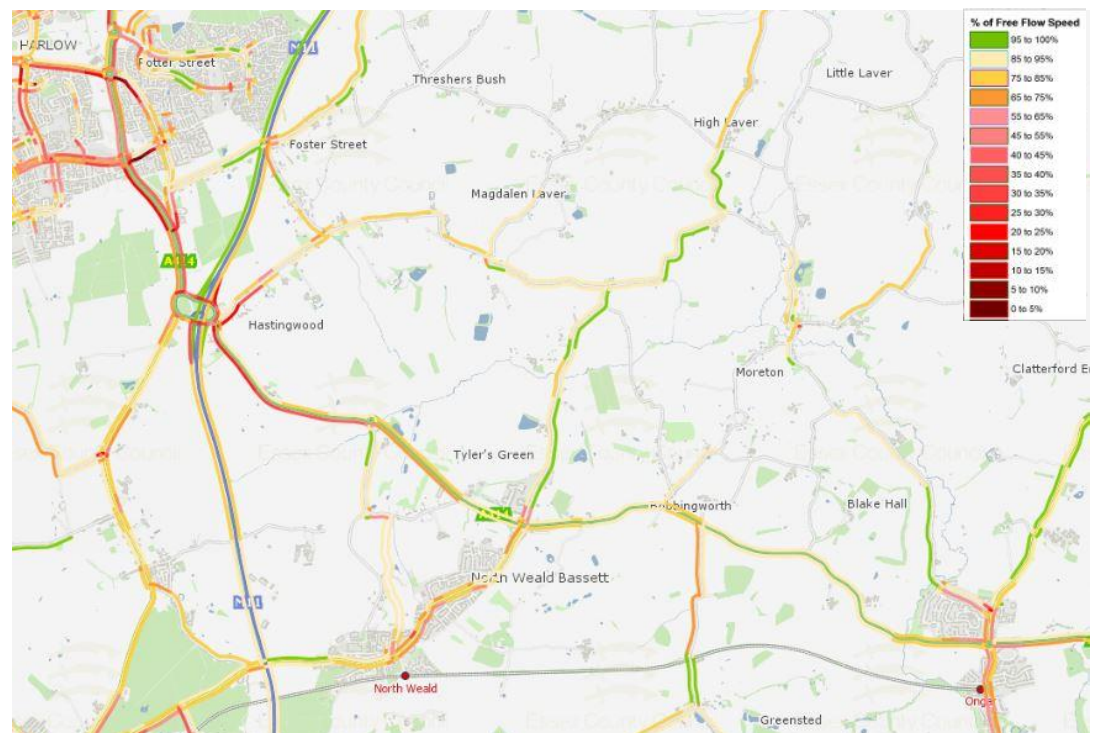


Figure 6: AM Peak Hour Congestion Indicator Extract – Four Wantz to Harlow

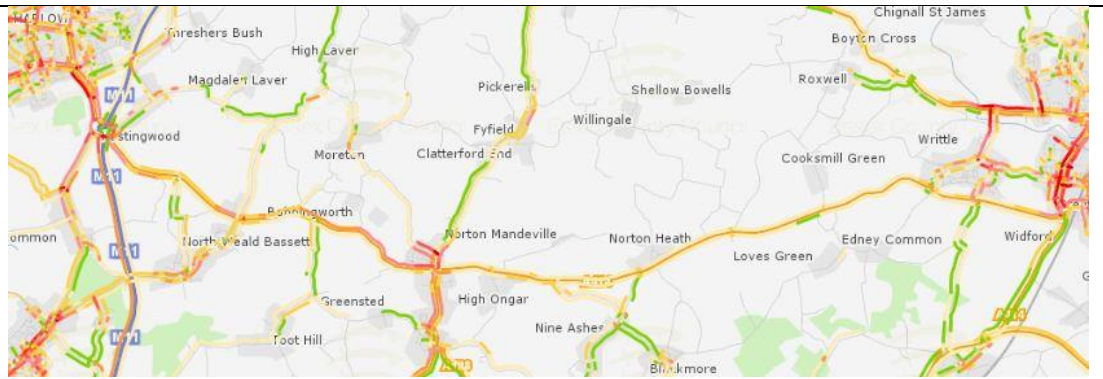


Figure 7: PM Peak Hour Congestion Indicator – Chelmsford to Harlow

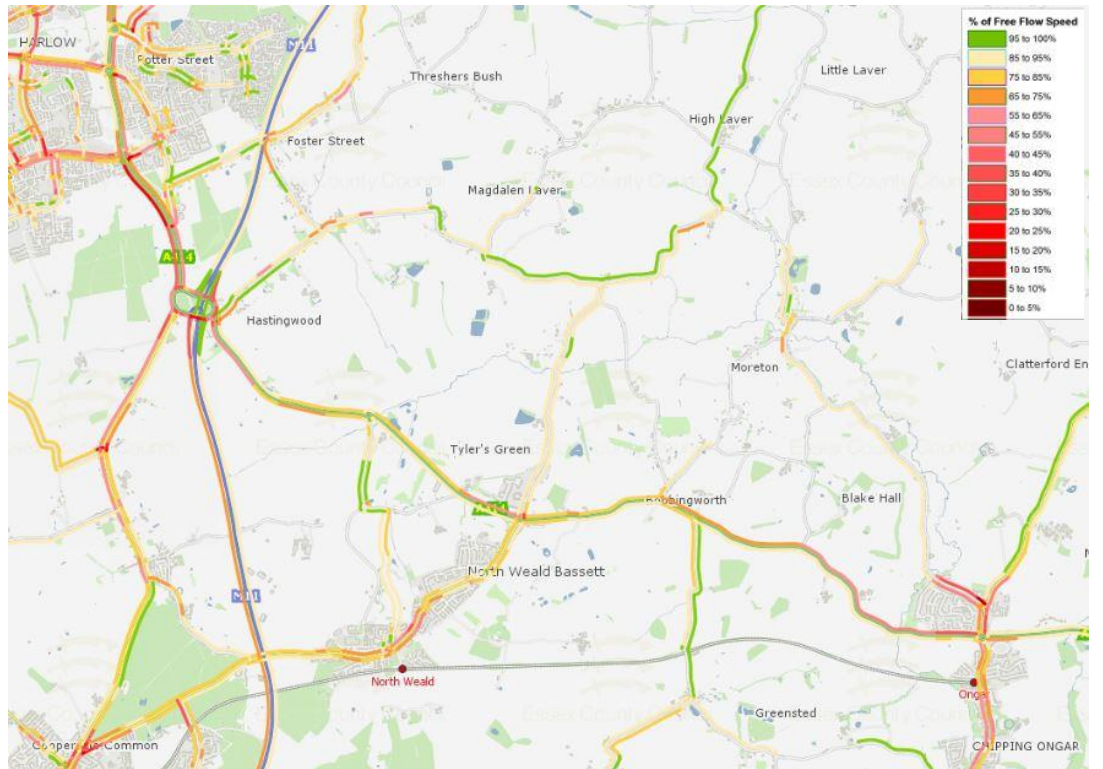


Figure 8: PM Peak Hour Congestion Indicator Extract – Four Wantz to Harlow

Any congestion on this corridor is magnified as there is not an easy viable alternative for traffic without adding many miles to the journey. Particular hotspots are as mentioned – westbound towards the M11, around Four Wantz and eastbound to Widford.

Congestion on the route is frequently mentioned in local traffic broadcasts and becomes severe if there are problems on the M25 between junctions 27 and 28.

2.2. Description of project aims and SMART objectives

The **objectives** of the scheme are to:

- Provide a package of quality transport improvements to support and facilitate sustainable growth and regeneration along the A414
- Improve safety along the route
- Encourage sustainable transport along the A414
- Reduce congestion at key points along the corridor.

Outcomes will primarily be:-

- Improved transport infrastructure leading to economic benefits in terms of travel time, vehicle operating costs, and other related benefits (travel time improvements)
- To improve safety for all road users (reduced collisions)
- To encourage increased sustainable transport usage (increased buses and passengers)
- To improve journey times and reliability for all vehicles (journey time flows etc)
- To support economic growth and businesses (jobs and new starts / builds).

	<p>Transport Priorities</p> <p>Within the LTP3, specific priorities to be addressed at a more local level are identified in a number of area plans. The Chelmsford to Harlow route runs from the Heart of Essex through to West Essex. Transport priorities within this area include, amongst others:</p> <p><i>Transport priorities for the Heart of Essex:</i></p> <ul style="list-style-type: none"> • Delivering transport improvements to support growth; • Providing for, and promoting, sustainable forms of travel; • Maintaining and improving public transport links; • Tackling congestion and improving journey-time reliability; • Improving access to railway stations and improving station facilities; • Extending and upgrading the Chelmsford cycle network and promoting its use; • Improving journey time reliability on key routes; • Developing long-term solutions to resolving gaps within the strategic network. <p><i>Transport priorities for West Essex</i></p> <ul style="list-style-type: none"> • Improving access to and from the M11 corridor; • Tackling congestion and improving the management of traffic in Harlow town centre; • Providing the transport improvements needed to support housing and employment growth; • Improving the attractiveness of bus services; • Improving cycling networks and walking routes and encouraging their greater use; • Improving the attractiveness of public spaces and their ease of use; • Working with Transport for London to improve the journey experience of Essex residents using the Central Line underground services; • Improving access to Stansted Airport by low carbon forms of transport.
2.3. Strategic fit	<p>SELEP Strategy</p> <p>The Chelmsford to Harlow Route Based Strategy supports the SELEP Vision; to ‘Create the most enterprising economy in England’ and the single SELEP goal; to promote steady, sustained economic growth over the next two decades.</p> <p>The scheme improves access, from the west, to Chelmsford – a key employment zone in Essex, by providing improved availability to employment, markets and suppliers. The traffic enhancements, provided along the A414, will also provide safety improvements and will assist passenger transport users along the route. The scheme also improves access, from the east, to Harlow – another key employment area with three Enterprise Zone sites.</p> <p>Essex Strategy</p> <p>Investment in improvements along the A414 between Chelmsford and Harlow is wholly compliant with the aspirations of the Economic Plan for Essex (EPfE) that updates and incorporates the Greater Essex Integrated County Strategy (ICS) and the ECC Economic Growth Strategy (EGS). The package of improvements proposed also supports the delivery of the Essex Local Transport Plan (LTP), and has the support of partner authorities.</p> <p>Essex County Council has the stated ambition to make Essex the location of choice for business and to be a county where innovation brings prosperity:</p> <ul style="list-style-type: none"> • To grow, the Essex economy depends on the efficient movement of people, goods and information, via effective and reliable transport and communications networks to provide access to markets and suppliers. It is therefore essential that we develop and maintain the infrastructure that enables our residents to travel and our businesses to grow • Support for employment and entrepreneurship across our economy is focused on ensuring a ready supply of development land, new housing and the coordinated provision of appropriate infrastructure. <p>This investment along the strategic corridor from Chelmsford to Harlow is essential for the delivery of these ambitions.</p> <p>The Essex County Council Corporate Outcomes Framework 2014-2018 sets out the seven high level outcomes that ECC want to achieve to ensure prosperity and wellbeing for Essex residents. Securing these outcomes will make Essex a more prosperous county; one where people can flourish, live well and achieve their ambitions.</p>

The seven outcomes are listed below:

- Children in Essex get the best start in life
- People in Essex enjoy good health and wellbeing
- People have aspirations and achieve their ambitions through education, training and life-long learning
- People in Essex live in safe communities and are protected from harm
- Sustainable economic growth for Essex communities and businesses
- People in Essex experience a high quality and sustainable environment
- People in Essex can live independently and exercise control over their lives.

Essex Local Transport Plan

The *Essex Local Transport Plan (2001,)* which includes the *Essex Transport Strategy (2011)*, sets out the 15 year vision to improve travel in the county and underlines the importance of the transport network in achieving sustainable, long term economic growth and enriching the life of residents. It is supplemented by delivery strategies for public transport, highways, cycling and public rights of way.

Harlow Local Development Plan

The new Harlow Local Development Plan will replace the Adopted Replacement Harlow Local Plan and will set out the framework to guide and shape development in Harlow to 2031. It will be a key vehicle in delivering the Council's corporate strategies including improvements to the key A414 arterial route.

Location

Chelmsford is a city situated in the county town of Essex. It is approximately 32 miles north east from Charing Cross, London and around 15 miles east of Harlow. Harlow is some 20 miles north east of London.

Population and Demography

In 1971, the urban city of Chelmsford had a population of 58,000, which grew by the 2011 census to 112,000, while the overall district has a population of 168,000. Chelmsford's population now consists of a large number of City and Docklands commuters, attracted by the 30–35 minute rail journey from Central London. Overall population is forecast to grow further to 192,000 by 2022 and with a further 30,000 new residents anticipated by 2036.

At the time of the 2011 Census, Harlow's population was recorded at 81,944 and its district had the third-highest proportion of social housing in England (26.9%), a legacy of the 1947 commitment to re-house blitzed London families after World War II.

History - Chelmsford

Originally a Roman town, Chelmsford grew as a market town through the development of agriculture and business. Chelmsford has been a significant place for industry since the nineteenth century and the first wireless telegraph broadcast service (Marconi) started in the town in 1920. In March 2012, Chelmsford was granted City status.

History - Harlow

The original village, mentioned in the Domesday Book, developed around what is now known as Old Harlow.

The original Harlow New Town was built after World War II to ease overcrowding in London and the surrounding areas due to the devastation caused by bombing during the Blitz. Harlow was a 'Mark One' New Town, along with other new towns such as Basildon, Stevenage and Hemel Hempstead. Such new towns were designated following the New Towns Act of 1946, with the master plan for Harlow drawn up in 1947 by Sir Frederick Gibberd.

Harlow was originally expected to provide the majority of employment opportunities in manufacturing with two major developments at The Pinnacles and Templefields providing the biggest employment areas in the region. However, as with the rest of the country, this manufacturing base has declined and Harlow has had to adjust.

Transport Connections – Chelmsford

The A414 is the key radial route linking Chelmsford and Harlow.

The A12 passes around the eastern side of Chelmsford on its route from Great Yarmouth to London and is one of the main arterial routes through East Anglia. It is a particularly important connection (with the A14) for goods traffic between London and the Port of Felixstowe. The M25 is located 12 miles away and the M11 is 15 miles away.

Chelmsford railway station is the busiest in Essex and is an important stop on the Great Eastern Main Line between London Liverpool Street and Colchester / Ipswich / Norwich, with over 8.49m entries and exits in 2015/16. Services provide up to ten trains per hour in peak times. In the longer term, 2021+, there are plans for a new rail station at Beaulieu Park to handle the forecast additional volume of commuters.

There is no direct rail service between Chelmsford and Harlow. Connection must be made by travelling into London and back out again.

The main bus terminal in Duke Street, which opened in March 2007, is mainly used by the First Essex Bus Company, which has many routes around the city and beyond, including intermediate stops on the X30 Southend to Stansted and the X10 Basildon to Stansted Airport. Other bus companies serving the area include Regal Busways, Stephenson's of Essex, Heddingham Omnibus and Network Colchester.

Chelmsford has two Park and Ride services – Sandon which serves the east of Chelmsford and Chelmer Valley serving the north of Chelmsford.

Southend Airport is some 20 miles south east of Chelmsford (via the A130 and A127), whilst Stansted Airport is 18 miles to the north west (via the A130 and A120).

The port of Harwich is some 42 miles to the north east via the A12 and A120. The port of Felixstowe is 50 miles north east via the A12 and A14 and the new container port DP World is 22 miles south via the A130, A13 and A1014.

Transport Connections - Harlow

Harlow is served by two railway stations, Harlow Town railway station (1.85m entries and exits) and Harlow Mill railway station (0.212m). There is also a bus service to Epping tube station on the London Underground.



Figure 9: Harlow Town Railway Station

Harlow is reached from junction 7 of the M11 motorway, which runs from London to Cambridge, placing it within a short distance of Stansted Airport, the A120 and the orbital M25 motorway. Running through the town is the A414, a major road from Hertford to Chelmsford and linking the town with the A10 to the west. Another major road from Harlow is the A1184, which leads to the nearby town of Bishop's Cleeve.

Harlow is only 10 miles from London Stansted Airport, and provides several hundred employees to the airport.

Harlow has an extensive bus network and serves as a regional hub for the local area, with operators such as Arriva (Essex and the Shires), SM Coaches, Roadrunner Coaches,

Regal Busways, Town Link and Trustybus. There are links to many key local towns such as Chelmsford and Bishop's Stortford.



Figure 10: Location Map

Significant Features along the Corridor

There are some significant projects planned along the corridor which will drive change over the next few years. These include:

- Widford Park & Ride – new P&R site for Chelmsford
- Ongar – 600 new homes
- Latton Priory – a 250 hectare site located on the southern edge of Harlow with the potential to deliver up to 2,500 dwellings over the next 20 years.
- Application to build a 4FE secondary school, including sports hall, on Fyfield Road, Ongar. This will replace the current temporary classrooms and will expand to 800 pupils and 70FTE members of staff by September 2019
- Land south of Vicarage Lane earmarked for some 590 homes with a further 288 houses proposed for Bluemans Farm, off the A414, near the Talbot roundabout
- 27 homes are proposed for the nearby Chase Farm industrial estate, with another 225 homes set to be built at North Weald Airfield, on land alongside Merlin Way
- Other sites in North Weald include east and west of Church Lane and north of Lancaster Road, which is set to take 276 homes, and land east of Church Lane and west of Harrison Drive, which is set to take 49 homes
- North Weald Bassett could be transformed in a plan to build 700 homes as part of a garden village.

Future Significant Transport Plans in Essex

- Widening of the A12 (Highways England RIS)
- Chelmsford North East By-Pass
- Potential new Western Relief Road for Chelmsford
- New Park and Ride (Widford)
- Improvements to the A132 serving South Woodham Ferrers
- New Beaulieu Park Station
- Major improvements to the Great Eastern Main Line (GEML) between London and Norwich (Network Rail).

Businesses

Two major businesses have recently relocated their headquarters to Chelmsford – Amlin Insurers and US owned cosmetics company, Benefit.

According to the consumer insight experts, Experian, Chelmsford is the biggest business base in Essex. There are already 11,870 businesses, supporting 83,000 jobs, in the area. The financial sector, business administration and support services are all well represented

with International Financial Data Services, QBE, Royal & Sun Alliance, Royal Bank of Scotland, Amlin, Cofunds & Coutts, whilst science and technology companies such as e2v and BAE Systems take advantage of the city's close position to Higher Education institutions, as well as the easy access to London, Cambridge and Europe.

Raytheon (technology, defence & cybersecurity) and GlaxoSmithKline (pharmaceuticals) both now have large premises within Harlow.

New developments

There are currently numerous large scale office developments underway in Chelmsford with commercial development in the city focusing on almost 100,000m² of additional office floor space. Developments such as the recently opened Bellway / Marconi Evolution and Genesis / City Park West provide new prime office locations in the city centre.



Figure 11: Bond Street, Chelmsford retail development

The growth in the city is not confined to commercial ventures, with a large retail and leisure development that opened recently in September 2016. Bond Street has a projected spend of £120million and is estimated to bring £67 million to the local economy and create 450 jobs. It includes a 28,000m² shopping development with John Lewis as the flagship store.

In addition, two other major sites are being redeveloped - Trade Park Westway, based on the old Britvic and DHL sites, and Chelmsford Waterside (residential and retail) on the old gasworks site, close to the city centre.

Chelmsford City Council Local Plan: 2021 - 2036

Chelmsford City Council area is a diverse mixture of connected towns, villages and countryside, and is within one of the Government's designated Growth Areas. Chelmsford continues to face significant pressure for development, especially for new housing. Therefore, the challenge is to ensure that future development is managed in a way that it can meet the needs of current and future generations, whilst also protecting and enhancing the local environment and people's quality of life.

Chelmsford is facing radical change and has embraced working in partnership with other local, regional and national agencies and authorities. This has helped develop a positive vision for Chelmsford, within Mid-Essex, which seeks to bring about maximum benefits to existing and future communities.

The planning strategy, objectives and policies are aimed at helping to achieve sustainable development and provide a robust and sound means of planning for the development requirements up to 2021.

The key headline issues, subject to consultation, include:

- The objectively assessed housing need is for 775 homes per year to 2036, but the Council are testing a higher number of 930 homes per year or 14,000 homes to take account of increased affordable housing delivery.
- The Council do not intend to undertake a strategic review of the Green Belt, but they intend to designate a series of Green Buffers on land at the edge of some of the villages.
- The Council are planning for approximately 900 jobs per year in the plan period. Additional new employment sites will be allocated to meet this requirement, including 50,000m² of new office floorspace.
- In terms of retail development, an initial figure of 1,900m² and 11,500m² of new retail floorspace at South Woodham Ferrers and the Chelmsford Urban Area respectively are being proposed.

The Council has identified three spatial options to accommodate this future growth:

1. **Urban Focus** – This option seeks to concentrate new development at locations within and / or close to the existing urban areas that are within Chelmsford.
2. **Urban Focus and Growth on Key Transport Corridors** – In addition to 'Urban Focus', this option also promotes development at locations on the key transport corridors serving the district such as the A130 / A131.
3. **Urban Focus and Growth in Key Villages** – This option promotes a more dispersed approach to planning for new development with planned development at the Service Settlements outside of the Green Belt, in addition to urban focused development.

With a population of around 168,000, which is likely to rise to 192,000 by 2022, the City is rapidly expanding. Its locality close to London and Stansted airport will help stimulate this growth. Therefore, the Council is planning the following:-

- Provide housing and job opportunities for all sectors of the community
- Promote healthier, inclusive and more active lifestyles
- Enhance cultural and leisure activities
- Ensure that the right type of development is in the right place
- Deliver the necessary supporting infrastructure
- Provide high quality public and private spaces
- Maintain and enhance a more sustainable environment.

The vision is for Chelmsford's transport system to become 'best in class', offering enhanced connectivity and access to opportunities for residents, commuters, visitors and businesses to support the sustainable economic growth of the city.

Harlow Local Development Plan

The Harlow Local Development Plan (HLDP), once adopted, will replace the existing Adopted Replacement Harlow Local Plan (2006-2011). Development locations, amounting to 4,500 dwellings, focus around the east of New Hall (east Harlow) and infill sites in the Harlow urban area. Five scenarios were presented in a consultation period in 2014 to accommodate a further 7,500 to 10,500 dwellings and 8,000 to 12,000 jobs. The consultation also included consideration of a Northern Bypass.

Epping Forest District Council – New Local Plan

Epping Forest District Council's (EFDC) original plan was adopted in 1998. The Local Plan Alterations were subsequently adopted in 2006 replacing parts of the 1998 Local Plan. The new Local Plan is expected to be adopted in 2017 and EFDC is currently assessing a number of sites as a result of the Strategic Land Availability Assessment (SLAA). This includes 11,300 dwellings and 425,000m² of employment land.

General:

The scheme will be beneficial in supporting government policies for economic generation and growth in the London-Stansted-Cambridge-Peterborough corridor to which the A414 directly connects.

The DfT national RBS objectives are shown in 2.1 and the scheme aims to address each of the five objectives, with the possible exception of walking and cycling, where only limited

	<p>footway improvements are proposed.</p> <p>The national cycle route No 1 already provides a more pleasant and safer alternative to the A414 by using country roads that follow a similar east-west route and it is unlikely, without spending vast sums of money, that much could be accomplished specifically for cyclists along the A414.</p> <p>The specific objectives for the scheme are listed in 2.2 along with how they will be achieved. Additionally the Essex Local Plan Transport Priorities are shown.</p> <p>As stated, the A414 Chelmsford to Harlow Route Based Strategy supports the SELEP Vision to 'Create the most enterprising economy in England' and the single SELEP goal 'to promote steady, sustained economic growth over the next two decades' by improving access to employment, markets and suppliers, with a particular emphasis on access to Harlow's three Enterprise Zone sites.</p>																		
2.4. Summary outputs (3.2 will contain more detail)	<p>Specific to this bid:-</p> <table><tr><td></td><td>17/18</td><td>18/19</td><td>19/20</td><td>20/21</td><td>Totals</td></tr><tr><td>Jobs</td><td>0</td><td>0</td><td>1,730</td><td>2,300</td><td>4,030</td></tr><tr><td>Homes</td><td>0</td><td>0</td><td>455</td><td>455</td><td>910</td></tr></table>		17/18	18/19	19/20	20/21	Totals	Jobs	0	0	1,730	2,300	4,030	Homes	0	0	455	455	910
	17/18	18/19	19/20	20/21	Totals														
Jobs	0	0	1,730	2,300	4,030														
Homes	0	0	455	455	910														
2.5. Planning policy context, consents and permissions	<p>A Programme Timing Plan can be found at Appendix F.</p> <p>As all schemes are contained within current highways land, no exterior planning consents are required.</p> <p>For all components, plans are being finalised and bus / safety improvements have been defined.</p>																		
2.6. Delivery constraints	<ul style="list-style-type: none">• More extensive Stats work required than originally identified• Public reaction to the final level of plans• Careful adoption of appropriate traffic management throughout the construction period. <p>There are various sets of Stats work scheduled at the different locations, but the biggest and most expensive is the communications (Vodafone, BT etc) Stats work at the Four Wanz roundabout location – approximately £450k for this site alone. Because the roundabout is a major junction and provides access into Ongar, the Stats work is more acute and the concern is that once work commences, further unmarked stats may be discovered.</p>																		
2.7. Scheme dependencies	<p>Because the improvements have been identified through a route based strategy approach, to deliver the required level of improvement on this corridor, these schemes all need to go ahead, because, if only part of this improvement package is delivered, it will not have the required effect.</p>																		
2.8. Scope of scheme and scalability	<p>The scope of this bid is to deliver a package of schemes to provide highways capacity, passenger transport and safety improvements for the Chelmsford to Harlow corridor.</p> <p>Because the package involves four distinct elements, it would be possible to defer or cancel individual items. However, this would have a detrimental effect on the overall benefit of the package. The impact of not providing an overall route based strategy would be reduced and the general taxpaying public and users may judge this to be a missed opportunity.</p>																		
2.9. Options if funding is not secured	<p>If funding for this package is not secured, it would not be possible for ECC to fund the complete works without support. As described above, individual elements could be considered, but, on their own, they would not have the same level of impact.</p> <p>Doing nothing is not an option, because with the steady progression of development along this corridor, the network will become increasingly constrained.</p>																		

3. ECONOMIC CASE

3.1. Impact Assessment

For Scheme Appraisal Summary Table please see Appendix D.

Positive impacts (inc. jobs & homes)	Negative impacts
Journey time improvements	None identified so far
Improved safety	
Improved access to new homes	
Improved access to jobs	
Improved public transport connections	

Modelling approach:-

- **Widford** – Junctions 9
- **Four Wantz Roundabout** – Junctions 9
- **Widening** – Junctions 9

Originally, the approach to and departure from Widford roundabout was to be considered as part of this package. However, after subsequent investigation and further modelling it was agreed to only proceed with improvements to the approach to the roundabout.

One other option for Four Wantz was to remove the roundabout and signalize the junction, but modelling results indicated that this option would provide less benefits than the current proposal to realign the roundabout.

The original RBS included recommendations to improve the Talbot roundabout, but the plans seriously affected the entrance to a builder's yard and had major stats implications. It was felt appropriate, therefore, to defer proposed actions at this roundabout.

Provisional plans included improvements to the grade separated roundabout above M11 Junction 7. However, with plans for a new junction at Junction 7A and proposals to modify J8, it was felt that these would reduce demand on J7 and negate the need for further improvements at this time.

3.2. Outputs

Specific to this bid (details above in Section 2.3) and up to March 2021:-

Jobs

- Science Park, Harlow - 2,500 jobs
- London Road Enterprise Zone – 1,500 jobs out of a total of 5,000
- Enlarged school at Ongar – 800 pupils and 70 full time staff (30 incremental)

New Homes

- 910 in North Weald and Ongar.

3.3. Wider benefits

Access to the three Enterprise Zone sites (2 between the A414 and London Road and the other off the A414 Edinburgh Way) will be improved.

Additionally, access will be improved to the large housing development at New Hall off the A414 / London Road.

Depending on demand and scheduling, it may be possible for the bus operator to introduce improved schedules leading to a more frequent and a more reliable bus service along the A414, which, in turn, will stimulate greater use of the service and reduce car usage.

3.4. Standards

All works will conform to regular building and highways standards.

3.5. Value for money assessment

See below – Sections 3.12 and 3.13.

3.6. Options assessed

Private funding is not an option, so that the only other opportunities for funding are through SELEP and ECC.

The Option Assessment Report from the route based strategy is attached, which demonstrates the methodology used and the assessment of each option.

- **Widford Roundabout** – The 'Do Nothing' alternative would be viable, but not acceptable, as traffic continues to grow at this junction. There is no real 'Do Minimum' alternative, as once it has been agreed to proceed with the improvement, then the work would have to be completed.
- **Four Wantz Roundabout** – The 'Do Nothing' alternative would be viable, but not acceptable, as traffic continues to grow at this junction. There is no real 'Do Minimum' alternative, as once it has been agreed to proceed with the realignment, then the work would have to be completed.
- **Southern Way to Clock Tower Widening** – As with Four Wantz, the 'Do Nothing' alternative would be viable, but not acceptable, as traffic continues to grow at on this key link. There is no real 'Do Minimum' alternative, as once it has been agreed to proceed with the dualling, then the work would have to be completed.
- **Safety Improvements** – 'Doing Nothing' would be viable, but would definitely be regarded as a real missed opportunity as this route does suffer from incidents which could be avoided. A 'Do Minimum' alternative would be to be selective about which improvements to introduce, but given that these are as a result of a professional safety audit, it would not be appropriate to ignore them. The 'Do Something' alternative would again be a selective selection, but, as before, it would be inappropriate. The 'Do Optimum' would be the complete scheme, as previously described.
- **Public Transport Improvements** – The 'Do Nothing' alternative would be viable, but given that we are trying to encourage sustainable transport, it may be regarded as a missed opportunity. Both 'Do Minimum' and 'Do Something' alternatives would be to be selective about which improvements to introduce, but given the relatively low cost, it is recommended to proceed with the complete scheme - 'Do Optimum'.

A SWOT Analysis is shown below:-

<p>Strengths:</p> <p>The only city in Essex, with a fast growing population</p> <p>Well-established partnership working with CCC</p> <p>Strong and unique connectivity to the markets of London and the south-east, with onward connections to Europe and other international markets</p> <p>High employment rate</p> <p>Strength of Harlow's expanding Enterprise Zones</p> <p>Significant environmental and historical assets</p> <p>Both towns served by major railway line with good connectivity to London</p>	<p>Weaknesses:</p> <p>Major road congestion at peak times</p> <p>Slow journey times accessing Chelmsford</p> <p>Cycleway alternatives exist by using completely different route</p> <p>Towns not directly connected by railway line</p>
<p>Opportunities:</p> <p>Fully utilise the land, labour and capital assets to achieve Chelmsford and Harlow's economic and growth potential</p> <p>Important locations for housing development</p> <p>Commercial development</p> <p>Improving sustainable transport links</p>	<p>Threats:</p> <p>Potential decline of London as a world financial services centre</p> <p>Prevailing economic conditions discourage private sector investment, including bringing forward key development sites</p> <p>Public concern that growth will lead to increased congestion as a result of failure to invest in adequate infrastructure improvement</p> <p>Significant change following Brexit decision may bring changes in policies and investor confidence</p>

	Fully realise the potential of economic links with London, including capacity to accommodate growth to the East of London	Potential construction cost increases Possible time delays Public concern that growth will lead to increased congestion as a result of failure to invest in adequate infrastructure improvements	
3.7. Scheme assessment	Category of impacts	Quantified / Qualitative impact	Large Beneficial to Large Adverse
	Economy	Business Users and Transport Providers Reliability Impact on Business Users Regeneration Wider Impacts	Large Beneficial Large Beneficial Large Beneficial Large Beneficial
	Environment	Noise Air Quality Greenhouse Gases Landscape Townscape Heritage Biodiversity Water Environment	Slight Beneficial Slight Beneficial Slight Beneficial Slight Beneficial Slight Beneficial Neutral Neutral Neutral
	Social	Commuting & Other Users Reliability Impact on Commuting and Other Users Physical Activity Journey Quality Accidents Security Access to Services Affordability Severance Option Values	Large Beneficial Moderate Beneficial Slight Beneficial Moderate Beneficial Moderate Beneficial Neutral Moderate Beneficial Slight Beneficial Neutral Slight Beneficial
	Public Accounts	Cost to Broad Transport Budget Indirect tax	Slight Beneficial Slight Adverse
	<ul style="list-style-type: none">For the modelling and appraisal methodology, see below.For a summary of the economic case, see below.		

3.8. Transport KPIs

As a fundamental part of the contract between Essex County Council and Ringway Jacobs there are 60 measurable KPIs for the total contract. Of these, the following four are relevant to this scheme:-

KPI Ref No	KPI	Target	YTD
JTR3	95% of journeys on specified routes are undertaken within target time range	95.00%	94.4%
SC4	Percentage increase in average daily cycling trips	+ 2.5%	+ 2.7%
SE3	Number of people killed and seriously injured	593	621
SE4	Number of people slightly injured	3531	3732

3.9. Assumptions

Junctions were assessed for Do-Minimum and Do-Something, Base (2020) and Forecast (2036) using Junctions9 software.

TUBA was used to assess value for money. TUBA 1.9.8 was applied as the latest available at the time of the analysis. TUBA 1.9.9 became available on 26th August 2017, but not yet applied.

A 60 year appraisal period was used which should be visible within the scheme file provided with the TUBA input.

Vehicle classification was based on traffic surveys, which were also the basis for junction assessments. TAG (July 2017 Databook) default values for proportions of travel in work and non-work time, vehicle occupancy etc. were used where no robust local data was available. Forecast demands were obtained from work on Local Plans and models, incorporating adjusted TEMPro and local forecasts.

Annualisation was over 253 weekdays. There are continuous traffic counters which record long-term flows by 15-minute intervals and data for 2016 was analysed for the duration of peak flows. No inter-peak modelling was undertaken and only AM and PM peak periods assessed. The flow data provided Peak Hour to 3-hour Peak Period ratios for the AM and PM periods, as shown in Appendix C.

As input to the economic appraisal, all estimates had:

- Base year of assessment
- Allowance for Risk
- 60-year DM and DS maintenance profiles
- Preparation in term of design and diversion of statutory undertakers' equipment taking place in 2017 and 2018, construction starting in 2018, with phased opening dates through 2018 and 2019
- GDP deflation values for 2016 and 2017 prices from WebTAG Databook July 2017.
- Costs separated by Construction, Development, Supervision as per cost estimate breakdown provided in Appendix E1.
- With costs in 2016 and 2017 values, and deflated to 2010, as a simplification costs were not inflated to a future year and deflated from there.
- 44% optimism bias was added for all elements, except maintenance cost, 15% on low risk, low impact schemes (safety and bus stops).
- No sunk or past costs were included in the appraisal.

For bus stop improvements, bus schedule data by day was obtained from bus operator timetables and an analysis of the usage of specific stops on each route. These were then expanded to full year forecasts and growth added in line with planned developments.

For safety improvements, an assessment was taken over the five years of collision data that showed 122 slight injury, 5 serious injury collisions and 1 fatality. The proposed safety measures are considered to address 29 of the injury collisions that occurred in the five year period to 31 July 2016. Using estimated collision savings taken from the RoSPA Manual, it is considered that an average of 10.96 of these collisions could be addressed, averaging 2.2 collisions per year. Benefits were only projected 10 years ahead and priced and discounted to 2010 values.

It was not possible to assess the wider economic benefits, although an estimate has been

	made based on Business User Benefits per TAG A2.1. More details are provided in the Note on Economic Evaluation at Appendix C.		
3.10. Sensitivity tests	Sensitivity tests have not been undertaken at this stage.		
3.11. Appraisal summary			
Category of impact	Impacts typically monetised	Impacts that can be monetised	Impacts currently normally monetised
Economy	PVB: Business users and providers: £6.491m	Reliability regeneration Wider impacts See Appendix C	Townscape heritage Biodiversity Water
Environment	Not assessed at this stage	Landscape Not assessed at this stage	Security Access to Services Affordability
Social	PVB: Commuting Users: £2.345m Other users: £5.159m Highway capacity enhancement scheme with positive, albeit low, expected benefit to safety and journey quality – not assessed. Lower net journey times will add to journey quality.	Reliability option and non-use values Not assessed at this stage	Severance Not assessed at this stage
Public accounts	Broad Transport Business Cost: £4.407m		
3.12. Transport value for money statement			
	Present values in 2010 prices and values		
PVB	£14.600m		
PVC	£4.407m		
NPV = PVB – PVC	£10.193m		
Initial BCR = PVB/PVC	3.31		
3.13. Value for money summary			
Sensitivity tests have not yet been conducted, but will be as the scheme develops.			
	Assessment	Detail	
Initial BCR	3.31	Conservative and standard TAG assessment undertaken	
Adjusted BCR	3.46		
Qualitative Assessment	Largely Beneficial	Based on journey time improvements, collision reduction and improved sustainable transport	
Key risks, sensitivities	Forecast growth of both traffic Cost increases	Sensitivity testing not undertaken at this stage. Traffic Growth based on Local Plans NTM / TEMPro adjusted growth. Risk and Optimism Bias included in appraisal.	
VfM category	BCR = High		

4. COMMERCIAL CASE

4.1. Procurement	<p>Essex County Council (ECC) are committed to providing best value in the delivery of major highways schemes across the county. ECC has undertaken numerous procurement processes for major schemes.</p> <p><u>Procurement Strategy</u></p> <p>The eastern Highways Alliance and SMARTe and the Highways Agency Framework have all been used extensively in prior major projects eg Sadlers Farm, Army & Navy Improvements, Chelmsford and Roscommon Way, Canvey.</p> <p>Construction will be delivered through the Essex Highways Service Direct Delivery Framework using supply chain partners.</p> <p>The benefits of procuring the scheme through this route are:-</p> <ul style="list-style-type: none"> • Early involvement with the contractor • Use of Supply Chain partners who are familiar with the delivery of smaller complex projects under tight deadlines. • Flexibility and opportunity to accelerate the delivery of smaller elements through the 'Walk, Talk and Build' process, thus increasing confidence in project delivery timeframe. • The utilisation of the Framework is endorsed by the ECC procurement team and the ESH Construction Management Group.
4.2. Commercial dependencies	<ul style="list-style-type: none"> • Essex Highways will be the delivery partner for design of the scheme • The construction will be subject to tender process through the Eastern Highway Alliance (EHA) • ECC have a good track record of scheme delivery through this process • Use of the EHA ensures a ready supply chain / Contractors.
4.3. Commercial sustainability	<p>The project will include an ongoing maintenance programme over the next 60 years, as is normal for all new road schemes.</p> <p>Apart from scheduled maintenance, there will be no requirement for cash flow injections post-completion.</p>
4.4. Compatibility with State Aid rules	<p>Funding for this scheme does not constitute state aid.</p>
4.5. Commercial viability	<p>Throughout the development of the scheme, risks will be identified, recorded and actively managed. Where appropriate, risk owners will be allocated and tasked with eliminating risks, where possible, or identifying mitigation measures for residual risks. The same ethos will be taken through to the delivery stages of the scheme.</p> <p>The quantified risk register will be updated as part of the procurement process to collate and cost, as accurately as possible, construction related risk. This process will inform a more competitive tendering process.</p> <p>The approach to risk transfer will be such that the management of a particular risk will rest with the party best placed to manage them.</p> <p>The costs on the project have changed and reduced significantly since the bid was put forward. ECC will be reflecting the changed costs and profiling as part of its ongoing capital programme budget iteration process.</p> <p>Any cost overrun will be met by ECC.</p> <p>The declaration from the S151 officer will be submitted by ECC as part of the final submission, once ECC governance processes have been completed.</p>

5. FINANCIAL CASE

5.1. Total project cost and basis for estimates	£4.346m
5.2. Total SELEP funding request	£2.173m Capital funding is requested in the form of a grant.
5.3. Other sources of funding	£2.173m ECC

5.4. Summary financial profile

Funding Profile (£m)	17/18	18/19	19/20	20/21	Total
SELEP Request	0	1.200	0.973		2.173
ECC Contribution	0	1.200	0.973		2.173
Third party & other contributions					
Total	0	2.400	1.946		4.346

Costs (£m)	17/18	18/19	19/20	20/21	Total
Preliminaries		0.310	0.065		0.375
Site Preparation		0.067	0.005		0.072
Land					
Scheme Preparation		0.186	0.233		0.419
Barriers, Fencing		0.024	0.046		0.070
Drainage		0.058	0.035		0.093
Earthworks		0.088	0.100		0.188
Footways, Kerbs		0.247	0.540		0.787
Signs & Lines		0.035	0.160		0.195
Lighting & Electrical		0.029	0.110		0.139
Landscaping & Ecology		0.005	0.005		0.010
Risk		0.413	0.383		0.796
Inflation		0.042	0.134		0.176
Stats		0.786	0.062		0.848
Management		0.110	0.069		0.179
Total	0	2.400	1.946		4.346

5.5. Viability: How secure are the external sources of funding?

Type	Source	How secure?	When will the money be available?
Public	SELEP LGF	Dependent on this bid	2017
	ECC	Secure	2017
Private			

5.6. Cost overruns

ECC will bear any cost overrun risk for the project.

5.7. Delivery timescales

The main risks associated with the delivery timescales of the project are as described above.

5.8. Financial risk management

ECC will bear all risk for the project as part of its role as the Highways Authority.

5.9. Alternative funding mechanisms

- No loan funding is requested.
- None of the investment will be repaid.

6. DELIVERY/MANAGEMENT CASE

6.1. Project management

Project Organisation

The organisation to deliver the scheme is indicated in Figure 12 below. The roles and responsibilities of the parties indicated in the figure are described in the following paragraphs.

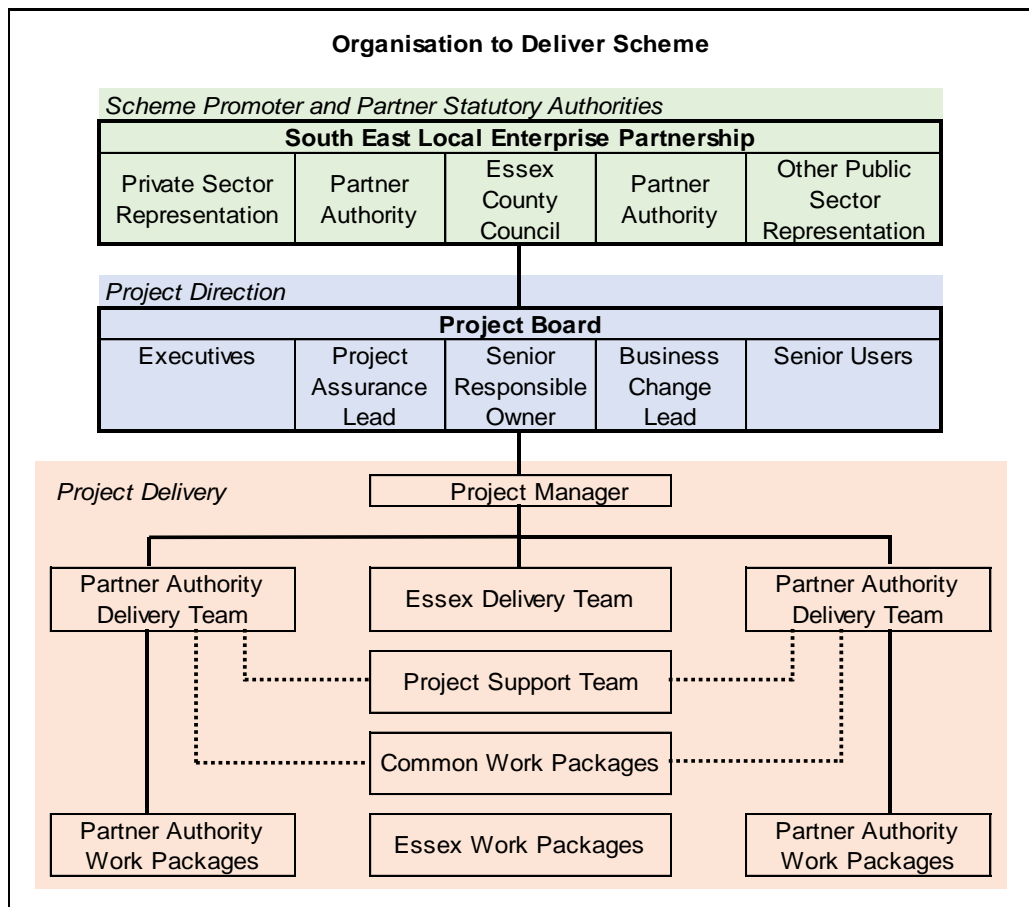


Figure 12: Arrangements for Scheme Delivery

Roles of Key Interested Parties:

South East Local Enterprise Partnership Board (SELEP) – brings together senior officers and transport portfolio holders of the partner statutory authorities promoting the scheme. Essex County Council acts as the lead authority for the scheme and provides the project's Senior Responsible Owner.

The arrangements between the statutory authorities promoting the scheme are in the process of being formalised through a joint working partnership agreement. This sets out the basis for governance of the project and for the financial contributions to be made by each party.

The Project Board – is responsible for the direction and overall management of the scheme. The Project Board is chaired by the Senior Responsible Owner and made up of the Executive and Senior User for each of the partner statutory authorities, the Project Assurance Lead and the Business Change Lead. These roles are defined below. Project Board meetings are normally held every six weeks. The Project Manager reports regularly to the Project Board, keeping members informed of progress and highlighting any issues or concerns.

The responsibilities of the Project Board include:

- Setting the strategic direction of the project;
- Defining the scope and setting the timescales for major project milestones;
- Approving the appointment of the Project Manager;

- Providing the Project Manager with the strategy and decisions required to enable the scheme to proceed to programme and resolve any challenges;
- Securing necessary approvals through the partner statutory authorities;
- Approving the project scope of work, programme and budgets, as well as any subsequent changes;
- Signing off completion of each stage of the project and authorising the start of the next stage; and
- Monitoring project risks and taking any appropriate action to mitigate risks.

Strategic Partnership Board – formed from Highways England and ECC and is responsible for managing the scheme and handling of any issues. HE will also provide technical support and advice.

Delivery Teams – reporting to the Project Manager, the Delivery Teams (one for each partner statutory authority) are responsible for organising and delivering work packages on the highways under the authority's jurisdiction. The Essex Delivery Team has the additional responsibility for common work packages.

Project Support – this team is responsible for project administration, including document control, project team communications, arranging meetings, updating plans, and chasing up the completion of actions.

Individual Roles:

Senior Responsible Owner (Andrew Cook, Director, Highways & Transportation, ECC) – has ultimate responsibility and delegated authority for ensuring effective delivery of the scheme on time and on budget.

Project Manager (Elliot Smith, Infrastructure Project Manager, ECC) – is the individual responsible for organising, controlling and delivering the scheme. The Project Manager leads and manages the project team, with the authority and responsibility to run the project on a day-to-day basis. They also will be assigned the task of running and updating the risk register and organising the monitoring of the delivery of the programme objectives.

Executives – represent the group in each partner statutory authority with responsibility for obtaining funding for the scheme (Chris Stevenson, Head of Connected Essex Integrated Transport, ECC) and securing resources to deliver it (Ben Finlayson, Head of Infrastructure Delivery, ECC).

Sponsor – the role of major sponsor is coordinated through the Transportation Strategy and Engagement Group (Hannah Neve, David Sprunt and Alan Lindsay, ECC).

Commissioning Delivery Manager (Gary MacDonnell, Project Manager, Commissioning Delivery, ECC) - The Commissioning Delivery Manager will provide coordinated management of projects associated with change management activities to achieve the aims and objectives associated with external funding requirements.

Senior Users (including David Forkin, Senior Manager, Head of Maintenance; Sean Perry, Head of Transportation, Planning and Development, ECC and Braintree District Council) – represent the group who will oversee the future day-to-day operation of the scheme.

Project Assurance Lead (Erwin Deppe, Client Services Director, Ringway Jacobs) – provides an independent view of how the scheme is progressing. Tasks include checking that the project remains viable, in terms of costs and benefits (business assurance), the users' requirements are being met (user assurance), and that the project is delivering a suitable solution (technical assurance).

6.2. Outputs

See Section 2.4 above.

Output	17/18	18/19	19/20	20/21	Total
Direct jobs	0	0	1,730	1,200	4,030
Indirect jobs	TBE	TBE	TBE	TBE	TBE
Housing completions	0	0	455	455	910

<p>6.3. How will outputs be monitored?</p>	<p>A Benefits Realisation Plan has been produced (see <i>Appendix J</i>) and monitoring / evaluation will be undertaken at the appropriate points during scheme development. Monitoring activities will be aligned to those best placed to do so and to existing regular monitoring and evaluation work. Land use development related outputs are routinely monitored by planning authorities and this information will be tracked and linked to scheme completion where appropriate.</p> <p>Essex Highways will conduct traffic / bus counts and analyse Trafficmaster for journey time changes.</p>																																																
<p>6.4. Milestones</p>	<p>Widford Roundabout</p> <table border="1"> <thead> <tr> <th>Project milestone</th><th>Indicative date</th></tr> </thead> <tbody> <tr> <td>Preliminary design</td><td>Now</td></tr> <tr> <td>Detailed design</td><td>June 2018</td></tr> <tr> <td>Tender</td><td>September 2018</td></tr> <tr> <td>Start construction</td><td>April 2019</td></tr> <tr> <td>End construction</td><td>September 2019</td></tr> </tbody> </table> <p>Four Wantz Roundabout</p> <table border="1"> <thead> <tr> <th>Project milestone</th><th>Indicative date</th></tr> </thead> <tbody> <tr> <td>Preliminary design</td><td>Now</td></tr> <tr> <td>Detailed design</td><td>June 2018</td></tr> <tr> <td>Tender</td><td>September 2018</td></tr> <tr> <td>Start construction</td><td>January 2019</td></tr> <tr> <td>End construction</td><td>September 2019</td></tr> </tbody> </table> <p>Widening – Southern Way to Clock Tower</p> <table border="1"> <thead> <tr> <th>Project milestone</th><th>Indicative date</th></tr> </thead> <tbody> <tr> <td>Preliminary design</td><td>Now</td></tr> <tr> <td>Detailed design</td><td>November 2017</td></tr> <tr> <td>Tender</td><td>December 2017</td></tr> <tr> <td>Start construction</td><td>March 2018</td></tr> <tr> <td>End construction</td><td>September 2018</td></tr> </tbody> </table> <p>Bus and Safety Improvements</p> <table border="1"> <thead> <tr> <th>Project milestone</th><th>Indicative date</th></tr> </thead> <tbody> <tr> <td>Preliminary design</td><td>Now</td></tr> <tr> <td>Detailed design</td><td>June 2018</td></tr> <tr> <td>Tender</td><td>September 2018</td></tr> <tr> <td>Start construction</td><td>January 2019</td></tr> <tr> <td>End construction</td><td>September 2019</td></tr> </tbody> </table>	Project milestone	Indicative date	Preliminary design	Now	Detailed design	June 2018	Tender	September 2018	Start construction	April 2019	End construction	September 2019	Project milestone	Indicative date	Preliminary design	Now	Detailed design	June 2018	Tender	September 2018	Start construction	January 2019	End construction	September 2019	Project milestone	Indicative date	Preliminary design	Now	Detailed design	November 2017	Tender	December 2017	Start construction	March 2018	End construction	September 2018	Project milestone	Indicative date	Preliminary design	Now	Detailed design	June 2018	Tender	September 2018	Start construction	January 2019	End construction	September 2019
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<p>6.5. Stakeholder management & governance</p>	<p>Stakeholders</p> <ul style="list-style-type: none"> Liaison with key stakeholders (such as developers, land owners, Chelmsford City Council, Harlow District Council, Epping Forest Council) will be essential to ensure engagement and buy-in, and also to ensure work programmes are suitably aligned. All three councils are aware of this project and are supportive of it. They have attended two stakeholder workshops already and we will continue to engage them. A public engagement event for Four Wantz will be held in which we will include information on this project to secure public engagement and buy in, and so any detailed outcomes can be taken into account in the design and construction process. <p>The overall aim is to involve key stakeholders as much as possible. Key stakeholders will be actively involved in delivery and decision making through an effective stakeholder engagement process.</p> <p>The objectives for the Stakeholder Engagement Plan are that it:</p> <ul style="list-style-type: none"> Communicates and reinforces the branding of the overall plan; Improves awareness and understanding of the proposals; Allows the Project Board to obtain timely feedback on proposals; 																																																

	<ul style="list-style-type: none"> Helps gauge the level and nature of any opposition that may arise to the proposals and address these appropriately; and Enables the Project Team to explore the opportunities to establish a consensus, as the basis for successful implementation of the proposals. <p><i>Letters of support to follow.</i></p>
6.6. Organisation track record	<p>Essex Highways / Ringway Jacobs have been responsible for delivering all non-HE highway schemes in Essex since April 2012. All schemes are run to tight budgets and timing constraints and this programme would be managed in the same way.</p> <p>Essex County Council has, or is, in the process of delivering £50m of transport improvement schemes through Pinch Point, SELEP LGF and LSTF funding. The majority of the following schemes are operational and were delivered on programme and to budget:</p> <ul style="list-style-type: none"> Mill Yard, Chelmsford - £2.9m A414 Maldon to Chelmsford - £4.0m A414 Harlow Pinch Point Package - £15.1m Colchester Integrated Transport Package (ITP) - £12.7m A127 Resilience Package - £5.1m Colchester LSTF - £2.0m Colchester Town Centre - £5.0m South-East LSTF £5.0m Colchester Park and Ride £7.19m Basildon ITP (phase 1) - £2.05m
6.7. Assurance	S151 Officer confirms that adequate assurance systems are in place and evidence can be provided of financial performance over the last three years.
6.8. Equalities Impact Assessment	<i>See Appendix H.</i>
6.9. Monitoring and evaluation	<p>A Benefits Realisation Plan has been developed and will be refined further as part of the business case development to confirm the principal benefits of the scheme. Lessons learned from prior projects are automatically fed through to new projects on inception.</p> <p>A requirement of the SELEP Assurance Framework is that each scheme will have an evaluation plan produced prior to final approval, independently reviewed, and monitored in accordance with this plan. This monitoring will be done according to government guidance and will, where appropriate, include 1 and 5 year reports.</p> <p>A monitoring and evaluation plan for the scheme will be developed as an output of the full business case work. The plan would be informed by the quantitative and qualitative analysis undertaken for the key performance metrics and wider benefits anticipated.</p> <p>ECC is mindful of the need to review and monitor highway network performance at various stages of scheme implementation to manage and minimise any potential negative scheme impacts. A process of monitoring and evaluation will be implemented to support and inform ongoing wider monitoring activities that are in place, utilising where possible survey data which is already collected.</p> <p>Surveys will need to capture volumes, patterns of movement and journey times for all modes of transport including private vehicles, public transport, and non-motorised users. Traffic volumes, speeds and journey times will be monitored at key locations within the area affected by the scheme.</p> <p>Road safety impacts will be monitored as part of routine county-wide annual monitoring programmes to verify future accident incidences, numbers and locations.</p> <p>The process evaluation will be ongoing throughout the life of the project and will be managed by the Project Executives and reported through the Project Board. Lessons learned as part of the development of the scheme will be reported.</p>

	<p>Process Evaluation Monitoring reports will be produced at key milestones. Impact Evaluation Reports will be produced in line with key scheme progression and delivery milestones.</p> <p>The management of risk in delivering to the monitoring and evaluation requirements will also been taken into account and mitigation measures set out in the risk register.</p> <p>Monitoring will be conducted at 1 year and 5 years after scheme opening. Monitoring will be conducted based on flow, speed and congestion data (from Trafficmaster) – 1 and 5 year, collision data (from Essex Police), bus passenger numbers from bus operators and from surveys – probably only at 5 years, unless requested specifically.</p>
6.10. Post completion	The scheme will remain in the control of ECC.

7. RISK ANALYSIS

Likelihood and impact scores:

5: Very high; 4: High; 3: Medium; 2: Low; 1: Very low

Risk Management

A proactive risk management procedure is in operation, including a quantified risk assessment approach, which ensures that risks are continuously identified, owners assigned and mitigation measures put in place. Regular reviews check the status of each risk and regulate their control and mitigation. Project procedures also require that should the likelihood or severity of risks be identified as increasing by this process, responsibility for its mitigation is escalated upwards through the project management chain to ensure that this is achieved.

All risks are currently owned by the partner authorities. As the project develops it is expected that some of these risks will be transferred to contractors constructing the infrastructure. In addition, Essex County Council uses a proprietary online Risk Register to assess levels of risk and to track the progress of the risk management strategy for the scheme. The §151 Officer also has access to this system. Risks are categorised into five main areas, i.e.:

- Project and programme risks related to delivery;
- Consultation and stakeholder acceptance;
- Reputational risks to the project partner authorities (and ultimately the contractors and service providers);
- Statutory Processes; and
- Financial and funding risks.

Risk Allocation

ECC will bear all risk for the project as part of its role as Highways Authority.

A summary of the major risks is shown below.

Further detailed risks are shown as part of the QRAs which can be seen at Appendix E.

Type	Description	Responsibility	Mitigation / Proposed Resolution	Probability	Impact
Design	Design and construction scope changes	Essex Highways / ECC	Clear communication and early confirmation of scope	Low	Medium
Utilities	Discovery of undetected utilities during construction	Essex Highways	Undertake early surveys with trial holes	Medium	Medium
Ground Conditions	Unforeseen soft spots and voids requiring redesign	Essex Highways	Undertake early surveys with trial holes	Low	Medium
Traffic Management	Potentially complex and costly with approvals required	Essex Highways	Consult early and work closely with Network Management	Low	Medium
Tender Prices	Tender prices at variance with estimates and client budget	Essex Highways	Obtain early estimates, compare with other recent information and work with suppliers	Low	Medium
Costs	Construction costs escalation	Essex Highways	Monitor regularly and develop alternative actions as necessary	Low	Medium
Stats Costs	C3 Prices at variance with estimates	Essex Highways	Timely requests, utility mapping and trial holes	Low	Medium
Approvals	Time consuming processes with legal and cost implications	Essex Highways	Commence approval process early	Low	Low
Weather	Adverse conditions could jeopardize programme timing	Essex Highways	Plan programme taking account of likely weather conditions and provide programme float	Low	Low
Project	Lack of capacity to deliver the programme in full	ECC	Ensure resources are allocated and identify potential contingency support	Medium	Medium

8. DECLARATIONS

8.1. Has any director / partner ever been disqualified from being a company director under the Company Directors Disqualification Act (1986) or ever been the proprietor, partner or director of a business that has been subject to an investigation (completed, current or pending) undertaken under the Companies, Financial Services or Banking Acts?

No

8.2. Has any director / partner ever been bankrupt or subject to an arrangement with creditors or ever been the proprietor, partner or director of a business subject to any formal insolvency procedure such as receivership, liquidation, or administration, or subject to an arrangement with its creditors

No

8.3. Has any director / partner ever been the proprietor, partner or director of a business that has been requested to repay a grant under any government scheme?

No

If the answer is "yes" to any of these questions please give details on a separate sheet of paper of the person(s) and business(es) and details of the circumstances. This does not necessarily affect your chances of being awarded SELEP funding.

I am content for information supplied here to be stored electronically and shared in confidence with other public sector bodies, who may be involved in considering the business case.

I understand that if I give information that is incorrect or incomplete, funding may be withheld or reclaimed and action taken against me. I declare that the information I have given on this form is correct and complete. I also declare that, except as otherwise stated on this form, I have not started the project which forms the basis of this application and no expenditure has been committed or defrayed on it. I understand that any offer may be publicised by means of a press release giving brief details of the project and the grant amount.

8.4. Signature of Applicant

8.5. Print Full Name

8.6. Designation	
8.7. Date	