SMALL SCHEMES

EXECUTIVE SUMMARY OF BUSINESS CASE

For

A127 Corridor for Growth

Capacity Enhancements & Network Resilience Package

Please note that this proforma is designed to collect key information about the project.

The scheme promoters are encouraged to attach any additional supporting information to this business case proforma.

Project type (rail, road, LSTF, integrated package, maintenance etc.): Road Enhancement / Resilience
Type of bid: Medium Project (total project cost is between £8 and £15m)
Project Location: A127 Corridor between M25 and County Boundary with Southend
Project start date: 2015/16
Project complete date: 2019/20
Project development stage: Detailed Design
Promoting authority name: Essex County Council
Project Manager's name and position: Principal Transport Strategy & Engagement Officer
Project Manager's contact phone number:
Project Manager's email address:

Specify the weblink where this business case will be published:

Version Control

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The Strategic Case

1. Project Description

1.1. Purpose

The A127 corridor is a vitally important primary route for the South Essex area which connects the M25, Basildon and Southend (including London Southend Airport). At peak periods, the A127 carries traffic volumes which exceed those on many urban motorways elsewhere in the UK. The route is heavily congested, especially during peak periods, when the road is extremely sensitive to incidents and accidents resulting in unreliable journeys. Realising much of the proposed growth in the area depends upon addressing the significant reliability and capacity issues within the A127 corridor.

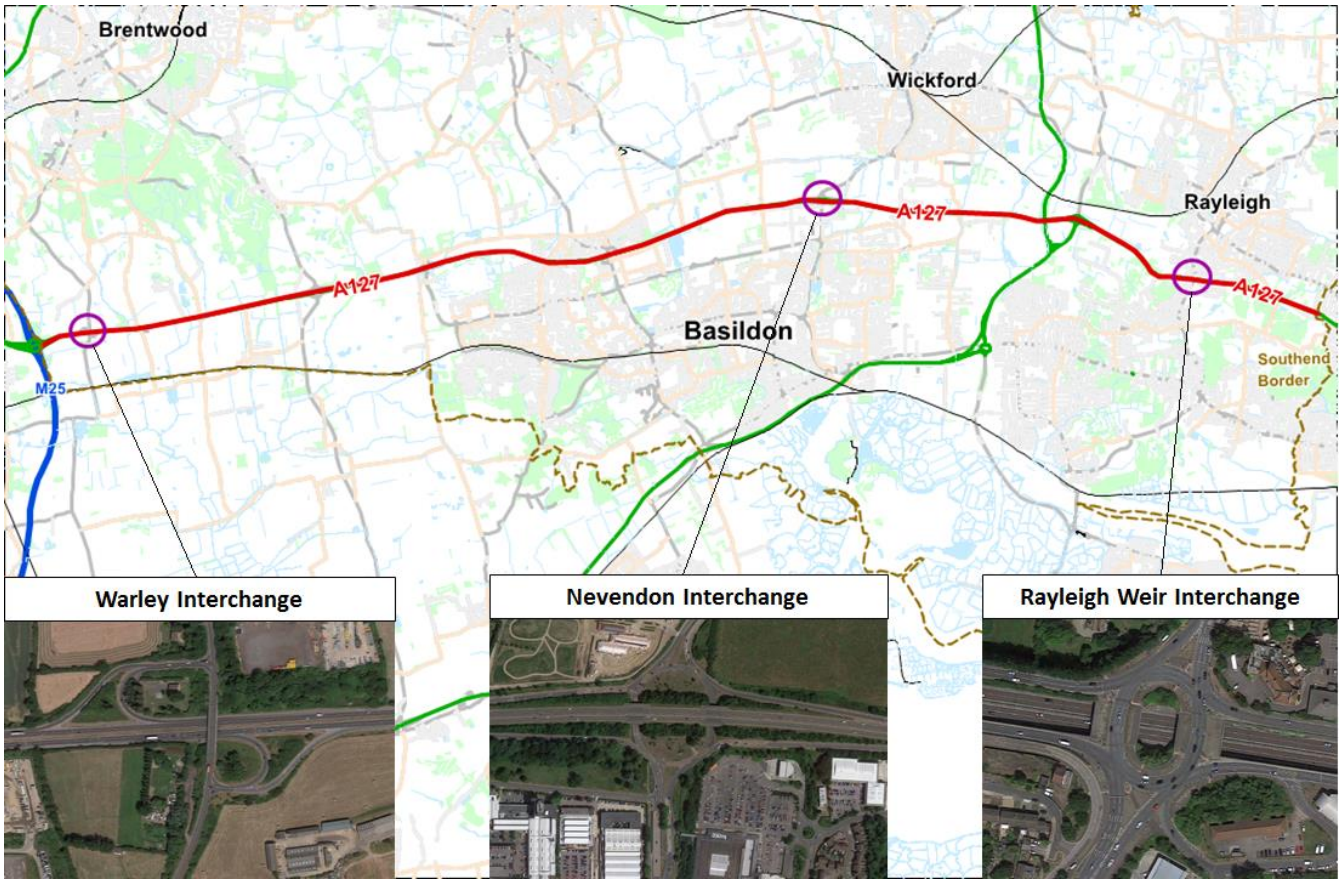
The objectives of this scheme are:

- To support housing and job growth
- To support current and emerging Local Development Plans
- To make best use of the existing highway network
- To reduce congestion at key pinch-points on the network
- To improve resilience of the corridor
- To improve journey time reliability

1.2. Brief description

The A127 Capacity Improvements and Network Resilience Package, of which this is the first phase to be funded by SE LEP, includes the following components which are detailed in the Appendix:

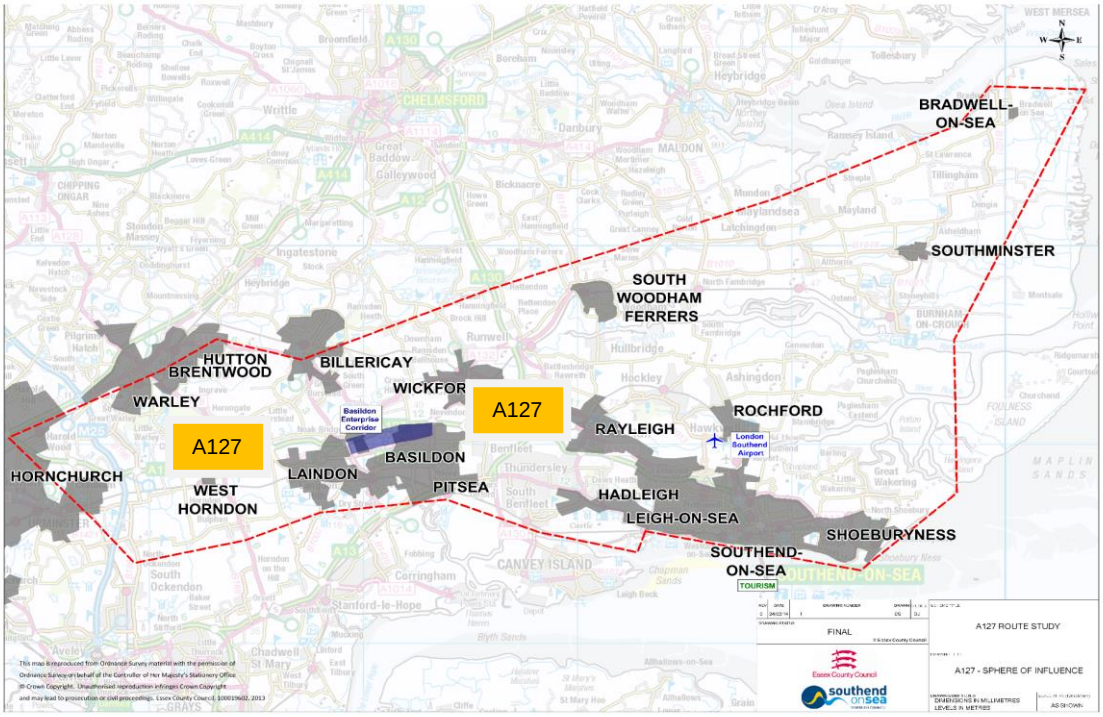
- A127 / A132 Nevendon interchange – capacity improvements to a grade separated junction – *Appendix 1a*
- A127 / A129 Rayleigh Weir interchange – signals upgrade – *Appendix 1b*
- A127 / B186 Warley interchange – installation of signals on slip roads – *Appendix 1c*
- A127 Signing improvements – *Appendix 1d*



1.3. Strategic context

The A127 corridor is a vitally important primary route for the South Essex area which connects the M25, Basildon and Southend (including London Southend Airport). It also provides access to the wider areas of Basildon, Brentwood, Billericay, Canvey Island, Rochford and Wickford and has strategic links to the A130, A129 and A13. From the Fairglen interchange, it is the primary route to and from the Southend Central Area.

The Corridor has a wide sphere of influence as shown on the plan below:-



The A127 carries a significant amount of traffic with volumes in excess of 70,000 vehicles per day. As a result, it is extremely sensitive to incidents such as accidents and broken down vehicles, especially during the peak periods. In addition, the A127 has an outstanding legacy of maintenance, capacity and safety issues which need addressing. The plan below shows the current peak congestion levels:-

To enable growth in South Essex, the A127 requires substantial improvement and a higher level of

maintenance.

The 'A127 Corridor for Growth' is a partnership project between Essex County Council and Southend-on-Sea Borough Council. The 'A127 Corridor for Growth Economic Plan' sets out the rational and supporting evidence in detail and is available, if required, or is accessible on the web.

Alongside this package of improvement works for the corridor, a bid was made to the DfT for maintenance funding under the Challenge Fund. The two packages complement each other. However, the Challenge Fund bid was not successful on this occasion. Had the funding been awarded it was planned that works would be combined and coordinated to gain economies of scale and to reduce congestion and delays to road users during construction.

A separate business case will be submitted for the A127 Fairglen / A130 Interchange Improvement scheme, as it is required to be fully 'WebTAG' compliant and is a DfT retained scheme. This interchange is a significant junction along the corridor which is operating over capacity carrying 112,000 vehicles in a 12 hour period.

The SE LEP's Strategic Economic Plan aims to:

- enable the creation of 200,000 sustainable private sector jobs over the decade to 2021, an increase of 11.4% since 2011,
- complete 100,000 new homes by 2021, which will entail increasing the annual rate of completions by over 50% in comparison with recent years; and,
- lever investment totalling £10 billion, to accelerate growth, jobs and homebuilding.

The SEP acknowledges that growth depends on planned investment in transport and other infrastructure focussed on 12 growth corridors over the entire SE LEP area, and including the following corridors within Essex:

- A120 Haven Gateway;
- A12 and Great Eastern Mainline;
- M11 West Anglia Mainline: London-Harlow-Stansted-Cambridge;
- A127 London-Basildon-Southend;
- A13 London-Thurrock-Canvey Island.

This project is part of the overall A127 London-Basildon-Southend Corridor for Growth package. The A127 Corridor Capacity Enhancements and Network Resilience package is identified in the SE LEP SEP as being necessary to support the delivery of the SEP outcomes.

The SE LEP Strategic Economic Plan identifies the A127 as a key corridor for growth. The A127 links London with Basildon, Southend and Rochford. In Basildon, the A127 corridor is home to one of the largest single concentrations of advanced manufacturing companies in the South of England. It makes substantial contributions to the prosperity of the SE LEP area and offers considerable growth prospects. Comprehensive redevelopment plans for Basildon Town Centre are well advanced, including the relocation of South Essex College's Basildon Campus to the Town Centre.

At peak periods, the A127 carries traffic volumes which exceed those on many urban motorways elsewhere in the UK. Realising much of the growth will depend upon addressing the significant capacity issues within the A127 corridor, and, in particular, creating space on our transport networks to accommodate growth in the main urban areas of Basildon, Laindon, Wickford and Billericay. The SE LEP states that, in the A127 corridor, there is potential to directly enable the creation of 8,775 jobs and 1,450 new homes by 2021, and a further 48,927 jobs and 32,655 homes through proposed transport schemes.

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.

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 lifelong-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.

Investment in the A127 Corridor is wholly compliant with the Outcomes Framework 2014-2018 and the aspirations of the Economic Plan for Essex (EPfE) and incorporates the Greater Essex Integrated County Strategy (ICS) and the ECC Economic Growth Strategy. The package of proposed improvements supports the delivery of the Essex Local Transport Plan, and has the support of partner authorities.

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:

- Our 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.
- 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 essential, therefore, that we develop and maintain the infrastructure that enables our residents to travel and our businesses to grow. Delivery of this package of A127 Corridor schemes will drive economic growth in Essex, widening access to employment and improving the competitiveness of the Essex economy and by driving sustainable economic growth for Essex communities and businesses.

This proposed investment in the South Essex area is essential for the delivery of this ambition.

Case for Change

2. Business needs / Reasons

- ***Outline the rationale for making the investment with reference to the problems with the status quo.***

The South Essex transport network is a vitally important lifeline for the movement of goods and people. It is essential to ensure that the area connects more efficiently with London, Basildon and Southend (including London Southend Airport). If improvements within this corridor are not provided, then the area will not see the appropriate levels of investment and growth which will be to the detriment of existing users of the transport network, businesses and residents. This scheme represents an opportunity to make changes to the transport network and how people use it, which will act as the catalyst to support economic growth and development at a strategic level.

- ***What evidence is there of need for the project?***

Transport network improvements to provide better access to the key strategic employment locations within the A127 corridor are necessary to support significant economic growth and development in the area.

Basildon is home to one of the largest single concentrations of advanced manufacturing companies in the South of England. It makes substantial contributions to the prosperity of the SE LEP area and offers considerable growth prospects. Comprehensive redevelopment plans for Basildon Town Centre are well advanced, including the relocation of South Essex College's Basildon Campus to the Town Centre.

London Southend Airport, located to the eastern end of the A127, is expanding and the associated business park will commence build in the next 12 months. The development at and around the Airport will bring over 7,000 new jobs; provide accommodation for a new MedTec site and see 3,500 new homes.

It is clear that, if these areas are to grow, additional new housing will be needed to support the increase in jobs, placing additional pressure on the road network. Improvements in journey times and additional road capacity are required. This package of schemes will provide the impetus and ability for businesses and housing to expand across the region, enabling a much improved flow of goods and commerce through an efficient and accessible transport network, whilst, at the same time, facilitating a more strategically managed road network.

The South Essex population of approximately 345,000 is projected to increase by over 30,000 within the next seven years. South Essex plans for significant regeneration and growth with an additional 19,300 homes and 16,000 jobs, all proposed by 2021. These figures are a further indication of the underlying need to improve the areas around the employment hubs to aid the growth in the most efficient way possible. This will provide improved access to employment, ensuring that South Essex is an attractive location to invest and for companies to grow, by providing easy access to potential employees, markets and suppliers, including London and Europe.

- ***What impact does the scheme have on releasing the growth or overcoming barriers to growth?***

The current issues experienced within the strategic road network which constrain economic growth and development within the South Essex area include:

- Major congestion around the employment hubs along the A127, especially during peak periods, which prevents the efficient movement of goods and people
- Significant constraints on general traffic and public transport services experienced through a number of pinch points on the strategic road network, which have exceeded levels of capacity and cause congestion on the road network.

- ***What will happen if the proposed project is not funded from LGF?***

Unless this package is provided, the existing A127 corridor will become even more congested than at present, and accessibility within South Essex will continue to decline and journey times increase. This will affect the ability for the area to attract investment and consequently limit growth.

- ***Is there a potential to reduce costs and still achieve the desired outcomes?***

This is a scalable package of measures and reduction in scheme funding will have a proportionate effect on delivery and, consequently, the benefits outcome.

3. Benefits

3.1.1. *Estimate jobs and homes (direct, indirect, safeguarding, construction etc)*

The A127 Corridor will directly support 57,700 new jobs and 34,100 new homes, including 7,380 jobs and 3,731 new homes identified with the Southend Airport JAAP, but which is subject to a separate business case.

	2015/16	2016/17	2017/18	2018/19	2019/2020	2020/2025	Post 2025	Total
Jobs	6380	6380	6380	6380	6380	15950	9250	57100
Homes	2800	2800	2800	2800	2800	13600	9500	37100

- *Describe the methodology of how the number of jobs and homes is estimated*

The forecast increase in jobs and homes has been well established through various studies and it has been assumed that the delivery of new jobs and homes is flat-rated over the period, as per above.

- *List all main direct and indirect; quantitative and qualitative; cash releasing and non cash releasing benefits associated with the investment*

4. Risks

4.1. *Provide a summary of key risks to the delivery of the scheme (including financial, commercial, economic and management).*

4.2. *Risk Assessment*

Risk description	Likely-hood	Impact	Likelihood x Impact	Mitigation	Owner
Stakeholder / Partnership opposition or management issues, public and / or organisational issues	2	3	6	Develop robust plans for stakeholder management and communications. Establish joint governance arrangements and early partnership work	ECC
Statutory Processes: Planning, PI, Orders, CPO	1	5	5	There are unlikely to be any barriers of this nature affecting these proposals, however some traffic orders may be	Ringway Jacobs / ECC

				required	
Finance: escalation of project costs	3	3	9	Project costs will be carefully monitored as projects progress. However, the entire package is scalable, if required	Ringway Jacobs / ECC
Programme overrun; delivery issues	2	3	6	All potential impacts will be reviewed regularly, but no significant issues are likely. Extensive use of existing delivery capabilities through term contracts etc.	Ringway Jacobs
Technical project risks	3	3	9	Impact of utilities on delivery – regular early discussions proposed	Ringway Jacobs
Tender prices at variance with estimates leading to re-design or scheme cancellation	4	4	16	Obtain other recent tender information for use in price base comparison	Ringway Jacobs / ECC
Weather hinders or delays the works	2	2	4	Introduce programme float to cover potential slippage	Ringway Jacobs
C3 prices at variance with estimates leading to re-design or scheme cancellation	4	4	16	Ensure C3 and C4 requests are issued with sufficient time to allow for modifications	Ringway Jacobs
Discovery of undeclared utilities during construction	4	4	16	Undertake GPR surveys and timely trial holes	Ringway Jacobs
Discovery of contaminated ground or material on site	3	3	9	Undertake timely site investigation	Ringway Jacobs
Unforeseen ground conditions - re-design required	3	3	9	Undertake timely site investigation	Ringway Jacobs
Claims from nearby residents on noise and vibration	3	3	9	Undertake pre-construction monitoring. Ensure contractor is aware of NVH responsibilities	Ringway Jacobs
Invasive species found on-site, additional cost for site clearance	1	1	1	Unlikely, but undertake site survey	Ringway Jacobs
Construction cost escalation	4	4	16	Undertake pre-construction monitoring	Ringway Jacobs
Unforeseen discovery of protected species.	1	1	1	Undertake surveys for protected species, early site clearance	Ringway Jacobs
Contractor fails on delivery timing resulting in programme overrun	3	4	12	Tender scheme using appropriate quality questions to identify potential issues	Ringway Jacobs
Cost and time overrun associated with mitigating Tree Preservation Orders	2	2	4	Survey trees and develop mitigation early	Ringway Jacobs / ECC
Construction industry is overstretched and unable to deliver the schemes due to lack of resource. Note that some contractors are already declining to bid for schemes due to lack of resource. Likely impact is cost escalation or scheme delay.	3	3	6	Monitor industry tender prices and scheme delivery.	Ringway Jacobs / ECC

Reputational Risk - Risk of not being able to deliver all schemes at once	2	3	5	Careful management of aspirations.	Ringway Jacobs / ECC
Statutory undertakers lack resource to design, procure and implement diversionary works. Likely impact is scheme delay.	3	4	12	Early consultation with Utility companies and confirmation of programme for diversion work	Ringway Jacobs
Design Change - increased ambition throughout feasibility phase of project - Increased cost and programme delay.	2	3	5	Careful management of aspirations.	Ringway Jacobs / ECC
Design - Scheme costs do not anticipate the appropriate level of inflation or recognises an overheated market.	1	4	4	Appropriate levels of risk to be allocated to ensure inflation is accounted for, and that market is monitored.	Ringway Jacobs
Stakeholder Engagement - Accommodation works required to satisfy adjacent properties - Additional costs	3	3	9	Early engagement with stakeholders to establish specific requirements.	ECC
Utilities - Required Diversion works above the original assumptions made prior to detailed design - Increased cost and delay to programme.	3	4	12	Early utilities involvement. Timely C3 and C4 estimates.	Ringway Jacobs
Environmental - Invasive species found on-site - additional cost for site clearance, delay to programme	3	4	12	Earlier site investigation to establish local environmental factors.	Ringway Jacobs
Environmental - Unforeseen discovery of protected species. Increase cost - Delay programme.	3	4	12	Earlier site investigation to establish local environmental factors.	Ringway Jacobs
Procurement - Route to construction is unclear due to insufficient framework options - Programme delays	1	4	4	Establish route to procurement as early as practical to ensure delays are removed.	Ringway Jacobs

The Economic Case

5. Options

*5.1. Please provide description of the main **options** for investment, together with their relative advantages and disadvantages (a SWOT analysis)*

Strengths	Weaknesses
• Key strategic route from London to Southend • Provides connections to other strategic routes eg M25, A13, Dartford Crossing etc • Connects existing development sites • Provides major links to ports and airports • Links to major international businesses, across a range of sectors • Serves 600,000 + population and over 240,000 jobs • 75% of route is not in close proximity to residential / housing • Well known across South Essex • Key route for weekend travel and tourism • Majority of junctions are grade separated • Dual carriageway for the entire length • Lit for the entire length • Central crash barriers for 95% of the length	• Bad public perception • Old road – originally built 90 years ago – not fit for 21st century – design life exceeded • Too many junctions / side roads / entrances - safety improvements required • 70,000 + vehicles a day – over capacity in most places • Knock-on effects of incidents to other routes – A13 etc & local roads • No hard shoulders / SOS phones • Lack of maintenance investment – asset has deteriorated • Location of utilities – affects future planning • Many short trips taken (on / off) • Poor links to public transport • Safety concerns - especially lay-bys • Lack of business confidence • Lack of technology in the past
Opportunities	**Threats**
• Strategically important to growth areas of BEC, London Southend Airport and town centres • Links to other major development schemes eg London Gateway • Additional housing and employment • Provide leverage for business investment / support • Improve confidence with businesses, communities and developers to invest • Promote corridor at LEP and national level • Potential to widen route • Provide sustainable transport measures eg P&R for Basildon, Southend etc • Provide better incident management • Develop a robust asset management plan • Use more advanced methods for recording asset information – provide better case for investment • Introduce better technology to manage route • Improve visual appearance – aesthetic appeal	• Infeasible / impractical / too expensive to add additional carriageways • Lack of investment to date – deterrent to development by new businesses • Climate change / weather – increased risk of flooding etc • Deterioration of network • Impact of incidents • Impact of pollution • Impact on ecology • Visual appearance could be perceived as a deterrent to investment • Use of the corridor by utility companies

Do nothing

'Do nothing' is not a viable option. The A127 wider corridor is vitally important for the South Essex area which connects the M25, Basildon and Southend (including London Southend Airport). It also provides access to the wider area such as Basildon, Brentwood, Billericay, Canvey Island, Rochford and Wickford and has strategic links to the A130, A129 and A13. From the Fairglen interchange, it is the primary route to and from Southend Central Area.

If the improvements, as outlined above, are not provided, then South Essex, and specifically Basildon and Southend will not see the appropriate or required levels of investment and growth and the lack of action will be to the detriment of existing businesses, road users and residents.

The Council will incur a reputational risk in not taking this opportunity to provide improvements and, in addition, the capacity problems associated with this wider corridor will not be overcome and will continue to affect the adjoining A130, A129 and A13 networks.

Do minimum

Any 'Do minimum' alternative would reduce the range of options within the package of schemes and will proportionately deliver less benefit. Do Minimum cost included maintenance where applicable

Do something (best and final option; least net present cost option; highest risk adjusted NPV option; etc)

This is part of a scalable package of asset and capacity improvements along the A127 Corridor, containing the following projects, as detailed in the appendix, and, as such, should be introduced together:

- A127 / A132 Nevendon interchange – capacity improvements to grade separated junction – *Appendix 1a*
- A127 / A129 Rayleigh Weir interchange – signals upgrade – *Appendix 1b*
- A127 / B186 Warley interchange – installation of signals on slip roads – *Appendix 1c*
- A127 signing improvements – *Appendix 1d*

***5.2. Recommended Option**: What is the preferred option – and why?*

The preferred option is the *'Do something'*. This is the first phase of a scalable package of measures that could be delivered on an individual basis, dependent on available budget, and could be prioritised in order of greatest benefit, but, nonetheless, should ultimately all be delivered to maximize the benefits. This will ensure improvements are made to the key locations along the corridor that will improve journey time reliability and improve the resilience of the highway network in the South Essex area.

***5.3.** Provide key information on transport performance indicators, where applicable**

**The scheme promoters are encouraged to use the existing datasets and model outputs to provide this information. The preference would be to use a spreadsheet type of analysis to provide information in the above table.*

5.4 Transport scheme assessment approach

5.4.1 Provide a brief description of a (spreadsheet-based) modelling and appraisal methodology as well as detail of data source used

5.4.2 List all assumptions made for transport modelling and appraisal

5.4.3 Provide key positive and negative impacts of the schemes in the table below as described in the Appraisal Summary Table and Social Distribution Impact analysis, where it is appropriate, supported by evidence.

Please see attached Note on Economic Assessment and Appendices Series A, B and C

Category of impacts	Quantified/Qualitative impact	Large Beneficial to Large Adverse
Economy	Business users and providers Reliability Regeneration Wider Impacts	Medium Beneficial Medium Beneficial Medium Beneficial Medium Beneficial
Environment	Noise Air Quality Greenhouse gas Landscape Townscape Heritage Biodiversity Water Environment	Neutral Neutral Neutral Neutral Neutral Neutral Neutral Neutral
Social	Commuting & Other users Accidents Physical Activity Journey Quality Reliability Option and non-use values Security Access to Services Affordability Severance	Medium Beneficial Small Beneficial Neutral Small Beneficial Small Beneficial Neutral Neutral Neutral Neutral
Public Accounts	Cost to broad transport budget Indirect tax	Neutral

The scheme promoters are NOT required to use Tuba type appraisal analysis. If any scheme promoter is interested in estimating value for money then a spreadsheet based analysis should be undertaken.

Value for Money Statement

	Present Values in 2010 prices and values
PVB	**£ 36.365,724**
PVC	**£ 9,924,494**
NPV = PVB - PVC	**£ 26,441,230**
Initial BCR = PVB/PVC	**3.66**
Adjusted BCR	**See attached notes – not adjusted**
Qualitative Assessment	**See attached notes**
Key Risks, Sensitivities	**Assumptions made, low growth**
VfM Category	**High**

Commercial Case

6. Procurement Route

Define the approach taken to asses commercial viability

The scheme cost estimates below have been derived using the Ringway Jacobs Cost Estimating Tool which is based upon commercially benchmarked data. The rates used, reflect construction projects of a similar size and nature, and are at current day prices (3rd Quarter 2014).
Essex County Council have undertaken numerous procurement processes for major schemes. Recent major schemes have included Second Avenue / A414 improvement in Harlow, Nether Mayne widening in Basildon, and the Army & Navy roundabout improvements, all as part of successful DfT Pinchpoint funding bids.

Briefly describe the procurement strategy. Set out timescale involved in the procurement process to show that delivery can proceed quickly.

Procurement Strategy

The Eastern Highways Alliance and SMARTe and the Highways Agency Framework have all been used extensively in prior major projects eg Army and Navy Improvements.

Construction of the schemes will be delivered through the Essex Highways Service Direct Delivery Framework using supply chain partners.

The benefits via this route are:-

- 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.

Risk Allocation

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

Maintenance

All highway improvement works implemented will be inspected annually and maintained by the Highway Authority.

Resources

Resources to support this project will be prioritized to ensure efficient delivery at the earliest opportunity.

Financial Case

- ***Total cost of the project***

List here the elements of gross costs, excluding optimisation bias.
Please provide the date the prices for the cost estimate is based on (e.g. Q1 2014)

	* Cost **Estimate status (E; F; D; T)**	**2014/15 £000**	**2015/16 £000**	**2016/17 £000**	**2017/18 £000**	**2018/19 £000**	**2019/20 £000**	**Total £000**
Feasibility & Procurement Cost	D			1.36				1.36
Detail Design Cost	D	0.20	0.49	0.65				1.34
Management Cost	D		0.20	0.20	0.05			0.45
Construction Cost	D			0.42	1.00	0.40	1.20	3.02
Contingency	D			0.82	0.60		0.10	1.52
Other - Stats	D		0.33	0.50	0.25			1.08
Other - Inflation	D		0.08	0.10	0.10		0.10	0.38
Sub-total Non-Works		**0.20**	**0.77**	**3.13**	**0.75**	**0.00**	**0.20**	**5.05**
Sub-total Works		**0.00**	**0.33**	**0.92**	**1.25**	**0.40**	**1.20**	**4.10**
TOTAL COST		**0.20**	**1.10**	**4.05**	**2.00**	**0.40**	**1.40**	**9.15**

*E = Broad estimate, D = Detailed estimate, T = Tender price, F= Feasibility estimate

- ***Source of funding***

List here the amount of funding sought:

Funding Source	**2014/15 £000**	**2015/16 £000**	**2016/17 £000**	**2017/18 £000**	**2018/19 £000**	**2019/20 £000**	**Total £000**
LGF		0.60	1.10	0.50	0.40	1.40	4.00
Private Developers			0.80				0.80
Borrowing							
Income							
Other							
Local Contribution Total (leverage)	0.20	0.50	2.15	1.50			4.35
Other Funding)							
TOTAL FUNDING	**0.20**	**1.10**	**4.05**	**2.00**	**0.40**	**1.40**	**9.15**

Please note that the totals for funding should match with the total for project cost.

Type of Funding	**Funding Source**	**Please identify how secure the funds are**	**When will the money be available**
Public	LGF	Allocated in Growth Deal subject to this business case	2015/20
	Borrowing		
	Income		
	Other		
	Local Contribution Total (leverage)		
Private	Caultauld Road Waste Site	Funds paid by developer and held by ECC	2016/17
	Private Developers Total		
	Local Contribution - ECC	Secure - Allocated in ECC Capital Programme 2015/16, 2016/17 and 2017/18	2015/16, 2016/17 and 2017/18

6.1. *Affordability gap*

- *Is there an affordability gap?* No, with LGF funding.

Management Case - Delivery

7. Delivery

7.1. *Provide high level information about arrangements that will ensure delivery of this project*

- Project plan

	Feasibility work	Detailed design	Procurement	Start of construction	Completion of construction
Nevendon Junction	Q4 - 2014/15	Q2 - 2015/16	Q3 - 2015/16	Q4 - 2015/16	Q3 - 2016/17
Strategic Signage	Q4 - 2014/15	Q3 - 2015/16	Q4 - 2015/16	Q1 - 2016/17	Q3 - 2016/17
Rayleigh Weir Signals	Q3 - 2014/15	Q4 – 2015/16	Q1 – 2017/18	Q2 – 2017/18	Q4 – 2017/18
Warley Junction	Q4 – 2016/17	Q4 – 2017/18	Q2 – 2018/19	Q3 – 2018/19	Q2 – 2019/20

- Project management arrangement

Background

This plan outlines the project structures and processes that will be used to govern activities.

Project Organisation

The organisation to deliver the scheme is indicated in Figure 1 below. The roles and responsibilities of the parties indicated in the figure are described in the following paragraphs.

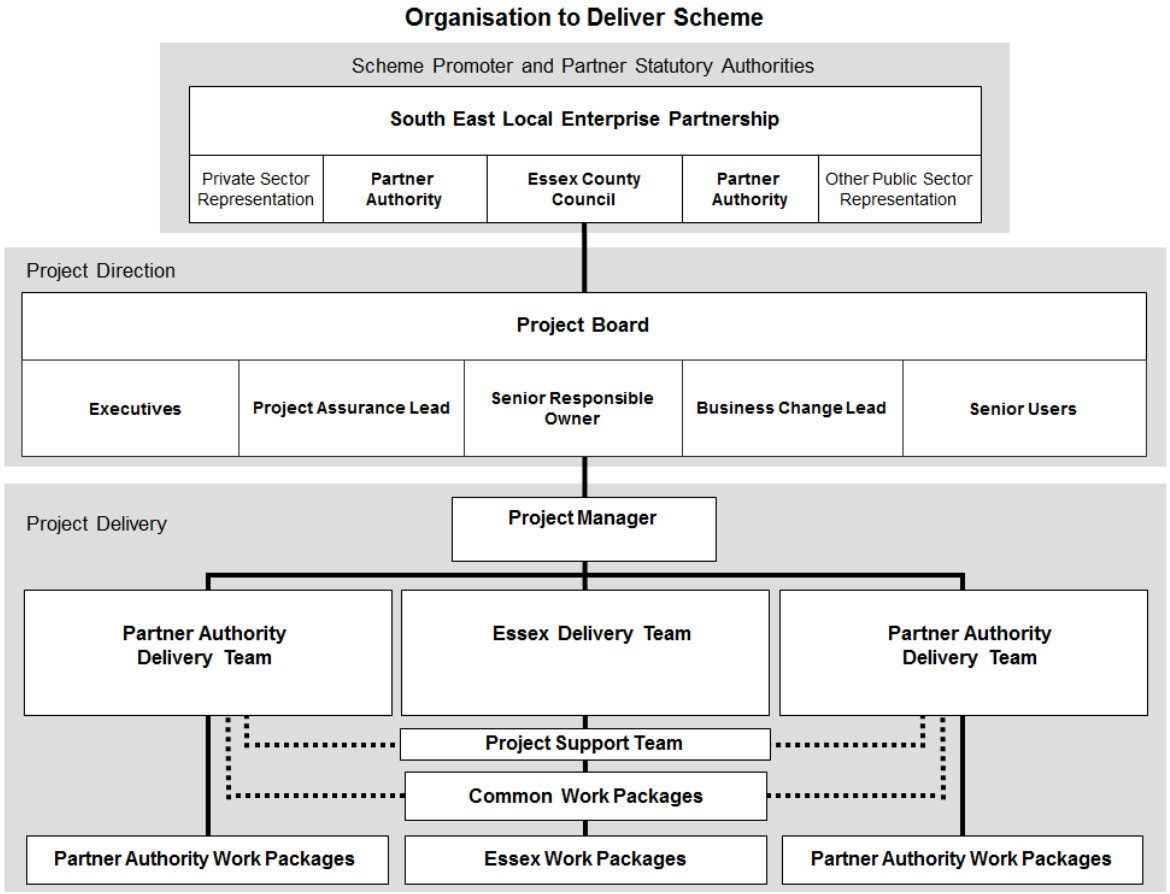


Figure 1: Arrangements for Scheme Delivery

Roles of Key Interested Parties:

South East Local Enterprise Partnership Board (SE LEP) – 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.

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, in the context of local policies and the work of the SE LEP
- 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
- Monitoring project risks and taking any appropriate action to mitigate risks.

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 – has ultimate responsibility and delegated authority for ensuring effective delivery of the scheme on time and on budget.

Project Manager / Project Sponsor - are the individuals responsible for organising, controlling and delivering the scheme. The Project Manager and Project Sponsor work in partnership to lead and manage the project team, with the authority and responsibility to run the project on a day-today basis.

Executives – represent the group in each partner statutory authority with responsibility for obtaining funding for the scheme and securing resources to deliver it. In Essex County Council, this is the Transport Strategy and Engagement Group.

Senior Users – represent the group in each partner statutory authority who will oversee the future day-to-day operation of the scheme.

Project Assurance Lead – 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).

Stakeholders

- Public consultation to secure public engagement and buy in will also be required and any outcomes of this consultation will need to be taken into account in the design and construction process.
- Liaison with key stakeholders (such as bus operators, nearby schools, developers, land owners, Chelmsford City Council, and Maldon District Council) will be essential to ensure engagement and buy in and also to ensure our work programmes are suitably aligned.

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.

Benefits Realisation Plan Summary

	Benefits	Performance Indicator	Type*	When Delivered	Responsibility for Delivery	How Measured	Success Management
1.	**Economy:** Improve the economic efficiency and reliability of the local road network by reducing congestion on the main arterial roads.	SEP	DFB	Completion of full scheme	ECC / BDC Scheme Project Managers	Measure pre-scheme peak period traffic flows, journey times baseline figures compared to post-opening. After surveys within 3 months and then 1 year after scheme opening. Surveys on existing & new network.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
2.	**Economy:** Encourage more people to use sustainable travel with improved pedestrian access and upgraded cycleway connections.	SEP	DFB	Completion of full scheme	ECC / BDC Scheme Project Managers	Measure pre-scheme peak period traffic flows, journey time baseline figures compared to post-opening – 3 months and 1 year after.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
3.	**Sustainability:** Improve sustainability by providing improved cycleway and pedestrian connections.	SEP	DFB	Completion of full scheme	ECC / BDC Scheme Project Managers	Measure cycleway usage pre- and post- scheme – 3 months and 1 year after. Conduct cycle surveys to measure levels of satisfaction – 3 months after. Similarly, conduct pedestrian surveys – 3 months after.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
4.	**Economy:** Provide improved and cost effective access to town centre.	SEP	DFB	Completion of full scheme	ECC / BDC Scheme Project Managers	Measure car peak period traffic flows, journey time baseline figures. Surveys within 3 months and then 1 year after scheme opening.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
5.	**Accessibility:** Facilitates access to town centre.	SEP	DFB	Completion of full scheme	ECC / BDC Scheme Project Managers	Conduct specific journey time surveys once scheme is complete – 3 months after.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
6.	**Safety:** Address congestion and capacity issues to the town centre for residential, commuter and commercial traffic.	SEP	DNFB	Completion of scheme	ECC / BDC Scheme Project Managers	Pre-scheme accident baseline figures compared to post opening. After data collection within 1 year after scheme opening. Figures from ECC accident data base to be supplied by Essex Police.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
7.	**Safety:** Flows will be improved as traffic is taken out of the network.	SEP	DNFB	Completion of scheme	ECC / BDC Scheme Project Managers	Pre-scheme accident baseline figures compared to post opening. After data collection within 3 months and then 1 year after scheme opening. Figures from ECC accident data base to be supplied by Essex Police.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.

	8.	**Environment:** Ensure compliance with international, national, regional and local plans, policy and legislation.	ECC / CCC Locally Defined	IB	During design and on completion of full scheme	ECC / BDC Scheme Project Managers	All current and proposed legislation & policies will be adhered to. Full consultation with all key local stakeholders during process.	Project team will use established best practices for this type of scheme.
	9.	**Environment:** Minimise project programme slippages and delays through the early identification of environmental / topographical issues.	ECC / CCC Locally Defined	DFB	During design and on completion of full scheme	ECC / BDC Scheme Project Managers	Monitor progress regularly (weekly) against programme until completion of scheme.	Undertake early Environmental and Topographical checks to avoid later issues. Project team will use established best practices for this type of scheme.

Appendix 1a

A127 / A132 Nevendon Interchange Capacity Enhancements

The A127 / A132 Nevendon Interchange is located to the north of Basildon and forms part of a key link to Wickford. The interchange suffers from significant congestion in both am and pm peaks, resulting in queues along the slip roads and on to the main A127 carriageway.

The scheme includes:

- widening the circulatory carriageway to three lanes on the roundabout under A127
- lengthening the north bound merging lanes towards Wickford
- closing the access on to the A132 north bound from Christopher Martin Road to remove traffic that currently blocks the north bound flow.
- upgrading of the signals on the roundabout to provide optimised capacity during peak periods.

The existing A127 underbridges are wide enough to accommodate carriageway widening to three lanes in each direction, between the parapets, subject to final structural approval.

The current estimate for this scheme is £2.4m. Section 106 funding of approximately £1.25m is available as match funding for the improvements.

Land is required for the widening of the north-bound carriageway. The legal process for this acquisition is programmed to start April / May 2015. It is not envisaged that there will be a requirement for any CPOs.

A communications plan is being developed. Early discussions have been held with Basildon Borough Council for support, and outline information has been provided to the Basildon Business Group. It is intended to engage in more detail with these key stakeholders once the initial design has been finalised.

Appendix 1b

A127 / A129 Rayleigh Weir Interchange – Signals upgrade

The A127 / A129 Rayleigh Weir junction suffers from vehicles on the east-bound exit slip backing up on to the mainline A127.

Apart from the volume of traffic, this is mainly caused by the signals at Stadium Way not being linked to the signals at Rayleigh Weir.

It is proposed to upgrade both sets of signals and link them with the installation of Split Cycle Offset Optimisation Technique (SCOOT) to clear queuing traffic that blocks the Weir roundabout.

Appendix 1c

A127/ B186 Warley Interchange

The A127 / B186 Warley junction suffers from congestion, and is also prone to collisions at the top of the slip roads as traffic leaving the A127 does not have good visibility in either direction of traffic approaching along the B186. In peak periods, traffic queues back-up on to the main A127 causing delays to through traffic, which in turn causes collisions. The cause of queuing traffic is the high level of traffic on the B186 which has priority over the vehicles leaving the A127.

The installation of signals at the junction will help regulate the flow of traffic. Queue detectors would be installed along the slip roads, and would be linked to the signals. Should queues be detected, the signals will be triggered and the traffic released. This will reduce the risk of traffic backing up along the A127 mainline and, in turn, reduce the risk of shunt-type collisions.

The junction exit slips can be widened on approach to the signals to provide left and right-turn lanes. This would bring greater efficiency to the junction, and increase traffic flow.

The junction area (away from the A127 mainline) will be re-classified to a 40mph limit, to reduce speeds along B186 Warley Street and to assist in the safe operation of the signalised junction.

Pedestrian footways will require either constructing or improving, with crossing points and an appropriate on-demand pedestrian phasing at the signals.

Signing and road marking in the vicinity of the junction will be improved to increase forewarning of the new junction arrangement.

There are areas of environmental concern in the vicinity of this junction, one of which concerns great crested newts, and the other concerns bats. Any new alignment design would require hedgerow and watercourse surveys. This will be taken into consideration during the design stage to minimise any effects on the area.

Appendix 1d

A127 Strategic Signing Improvements

Strategic Direction Signing

Irregularities have been identified in the signing of traffic to London / M25 on the A127 and primarily in the vicinity of A127 / A130 Rayleigh Spur. Signs require amendment or replacement, in order to show the correct destination on the relevant signs.

Telematic Signs

Additional sites for new telematic variable message signs (VMS) have been identified, in addition to the four existing sites. These locations are at strategic points on the carriageway to allow for effective management of diversion routes and to provide driver information of incidents and journey times.

Each VMS typically requires 40m of vehicle restraint system, and approximately 20m² of grasscrete (maintenance purposes) in addition to a dedicated power supply (mini feeder pillar). It is not believed that land purchase will be required for installation of the additional VMS units. It is assumed that there would be up to 20m of statutory undertakers' plant to be diverted at each location.

In conjunction with the ANPR cameras, these VMS units can display journey time information into town. Both the ANPR cameras and the VMS are operated from the Essex Traffic Control Centre (ETCC) in Chelmsford.