SMALL SCHEMES

EXECUTIVE SUMMARY OF BUSINESS CASE

For

Colchester Integrated Transport Package (ITP)

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.):	Integrated Package
Type of bid:	Medium Project (total project cost is between £8m and £15m)
Project Location:	Colchester
Project start date:	April 2015
Project complete date:	March 2017
Project development stage:	Implementation
Promoting authority name:	Essex County Council
Project Manager's name and position:	Alan Lindsay
Project Manager's contact phone number:	0330 136700
Project Manager's email address:	alan.lindsay@essex.gov.uk

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Version Control

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Signature	

The Strategic Case

1. Project Description

1.1. Purpose

Major growth and strategic development is underway in Colchester. In particular, there is significant development in the Northern Growth Area Urban Extension (NGAUE) – an area of land to the west of Mile End and south of the A12 (see Figure 1 below). A development of 2,200 homes is planned, as part of the growth in the whole Colchester Borough of 19,000 dwellings in the period 2001 to 2023.

This growth, along with other significant developments in Colchester, places strain on the existing transport network and requires a coordinated integrated transport approach to address the town's needs. There is a significant flow from the north to and from the town centre, which will only increase as NGAUE evolves, and significant flow across Colchester along the central corridor of the A133.

This integrated package of schemes will deliver a range of initiatives to encourage and improve access for all modes travelling along and across this corridor. The package will also help to reduce general traffic in the town centre as this is an alternative to the main congested route.

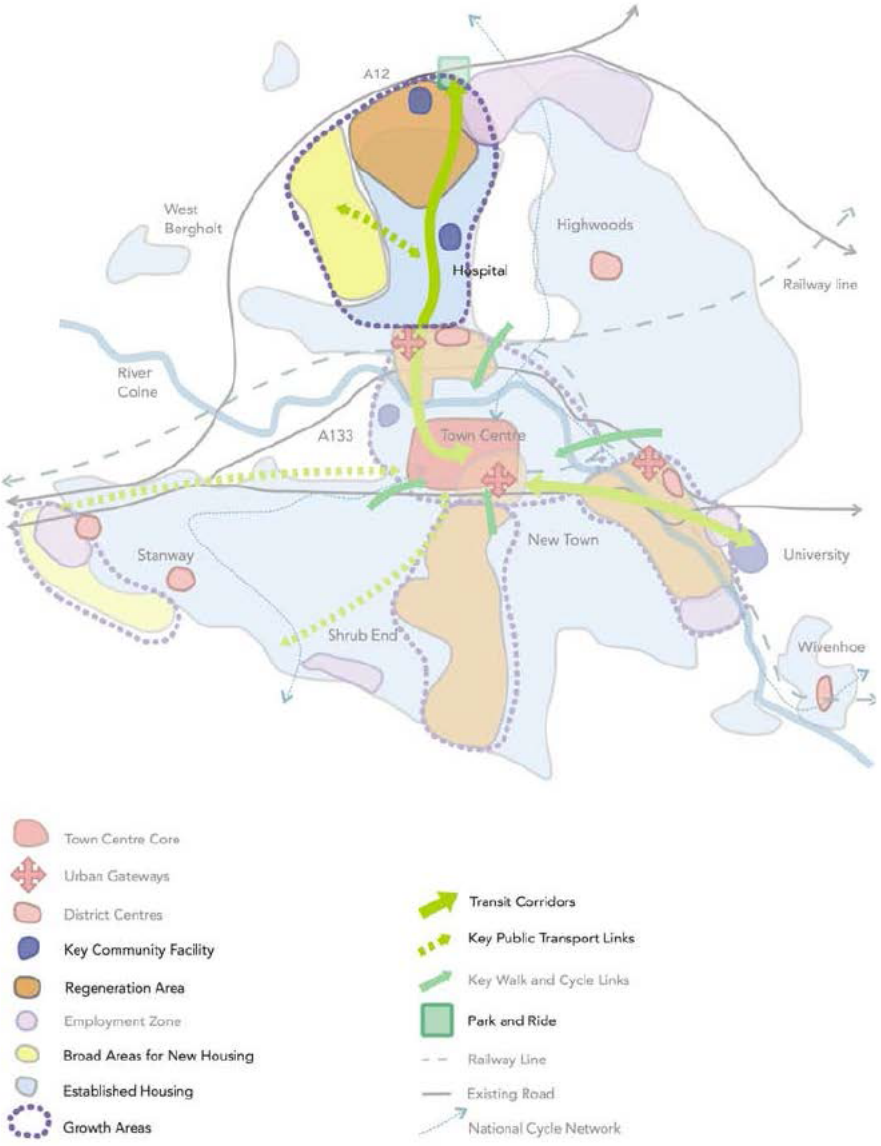

Figure 1 The growth in North Colchester

The objectives of this scheme are:-

- To introduce an integrated package of improvements
- To support housing and job growth
- To reduce traffic in the town centre
- To improve existing and new public transport services (Colchester Park & Ride etc)
- To reduce carbon emissions and improve air quality within an identified Air Quality Management Area.

1.2. Brief description

The schemes associated with the Colchester Integrated Transport Package (ITP) focus on traffic and congestion reduction, traffic management measures, and replacement of highway infrastructure, to improve the economic vitality of the town centre while delivering operational improvements across the wider town centre area.

The ultimate plan is to dual the length of the A133 from Spring Lane roundabout at the end of the exit slip from the A12 at the western side of Colchester, through to Greenstead roundabout on the eastern side of Colchester. This is a major corridor with regular high volumes of traffic and improvements can only be introduced on sections of this route at any one time. This ITP package provides improvements to key elements of this route in two strategic areas and is complementary to the introduction of Park & Ride and the Colchester Town Centre Integrated Package and Local Sustainable Transport Fund Package previously approved by SELEP..

The improvement work, that has been identified, consists of the following improvement schemes:-

- **Colne Bank Avenue widening**
  The carriageway will be widened to two lanes each way between Colne Bank roundabout and the Albert roundabout. This section of carriageway is a particular pinchpoint for traffic travelling on an east-west movement along the A133. This will ultimately tie in to the introduction of left turn slip lanes at Colne Bank roundabout and the proposed dualling of Cowdray Avenue (these later components are Developer Funded projects linked to the building of new homes and do not form part of this business case).

- **Cowdray Avenue Bridge replacement**
  Replacement of the bridge on Cowdray Avenue across the main railway line from Colchester to Clacton, Frinton and Walton, with a new structure providing two lanes each way. Preparatory and embankment work will be conducted over a phased period and then work to replace the main deck structure will be conducted at a time when the railway line can be closed to trains for a short period (eg over a Christmas or Easter break – dependent on Network Rail).

- **Ipswich Road roundabout improvement**
  Replacement of the double roundabout junction at Ipswich Road with a single roundabout to improve the performance of this key intersection. The carriageway between Ipswich Road and Harwich Road junctions will be widened to accommodate two lanes in each direction. Additionally, access to Old Coach Road from Ipswich Road, just south of the roundabout, will be closed and footway improvements will be included on the east side of Ipswich Road, with an additional crossing being installed at the previous junction with Old Coach Road.

- **Harwich Road roundabout improvement**
  Replacement of the double roundabout junction at Harwich Road with a single roundabout to improve the performance of this key junction. The carriageway between Harwich Road and Ipswich Road junctions will be widened to accommodate two lanes in each direction.

1.3. Strategic Case

Colchester is one of the fastest growing towns in the country. Over the period 2001-2023, Colchester has allocated land for 19,000 new houses and is on course to deliver this target. The adopted Core Strategy for Colchester also allows for the creation of 14,000 new jobs over the same period.

The town centre is the major employment area for Colchester, providing approximately 20,000 jobs. Maintaining reliable access between North Colchester and the town centre is essential for employment and other town centre opportunities, such as further education, retail and leisure. There are 15,000 existing jobs in the area to the north of Colchester, with a substantial proportion working at Colchester General Hospital.

To date, there has already been significant growth in north Colchester, and approximately 3,000 dwellings with

planning permission remain to be completed in the total northern area in the remainder of the strategy period, along with 3,500 highly skilled jobs in 129,320m² of employment and commercial floor space in the Strategic Employment Zone adjacent to the A12, which will balance the new homes and growth in population. Colchester town centre, already a major regional shopping centre, will also see substantial growth, with 2,000 new homes and planned increases in office and retail floorspace of 40,000m² and 67,000m², respectively.

Congestion in Colchester is negatively affecting the local economy, especially at key pinchpoints along the A133 which is a key link to Colchester Station (with 5.5 million passenger movements per annum, primarily London commuters and University of Essex students). These issues restrict traffic flows across the town centre, which leads to unreliable journey times, late deliveries and significant congestion, particularly in egressing from car parks. In addition to this, air quality is a significant problem in Colchester and the town centre has a declared Air Quality Management Area in a sector of the town that exceeds pollution limits as a result of transport emissions. The Essex Business Survey (2010) found that 35% of businesses are concerned about local traffic congestion, with the road / transport network being identified as a priority for investment.

The A133 is the only really plausible East-West cross route for Colchester without travelling through the town centre. Any improvements to this corridor will inevitably also have a positive effect on the Town Centre and on all North-South movements across this route.

To the west of the Cuckoo Farm area, adjacent to the A12 and the new junction 28, the new Weston Homes Community Stadium provides a 10,000 seat home for Colchester United and offers community meeting space, community education and training facilities, as well as conference facilities. Axial Way / United Way provides a spine to the employment area, connecting the new Community Stadium to the new Northern Approach Road phase 3 (NAR3, now named Via Urbis Romanae).

To the south of Cuckoo Farm, the former Severalls Hospital site is being redeveloped to provide 1,500 homes, as well as supporting uses, including a local centre and primary school, and public open space. The redevelopment will include the renovation and re-use of some of the former hospital buildings, alongside the replacement of some buildings.

Further transport capacity has been delivered by the new A12 junction and the recently opened Park and Ride, both of which connect into NAR3.

These infrastructure projects will deliver a new strategic access into Colchester from the north. Public transport movement along the NAR is supported by the segregated bus-only carriageway running in parallel with the main carriageway and provides a reliable and rapid connection to the town centre.

The schemes identified within paragraph 1.2 will help to alleviate congestion along a key east-west corridor by increasing capacity and removing the number of interactions at key junctions which currently restrict flow for road users.

This business case will also compliment other already approved business case packages for Colchester P&R, Colchester Town Centre and Access, and Colchester LSTF.

The South East LEP's Strategic Economic Plan (SEP) 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% by 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 in 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;

Colchester is located at the intersection of the A120 Haven Gateway and A12 Great Eastern Mainline Growth Corridors and the SEP states that; '*Colchester will accommodate significant future growth, with development planned for the town centre and the Northern Gateway creating a new leisure / sporting hub and leveraging £60m of private investment. A digital incubation centre for the creative industries in the heart of Colchester will support*

this priority sector. The development of a STEM training centre will help raise local skills to support priority sectors across the Corridor'.

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

The introduction of the Colchester ITP improvement measures will improve connectivity and transport modal choice, whilst being consistent with ECC principles and will fully support the achievement of ECC outcomes:

- The wider development at North Colchester has been identified as a key driver of economic growth in the A120 Haven Gateway corridor, creating 3,500 jobs and 3,000 homes.
- This package of improvements will help drive economic growth in Essex, widening access to employment and improving the competitiveness of the Essex economy by driving sustainable economic growth for Essex communities and businesses.

1.4. Strategic context

Colchester is the largest town in north-east Essex, with a population of 105,000, and is expected to accommodate in excess of 19,000 new houses and 14,000 new jobs between 2001- 2023. With approximately 50% of these homes already delivered, it is one of the fastest growing towns in the country.

Much of the development is focussed to the north of Colchester. A package of transport improvements, including the measures outlined above, will support development and provide high levels of connectivity from the east to the west of Colchester and across the main town corridors.

Investment in this package of improvements is wholly compliant with the aspirations of the Essex Economic Strategy and the Greater Essex Integrated County Strategy, supports the delivery of the Essex Local Transport Plan, and has the support of Colchester Borough Council.

The Economic Growth Strategy has the stated ambition to make Essex the location of choice for business; for those already based in Essex and for those who may choose Essex in the future. To grow, the Essex economy depends on the efficient movement of people, goods and information, via effective and reliable transport and communications networks, at competitive prices, to provide access to markets and suppliers. The Economic Growth Strategy also acknowledges that our future economic prosperity depends on ensuring a ready supply of development land, new housing and the co-ordinated provision of appropriate infrastructure.

This package of improvements supports the SE LEP Vision; to **'Create the most enterprising economy in England'** and the single SE LEP goal; **to promote steady, sustained economic growth** over the next two decades. The scheme improves access to employment, markets and suppliers across Colchester, to maximise the economic benefits to the SE LEP economy.

Essex County Council has been working closely with the district, borough, city and unitary councils to agree on where growth should take place in future. The results of this co-operation form the Integrated County Strategy for Greater Essex. Investment will be focused on the principal urban areas, including Colchester, as these are the main locations for growth.

The Local Transport Plan applies an incremental approach to ensuring that the transport network is fit for purpose and enables economic growth. This entails; prioritising the maintenance and smarter use of the existing transport network; making targeted investments to address local network pinch points and land to support local development; and promoting larger scale projects, only where these are required to most effectively address the transport challenges facing Essex.

Case for Change

2. Business needs / Reasons

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

The Essex Business Survey (2010) highlighted the need for infrastructure improvements. According to Essex businesses, the top three investment priorities were: information and communications technology, particularly high speed broadband networks; more reliable and cheaper transport services; and the road/transport network. Over 35% of businesses are concerned about local traffic congestion, especially large and medium companies.

Traffic Master data (below) clearly illustrates that the Colchester road network is largely at capacity, particularly at peak periods, on the key radial routes into the town. Congestion is occurring for longer time periods, year on year, demonstrating a tendency towards 'peak spreading'. Air Quality Management Areas can be found across the town.

Congestion in Colchester is already damaging the economic competitiveness of the Borough. Doing nothing would lead to a situation where none of the growth options in the town could be undertaken without additional significant congestion. This is not an option, and the Local Plan is predicated on the introduction of a range of measures to allow growth to take place.

The package of improvements will help to alleviate congestion within Colchester, by removing traffic from the town centre, which will also assist with improving Colchester P&R journey times. The A133 is a key route, especially when there are issues with the A12 around Colchester, as the A133 becomes the alternative diversion route when accidents or incidents occur on the A12.

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

Investment in this package of schemes is wholly compliant with the aspirations of the Essex Economic Strategy and the Greater Essex Integrated County Strategy. It supports the delivery of the Essex Local Transport Plan, and has the support of Colchester Borough Council.

The Essex Business Survey (2010) highlighted the need for infrastructure improvements in Colchester. According to Essex businesses, the top three investment priorities were: information and communications technology, particularly high speed broadband networks; more reliable and cheaper transport services; and the road / transport network. Over one third of businesses are concerned about local traffic congestion, especially large and medium companies.

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

The Economic Growth Strategy has the stated ambition to make Essex the location of choice for business. To grow, the Essex economy depends on the efficient movement of people, goods and information, via effective and reliable transport and communications networks at competitive prices to provide access to markets and suppliers. The Economic Growth Strategy also acknowledges that future economic prosperity depends on ensuring a ready supply of development land, new housing and the coordinated provision of appropriate infrastructure.

This package of schemes helps deliver the EGS ambition; to make Essex the location of choice for business; for those already based in Essex and for those who may choose Essex in the future. It also meets the aim of the infrastructure workstream - future economic prosperity depends on ensuring a ready supply of development land, new housing and the coordinated provision of appropriate infrastructure.

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

If this package of schemes is not introduced, the existing road and public transport networks will become even more congested and overcrowded than at present, and accessibility within and around Colchester will continue to worsen.

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

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

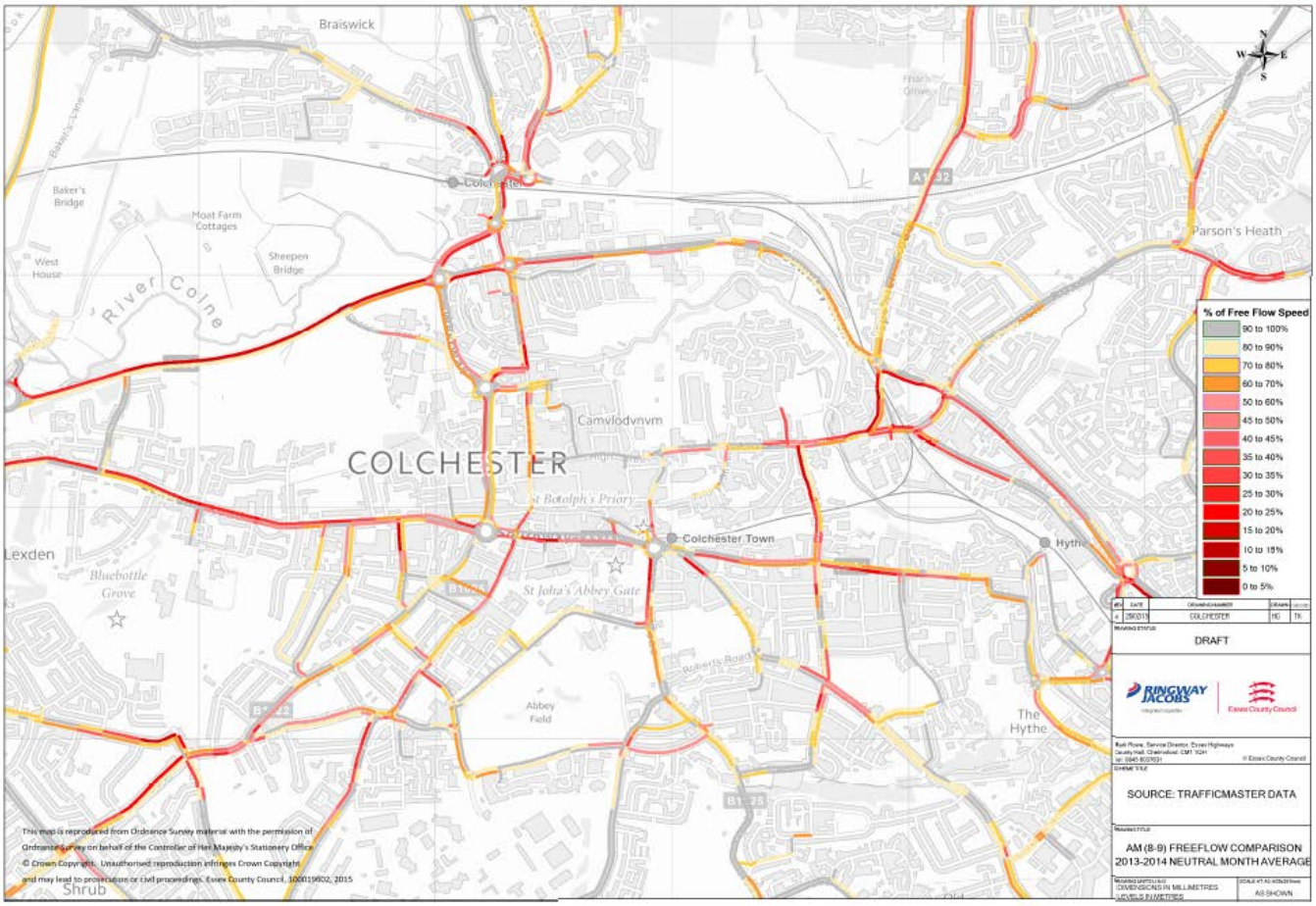

Fig 2: TrafficMaster AM Link Speeds

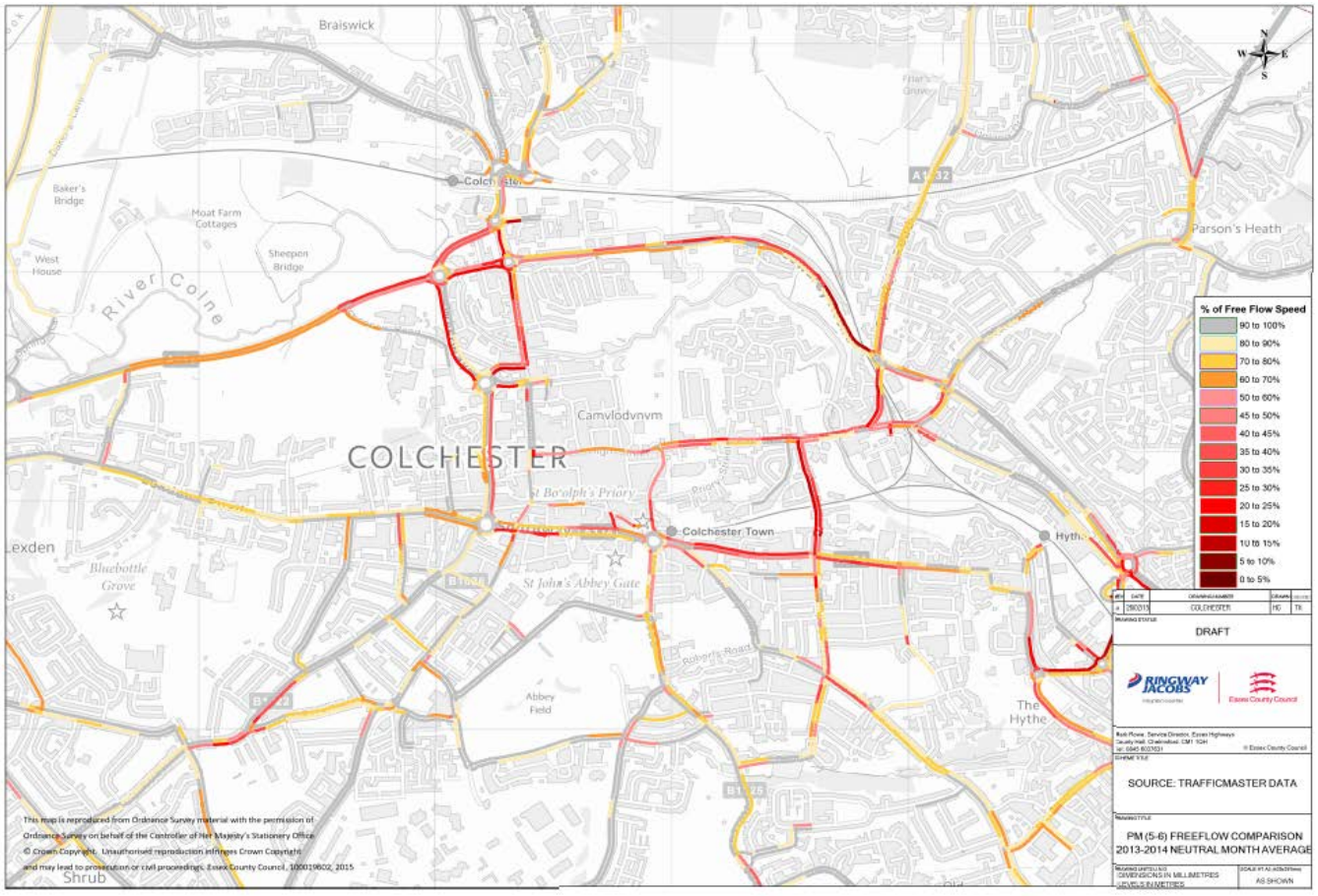

Fig 3: TrafficMaster PM Link Speeds

3. Benefits

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

	2015/16	2016/17	2017/18	2018/19	2019/2020	2020/2025	Post 2025	Total
Jobs	81	81	81	81	81	518	345	1293
Homes	1444	1444	1444	1444	1444	587	488	8295

- *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*

At this stage in the development of the package of measures, the risk likelihood is considered to be high. However, throughout the development process, it is highly likely that these risks will reduce in magnitude, and will be updated accordingly via the project board.

Risk description	Likelihood	Impact	Likelihood x Impact	Mitigation	Risk Owner
Tender prices at variance with estimates and client budget leading to re-design or scheme cancellation	4	4	16	Obtain recent tender information for use in price base.	Ringway Jacobs/ECC
Weather events hinder or delay the works	4	3	12	Identification of Programme float	Ringway Jacobs/ECC
C3 prices at variance with estimates and client budget leading to re-design or scheme cancellation	4	3	12	Timely C3 and C4 requests.	Ringway Jacobs/ECC
Discovery of undeclared utilities apparatus during construction	4	4	16	Undertake GPR surveys and timely/appropriate trial holes.	Ringway Jacobs/ECC
Significant gas valve compound observed on-site; Cost of Gas diversion exceeds estimate.	4	4	16	Timely C3 and C4 requests.	ECC
Discovery of contaminated ground or material on site (including Coal Tar)	4	4	16	Undertake timely site investigation.	ECC
Soft spots/voids discovered during construction - re design required	3	4	12	Undertake timely site investigation	Ringway Jacobs/ECC
Claims from nearby residents on noise and vibration	4	4	16	Undertake pre-construction monitoring, Ensure contractor is aware of responsibilities.	ECC
Invasive species found on-site, additional cost for site clearance	2	3	6	Undertake Site Survey	Ringway Jacobs/ECC
Construction costs escalate at greater than 2.7%	1	2	2	None	ECC

Unforeseen discovery of protected species	4	4	16	Undertake surveys for protected species, early site clearance	ECC
Contractor has failings in delivery resulting in programme overrun	3	4	12	Tender scheme using appropriate quality questions.	ECC
Poor ground conditions and asbestos in existing structure	3	3	9	Timely site and structural investigation	ECC
Cost and time overrun associated with mitigating TPO's	5	3	15	Survey Trees, discuss mitigation early	Ringway Jacobs
Restricted working due to route classification and congestion caused	4	3	12	Early liaison with Network Management to agree TM Restrictions	Ringway Jacobs
Congestion and delays may lead to bad publicity	4	3	12	Project to be managed through effective communications plan and appropriate notification	Ringway Jacobs/ECC
Claims for loss of trade from adjacent businesses as a result of traffic delays and congestion	4	3	12	Work with adjacent businesses to mitigate impact upon local businesses	Ringway Jacobs/ECC

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: • Largest town in north-east Essex with fastest growing population • Well-established partnership working with CBC • Strong and unique connectivity to the markets of London and the south-east, with onward connections to Europe and other international markets • High employment rate • Significant environmental and historical assets • Cultural and tourism appeal • Served by major railway line with good connectivity to London	**Weaknesses:** • Major road congestion at peak times within Colchester on the principal roads and junctions and in the town centre • Restricted land availability for development in some areas • Disconnected sustainable transport links - lack of connected cycleways
Opportunities: • Fully utilise the land, labour and capital assets to achieve Colchester's economic and growth potential • Large pockets of land available for housing development • Important location for housing development • Making transport links more resilient to incidents and congestion • Fully realise the potential of economic links with London, including capacity to accommodate growth to the City and the East of London	**Threats**: • Potential decline of London as a world financial services centre • Prevailing economic conditions discourage private sector investment, including bringing forward key development sites • Continuing / increasing threat to town centre viability • Lack of value employment stunting economic growth and increasing the level of under-employment • Public concern that growth will lead to increased congestion as a result of failure to invest in adequate infrastructure improvement

- *Do nothing* – See P7 above and paragraph below.

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

As described above, the long term intent is to dual the complete length of the A133 from Spring Lane roundabout to Greenstead roundabout. Other parts of this overall package have been considered, such as dualling the Avenue of Remembrance, left turn slips at Colne Bank roundabout, upgrading and improvement of Greenstead roundabout, but, in each case, the lead times and costs required are outside the scope of this LGF package and the schemes have therefore been deferred in preference to the schemes detailed.

Additionally, the package of schemes that has been identified will have more impact in improving the traffic network in north Colchester and will also beneficially alleviate traffic in Colchester town centre. This package needs to be considered in conjunction with the other Colchester Growth Fund schemes which have already been approved in Round 1 (Park and Ride, Town Centre Access and the Local Sustainable Transport Fund).

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

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.

Junctions 8 (ARCADY) software was used to model the existing situation at Ipswich Road / A133 and Harwich Road / A133 roundabouts. Two improvement measures were considered – the first included a signalised junction, which was modelled using LinSig, but the proposed signalled junction proved inherently worse than the existing layout. The eventual measure that proved most beneficial was one single roundabout, instead of two smaller roundabouts. The one single roundabout will lessen interaction and naturally provides the necessary gaps in traffic flows.

Manual Classified Junction Counts were collected on 18th October 2012 over a 12 hour period between 07:00 and 19:00 to review the performance of both the Ipswich Road and Harwich Road junctions. Pedestrian and cycle surveys were undertaken at the same time to ascertain all movements around the junctions.

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.

Category of impacts	Quantified / Qualitative Impact	Large Beneficial / Large Adverse
Economy	Business users and providers Reliability Regeneration Wider Impacts	Large Beneficial Large Beneficial Large Beneficial Large Beneficial
Environment	Noise Air Quality Greenhouse gas Landscape Townscape Heritage Biodiversity Water Environment	Slight Beneficial Slight Beneficial Slight Beneficial Small Adverse Small Adverse Neutral Neutral Neutral

Social	Commuting & Other users Accidents Physical Activity Journey Quality Reliability Option and non-use values Security Access to Services Affordability Severance	Large Beneficial Slight Beneficial Neutral Large Beneficial Slight Beneficial Neutral Slight Beneficial Slight Beneficial Neutral
Public Accounts	Cost to broad transport budget Indirect tax	Moderate Beneficial

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	£28,124,812
PVC	£13,963,167
NPV = PVB - PVC	£14,161,645
Initial BCR = PVB/PVC	2.01
Adjusted BCR	Not adjusted
Qualitative Assessment	Aspects not monetised but potentially show benefits includes Inter-peak benefits at junctions, peak spreading, small scheme at Old Coach Road, wider economic impact.
Key Risks, Sensitivities	Certainty of cost estimates – see QRA. Sensitivities tested for exclusion of bridge replacement (overall BCR 3.18), excluding future maintenance (BCR 1.62) and 26% reduction of forecast journey time savings (BCR 1.5)
VfM Category	High

Commercial Case

6. Procurement Route

Define the approach taken to asses commercial viability
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 A12 Junction 28, NAR3, Colchester Park and Ride and Berechurch Road.

Essex County Council has undertaken numerous procurement processes for major schemes. Recent major schemes have included Second Avenue / A414 improvement, Harlow, Nether Mayne widening, Basildon and Army and Navy roundabout improvement, Chelmsford all as part of successful DfT Pinchpoint funding bids. These schemes required procurement processes to appoint a principal construction contractor with adherence to restricted

timescales to complete the construction works, whilst fulfilling CDM duties and Health and Safety Regulations.

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 risks for this project as part of its role as the Highways Authority.

Maintenance

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

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)

The scheme cost estimates for the Colchester ITP schemes 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).

Cost estimates for the schemes are shown at Appendix **C**.

	* Cost Estimate status (E; F; D; T)	2015/16 (£000)	2016/17 (£000)	2017/18 (£000)	Post 2017/18 (£000)	Total (£000)
Procurement Cost }	D					
Feasibility Cost }	D	[redacted]	[redacted]			[redacted]
Detail Design Cost	D	[redacted]	[redacted]			[redacted]
Management Cost	D	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Construction Cost	D	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Stats	D	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
QRA	D	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Inflation	D	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VAT (if appropriate)						
Sub-total Non-Works		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total Works		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TOTAL COST		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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

- ***Source of funding***

List here the amount of funding sought

Funding Source		2015/16 (£000)	2016/17 (£000)	2017/18 (£000)	Post 2017/18 (£000)	Total (£000)
LGF		2,200	2,800			5,000
Private Developers						
Borrowing						
Income						
Other						
Local Contribution Total - ECC		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Other Funding						
TOTAL FUNDING		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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	2015/16 & 2016/17
	Borrowing		
	Income		
	Other (insert as many rows as required)		
	Local Contribution Total (leverage)	ECC funding contribution has S151 approval and has been allocated within the 2015/16, 2016/17 and 2017/2018 and forward Capital Programmes	2015/16 onwards
Private	Please list all developers		
	Private Developers Total		
	Other Funding ECC Capital Funding	Secure - Allocated in ECC Capital Programmes 2015/16, 2016/17 and 2017/18 and forward Capital Programmes	2015/16 onwards

6.1. Affordability gap

- *Is there an affordability gap?*

No. SE LEP LGF funding subject to draw down following approval of this business case.

ECC funding for schemes allocated LGF funding within the SELEP Growth Deal was approved by the Capital Programme Member Board and Section 151 Officer in October 2014, with funds allocated to an Economic Transport block, held within the ECC Capital Programme for 2015/16 and subsequent years, and available for draw down following SE LEP funding approval for specific schemes.

Management Case - Delivery

7. Delivery

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

Project Management Arrangements and Governance

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 4 below. The roles and responsibilities of the parties indicated in the figure are described in the following paragraphs.

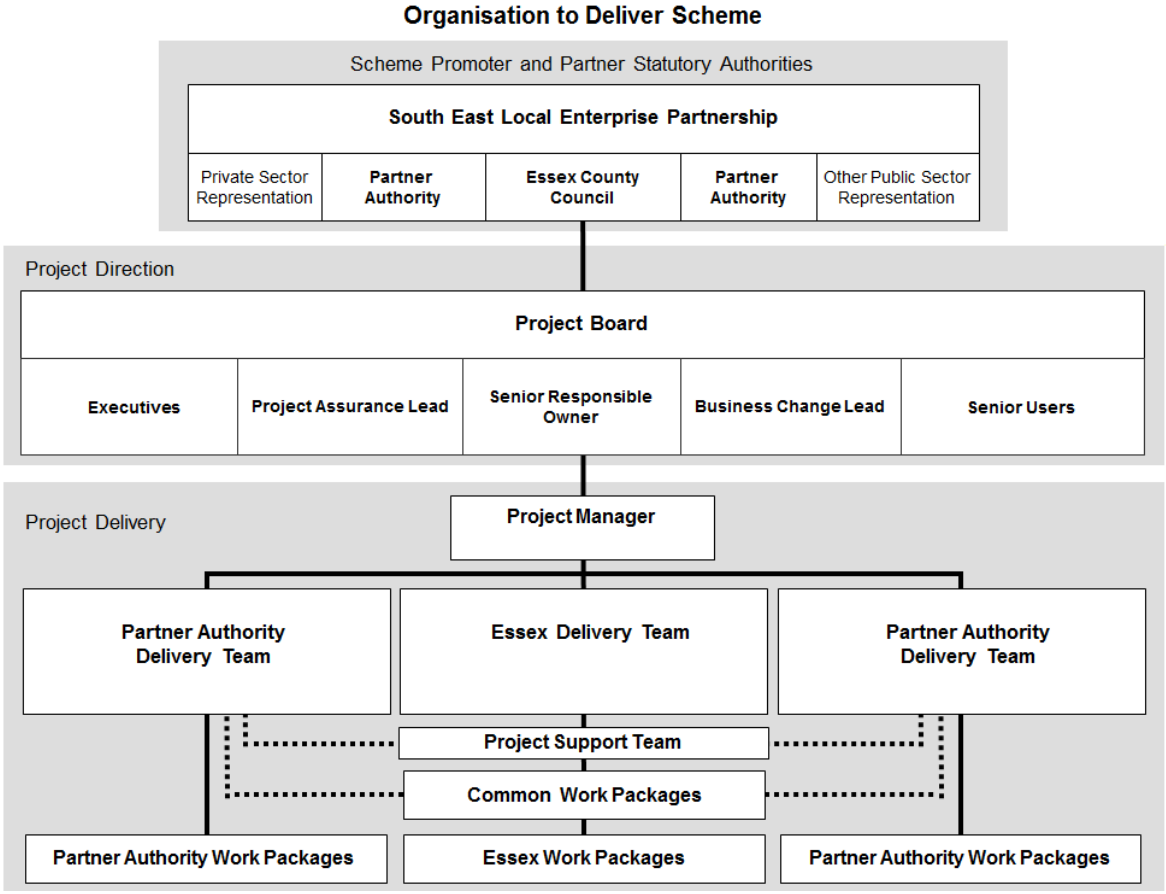

Figure 4: Arrangements for Scheme Delivery

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.

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 SELEP
- 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 (Paul Bird, ECC) – has ultimate responsibility and delegated authority for ensuring effective delivery of the scheme on time and on budget.

Project Manager (Paul McLean, 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-today basis. He also is 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, ECC) and securing resources to deliver it (Danny Stanesby, ECC). In Essex County Council, this is Transportation Strategy and Engagement (Alan Lindsay, ECC).

Senior Users (David Forkin, ECC) – represent the group in each partner statutory authority who will oversee the future day-to-day operation of the scheme.

Project Assurance Lead (Erwin Deppe, 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).

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

Stakeholders
There have been a number of stakeholder discussions, with CBC etc, primarily involved with Park and Ride, but also discussing the proposals contained in the scheme above. Within the last few years, ECC has worked with CBC on their 'Better Town Centre' Programme and this has involved a number of public consultation events which have covered the topics in this package.

Colchester Borough Council and Essex County Council have both worked together during development of the Colchester Local Development Framework. This collaborative working facilitated the production of the LDF Core Strategy Transportation Topic Paper, which identified the transport needs for Colchester if growth was to be realised within the town. The Core Strategy and Transportation Topic Paper formed part of the suite of documents that went through the Examination in Public process, and the LDF was found to be 'Sound'.

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.

Significant discussion and liaison will be required with Network Rail on the bridge replacement part of this package as rail services will inevitably be disrupted, however briefly, and consultation will be required with rail passenger groups on the timing and duration of this disruption.

A communication plan will be required to keep all stakeholders informed of progress.

Monitoring and Evaluation
Monitoring and evaluation of the scheme will be in accordance with the strategy outlined in the Monitoring Input Spreadsheet previously submitted to the LEP.

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 S151 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.

- *Project plan*

Scheme name	Feasibility work	Detailed design	Procurement	Start of construction	Complete construction
Colne Bank Avenue Widening	Q2 2015/16	Q2 2015/16	Q3 2015/16	Q4 2015/16	Q2 2016/17
Colne Bank Avenue Footbridge	Q2 2015/16	Q2 2015/16	Q3 2015/16	Q4 2015/16	Q3 2016/17
Cowdray Avenue Bridge Works	Q3 2015/16	Q4 2015/16	Q1 2016/17	Q3 2016/17	Q1 2017/18
Ipswich Road Roundabout	Q3 2015/16	Q4 2015/16	Q4 2016/17	Q1 2017/18	Q3 2017/18
Harwich Road Roundabout	Q4 2015/16	Q1 2016/17	Q4 2015/16	Q3 2017/18	Q2 2018/19
Greenstead Roundabout	Q4 2016/17	Q2 2017/18	Q4 2019/20	Q1 2020/21	Q4 2020/21

- *Project management arrangement*

Project Management Arrangements

Essex County Council and its Contractors follow the principles of the Office of Government and Commerce's PRINCE 2 frameworks and, as such, will hold formal Project Boards on a regular basis. The responsibilities and accountabilities of the members of the Project Board are in accordance with current PRINCE 2 methodologies. Monthly progress meetings of the project management team will fully update the project executive via the Project Manager, Senior Supplier and Project Assurance. The Project Board and progress meetings take place on a monthly basis to update project milestones and any other items by exception. The Project Board reports to the Senior Responsible Owner and (as necessary) Essex County Council Corporate Management throughout the project.

The Project Sponsor and Project Manager will communicate with the Project Board at scheduled meetings, or on an ad-hoc basis, as appropriate. When a project issue is raised, they will identify any instance where Stage tolerance could be exceeded (presenting an Exception Report), producing a Highlight Report to flag up a particular incident or issue with strategic implications, or when indicating that a Stage is about to be completed through the submission of an End Stage Report. From the commencement of construction, the Project Sponsor will also be responsible for allocating duties to the Project Manager. The contractor's Project Manager will be responsible for the day to day responsibilities under the build contract and to provide the lead in costs, delivery and stakeholder issues.

- *Benefit realisation plan and monitoring*

	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 / CBC 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 bus services.	SEP	DFB	Completion of full scheme	ECC / CBC Project Managers	Measure pre-scheme peak period traffic flows, journey time baseline figures compared to post-opening.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
3.	**Sustainability:** Improve sustainability by encouraging people to use sustainable travel with improved bus services.	SEP	DFB	Completion of full scheme	ECC / CBC Project Managers	Measure bus usage pre and post scheme. Conduct passenger surveys to measure levels of customer satisfaction.	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 across and to town centre.	SEP	DFB	Completion of full scheme	ECC / CBC 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 across and to town centre.	SEP	DFB	Completion of full scheme	ECC / CBC Project Managers	Conduct specific journey time surveys once scheme is complete.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
6.	**Integration:** Integrate land-use, regeneration & transport policy by providing public transport infrastructure as part of the strategy for regeneration and growth.	SEP	DNFB	During design and on completion of full scheme	ECC / CBC Project Managers	Undertake before and after infrastructure comparisons.	Liaise with other Councils throughout scheme design to ensure seamless scheme integration. Project teams will use established best practices for this type of scheme.
7.	**Safety:** Address congestion and capacity issues across and to the town centre for residential, commuter and commercial traffic.	SEP	DNFB	Completion of scheme	ECC / CBC 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 supplied by Essex Police.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.
8.	**Safety:** Flows will be improved as traffic is taken out of the network.	SEP	DNFB	Completion of scheme	ECC / CBC 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 supplied by Essex Police.	Based on PRINCE II Project Management principles. Project team will use established best practices for this type of scheme.

9.	**Environment:** Ensure compliance with international, national, regional and local plans, policy and legislation.	ECC / CBC Locally Defined	IB	During design and on completion of full scheme	ECC / CBC 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.
10.	**Environment:** Minimise project programme slippages and delays through the early identification of environmental / topographical issues.	ECC / CBC Locally Defined	DFB	During design and on completion of full scheme	ECC / CBC Project Managers	Monitor progress regularly 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.

As well as the above table, it is worth noting that ECC has significant experience in monitoring key network routes into various towns to show trends on vehicle usage. Finally, pre-surveys will be undertaken to determine existing traffic volumes and journey times. After scheme completion surveys will then be carried out to show how vehicle activity may have increased as a result of the works.

TrafficMaster data, readily available each year to local authorities for free, enables analysis of journey times along sections of the network throughout Essex. Comparisons can be made between 'before' and 'after' scheme implementation as shown above.

Manual Classified Traffic Counts will be collected in the 'after' scheme scenario to enable comparisons with the 2012 flows to determine how volumes may have changed. This, in conjunction with the Traffic Master data, will show how delay has reduced. The data will be taken after a 'settling down' period, after the completion of scheme installation, where the 'settling down' period should be a minimum of six months.