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Transport Scheme Business Case Report

A289 Four Elms Roundabout to Medway Tunnel Improvements

CO04500033/005

Revision 01 January 2015

Revision 19 February 2015 (SPH, Medway Council)

Contents

1 Introduction

1.1 SELEP Schemes – Transport Business Case Preparation

Amey has been commissioned by Medway Council (MC) to prepare a Transport Scheme Business Case (TBC)for the 'A289 Four Elms to Medway Tunnel Improvements' which has been allocated Local Growth Fund finance by the South East Local Enterprise Partnership (SELEP).

1.2 Purpose of Report

The overall purpose of this TBC report is to provide a 'proportionate' justification for the release of the 2015/16 funding allocated to the *A289 Four Elms to Medway Tunnel Improvements*. This is a predominantly highway scheme aiming to address the congestion of the road network where the A289 and A228 corridors intersect on the Hoo Peninsula on the western edge of the Medway Towns.

The scope of the TBC is broadly aligned with the 'Outline Business Case' stage of the Department for Transport (DfT) 'Transport Business Cases' procedure. It aims to add to an earlier submission by Medway Council.

The TBC report considers the five key strands of TBC content required by DfT and HM Treasury's The Green Book, namely strategic, economic, financial, commercial and management. It also brings in other strands where relevant, such as summary of predicted scheme outcomes and scheme operational case (including design).

This TBC report will stand as an interim submission, justifying SELEP allocation of 2015/16 LGF to the *A289 Four Elms to Medway Tunnel Improvements*, but which will need to be supplemented by a further TBC submission in later financial years, as the content and delivery aspects of the scheme are resolved in greater detail.

The report broadly follows the 5-Case Model for Transport Business Case preparation, incorporating design and environmental issues as well as a summary of the overall risks in terms of project delivery and project funding approval. These risks include:

- The potential for the project to be called in for review by DfT or other bodies before it is delivered;
- The potential for challenge from stakeholders which may jeopardise or delay the project;

- The potential that a subsequent review of the project after implementation may identify issues relating to the delivery of overall outcomes (e.g. job creation or transport modal shift).

1.3 Structure of the Document

This report is structured in accordance with the Department for Transport's guidance on Transport Business Case, which was updated in January 2013.

The core of each stage of the Transport Business Case is the 5-Case Model which ensures that schemes:

- Are supported by a robust **case for change** that fits with wider public policy objectives – the 'strategic case';
- Demonstrate **value for money** – the 'economic case';
- Are **commercially viable** – the 'commercial case';
- Are **financially affordable** – the 'financial case'; and
- Are **achievable** – the 'management case'.

Following this Introduction, the remainder of the document is structured as follows:

- Chapter 2 - Project Outline;
- Chapter 3 - the Strategic Case;
- Chapter 4 - the Economic Case (including Value for Money Statement)
- Chapter 5 - the Financial Case;
- Chapter 6 - the Commercial and Management Cases;
- Chapter 7 - Conclusions and Recommendations.

2 Project Outline

2.1 Location of the Scheme

The scheme consists of three roundabouts (Four Elms, Sans Pareil and Anthony's Way) on the A289 corridor between M2 junction 1 and the Medway Tunnel. This corridor meets the corridor of the A228 from the Hoo Peninsula to Strood between the Four Elms and Sans Pareil.

The broad location and the more detailed nature of the corridor are shown in **Figure 1**.

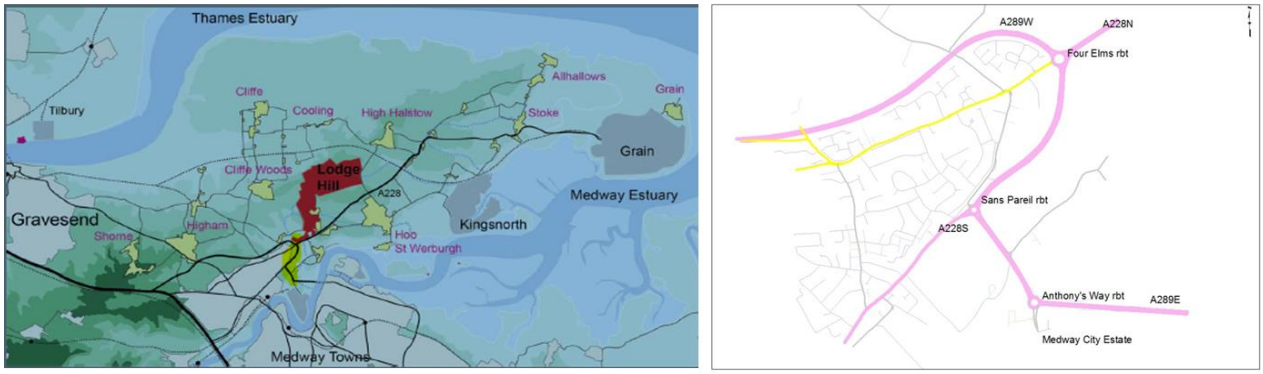


Figure 1 – Scheme Location

This area is on the western edge of the Medway built-up area with its population of approaching 250,000. This is shown in Figure 2. The peninsula is established as an area of growth, established in SEEDA's vision for the Thames Gateway. Improvements have already been made on the A228 through third-party contribution.

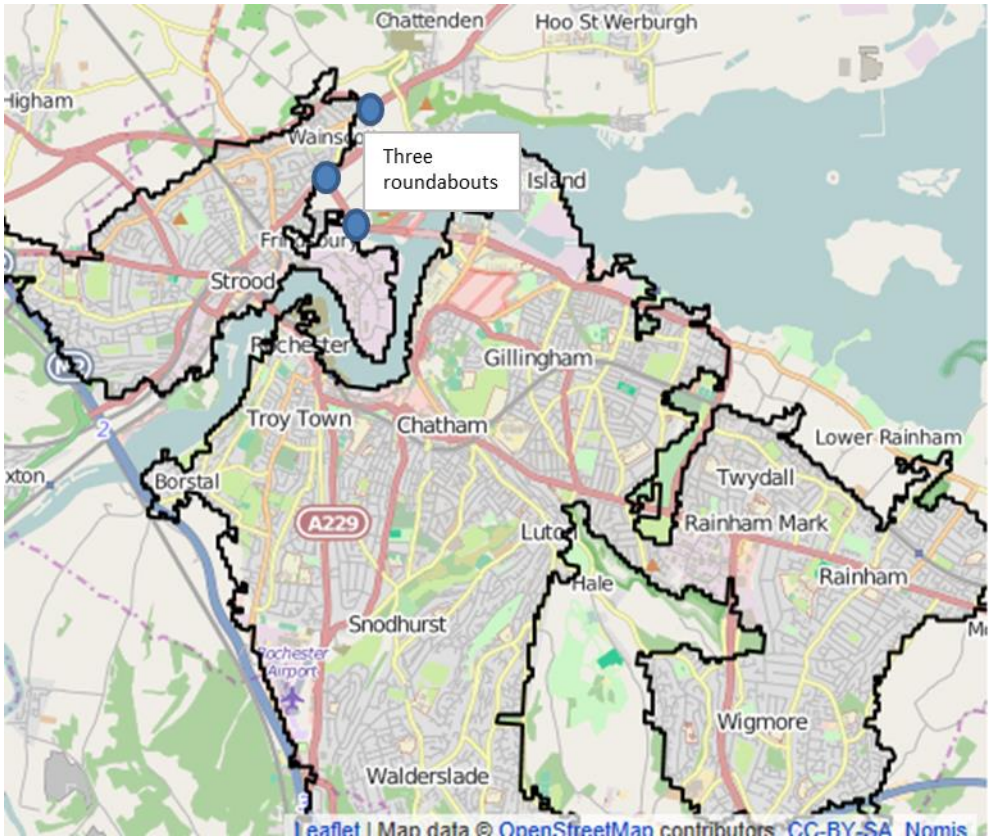


Figure 2 – Medway built-up area

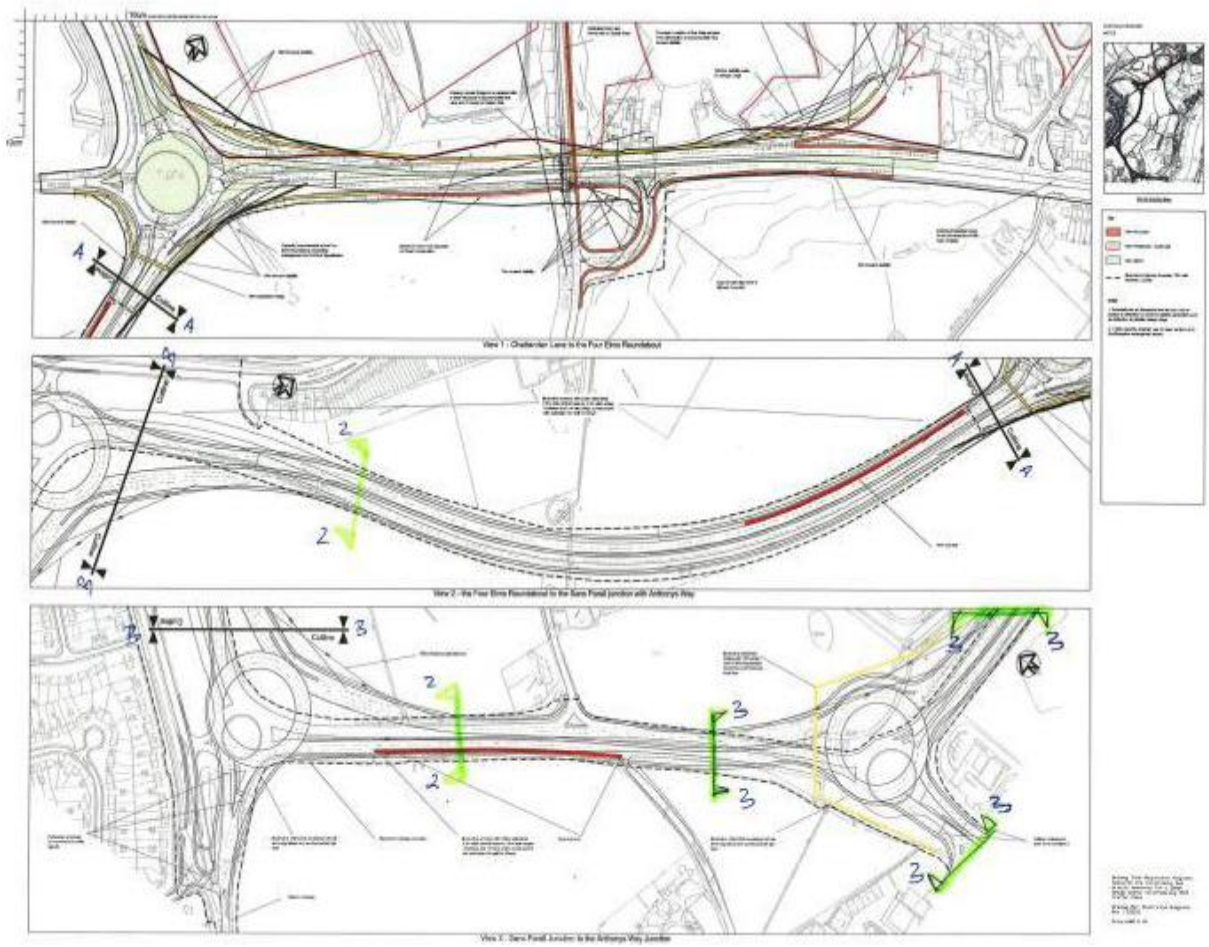
2.2 Current Conditions

The three roundabouts are used by approximately 5000 vehicles per hour in the peak periods. This consists of a variety of origin-destination movements and respective lane selection and changing.

The traffic using these two corridors leads to a variety of conflict points at two of the roundabouts (Four Elms and Sans Pareil). In addition the third roundabout (Anthony's Way) serves the Medway City Estate, a key employment site.

2.3 Scheme Layout and Function

The three roundabouts in question are the Four Elms Roundabout, Sans Pareil Roundabout and Anthonys Way roundabout. The scheme enlarges each roundabout to provide additional carriageway space with increased entry lanes and some free flow slips where able to be accommodated. A high level sketch of the scheme can be seen overleaf and in Drawing 'Illustrative Mitigation Rev 1'.



The scheme layout is deigned to enlarge the roundabouts to provide additional capacity to reduce currently observed delays at the existing conflicts. The scheme will also address queuing on minor arms of the junctions which can currently suffer from congestion with the current layout.

The provision of greater capacity at this point on the highway network will also allow for some reassignment due to potential displacement from proposed place-making and congestion strategies in Strood.

2.4 Category of Scheme Transport Business Case

With a projected expenditure of £18.6m, this scheme is categorised as 'large', according to criteria agreed between SELEP and DfT. The scheme is noted as a road project.

The purpose of this bid is to request confirmation of the already allocated strands of LGF funding for the scheme.

2.5 'Screening' Summary for Scheme 2015/16 LGF Bid and Supporting TBC

Table 1 gives a 'screening' summary to show how each of the transport scheme appraisal criteria specified by DfT (broadly aligned with WebTAG Appraisal Summary Table – AST) have been handled with respect to the 2015/16 LGF bid for the *A289 Four Elms to Medway Tunnel Improvements*.

As this is an interim Transport business Case, which represents a 'holding submission' for the A289 FEMT scheme and its funding claim, all of the appraisal criteria in Table1, required by AST, will need to be addressed in more detail in the later TBC updates for the scheme.

Table 1 – 'Screening' Summary for 'Lighter Touch' Scheme Appraisal and TBC

Scheme Impact	'Proportionate' Details Covered in this Scheme (2015/16) 'Lighter-Touch' TBC?	Quantitative / Qualitative Appraisal of Impacts?		Details To be Covered in detail in a Later-Stage Scheme TBC?
		Quantitative	Qualitative	
Economy (Travel Congestion Impacts for All Users)				
User Travel Time (congestion)	Yes – Road junction delay savings	✓	✓	Yes
User Travel Distance (operation)	Modelling used wider network	✓	✓	Yes
Journey Reliability (travel time variability)	Yes	✖	✓	Yes
Wider Impacts / Wider Economy				
'Growth' (economic prosperity, efficiency and opportunity)	Scheme allows delivery of Lodge Hill (key aspect of emerging local plan numbers)	✖	✓	Yes
Public Accounts Impacts				
Public Accounts Cost	Yes – Outline summary of scheme costs	✓	✓	Yes
Indirect Tax Revenue	Assumed neutral	✓	✓	Yes
Environmental Impacts				Yes
Noise	Assumed neutral	✖	✓	Yes
Air Quality	Assumed neutral	✖	✓	Yes
Greenhouse Gas	Assumed neutral	✖	✓	Yes

Scheme Impact	'Proportionate' Details Covered in this Scheme (2015/16) 'Lighter-Touch' TBC?	Quantitative / Qualitative Appraisal of Impacts?		Details To be Covered in detail in a Later-Stage Scheme TBC?
Landscape / Townscape	Landscaping element to be included in design	✖	✓	Yes
Other Environmental		✖	✖	Yes
Social / Distributional impacts				
Journey Quality	Better layout for highway movements Pedestrians/cyclists/buses considered	✖	✓	Yes
Accidents	Assumed neutral	✖	✓	Yes
Other SDI		✖	✖	Yes
Door to Door Strategy for Sustainable Transport	Not applicable as highway scheme			
Effective Scheme Design				
Fitness for Purpose / Successful Operation / Future Network Resilience and Resistance to Shocks	Yes – sense-check of scheme layout against intended purpose	✖	✓	Yes

3 Strategic Case

3.1 Overview

The Strategic Case outlines the overarching reasons for proposing the scheme intervention, in terms of its contribution to improving local transport and making effective use of infrastructure. A further consideration is the scheme's alignment with wider aspirations, such as a prosperous economy, an enhanced community, an attractive and sustainable environment, safer and healthier lifestyles and access to opportunities for all.

Ultimately, the Strategic Case indicates who, what, why, when, where and how, the scheme will assist.

3.2 Purpose of the Proposed Investment

The aim of the scheme is to ensure a highway network between the M2 Junction 1 and the Medway Tunnel which can deliver the desired housing growth on the Hoo Peninsula and general growth on the corridor. It is also to alleviate current delays on the exit from the Medway City Estate and provide greater resilience to 'shocks', such as during unplanned disruption to and traffic diversion away from the parallel A2 primary distributor road.

The scheme is needed now due to the links to unlocking growth on the Peninsula including Lodge Hill (5,000 homes and 5,000 jobs) and enabling regeneration in neighbouring Strood town centre.

3.3 Strategic Context

3.3.1 National Strategy: 'National Infrastructure Plan'

The Government has long-term objectives aimed at improving the economy, environment and society. These are the three tenets against which major transport infrastructure projects are assessed, and will continue to be assessed in future.

In its National Infrastructure Plan 2014, the Government presented its vision for the UK transport system:

- Transport infrastructure can play a vital role in driving economic growth by improving the links that help to move goods and people around and by supporting the balanced, dynamic and low-carbon economy that is essential for future prosperity;

- Local transport systems must enable suburban areas to grow. The transport network must support good value and rapid movement of goods around the country. The transport system must be efficient but also resilient and responsive to infrequent an unexpected pressures; and
- Airports and ports are the gateways to international trade and the Government will work to improve the road and rail connectivity to major ports and airports.

The plan cites the importance of local infrastructure as part of economic growth. As such it introduces the Single Local Growth Fund.

3.3.2 Regional and Local Strategy

Regional Strategy: 'Growth Deal and Strategic Economic Plan'

Published in March 2014, the SELEP Strategic Economic Plan (SEP) sets out the investment strategy for the area. This document includes the SELEP bid for Local Growth Fund, the primary source of funding for this project.

A component element of this is the Kent and Medway Growth Deal which sets out plans for the public and private sectors intend to invest over £80 million each year for the next six years to unlock our potential through:

- Substantially increasing the delivery of housing and commercial developments;
- Delivering transport and broadband infrastructure to unlock growth;
- Backing business expansion through better access to finance and support; and
- Delivering the skills that the local economy needs.

The SEP involves delivering the biggest local transport programme in the country to realise the potential of the growth corridors and sites, transforming connectivity for businesses and residents, unlocking jobs and homes, and bringing substantial benefits to the UK economy.

Medway (or 'Medway City') is a key urban area in one of Kent and Medway's four defined areas, namely 'Thames Gateway Kent – the A2/M2 corridor, recognised by SELEP in the 'Growth Deal and Strategic Economic Plan'. (

Thames Gateway Kent – the A2 / M2 Corridor

- **East Kent (**including Ashford – the High Speed One Growth Corridor
- **Maidstone** – the M20 Corridor
- **West Kent** – the A21 Corridor and Medway Valley

Figure 3)

- **Thames Gateway Kent** – the A2 / M2 Corridor
- **East Kent (**including Ashford – the High Speed One Growth Corridor
- **Maidstone** – the M20 Corridor
- **West Kent** – the A21 Corridor and Medway Valley

Figure 3 – Kent/Medway strategic areas

A key aspect of the planned growth for Medway has been Lodge Hill and the Isle of Grain. This corridor includes the Thamesport and Kingsnorth employment sites. Medway's Planning Service consistently lists Lodge Hill as a site for the delivery of 5,000 homes. In addition various employment land space is also anticipated including approximately 35,000sqm of office (B1) alongside smaller quanta of other uses.

The scheme is intended to conform with Government guidance to LEP on how the SEP's component transport schemes should perform and contribute towards local growth ('Growth Deals Initial Guidance for Local Enterprise Partnerships', July 2013). This centres around three themes:

- Ambition and rationale for intervention for the local area
- Value for money
- Delivery and risk

3.3.3 Regional Strategy: 'LEP Assurance Framework'

The latest Government guidance for SELEP ('LEP Assurance Framework', HMT, December 2014), sets out Government expectations for how transport investments, such as the *A289 Four Elms Roundabout to Medway Tunnel Improvements*, should be justified with supporting evidence in a manner 'proportionate' to the scope of the scheme and the scale of funding required.

3.4 The Case for Change

3.4.1 The Need for the Scheme

Medway has significant growth aspirations that are inter-related with the A289 FEMT scheme, most notably in the Hoo Peninsula. These will require a resilient transport network in order to be delivered satisfactorily. This intended growth on the peninsula is to contribute to the wider growth of both Medway and SELEP.

Medway Council have carried out strategic transport modelling which demonstrates that the existing link will become significantly more congested in future years and without intervention

the congestion would threaten both existing and planned housing and employment sites. As a result the scheme significantly improves opportunities for new business and employment opportunities within the Thames Gateway.

Not only have Medway demonstrated the need for future interventions, through SATURN modelling we have also tested the most recent traffic situation using updated traffic surveys and built a new Micro Simulation model of the highway network in question. This Paramics model has been built, validated and then used to test options and outcomes for example with the introduction of the Lodge Hill development.

This evidence is included in the modelling reports prepared by Motts both Appended to this Business case.

The scheme is needed now because of:

a. The unreliable journey times on the existing network
b. The existing operational delays to businesses on the Medway City Estate where approximately 5,000 people are employed
c. High pressure for significant commercial and residential development

The scheme is considered to be essential by Medway Council to provide a sufficient transport network to support the emerging Medway local plan, particularly with regards to the Hoo Peninsula.

Table 2 summarises the yearly profile of homes and jobs targets that are being enabled by the scheme. It should be noted that this is the 'dependent development' of Lodge Hill. It should be noted that there is already anticipated extra growth affecting the corridor, particularly with the established development areas of Kingsnorth and Thamesport. This is reiterated to establish the importance of the area as a whole in contributing towards economic growth.

Table 2–New Homes and Jobs Targets

Target Numbers of New Homes and Jobs to be Enabled by the Scheme								
	2015/16	2016/17	2017/18	2018/19	2019/2020	2020/2025	Post 2025	Total
No. Jobs		688	1500	2000	2000	1500		7688
No. Homes		433	1000	1500	1500			4433

3.4.2 Current Transport Problems

All three roundabouts within the scheme corridor experience queuing and delays in both the weekday AM and PM peak highway periods. The current peak hour queuing profiles at each of

the junctions on the 'A' roads and Medway City Estate only is shown in Figure 4 overleaf. The queue length survey data has been supported by additional analysis of Global Positioning System (GPS) data supplied by TrafficMaster confirms the profile. In addition the 2014 TrafficMaster data was also used to show variability in travel times. The GPS data analysis is shown in Figure 5 overleaf.

The queue volumes that exceed about 10 vehicles per 15-minutes, in Figure 4, represent periods when traffic demand exceeds capacity on the respective roundabout approaches. These will be accompanied by vehicle travel time delays.

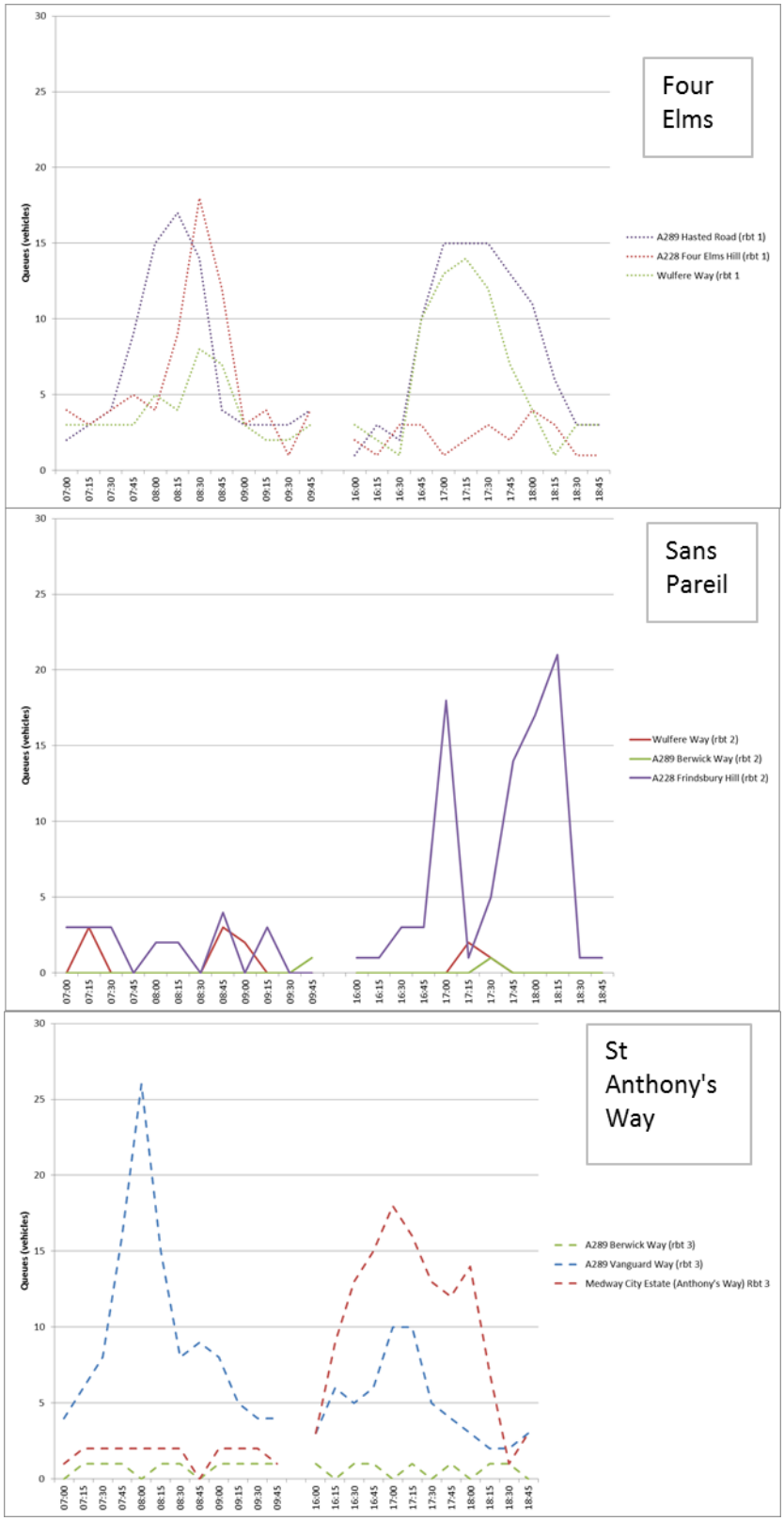


Figure 4 – Queuing by Roundabout (Vehicles per 15 mins)

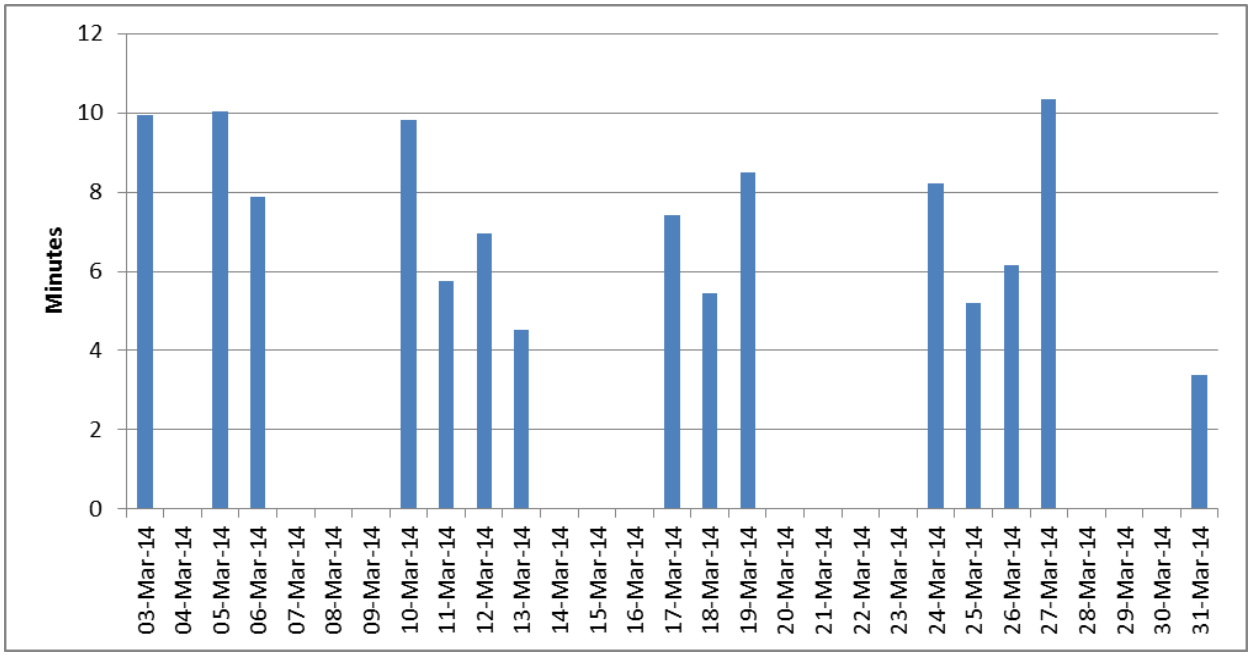


Figure 5 – Example of AM Peak TrafficMaster data (A289W-A289E)

The following headline conclusions have been drawn:

- All three roundabouts have some significant queuing (>10 vehicles) and traffic delay at peak times.
- Anthonys has prolonged queuing in the PM approaching from Medway City Estate.
- Sans Pareil has queuing in the PM peak, approaching from Strood, when the A289 northbound opposing flow leaving MCE is heaviest.
- Similarly, Anthonys has queuing in the AM peak, approaching from Medway Tunnel, when the A289 southbound opposing flow entering MCE is greatest.
- Hasted Rd (A289 from M2 J1) has queuing in both peaks.
- Four Elms Hill already has queuing so would suffer from additional housing at Lodge Hill.

3.4.3 Likely Impact of No Change

The emerging local plan presupposes the delivery of Lodge Hill or an alternative development on the Hoo peninsula. As there is evidence, above in section 3.4.2, that the network is close to capacity, improvements to the highway network are seen as required, to accommodate development.

If direct Government funding (LGF) is not forthcoming; then at best, an improved junction funded by the developer may allow traffic to join the network; but not with sufficient downstream capacity for the whole journey into the urban area.

3.5 Scheme Objectives and Scope

3.5.1 Objectives

This section defines the localised objectives, operational performance and general outcomes, which the scheme aims to achieve, in relation to the identified problems and issues.

The scheme links closely to Medway's priorities set out in Medway's Local Transport Plan 2011/2016, in particular:

- Regeneration, economic competitiveness and growth –with an improved highway corridor that provides efficient and reliable journey times
- Connectivity – by improving access to key commercial areas
- Safety, security and public health – by improving road safety

Table 3 summarises the broad scheme objectives / identified current and future problems and intended outcomes.

Table 3 – Achievement of Scheme Objectives and Stakeholder Beneficiaries

Scheme Objective to be Achieved	Main benefits for Respective Stakeholders
Objective 1 Improve operation of A289 corridor	**Users** Improved journey time and reliability, for strategic and local traffic **Local Authorities,** Improved attractiveness of the area for inward investment and job creation Improved attractiveness of the area for housing **Developers and Employers** Ability to develop schemes without excessive planning conditions Ability to create employment and attract employees Addresses future predicted slow network journey time issues
Objective 2 Ensure minor side roads operate effectively, with acceptable traffic capacity and minimal delay	**Users** Improved journey quality and accessibility for local communities and businesses by removing existing and future network problems

Scheme Objective to be Achieved	Main benefits for Respective Stakeholders
Objective 3 Provide transport system which can aid delivery of Local Transport Plan and emerging Local Plan	**SELEP** Allows Medway to deliver its growth aspirations by removing predicted future network capacity problems
Objective 4 Promote sustainable agenda	**Local Authority / Bus Operator** Further bus partnerships Provide potential road space in the scheme layout for bus priority lanes Improves the problem of bus journey time reliability

3.5.2 Scope

Table 4 summarises the scope of the project.

Table 4 – Summary of Project Scope

Items Within and Outside the Scope of the Scheme Project		
Item of Interest	**Details Within Scope of the Scheme**	**Details Outside Scope of the Scheme**
Highway network	A289 corridor and integration with Strood	Wider Medway Network
Local Plan Delivery	Lodge Hill and other Hoo Peninsula sites	Wider Medway Local Plan Sites

There are minimal opportunities to alter the scope of the scheme project. It would only be if a smaller housing quantum is proposed, to the detriment of the Local Plan target; or a reduced 'level of service' is deemed acceptable' to the detriment of quality of journey. This would impact on the delivery of key regeneration sites however.

3.6 Determining Success of the Scheme

Fulfilment of certain successful performance criteria, together with negotiating a number of essential hurdles to fund and deliver the scheme, can be regarded as 'Critical Success Factors' (CSF) for the *A289 Four Elms Roundabout to Medway Tunnel Improvements*, in accordance with HM Treasury's 'The Green Book' (July 2011).

3.6.1 Critical Success Factors

There are several 'Critical Success Factors' (CSF) that will determine if the *A289 Four Elms Roundabout to Medway Tunnel Improvements* can be introduced satisfactorily. These CSF are essentially a combination of performance, finance and delivery assurances, as suggested in HM Treasury's 'The Green Book' (2011) and which can be assessed qualitatively and broadly aligned under the five criteria of the 'Transport Business Cases' (DfT, January 2013).

The CSFs for the A289 Four Elms to Medway Tunnel Improvements project have been selected and categorised as follows:

- **CSF1: Strategic Fit**
  - Will reduce congestion in critical area;
  - Will enable housing and employment development;
- **CSF 2: Prosperous and Sustainable Economy and Value for Money**
  - Will reduce cost of travel and increases journey reliability for scheme users;
  - Will maximise return on investment, striking a balance between the cost of delivery and the cost to the economy of non-delivery;
- **CSF 3: Affordable Finance**
  - Can be delivered within the likely capital funding available;
  - Can be afforded, in terms of financing revenue liabilities within current budgets;
- **CSF 4: Achievable Construction**
  - Can be delivered using current engineering and technological solutions;
  - Can be procured through accepted methods of commissioning;
- **CRF 5: Manageable Implementation and Operation**
  - Can be delivered within the timeframe of available funding;
  - Can be operated satisfactorily in accordance with its intended remit.

3.6.2 Measurement of Successful Scheme Performance

Monitoring is discussed in a later chapter.

3.7 Constraints and Dependencies

3.7.1 Scheme Constraints

There is an on-going concern about an environmental concern due to the nesting of nightingales in the intended Lodge Hill site. However, this business case assumes that either Lodge Hill or an alternative site will come forward.

There are some land acquisition issues but not deemed prohibitive to delivery of the scheme.

3.7.2 Scheme Dependencies

The scheme will broadly operate as a stand-alone scheme. However the aspirations for Strood are noted, with regard to implementing traffic management and public realm initiatives and possibly displacing some traffic on to the A289 corridor. In addition general connectivity with regards to Medway City Estate is also highlighted as an on-going consideration.

3.8 Stakeholders and Interests

Stakeholders are identified and a stakeholder-strategy introduced in a later chapter.

Powers and Consents

Medway Council are the highway and the planning authority and are used to delivering highways schemes.

Risks affecting the delivery of the scheme

Clearly there is a risk that Lodge Hill does not go ahead and if it does that it does not come forward within the timescales of this funding projection, however should this risk materialise there would be two mitigating factors. Firstly there are various other large development sites that may come forward each with their own Section 106 obligations and the precedent has been set for securing funding for this a part of the highways. Secondly, if Lodge Hill development did not come forward, there may be a slightly smaller scheme that would be required to be implemented, for example it may not include the enlargement of the Four Elms roundabout as currently shown as this may not be required. The project would then still be a large highway scheme but may be a slightly more focussed intervention that could be funded in the same manner. The scheme also lends itself to being delivered in a phased way should this be required.

Scheme Options Considered

Whilst the economic appraisal will be limited to the 'preferred' option this section gives an overview of the sifting of options.

Option 1: Do Nothing

Description – N/A

Current situation – N/A

Conclusion –

Option 1: Not relevant for appraisal, as excludes committed interventions and growth. Confirms 'the case for change'.

Option 2: Do Minimum

Description - Background growth, excluding dependent development, applied to current network and other committed interventions.

Advantages - No need for scheme funding.

Disadvantages - Existing situation likely to worsen and dependent housing not delivered.

Conclusion -

Option 2: Not carried forward, but used as 'baseline' for appraisal.

Option 3: Do Something (Low-cost options)

Description - Public transport and active modes interventions (Demand Management/Smarter choices)

Advantages - Possibility of lower cost and promotes the sustainability agenda.

Disadvantages - This would be insufficient for the highway network in this area. Such options would be part of 'locking-in' the benefits of a highway scheme.

Conclusion -

Option 3: Rejected

Option 4: Do Something (Large Roundabout Scheme)

Description - Enlarging the existing three roundabouts on the network. Currently in outline form and whilst preparing the detailed design it will be determined whether to signalise the roundabouts.

Advantages - This option provides a deliverable scheme that will work operationally. It maintains the current broad layout and therefore established functioning of the corridor. There is some possibility of introducing bus priority

Disadvantages - Some land-take required

Conclusion -

Option 4: Preferred scheme

Option 5: Do Something (Highway Limits Scheme)

Description - A highways scheme to be built within the confines of the existing highway boundary. Existing roundabouts to be converted to signalised junctions

Advantages - Lower cost / less land-take

Disadvantages - Requires a major downgrading from rural to urban speeds (reduce to 40mph). Requires departure from design standards

Conclusion

Option 5: Rejected

Option 6: Do Maximum (Realignment of A289)

Description - Large bypass road scheme

Advantages - Provides greater long-term capacity

Disadvantages - High, prohibitive, cost and significant land-take.

Conclusion

Option 6: Rejected

Option 7: Reduced scheme alternatives

Description **-** Improvements to sections of corridor only (e.g. 'Anthony's Way' roundabout only)

Advantages **-** Lower cost

Disadvantages **-** Insufficient to deliver Lodge Hill

Conclusion

Option 7: Rejected

Table 12 provides a summary of the above review of scheme options, in terms of the objectives and critical success factors for the scheme:

Table 5 - Summary of Scheme Option Assessment and Sifting

Reference to:	Option 1/2	Option 3	Option 4	Option 5	Option 6	Option 7
Description of Option:	**Do Nothing / Do Minimum**	**Low-cost options**	**Large Roundabouts Scheme**	**Highway Limits Scheme**	**Realignment of A289**	**Reduced scheme alternatives**
Investment Objectives						
Improve operation of corridor	×	×	✓	✓	✓	partial
Improvement of functioning of side-arms	×	×	✓	✓	✓	partial
Provide transport system which can deliver local plan	×	×	✓	✓	✓	×
Promote sustainable agenda		✓	partial	unknown	unknown	unknown
Critical Success Factors						
1 Strategic Fit		✓	✓	×	✓	×
2 Economic Prosperity/Value for Money		✓	✓	✓	High cost suggests low BCR	×

Reference to:	Option 1/2	Option 3	Option 4	Option 5	Option 6	Option 7
Description of Option:	**Do Nothing / Do Minimum**	**Low-cost options**	**Large Roundabouts Scheme**	**Highway Limits Scheme**	**Realignment of A289**	**Reduced scheme alternatives**
3 Affordable Finance		✓	✓	✓	✗	✓
4 Achievable Construction		✓	✓	unknown	✗	✓
5 Manageable Implementation/Operation		✗	Subject to design	✗	unknown	✓
Summary	**Reference**	**Discounted**	**Preferred**	**Discounted**	**Discounted**	**Discounted**

4 Economic Case

4.1 Overview

The Economic Case provides evidence of how the scheme is predicted to perform, in relation to its stated objectives, identified problems and targeted outcomes. It considers the relative performance of possible scheme options, in order to determine the optimum scheme. Ultimately, the Economic Case determines if the proposed scheme is a viable investment, whose strengths outweigh its weaknesses and which provides good value for money.

The predicted scheme appraisal focuses on those aspects of scheme performance that are relevant to the nature of the intervention. However, we do acknowledge the strands of assessment that are required under various pieces of statutory guidance (e.g. DfTWebTAG, VfM Assessment, LSTF; HM Treasury 'Green Book')

The appraisal was mainly TUBA-based (1.9), so it defaults to latest WebTAG particularly with regards to values of time and price base. It is noted that the PVC was done externally (via separate consultant), which underwent a logic check of the notes of the consultant and a simple re-working by Amey. The stages the PVC went through were:

1. Scheme cost at 2015 prices (Medway Council supplied)
2. Risk adjusted cost (2015 prices exc VAT) with Medway Council QRA/contingency (1.14 – Financial Case)
3. Risk and optimism bias adjusted cost (2015 prices exc VAT) (1.44 – Reflects optimism bias)
4. Risk and optimism bias adjust cost in 2010 prices (0.90)
5. Discounted Risk and optimism bias adjusted cost in 2010 prices (0.87)

PVC – Discounted Risk and optimism bias adjusted cost in 2010 market prices (1.19 – reflects indirect tax rate). Sunk costs are generally written off as part of the day to day business of the transport planning responsibilities of Medway Council. No sunk costs were included in the analysis.

The *A289 Four Elms Roundabout to Medway Tunnel Improvements* is being assessed from use of the Medway SATURN model to provide information for TUBA. The TUBA appraisal was undertaken in the absence of the 'dependent housing' (Lodge Hill) to 'assess the benefits of the transport scheme in isolation'. SATURN runs have also been run to show the scheme can accommodate the proposed housing numbers.

More detailed PARAMICS work is proposed to both show the Lodge Hill development as dependent housing; and to further as necessary the scheme modelling and appraisal. A base model is already established.

Medway Council have the supporting reports available to issue as required. A discussion should ensue with the ITE on whether further SATURN work is required.

In accordance with the requirements of HM Treasury's Green Book 'Appraisal and Evaluation in Central Government', (July 2011), this section of the TBC report gives an appraisal of the scheme options that have been considered as possible solutions to the project objectives and problems identified in the strategic case.

4.2 Background

Achievement of the scheme objectives is intended to resolve the identified transport problems and result in the anticipated stakeholder benefits. Evidence is needed to determine if these predicted outcomes are attainable and so, therefore, they are considered in this appraisal of the scheme in the 'Economic Case'.

This appraisal is focused on predicting the scheme's performance against the selected success criteria.

A subsequent part of the Economic Case is to predict the scheme's ability to satisfy its Critical Success Factors which represent a combination of performance, funding and delivery expectations, in line with HM Treasury guidance. These CSFs are categorised according to Strategic Fit, Value for Money, Achievability, Affordability and Timescale, reflecting the 5-case TBC model. They enable the scheme and its options to be appraised and compared in order to identify the most effective solutions. The following subsections describe the scheme options, their advantages and disadvantages and whether they have shown sufficient merit to take forward for more detailed economic appraisal. A summary of the options, mapped against the scheme objectives and CSFs is provided.

Following this, the approach towards more detailed economic appraisal is described, followed by the scheme option appraisal itself.

An Appraisal Summary Table, setting out the key issues relevant to this scheme is provided. Although some aspects of this (including the economic appraisal) have been explored in outline at this initial (2015/16 Transport Business Case) stage, other aspects will not be explored in detail until a later Transport Business Case stage, if necessary.

4.3 Appraisal Assumptions

The following assumptions have been made during transport modelling and appraisal of the preferred scheme.

- SATURN model was available for AM peak hour only.
- In SATURN model of the scheme, a signalised roundabout was assumed at Four Elms and non-signalised roundabouts at Sans Pareil and Anthony's Way.
- The AM has been weighted as six hours (representing the AM and PM three hour peak periods) and annualised over 300 days.
- SATURN model represented the highway travel mode only and did not entail any 'multi-modal' component or 'variable demand' mechanism.
- Economic impact of road works was not included.
- No variable demand responses to changes in travel costs, such as trip re-distribution, have been included.
- All funding has been attributed to the public purse.
- Lodge Hill development allocation, considered to be the key dependent housing, has been excluded from matrix growth.
- Optimism bias of 44%.
- Sensitivity testing was not undertaken due to high Optimism bias to safeguard against drops in PVB.
- SATURN time skim was in 8.2 of Executive Summary.
-

4.4 Economic Case Content and Method

The appraisal criteria for the scheme and the overall approach used to assess these are as shown in **Table 6**.

Table 6 – Appraisal Criteria for Assessing Core Scheme Performance

Primary Appraisal Criteria	Direct/ Indirect Impact Appraisal	Approach Used to Assess Core Scheme Performance Items
Journey time savings	Direct	SATURN modelling to inform TUBA
Improved layout and journey perception	Indirect	Qualitative

Primary Appraisal Criteria	Direct/ Indirect Impact Appraisal	Approach Used to Assess Core Scheme Performance Items
Wider Economic Impacts	Indirect	Ensuring viable transport strategy for emerging local plan

The Economic Case for this scheme is focused on:

- Assessing the direct, localised, economic efficiency and prosperity benefits of the scheme.
- Qualitatively appraising the wider scheme benefits, in terms of enabling planned developments and other major transport schemes in the area and complementary sustainable transport schemes.
- Offsetting the scheme benefits against the direct scheme capital costs, (i.e. construction costs, not accounting for the costs of any complementary investments).

As set out in the Strategic Case, this scheme will be important for supporting the development of jobs and housing in the local area. For the purposes of this scheme, the direct employment benefits (i.e. people employed in constructing the scheme) have not been calculated, although these may be assessed as part of the direct jobs generated by the LGF programme as a whole.

As previously highlighted, the economic appraisal has been undertaken against only two options:

- Do Minimum, reference case with the scheme not delivered; and
- Do Something, with delivery of the proposed scheme option.

4.5 Scheme Option Localised Performance

This section summarises the predicted performance of scheme options to understand the scheme layout's fitness for purpose.

Table 7 compares localised scheme performance against the do minimum reference case. Modelling has the simple assumption that base year 2007, opening year 2010 (as inputted in TUBA), and realistic opening year of 2018-19 are similar in traffic flows. The main differences occur as local plan allocations, especially Lodge Hill, come on-line.

Growth assumptions: 2026 model has growth of about 20% on 2007 model. This excludes Lodge Hill development.

Trips	
2007 (Medway Transport Model)	41837
2026 (Medway Transport Model)	51106
Growth	1.2

Table 7 – Localised Scheme Performance Compared with Do Minimum Reference Case

Scenario	Key Performance Indicators	Unit	AM	PM
Do-Minimum (2010)	Performance indicators for Congestion Relief road schemes (SATURN skim information)	Network-hours	24,719	
Do-Something (2010)			24,521	
Do-Minimum (2026)			31,390	
Do-Something (2026)			30,971	

It is noted that in percentage terms these changes are low. This is understood to be the consequence of a 'relatively small scheme in a large network'.

4.6 Preferred Scheme Option

The 'Large Roundabouts Scheme' has been selected as the preferred option, and a brief commentary highlights the reasons.

Operational –does not require the speed reductions of the Highway Limits Scheme (signalised junctions)

Cost – lower cost than the 'Do-Maximum'

Objectives – able to deliver the Lodge Hill development, unlike low-cost or reduced-scheme alternatives.

4.7 Scheme Performance Risk and Outcome Sensitivity

It is noted that downstream capacity should be considered. This is not deemed to be a problem as the exit points from the scheme area are sufficient in capacity.

4.8 Appraisal Summary Table

A qualitative / quantitative assessment of predicted scheme performance against WebTAG appraisal criteria has been completed using an Appraisal Summary Table (AST) – this is attached as an Appendix.

For this highway scheme a quantitative measure has been calculated for travel time savings, with qualitative statements for other key items. The AST contains the following information regarding spread of benefit scale for the value of journey time changes:

Value of journey time changes (£ 000s)	
Net journey time changes (£ 000s)	
0 to 2min	2 to 5min	> 5min
72417	53186	65514

It is noted that highway schemes are often assessed with both travel time savings and accident benefits. However, for this scheme accident benefits have not been directly assessed for two reasons. Firstly, accident benefits normally come from a change of junction or link types which is not especially pertinent for this scheme. Secondly, the scheme is not being promoted as an accident reduction measure, noting that the accident rate, particularly for severe accidents, in the area is relatively low. Accident locations are shown in Figure 6. Analysis of this data will become part of the design process; and accident monitoring will be part of the post-opening evaluation.

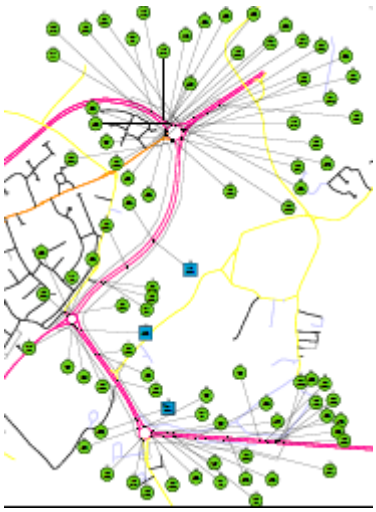


Figure 6 – Accident locations

4.9 Present Value Outcomes from Economic Appraisal

Table 8 shows summary of AMCB.

Table 8 – Summary of Analysis of Monetised Costs and Benefits

Scheme Summary Analysis of Monetised Costs and Benefits (2010 present values and prices)	
Net Outcome for: **Do-Something Preferred Scheme minus Do Minimum**	**Present Values (£ 000):**
User Present Value Benefit (PVB)	128013
Capital Present Value Cost (PVC)	31160
Scheme Net Present Value (NPV) = PVB - PVC	96853
Scheme Initial Benefit to Cost Ratio (BCR) = PVB/PVC	4.1

4.10 Adjusted BCR /Value for Money Statement

An initial BCR was calculated as 4.1, based on the SATURN/TUBA results for highway users, under the assumptions stated. As a highway scheme this is mainly journey-time savings based, but also includes assessment of vehicle operating cost savings and indirect fuel tax revenue impacts.

In terms of an adjusted BCR there are two key components, journey reliability and wider impacts.

There is some evidence that the scheme would improve journey time reliability. Accordingly, a small uplift could be made to the PVB. An uplift of 5%, for 'slight impact', as suggested in the DfT 'Value for Money Assessment: Advice Note for Local Transport Decision Makers', seems to be appropriate, but has not been included at this stage.

In addition, the scheme's delivery of an important site in the emerging Medway Local Plan, Lodge Hill, would add to the value for money.

It is noted that more localised appraisal of the scheme (using the evolving PARAMICS model) could reduce the BCR, if the current wider-area modelling of the scheme has overestimated its benefits. As such the initial BCR is assumed to be an overestimate.

4.10.1 Overall VfM Category

The overall final VfM category (including risk adjustment, but excluding reliability benefit) is graded as **High.**

5 Financial Case

5.1 Overview

The Financial Case for the A289 *Four Elms Roundabout to Medway Tunnel Improvements* scheme gives an itemised breakdown of the expected project cost components and the time profile for the transport investment. It considers if these capital costs are affordable from public accounts at the times when the costs will arise. It also identifies where contributions of anticipated funding will be obtained, to meet the scheme costs and it assesses the breakdown of funds between available sources and by year and considers how secure these funds are likely to be. Finally, it reviews the risks associated with the scheme investment and examines possible mitigation.

5.2 Project Costs

This section considers the capital costs associated with the proposed scheme investment. The scheme is currently costed as £18.7 million.

5.2.1 Breakdown and Time Profile of Project Costs

Table 9 shows the itemised breakdown of scheme capital costs. The spending profile is split in line with the SELEP funding profile and expected third-party contribution of 3% (2015-6), 6% (2016-7), 46% (2017-8), and 45% (2018-9).

Full Business Case, acquisition of statutory powers, consultation and monitoring costs are included within the detailed design and management costs. Land acquisition costs are shown separately. Inflation assumptions are subsumed into risk and contingency costs.

Sunk costs are generally written off as part of the day-to-day business of the transport planning responsibilities of Medway Council. However, consultants costs associated with the preparation of the Outline Business Case will be charged to the project, which amount to approximately £25,000

Revenue operating costs will be minimal because the highway corridor already exists, with any additional costs associated with additional signal installations and enlarged roundabouts. Maintenance costs assumed at £125,000pa in earlier economic work. Additional revenue costs will be funded from Medway Council's highway maintenance revenue account.

Table 9 – Scheme Capital Cost Breakdown and Profile

Construction Element	**E**
Site Clearance, Fencing, Barriers	£395,000
TM & Prelims	£1,791,300
Drainage & Earthworks	£2,600,000
Pavements, kerbs & footways	£3,975,000
Signs & signals	£309,000
Lighting & electrical work	£477,500
Structures	£1,100,000
landscaping	£100,000
Carriageway Links	£500,000
Utilities (based on C2 enquiries)	£2,470,000
Contingencies (10%)	£1,124,780
15% risk	£2,226,387
Allowance for Land Acquisition	£600,000
Allowance for Design & Planning	£1,000,000
Total	**£18,668,967**

Summary Table	
Scheme Cost with 15% risk and utilities	£17,068,967
Allowance for Design & Planning	£1,000,000
Allowance for Land Acquisition	£600,000
Total	**£18,668,967**

5.3 Project Funding

This section considers the capital funding requirements and commitments for the proposed scheme investment.

5.3.1 Sources of Funding

Table 10shows the breakdown of anticipated funding contributions, by source and year. (Some rounding areas due to specific amount of Land Securities contribution.)

Table 10 – Scheme Funding Sources and Profile of Contributions

Scheme Funding Sources and Profile of Contributions									
		Funding Contributions by year (£000)							
Funding Source:	**Fund Details:**	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**All Years**
Gov. / SELEP (direct)	LGF –		500	1100	4500	5000			11,100
Private Sector (external)	Developer (Lodge Hil) Developer (Liberty Park) Developer (Damhead creek power station) Overall			206	3969	3160 262			7129 206 262
Public Sector (external)	Network Rail – Gov. agency fund – LSTF – Overall –								
Local Authority (external)									
Borrowed Funds									
Income									
All Funding Sources	**Total**		**500**	**1306**	**8469**	**8422**			**18697**
Total from Local Funding Sources (external)	(Leverage) Total								

	%								

5.3.2 Security and Earliest Availability of Funds

Table 11highlights security and availability of funds.

The security of the LGF contribution score high because this funding has been committed by government and only requires release by the SE LEP Board. This funding is available from 2015/16

The security of the private sector contribution relates to S106 funds secured through planning applications. This scores medium because whilst some contributions have already been received, a major contribution from the Land Securities linked to the Lodge Hill development is dependent on the approval of the planning application for the site, which is currently being considered by the Secretary of State. It is anticipated that this funding will be available from 2017/18 onwards. Evidence of this commitment is contained in Appendix 3 of the Strategic Business Case for this scheme.

There are currently no funding constraints. However, the delivery of the full scheme is contingent on consent being granted at Public Inquiry for the Lodge Hill development. Refusal of this planning application is likely to result in elements of the Four Elms junction improvement being amended.

Table 11 – Security and Availability of Scheme Funding Contributions

Security of Scheme funding Sources and Earliest Availability						
		Security of Funding Contribution (✓)			**Earliest Available Date for Securing Fund Contribution**	
Funding Source:	**Fund Details:**	**Low**	**Medium**	**High**	**Part Funding Date**	**Full Funding Date**
Gov. / SELEP (direct)	LGF –			✓		
Private Sector (external)	Lodge Hill - Land Securities		✓			In negotiation
	Liberty Park			✓		Received / available
	Damhead creek power station			✓		Received / available
Public Sector (external)	Network Rail – Gov. agency fund –					

	LSTF – Overall –					
Local Authority (external)						
Borrowed Funds						
Income						

5.4 Financial Risk Management Strategy

This section examines the risks associated with the costs and financial requirements of the A289 Four Elms Roundabout to Medway Tunnel Improvements. It considers the mitigation that may be needed to handle the identified risks, if they arise.

5.4.1 Risks to the Scheme Cost Estimate and Funding Strategy

Table 12 shows the financial risk assessment.

Table 12 – Scheme Financial Risk Assessment

Qualitative Financial Risk Assessment										
Scheme Financial Risk Item	**Likelihood of Risk Arising (✓)**			**Impact Severity (✓)**			**Predicted Effect on Scheme Delivery & Outcome (✓)**			**Suggested Mitigation**
	Low	**Medium**	**High**	**Slight**	**Moderate**	**Severe**	**Slight**	**Moderate**	**Severe**	
Unforeseen increase in scheme cost reduces the VfM (i.e. BCR nearer to 1.0 'low')		✓			✓			✓		Amend preferred scheme design content to reduce scheme cost and increase VfM / BCR. Reconsider requirements with regards to integrating with Strood.
Earmarked / secured funds do not cover current scheme capital cost	✓					✓		✓		Lobby for additional funds from existing / new contributors.
Majority of fund allocation is from a single source, not spread out		✓		✓				✓		Spread funding request across more contributors
Land Securities Development withdrawn – with loss of third party contribution	✓					✓		✓		Other sites should be identified, and similar expectation of contribution sought
Majority of fund allocation is from Government LGF, giving poor 'leverage'			✓	✓					✓	Seek additional private sector and local public sector fund contributions
Main funding award depends upon sound scheme transport business case, which is not currently achievable	✓			✓				✓		Assemble additional supporting evidence for the scheme and prepare a Transport Business Case to a standard sufficient to confirm funding award
Government policy change	✓					✓			✓	None available

Qualitative Financial Risk Assessment										
Scheme Financial Risk Item	**Likelihood of Risk Arising (✓)**			**Impact Severity (✓)**			**Predicted Effect on Scheme Delivery & Outcome (✓)**			**Suggested Mitigation**
	Low	**Medium**	**High**	**Slight**	**Moderate**	**Severe**	**Slight**	**Moderate**	**Severe**	
disables a planned funding source										

6 Commercial and Management Cases

6.1 Overview

The previous strands, strategic, economic and financial have demonstrated a scheme which satisfies noted objectives, which is both value-for-money and affordable.

The final two strands, commercial and management, show the scheme can be delivered in terms of procurement, governance, risk-management and scheme monitoring. Whilst these two strands are independent in the 5-case model they are being grouped together in this interim submission.

6.2 Scheme Procurement Strategy

Commercial Viability

Medway Council's Category Management Team will carry out the necessary market assessment on the commercial viability of this project. This included:

- An appraisal of the current market conditions for the delivery of all aspects of the scheme, consultation with project.
- Consultation with project and performance management consultants for additional guidance on scheme procurement and best contracting methods.
- An examination of the cost benefits of the scheme.

The results of the commercial viability assessment showed an appropriately buoyant market for the procurement and contracting of the necessary elements of the scheme. In addition, this project provides a consistency of approach and joined-up strategy by linking with other LGF funded projects that increases the commercial viability of this project and the linked LGF projects. In particular the Strood Town Centre Journey Time Improvements and Accessibility project and Medway City Estate Connectivity Improvements will compliment this project, with access through Strood via the A289 being one of the main traffic tributaries through to the Medway City Estate.

Medway Council's Category Management Team has a proven track record of successful project delivery, both in terms of quality and value for money, recognised in March 2014 at the Excellence In Public Procurement Awards 14/15 where the Team achieved the Highly Commended Award for Innovation or Initiative, and in August 2014 being shortlisted for two major award categories in the CIPS Supply Management Awards 2014. The Team will provide support to the Project Group throughout the life of the scheme, including pre and post-delivery phases.

The Governance Arrangements set out in Section 6.6 provides additional detail on the Team's role in the project management structure.

Procurement Options

In order to achieve the best outcome for the project officers are currently considering two procurement strategies for this project, the two-stage approach and the traditional approach. The proposed timescale and process for the two-stage is set out in detail in Table 13below:

Table 13 – Two-stage Procurement Timetable

Pre Tender Stage	1. In House Preparation / Appointment of Consultants	The Client prepares a business case for its proposed project and develops this into a project brief that forms the basis for selection of a Designer and Cost Consultant (either in-house or pursuant to a new EU-compliant procedure or under an existing framework / alliance / long-term contract);
	2. Consultant Preparation	The selected designer creates a concept design and the selected cost Consultant creates a Project Budget, in each case for Client approval;
Stage 1 (Tender)	3. Market Engagement / Appointment of Main Contractor	The Client issues the project brief, approved concept design and Project Budget to the market, and invites proposals that will form the basis for their appointment under Conditional Contracts (pursuant to new EU-compliant procedures or under existing frameworks / alliances / long-term contracts);
		Bidder submissions will include appropriate design and other project proposals for evaluation, as well as Consultant fees and Contractor fees / profit/ overheads – and, where appropriate, the costing of work/supply package proposals from preferred Subcontractors and Suppliers;

Stage 2 (Pre Construction Agreement)	4. Pre-Construction Phase	The successful Contractor and Consultant team are appointed to then work up a proposal on the basis of an Open Book cost that meets the Client's stated outcomes and cost benchmark as a second stage;
		The selected Integrated Team, comprising the Client, Consultants and Contractor (together with any provisionally approved Subcontractors and Suppliers), carries out agreed Preconstruction Phase activities under the terms of their Conditional Contracts and in accordance with a Preconstruction Phase Timetable, including build-up of developed design in respect of the project and each work/supply package, together with Project Budget reconciliations for Client approval;
		As developed design is approved, subject to review and value engineering as appropriate, the Integrated Team then builds up the technical design in respect of the project and each work / supply package for Client approval;
	5. Supply Chain Engagement	Contractor issues approved developed design or technical design (dependent on the extent of design proposals invited) to any provisionally approved Subcontractors and Suppliers for particular work / supply packages and creates a business case for review / development / finalisation of their work / supply package and costs and for Client approval;
		Contractor issues approved developed design or technical design (dependent on the extent of design proposals invited) with an Enquiry Document approved by the Client to prospective Subcontractors and Suppliers for each remaining work / supply package and invites them to submit tenders comprising proposals and costs for that work / supply package;
	6. Finalisation of Design and Cost	As successive Subcontractors and Suppliers are selected, the expanded Integrated Team finalises the technical design, confirms the components of the agreed costs for the project, and develops a Construction Phase programme;

		The expanded Integrated Team undertakes joint risk management activities so as to minimise any risk contingencies quoted by the Contractor and so as to establish a robust and acceptable basis for the Construction Phase of the project to proceed;
		If required, the Client authorises Early Works Orders to be undertaken by agreed Integrated Team members for agreed costs in advance of the Construction Phase of the project;
Construction Phase	7. Construction Phase	When technical design and costs and a Construction Phase programme have been sufficiently developed, supported by acceptable conclusion to agreed risk management activities, the Client confirms that the conditions set out in the Conditional Contracts have been satisfied and authorises the Integrated Team to undertake the Construction Phase of the project on the basis of: • Technical design compliant with the project brief and agreed by the Integrated Team; • Fixed price or target cost within the Project Budget and agreed by the Integrated Team; • A risk management position agreed by the Integrated Team; • A Construction Phase programme agreed by the Integrated Team.

The traditional approach if taken forward will include a more independent design stage, with the market approached subsequently for the procurement of scheme construction. Officers are continuing with the necessary due diligence on the appropriateness of the approach for this project and will finalise the specific procurement strategy by March 2015. Officers will ensure that the final strategy:

- Enables full project mobilisation within the funding period
- Has clearly defined financial implications
- Has clearly defined risk allocations
- Specific project timescales, including implementation timeframe.

- The necessary timescales for multiple procurements if appropriate to ensure all package elements of the scheme are value engineered and delivered to timescale.

In order to minimise overrun and contingency arrangements, officers are also considering the appropriateness of either a fixed price or target price contract, and how risk and contingency will be best managed in order to maximise deliverable outcomes for the project. Specific contracts being considered for the project are:

- JCT Constructing Excellence (Construction phase need adapting for pre-construction phase)
- NEC3 Option C (Construction phase need adapting for pre-construction phase)
- PPC2000
- Public Sector Partnership Contract Option 6 (Option 10 is the preconstruction phase)
- TPC2005 (Includes 2 stage open book mobilization phase)

The chosen procurement strategy will be fully supported by the Council's own internal procurement governance arrangements, including a comprehensive Gateway reporting process, procurement support and guidance from the Council's dedicated Category Management Team, and additional due diligence on all key scheme proposals and awards through the Council's Divisional Management Team (attended by senior Council officers and service heads), Procurement Board (attended by senior Council officers, service heads, and member portfolio holders), and if necessary full Cabinet.

In terms of the contracting strategy for this project, Medway as part of its commitment to superior delivery of all projects, will contract manage the delivery of this project by utilising the Councils electronic Contract management tool. This tool is suitable for projects of all sizes and can be specifically tailored to suit the scale of the project involved. In addition, there will be regular project meetings with the Project Management team, the contractor and the Procurement team to ensure that there all possible issues are anticipated and addressed appropriately, and that the project is progressing effectively, to budget and to timetable. PRINCE2 methodology will also be scaled to suit the project in order to ensure the most effective contracting approach is taken.

With regard to procurement strategy, Medway Council is committed to supporting SMEs, local business, local employment and training opportunities. These objectives are incorporated into the Councils standard tender documentation in the form of questions and method statement requests that test bidders experience of delivering social value through local supply chain, employment and apprenticeship opportunities. These questions are separated by testing a bidder's previous experience of delivery through specific questions at the pre-qualification stage in order to shortlist those bidders who have demonstrated experience and commitment to these objectives on previous projects. These shortlisted bidders are then tested again with specific delivery questions that ask them to detail how, on the project they are bidding for, will they be able to support the economic, social and environmental factors outlined in the project requirements. The answers given will be scored and will contribute to the overall price / quality score for the bidder, which will provide a ranking based on scores highest to lowest.

Ensuring quality contractors are delivering this project will be of paramount importance. As a result there will be a stronger emphasis on quality at the award stage of the tender. Capital Projects that are in excess of £4.3m are subject to the EU Procurement Regulations which state that an advert must be place in the Official Journal of the European Union (OJEU) and depending on what procedure is chosen, the necessary prescribed timelines are to be adhered to. Medway Council uses the E-tendering system 'ProContract' which is available to all bidders and is known as the Kent Business Portal. All opportunities that the Council has are advertised through the portal, whether they are in excess of the EU thresholds or not. Not only does this ensure that there is a complete audit trail which protects the Council and individual officers in the event of a challenge, it also gives bidders confidence that they will be treated equitably and that the process is transparent and without discrimination.

The selected procurement strategy will be set out within the subsequent full business case submission for the scheme.

6.3 Evidence of Previously Successful Scheme Management Strategy

Medway Council's Procurement and Category Management Team has a proven track record of successful project delivery, both in terms of quality and value for money, recognised in March 2014 at the Excellence In Public Procurement Awards 14/15 where the Team achieved the Highly Commended Award for Innovation or Initiative, and in August 2014 being shortlisted for two major award categories in the CIPS Supply Management Awards 2014.

The Procurement & Category Management Team procure the full range of requirements for the Council ranging from social services to capital projects. All members of the Team are members of the Chartered institute of Purchasing and Supply (CIPS) which sets standards for procurement professionals globally. One of the key lessons learnt from previous procurement projects is that the right team needs to be in place to ensure that the project can deliver the objectives and outcomes within time and budget.

Medway Council also has a wide range of experience successfully tendering and contract managing traditional build contracts utilising JCT Design and Build as well as other forms of contracts such as NEC3 and PSPC.

The tender process undertaken will look to ensure that the client side technical support has the correct ethos to deliver the projects and the contractors have experience of delivering these projects working collaboratively rather than adversarial approach.

Medway Council can note two specific recent projects that demonstrate good scheme management.

The new Stoke crossing overbridge was designed as a single carriageway to replace the existing Stoke crossing and realign the A228, with the aim of improving safety.

In Chatham town centre a two stage project helped regenerate the town. This involved the demolition of an existing viaduct.

These two projects covered important aspects of delivery including funding, statutory undertakings, planning issues and traffic management.

6.4 Key Project Work Stages and Tasks

The key stages identified are:

Initial scheme design / Outline Business Case

Feasibility work

Land Acquisition

Consultation

Committee Approval

Detailed design / Full Business Case

Acquisition of statutory powers

Procurement

Environmental surveys

Start/end of construction

Monitoring

6.5 Project delivery and Approvals Programme

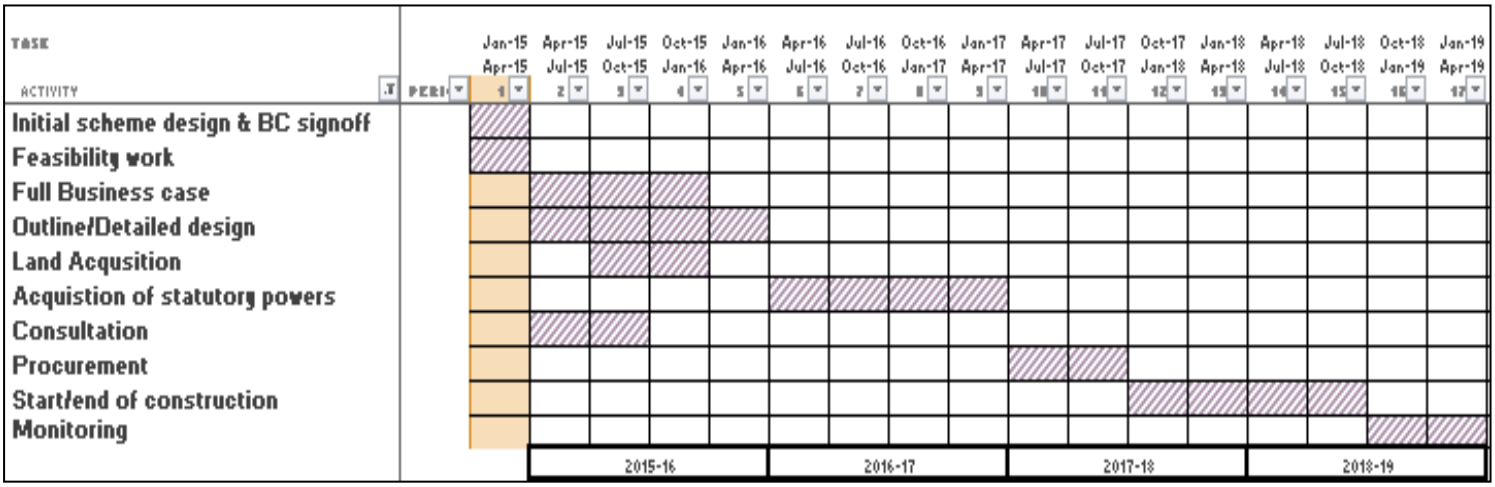


Figure 7 – Gantt Chart

6.6 Project Governance, Roles and Responsibilities

Medway Council has effective management and governance arrangements in place to ensure effective delivery of LGF projects, including an established project management toolkit based on PRINCE2 methodology and governance arrangements that involve both elected members and senior officers of the council. The project governance is shown in Figure 8 below.

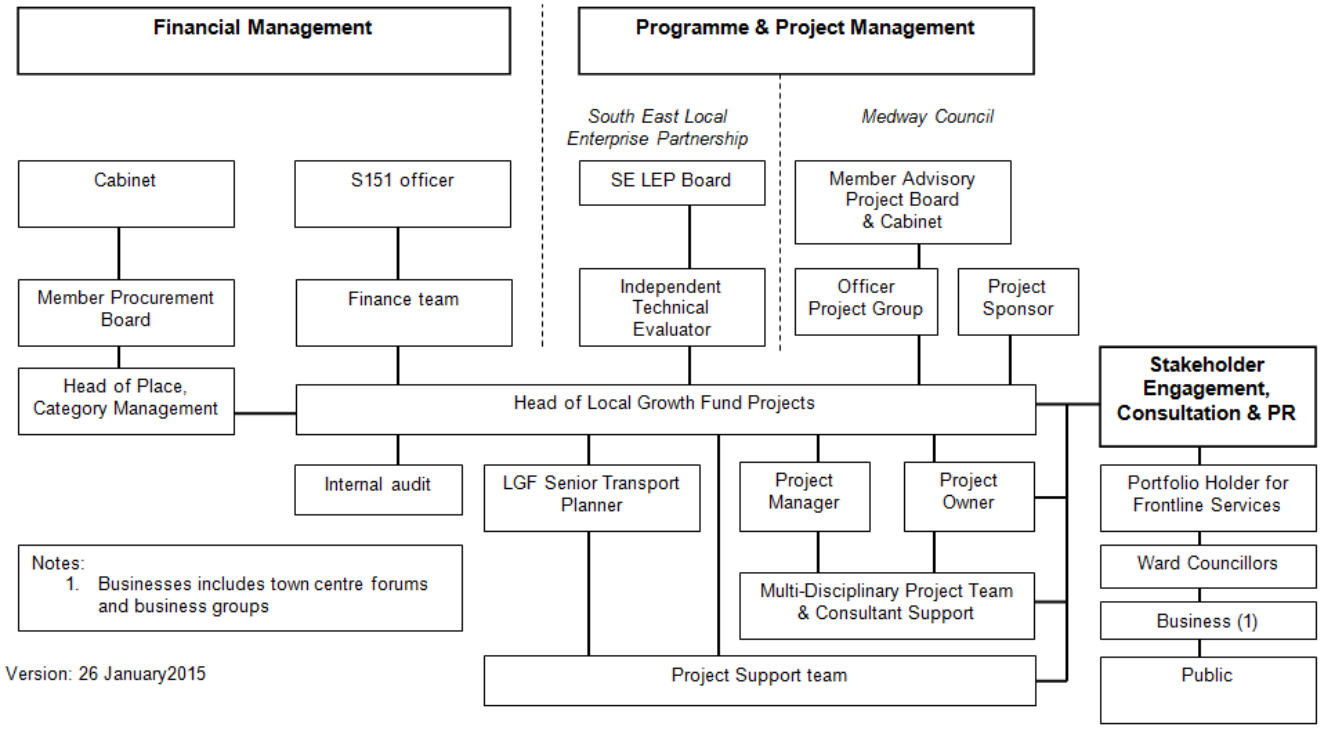


Figure 8 – Project Governance

Management and governance arrangements were agreed by Medway Council's Officer Project Group on 12 February 2015. The table below details the in-house resources at Medway Council that will lead on the key activities of the programme, individual projects and workstreams. This will be supplemented by resources from consultants. Appendix B provides a breakdown of resources for LGF project work-steams. Appointment to the post of Head of Local Growth Fund Projects has been made and arrangements are in progress to recruit to the posts of Principal Transport Planner – LGF Projects and Project Officer – LGF Projects.

Medway Council key management and governance arrangements	
Responsible group or officer	**Responsibility**
Cabinet	Member group that manages council business including high value/high risk procurement and projects including LGF projects. Cabinet meets every three weeks.
Member Advisory Project Board	Member overview of project development and delivery. The Board reviews, analyses and scrutinizes progress on the directorate's capital programme and, where relevant, specific large/complex projects. Board is chaired by Frontline Services Portfolio Holder. LGF reports are regularly considered by this Board.

Procurement Board	Member led board that agrees and scrutinises procurement activity. This Board will consider the procurement strategy for each LGF project, consider submitted tenders and scrutinise outcomes.
Officer Project Group for Regeneration Community & Culture Directorate (RCC)	Senior officer project management of all LGF projects. The Group is responsible for the strategic management of the project and has authority to commit resources to the project in accordance with the Council's Constitution. General tasks include: • appointing the project manager; • signing off the project brief and business case; • approving the PID; • agreeing project controls; • authorising project start; • authorising variations to expenditure; • managing key risks in the highlighted risk log; • and authorising project closure. An LGF update report is a standing item on the agenda. The Group meets every four weeks.
Project Sponsor	Independent of the project and provides challenge to ensure project is delivered on time, within budget and achieving the anticipated benefits
Senior User	Responsible for specifying the needs of those who will use the project's products, for user liaison with the project management team, and for monitoring that the solution will meet those needs within the constraints of the Business Case in terms of quality, functionality and ease of use.
Programme Manager	Lead on managing and being responsible for Medway's LGF programme of projects. Includes operating at a high level with government, SE LEP and the Independent Technical Evaluator. This post filled and operational.
Project Owner	Ensures governance arrangements and Medway project management principles are adhered to. Ensures the project is technically and financially viable and compliant with the organisation's corporate standards and strategic business plans. Owns the Business Case, funding and cost allocation for the project. Provides leadership and direction throughout the project. Is responsible and accountable for ensuring the project remains focussed on achieving its objectives and that the anticipated benefits can be achieved.

	Attend the directorate Officer Project Board to lead discussions on the project. Provides sufficient induction for the Project Manager to ensure s/he has the best understanding of the project. Chair implementation board if required.
Workstream lead	Responsible for planning and leading on the overall direction of an identified workstream that forms part of a project. They will work closely with the Project Manager, the Project Owner and others within the project team to implement the project.
Project Manager	Responsible for delivering the project on behalf of the project owner and officer project board. Leads and manages the Project Team with the Authority and responsibility to run the project on a day-to-day basis. Delivers the right outputs, to the required level of quality and within the specified constraints of time, cost, resources and risk. Prepare project information, including PID, Project Plan and Business Case. Identify and evaluate risks, determine and manage actions, and maintain the risk log. Manage and control changes to scope, requirements, personnel etc. Ensure project's resource plans and costs include sufficient, properly skilled support. Monitor and report progress against plans, quality and costs. Liaise with the Project Owner and Officer Project Board for their approval and decisions at key project stages.
Section 151 Officer	Responsible for signing acceptance of the grant and its attached conditions, over viewing financial transactions and challenging where necessary, sign off of financial statements requested from SELEP.
Head of Place, Category Management	Lead on providing procurement advice.
Head of Internal Audit	Lead on providing independent assurance over the governance and financial management arrangements. Involved in the programme from an early stage. A formal terms of reference for audit involvement will need to be agreed by the project board

6.7 Communication and Stakeholder Management Strategy

Figure 9 shows the engagement approach to be used for various different stakeholders and interest groups. A key aspect will be the consultation to be commenced in the near future. The Portfolio Holder for Frontline Services will take an active part of this work.

Figure 9 – Stakeholder Management Plan

Itemise Stakeholders to be Handled in Accordance with Interest / Influence Matrix

Stakeholder Influence		
High	**To be Passively Monitored:** **Natural England**	**To be Actively Engaged and Managed:** **SELEP / DfT** **Local elected members** **Land Securities (developer for Lodge Hill)**
Low	**To be Passively Conciliated:** **Local population**	**To be Actively Informed:** **Parish Councils** **Local MPs** **Local businesses, including those based at Medway City Estate and Strood** **Bus Operators through established partnerships**
	Low	**Stakeholder Interest** **High**

6.8 Project Risk Management and Contingency Plan

A risk register will be developed and kept updated with regards to the project delivery. Initial items were highlighted by Medway Council in their earlier submission.

Table 14 shows a summary of the project risk assessment items that have been highlighted. This includes aspects from all elements of the business case, and also adds 'operational' and 'scheme performance' elements.

Table 14 – Project Risk Assessment

Risk Category	Risk Description	Likelihood of Risk Arising (Score 1-5)	Severity of Impact (Score 1-5)	Risk Score = Likelihood x Impact Severity	Proposed Risk Mitigation and Contingency Action
Scheme Transport Business Case Approval for DfT-defined 'larger' scheme (>£5m)	SELEP / DfT requires more quantified evidence for Economic Case Value for Money	3	4	12	Business case to be reviewed and updated. Discussions with ITE to be commenced, particularly with regards to modelling requirements (e.g. variable demand)
Planning	Lodge Hill planning consent changes	2	4	8	Elements of the scheme that directly relate to Lodge Hill could be delivered in phases. Development opportunities on the Hoo peninsula to be reviewed as part of the Local Plan review process.
	General planning consent (regarding alignment)	1	4	4	Mitigate outstanding objections
Project cost /programme –	Issues with statutory, design, land acquisition, procurement or environmental surveys.				Address at early stage (use risk register)
	Project not delivered within timescale set out in Project Plan.	Low (2)	Medium (3)	6	Sufficient additional time to deliver project in the Project Plan to enable funding to be spent within the funding timescale.
	Bad weather impacting on construction/ delivery of materials to site.	Low (2)	Medium (3)	6	Two-month gap in programme over winter period prior to works commencing on site to allow for any delay.
	Insufficient technical resources to deliver the project.	Low (2)	Medium (3)	6	Experience in delivering similar projects puts the Council in a good position to deliver this improvement, e.g. A228 Stoke Bridge / Chatham Roads scheme.
	Delays by statutory undertakers.	Medium (3)	Medium (3)	9	Early liaison with statutory undertakers to agree programmes for service diversions.
Funding	Not forthcoming	1	5	5	Ongoing discussions with funding bodies, Land Securities and SELEP
Scheme performance /Operational	Downstream capacity erodes benefits	1	3	3	
	Predicted improved journey times are not achieved.	Very Low (1)	High (4)	4	Monitor and review impacts of scheme to consider need for minor adjustments to layout/signal timings.
Overall					

6.9 Project Assurance

Under the requirements of section 151 of the Local Government Act 1972, Medway Council confirms the financial administrator has adequate project assurance systems in place to verify that the scheme is fit and able to be procured and delivered using Medway Council procedures. This will include the council's Internal Audit team being engaged with the project at key gateways in its progress.

The business case will be assessed by Steer Davies Gleave, the Independent Technical Evaluator, appointed by the South East Local Enterprise Partnership.

6.10 Scheme Monitoring

Medway Council are committed to monitoring and evaluating the scheme post-opening.

The current data for travel times, TrafficMaster, through the network can be repeated post-opening. This assumes that DfT remains committed to supplying this data as part of monitoring National Indicator 167. Medway Council are also committed to undertake 'moving observer' surveys pre-and post-opening.

In addition pre-opening data for Accidents is available and can also be repeated post-opening.

A congestion relief scheme would also want to compare traffic flows so that the changes in delay are put into context. Recent traffic counts were done at each of the roundabouts and a repeat of these counts should be programmed.

Table 15shows the scheme monitoring.

The acceptability will be judged on the predictions supporting the economic case and on delivering the scheme objectives. This will need to include any additional modelling/appraisal work based on the PARAMICS model / additional SATURN work.

Table 15 – Scheme Monitoring, Evaluation and Benefits Realisation Plan

Expected Benefit	Measure	Owner	Outcome/impacts	Review timescale	Review Method
Travel-time improvement	Journey-time	Medway Council		One and five year post-opening	Moving Observer surveys/Traffic Master Data

New housing	Completions	Medway Council	Delivery of local plan		On-going Housing monitoring
Accidents	KSI	Medway Council			On-going Accident Monitoring
n/a	Traffic Flows	Medway Council		One and five year post-opening	Repeat junction counts

These measures have followed through the narrative of the business case and checked against Medway's working list of metrics to use with SELEP (Table 16)

Table 16 – Medway Council - Core Metrics

1. CORE METRICS
Inputs:
Expenditure
Funding breakdown
In-kind resources provided
Outcomes:
Jobs connected to the intervention
Commercial floor space constructed
Housing unit starts
Housing units completed
2. PROJECT SPECIFIC OUTPUTS AND OUTCOMES
Transport
Outputs
Total length of resurfaced roads
Total length of newly built roads
Total length of new cycle ways
Type of infrastructure
Type of service improvement
Outcomes

Follow on investment at site
Commercial floor space occupied
3. ADDITIONAL MONITORING
Average daily traffic and by peak/non- peak periods
Average AM and PM peak journey time per mile on key routes (journey time measurement)
Average AM and PM peak journey time on key routes (journey time measurement)
Day-to-day travel time variability
Average annual CO2 emissions
Accident rate
Casualty rate
Bus/light rail travel time by peak period
Mode share (%)
Pedestrians counts on new/existing routes (#)
Cycle journeys on new/existing routes
Households with access to specific sites by mode within threshold times

7 Conclusions and Recommendations

7.1 Conclusions

The scheme provides an affordable and deliverable scheme that can overcome the existing problem of congestion in the A289/A228 corridors, and assist in providing a sufficient network to deliver Lodge Hill, a key aspect of the emerging Medway Local Plan.

In addition delays at minor arms can be addressed.

The scheme is worthwhile from a 'value for money' standpoint.

7.2 Recommended Next Steps

The development and delivery of the scheme should be approved and should proceed. This will require a further, more refined, 'full transport business case' justification for the A289 FEMT scheme. As part of this process, it is likely that more rigorous transport modelling and more extensive appraisal of scenario impacts will be required (as indicated in the **Table 1** Screening Summary). In particular, consideration should be given to applying 'multi-modal' and 'variable demand' modelling techniques, to understand if the preferred scheme could generate benefits for bus users, or could result in 'induced traffic' impacts. A discussion with the ITE should be arranged to discuss this point.

Alternatively, the existing PARAMICS micro-simulation model of the corridor could be developed further, to provide a more detailed localised picture of junction operation with the scheme.

7.3 Value for Money Statement

The 'value for money' statement in this report suggests a 'high' value for money. This should be revisited if localised modelling suggests a lower BCR.

7.4 Funding Recommendation

The 2015/16 funding requirement from SELEP, £0.5m should be released to Medway Council. The balance of the expected £11.1m total SELEP funding should also be assumed committed subject to further more detailed business case submissions to SELEP and the ITE as required.

APPENDIX A APPRAISAL SUMMARY TABLE

See separately enclosed document "*Medway – A289 – Appendix A – AST Table 20.2.2015*"

APPENDIX B BREAKDOWN OF RESOURCES FOR LGF PROJECT WORKSTREAMS

Project name & workstreams	Project Owner	Workstream Leader	Project Manager	Senior Managem't
Senior Management				
Project Sponsor				AD – FLS
Programme Manager				HLGF
Senior User				HIT
Project support				PO
A289 Four Elms Rbt to Medway Tunnel	HLGF		PTP	
Highway capacity improvement		HIT	PTP/PO	
Strategic links to major development sites		PTP	PTP	
Strood Town Centre	HLGF			
Traffic management		TM	PTP/PO	
Pedestrian accessibility		RSM		
Cyclist accessibility		STOO		
Public transport improvements		PTOM		
Strategic links to major development sites		PTP		
Strood station		NR/SE	PTOM	
Chatham Town Centre Place-making & PR	HLGF			
Public realm including Civic Square		CRM	CRM	
Rail/bus highway alterations		PTOM	PTOM	
Chatham station forecourt		NR/SE	PTOM	
Command of the heights		GLHP	GLHP	
Medway Cycling Action Plan	HLGF			
Network improvements		PTOM	STOO	
Cycle hire		PTOM	STOO	
Other interventions		PTOM	STOO	
Medway City Estate connectivity imps	HLGF			
Anthony's Way junction improvement		HIT	PTP	
River taxi		PTP	PTP/PO	
Pedestrian and cycle network imps.		HIT	STOO	
Total				

KEY TO POST ABBREVIATIONS		
Post		**Post holder**
Assistant Director – Frontline Services	AD-FLS	Andy McGrath
Head of Local Growth Fund Projects	HLGF	Steve Hewlett
Principal Transport Planner (LGF Projects)	PTP	New post
Project Officer (LGF Projects)	PO	New post
Head of Integrated Transport	HIT	Ruth Du-Lieu
Transport Change Manager	TCM	David Tappenden
Traffic Manager	TM	Martin Morris
Road Safety Manager	RSM	Bryan Shawyer
Parking & Transport Operations Manager	PTOM	David Bond
Senior Transport Operations Officer	STOO	Darren Taylor
Chatham Regeneration Manager	CRM	Sunny Ee
Great Lines Heritage Park Project Officer	GLHP	Nicola Moy
Public Health Project Manager	PH	Scott Elliott
Head of Greenspaces	GS	Simon Swift
Network Rail/Southeastern	NR/SE	Stephen Diplock/Nina Peek