



LGF Transport Business Case Report

A2500 Lower Road/Barton Hill Drive junction, Sheppey












CO04300618/001 Revision 03

July 2017



Document Control Sheet

Project Name:	A2500 Lower Road/Barton Hill Drive junction, Sheppey
Project Number:	CO04300618
Report Title:	LGF Transport Business Case Report
Report Number:	001

Issue Status/Amendment	Prepared	Reviewed	Approved
00 (Working Draft for Comment)	Name: Sophie Best Signature:  Date: 20/06/2017	Name: Wayne Garside Signature:  Date: 21/06/2017	Name: Signature: Date:
01 (Final Draft for Approval)	Name: Sophie Best Signature:  Date: 22/06/2017	Name: Wayne Garside Signature:  Date: 22/06/2017	Name: Jeff Webb Signature:  Date: 23/06/2017
02 (Issue for Gate 1 submission to SELEP)	Name: Sophie Best Signature:  Date: 29/06/2017	Name: Wayne Garside Signature:  Date: 29/06/17	Name: Steve Whittaker Signature:  Date: 29/06/17
03 (Amendments to Economic Case – Re-issue to SELEP for Gate 1 Review)	Name: Sophie Best Signature:  Date: 06/07/2017	Name: Wayne Garside Signature:  Date: 06/07/2017	Name: Steve Whittaker Signature:  Date: 06/07/2017

Contents

1	Introduction.....	1
1.1	Overview	1
1.2	Location of the Scheme.....	1
1.3	Background to the Business Case Process.....	3
1.4	Purpose of this Document	4
1.5	Structure of the Document	5
2	A2500 Lower Road junction with Barton Hill Drive Improvement.....	6
2.1	Introduction.....	6
2.2	Scheme Description	6
3	Strategic Case	7
3.1	Introduction.....	7
3.2	Business Strategy/ Strategic Context.....	8
3.3	Problem Identified	15
3.4	Impact of Not Changing	21
3.5	Internal Drivers for Change	25
3.6	External Drivers for Change.....	25
3.7	Objectives.....	25
3.8	Measures for Success.....	26
3.9	Scope.....	27
3.10	Constraints	28
3.11	Inter-dependencies.....	28
3.12	Stakeholders	28
3.13	Scheme Options Considered	29
4	Economic Case	31
4.1	Overview	31
4.2	Scheme Options Appraised.....	32
4.3	Cost Benefit Analysis.....	33
4.4	Value for Money Assessment	34
4.5	Economic Case Criteria.....	36
4.6	Assumptions	36
4.7	Present Value Outcomes from Economic Appraisal.....	38
4.8	Sensitivity Tests	39

4.9	Appraisal Summary Table.....	40
4.10	Value for Money Assessment	40
4.11	Overall Value for Money Statement	42
5	Financial Case	43
5.1	Overview	43
5.2	Base Costs	43
5.3	Inflation.....	44
5.4	Risks / Leverage.....	44
5.5	Optimism Bias	44
5.6	Final Scheme Costs.....	44
5.7	Funding Arrangements.....	45
5.8	Whole Life Costs.....	45
5.9	Section 151 Officer Letter.....	45
6	Commercial Case.....	46
6.1	Overview	46
6.2	Output based specification	47
6.3	Scheme Procurement Strategy.....	48
6.4	Sourcing Options	49
6.5	Potential Payment Mechanisms	49
6.6	Pricing Framework and Charging Mechanisms	50
6.7	Risk Allocation and Transfer	50
6.8	Contract Length	52
6.9	Contract Management.....	52
7	Management Case.....	53
7.1	Overview	53
7.2	Approach to Scheme Development and Delivery.....	54
7.3	Evidence of Previously Successful Schemes.....	54
7.4	Project Dependencies	57
7.5	Project Governance, Roles and Responsibilities	57
7.6	Key Work Stages and Critical Tasks.....	60
7.7	Project Delivery and Approvals Programme.....	60
7.8	Project Assurance.....	61
7.9	Communication and Stakeholder Management Strategy	61
7.10	Project/ Programme reporting	64

7.11	Contract Management.....	64
7.12	Project Risk Management and Contingency Plan.....	64
7.13	Benefits Realisation Plan	65
7.14	Scheme Monitoring and Evaluation.....	66
7.15	Options.....	67
8	Conclusion.....	68
8.1	Summary	68
8.2	Recommended Next Steps.....	68
8.3	Value for Money Statement	68
8.4	Funding Recommendation	68
Appendix A	Scheme Layout	
Appendix B	Appraisal Summary Table	
Appendix C	Scheme Cost Plan	
Appendix D	Section 151 Officer Letter	

Figures

Figure 1-1:	Scheme Location	2
Figure 3-1:	12 Hour Traffic Flows November 2015.....	16
Figure 3-2:	AM Peak Turning Movements	17
Figure 3-3:	PM Peak Turning Movements.....	17
Figure 3-4:	Saturday Peak Turning Movements	18
Figure 3-5:	Journey Time Routes	19
Figure 3-6:	12 Hour Journey Time Plot BH1	20
Figure 3-7:	Crash Statistic Map for the A2500 Lower Road	21
Figure 3-8:	Proposed Development West of Barton Hill Drive	23
Figure 3-9:	Scheme Logic Map.....	27
Figure 4-1:	Value for Money Process	34
Figure 7-1:	EKA2 Scheme Layout.....	55
Figure 7-2:	SNRR Scheme Layout	56
Figure 7-3:	Governance Diagram	58
Figure 7-4:	Example Risk Register.....	65

Tables

Table 3-1:	Strategic Case Requirements	7
------------	-----------------------------------	---

Table 3-2: Junction Capacity Assessment – Output Summary	24
Table 3-3: Scheme Objectives	26
Table 4-1: Economic Case Requirements	31
Table 4-2: Appraisal Criteria for Assessing Scheme Performance	36
Table 4-3: Peak Hour Vehicle Movements	38
Table 4-4: Localised Scheme Performance –Delay per day (Vehicle Hours)	38
Table 4-5: Summary of Monetised Costs and Benefits (2010 values and prices)	39
Table 4-6: Sensitivity Test Summary (2010 present day values and prices)	40
Table 4-7: Summary of Scheme Value for Money Assessment	41
Table 5-1: Financial Case Requirements	43
Table 5-2: Component of Investment Cost (2016/Q2 prices)	44
Table 5-3: Summary of Final Scheme Costs (2016/Q2 prices)	45
Table 5-4: Funding Sources	45
Table 6-1 Commercial Case Requirements	46
Table 6-2: Risk Allocation Table	50
Table 6-3: Commercial Risk Assessment	52
Table 7-1: Management Case Requirements	53
Table 7-2: Project Delivery Timescales	60
Table 7-4: Stakeholder Engagement Levels	62
Table 7-5: Stakeholder Management Strategy	63
Table 7-5: Project Risk Assessment	65
Table 7-6: Scheme Monitoring, Evaluation and Benefits Realisation Plan	67

1 Introduction

1.1 Overview

1.1.1 Amey have been commissioned by KCC (Kent County Council) to develop a proportionate Outline Business Case for various South East Local Enterprise Partnership (SELEP) schemes being promoted by Kent to be funded by the South East Growth deal as part of the Government's Local Growth Fund. This report supports the application for SELEP funding for the A2500 Lower Road/Barton Hill Drive junction, Sheppey.

1.1.2 This document is the second of three stages in the preparation of a Transport Business Case:

- Strategic Outline Case (SOC) focuses on establishing a case for change based on the issues identified within the overall strategic context. It sets out objectives and Critical Success Factors which are used to establish a preferred way forward through initial analysis of options;
- Outline Business Case (OBC) which includes a rigorous appraisal of options as well as setting out how these could be funded, procured and delivered; and
- Full Business Case (FBC) which sets out all aspects of the scheme in order that funding can be released and the scheme can be implemented.

1.2 Location of the Scheme

1.2.1 The A2500 Lower Road is the principal local highway route on the Isle of Sheppey connecting, to the west, with the Sheppey Crossing and the mainland via the A249, and eastward with the B2231 at Eastchurch for onwards routes to Leysdown-on-Sea.

1.2.2 The A2500 is currently subject to significant traffic volumes that results in unacceptable traffic congestion and delays during peak times (AM and PM) as well as across other time periods (Friday afternoon, Saturday and Sunday). This is a result of significant new development, general growth in background traffic and the largely tourism focussed economy on the Island. The local highway authority acknowledges the very real highway capacity issue that is having a demonstrable impact on the travelling public and which must be addressed to release further new development.

- 1.2.3 The eastern part of Sheppey is a significant tourist destination and is served by A2500 Lower Road as its principle access. Existing and worsening congestion levels are having an impact upon access to and from the area, its holiday parks, beaches and emerging eco-tourism offer associated with the internationally renowned wetlands. The industry provides an estimated 1,500 jobs in one of the most deprived communities in the south-east and the congestion is becoming a significant deterrent to visitors. This is impacting upon businesses in eastern Sheppey, many of which are dependent upon the visitor base.
- 1.2.4 Also served by the A2500 is the Sheppey Prison Cluster, at Eastchurch, the largest employer on the Isle of Sheppey. Congestion is impacting upon staff and visitors and conditions are such that without the proposed improvements it would be difficult to accommodate any possible future expansion of the Prison complex.

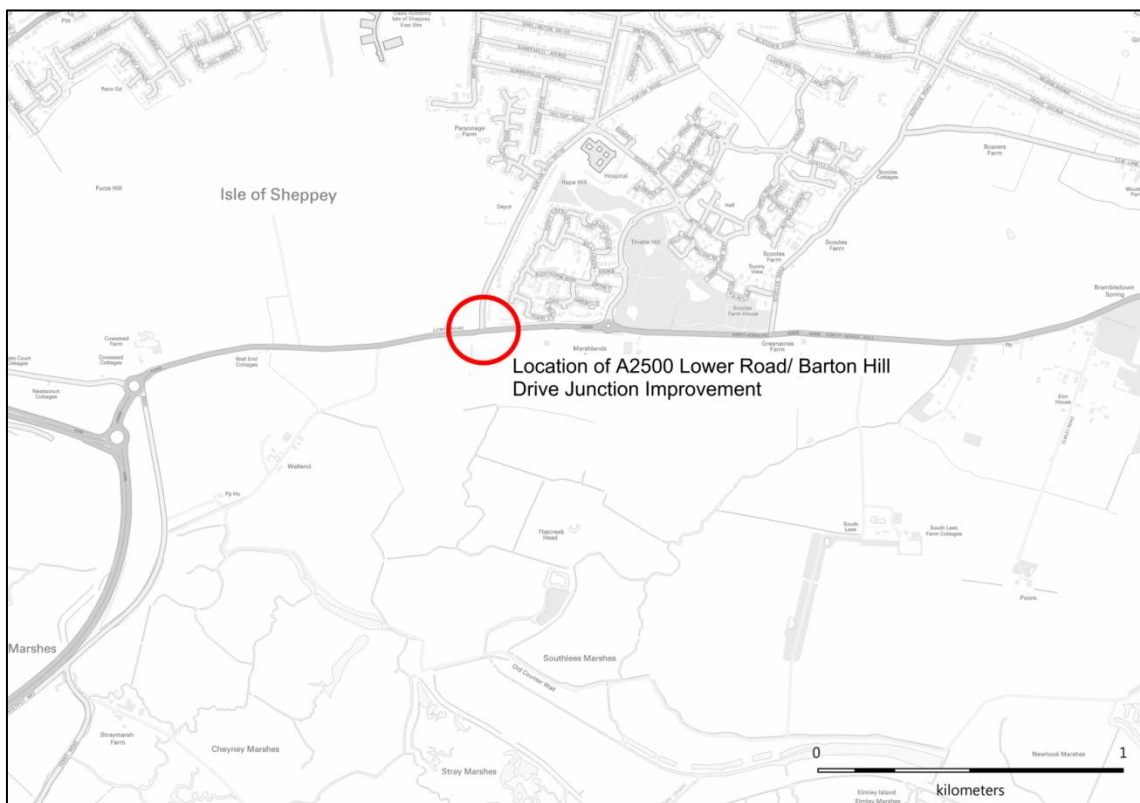


Figure 1-1: Scheme Location

- 1.2.5 The A2500 Lower Road junction with Barton Hill Drive is located approximately a mile east from the junction with the A249, see Figure 1-1. The junction currently operates as a signalised controlled junction. The junction is no longer 'fit for purpose' as the level of traffic demand through this junction cannot be adequately catered for especially across peak AM, PM, weekend and summer month periods.

1.3 Background to the Business Case Process

- 1.3.1 Government has confirmed an allocation of investment into the South East LEP (SELEP) area of £102.65 million as part of the Growth Deal Programme Round Three.
- 1.3.2 This follows a submission by the South East LEP to a call for applications in summer 2016. This funding is to help create jobs, support businesses and create new growth opportunities. The allocation of Local Growth Fund will help deliver those projects identified by SELEP Federated Boards as priorities for investment.
- 1.3.3 This investment of £102.65 million will deliver an additional 6,129 new homes, create or safeguard 30,785 jobs and secure a further £141 million of private sector investment into the area.
- 1.3.4 This funding award builds on previous Growth Deal investments announced for the South East Local Enterprise Partnership as follows:
- Growth Deal One (July 2014) - £442.2m; and
 - Growth Deal Two (January 2015) - £46.1m.
- 1.3.5 The total SELEP Growth Deal from 2014 – 2020 of £590.8m is set to deliver 78,000 jobs, 29,000 homes and attract £960 million extra investment into the South East over the next 5 years.
- 1.3.6 SELEP brings together key leaders from business, local government, further and higher education in order to create the most enterprising economy in England through exploring opportunities for enterprise while addressing barriers to growth covering Essex, Southend, Thurrock, Kent, Medway and East Sussex. It is the largest strategic enterprise partnership outside of London.
- 1.3.7 The government asked all LEPs as part of their Growth Deal to sign up to working with them to develop a single assurance framework covering all Government funding flowing through LEPs, to ensure all LEPs have robust value for money processes in place. The purpose of this LEP assurance framework is to support the developing confidence in delegating funding from central budgets and programmes via a single pot mechanism. As part of their Growth Deal, LEPs will be expected to use this national framework to inform how they work locally, which must be set out in their own local assurance framework.

- 1.3.8 It is important that all LEPs have robust arrangements in place to ensure value for money and effective delivery, through strong project development, project and options appraisal, prioritisation, and business case development.
- 1.3.9 The methodology used to assess value for money and the degree of detail to which business cases are developed in support of particular projects or programmes should be proportionate to the funding allocated and in line with established Government guidance including the HM Treasury Green Book. Typically the Government expect business cases to address, in a proportionate manner, the 5 cases set out in supplementary guidance to the Green Book.

1.4 Purpose of this Document

- 1.4.1 This report follows the 5 case model guidance issued by DfT for Business Case preparation. A bid has previously been submitted to the South East LEP for part funding of the proposals from the Local Growth Fund (LGF3). The bid was successful and funds allocated subject to acceptance of the business case. The intention of the report is to provide robust evidence to SELEP of the merits of introducing the A2500 Lower Road junction with Barton Hill Drive improvement to secure support from the Local Growth Fund for £1,264,930.
- 1.4.2 Guidance for the preparation of Business Cases for Transport Schemes has been published by the Department for Transport (DfT). This is based on H.M. Treasury's advice on evidence-based decision making as set out in the Green Book and uses the best practice five case model approach. It also brings in other strands where relevant, such as summary of predicted scheme outcomes and scheme operational case.
- 1.4.3 This approach assesses whether 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.
- 1.4.4 The evidence gathered as part of the business case preparation process has been prepared using the tools and guidance provided by the DfT, notably WebTAG. This approach ensures that the evidence produced is robust and consistent.

1.5 Structure of the Document

1.5.1 This report is structured in accordance with the Department for Transport's guidance on Transport Business Case, which was updated in January 2013. Following this Introduction, the remainder of the document is structured as follows:

- Chapter 2 provides a description of the scheme;
- Chapter 3 states the Strategic Case;
- Chapter 4 presents the Economic Case including the Value for Money Statement
- Chapter 5 outlines the Financial Case;
- Chapter 6 details the Commercial Case;
- Chapter 7 provides the Management Case; and
- Chapter 8 offers conclusions and recommendations.

1.5.2 This document uses this 5-case model in an appropriate and proportionate way to demonstrate the merit of investing in the proposed A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme.

2 A2500 Lower Road junction with Barton Hill Drive Improvement

2.1 Introduction

- 2.1.1 The proposed scheme is located at the junction of the A2500 Lower Road junction with Barton Hill Drive. The junction is located on the Isle of Sheppey, approximately a mile east from the A2500 junction with the A249. The primary purpose of the scheme will be to improve current congestion issues and junction efficiency.

2.2 Scheme Description

- 2.2.1 The A2500 Lower Road improvements project will realign and improve the capacity of the existing A2500 Lower Road/Barton Hill Junction. This signalised priority junction is currently a pinch point on the principal 'A' road that serves the Isle of Sheppey from its connection with the Strategic Road Network. There are already congestion issues at this junction and as such, the junction is acting as a barrier to the delivery of around 1500 new houses and jobs by 2031 which will be unlocked as a result of the junction improvement.
- 2.2.2 The limited route options for traffic wanting to enter or leave the Island places a significant demand on the A2500 Lower Road across the typical weekday periods. The Island's tourism-related economy, coupled with the significance of the Prison Service on the Island gives rise to further peaks in traffic demand. Unsurprisingly, the cumulative pressures being placed on the A2500 Lower Road are currently resulting in significant delays and issues concerned with journey time reliability for all users, which has reached an unacceptable level.
- 2.2.3 In the context of the emerging Local Plan, a proportionate amount of development allocations will bring the transport network under strain across Sheppey, with increasing focus on the need for upgrade. The rationale for the junction improvement package is to implement the scheme to ensure the travelling public can place a suitable level of confidence in journey time reliability, thereby removing the very evident constraint that currently impacts on traffic flow conditions over extended periods of time.
- 2.2.4 To remove the constraint, the signal controlled junction will be replaced by a 3-arm roundabout at Lower Road/Barton Hill Drive.

3 Strategic Case

3.1 Introduction

3.1.1 This section sets out the 'case for change', by explaining the rationale for making investment and presenting evidence on the strategic policy fit of the proposed scheme. It provides an analysis of the current situation, in the light of the strategy and issues and enables a case for change to be made and for scheme objectives to be developed. This section also sets out the scheme options under consideration.

3.1.2 The Strategic Case establishes the:

- Business strategy/ context for the business case, outlining the strategic aims and responsibilities of Kent County Council (KCC);
- Transport-related problems that have been identified, using evidence to justify intervention and examining the impact of not making the investment;
- Specific, Measurable, Achievable, Realistic and Time-bound (SMART) objectives that solve the problem, identified through alignment with KCC's strategic aims and responsibilities;
- Measures for determining successful delivery of the objectives;
- Scheme scope, determining what the project will and will not deliver;
- Analysis of constraints and opportunities for investment;
- Breakdown of interdependencies on which the successful delivery of the scheme depends;
- Details of main stakeholder(s); and
- Evaluation of the options considered.

Table 3-1 illustrates where the above information may be found in this document:

Table 3-1: Strategic Case Requirements

Sub Section	Section of the Business Case	Stage at Outline Business Case
Business Strategy/ Strategic Context	3.2	Updated since SOC
Problem Identified	3.3	Updated since SOC
Impact of Not Changing	3.4	Updated since SOC

Sub Section	Section of the Business Case	Stage at Outline Business Case
Internal Drivers for Change	3.5	Updated since SOC
External Drivers for Change	3.6	Updated since SOC
Objectives	3.7	Updated since SOC
Measures for Success	3.8	Updated since SOC
Scope	3.9	Updated since SOC
Constraints	3.10	Complete
Inter-dependencies	3.11	Complete
Stakeholders	3.12	Complete
Options	3.13	Complete

3.2 Business Strategy/ Strategic Context

3.2.1 This section outlines the key national, regional and local policies, plans and strategies and how the A2500 Lower Road/ Barton Hill Drive Junction Improvement is key to delivering these.

National Transport Priorities

National Planning Policy Framework

3.2.2 The National Planning Policy Framework [NPPF], March 2012, sets out the government's planning policy and its expectations for the application of this. Overall, the policy makes a presumption in favour of sustainable development to build a strong, competitive economy.

3.2.3 Paragraph 31 of the document identifies that it aims to:

"Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas."

3.2.4 Expanding on this, paragraph 32 states that plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people;
- Solutions which support reductions in greenhouse gas emissions and congestion should be encouraged;
- Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development; and
- The development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

3.2.5 Improvements made to the A2500 Lower Road/ Barton Hill Drive Junction will seek to improve congestion, support sustainable developments across the Isle and improve air quality at the junction in question, in line with the NPPF policies.

National Infrastructure Plan

3.2.6 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.

3.2.7 In its National Infrastructure Plan (NIP) 2014, the Government presented its vision for growth and how infrastructure; "Has a significant positive effect on output, productivity and growth rates and is a key driver of jobs throughout the economy";

3.2.8 The vision for the UK's transport system in the NIP is set out below;

- Transport infrastructure can have a significant and positive effect on economic growth and can be a key driver of jobs throughout the economy via enhancing connectivity between businesses, goods and people and by encouraging a sustainable, low-carbon economy that is vital for future success and development;
- Local transport systems are crucial to the overall transport system and must facilitate the growth of suburban areas. The transport network must allow for people to move freely and easily helping to support jobs and growth; and
- The transport system must adapt to unexpected pressures allowing for the rapid movement of goods and people, adding value to the economy.

- 3.2.9 The overarching aim is to create a road network fit for the 21st century, which improves economic productivity and supports jobs and growth. The network should seek to increase capacity, tackle congestion, support development, strengthen connectivity, improve reliability and resilience, and be of the best possible quality. A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme will seek to improve the efficiency of the current junction alignment, tackling congestion and supporting development across the wider Isle of Sheppey.

Regional Transport Priorities

Unlocking Kent's Potential

- 3.2.10 KCC's framework for regeneration 'Unlocking Kent's Potential' (2009) defines the vision for Kent and what the county should look like over the period to 2026. The framework focuses on economic growth but other factors such as an efficient transport system that supports the economy and residents.
- 3.2.11 Kent is South East England's fastest recovering region and has great potential for successful economic growth. In the last 20 years, Kent has seen 100,000 more people living in the county, housing stock increase by over 60,000 homes and 130,000 more cars on the roads. This pace of change is set to accelerate further over the next 20 years with a projected 8% population increase. Local growth is predicted to result in 250,000 extra journeys being undertaken on Kent's road network by 2026. Coupled with a forecast increase in international traffic it is clear that tackling congestion is regarded as one of the main priorities for Kent. The A2500 Lower Road/ Barton Hill Drive Junction Improvement is aimed towards addressing congestion on the network.
- 3.2.12 The regeneration framework has five priorities based on the key challenges and opportunities facing Kent, including:
- Delivering growth without transport gridlock – as the UK's gateway between London and mainland Europe, there is a need to ensure that the county can maintain efficient transport systems at the same time as enabling population and economic growth;
 - Building homes and communities, not estates – ensuring new housing is developed to excellent standards, with the infrastructure that it needs to support it;
 - 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.

Growth without Gridlock

- 3.2.13 Growth without Gridlock is the delivery plan for transport investment in Kent, published in 2010. It sets out the priorities for transport investment and how these will be delivered in order to meet the current and future demands of the County in the context of its crucial role in the UK and European economy.
- 3.2.14 The overarching goal of Growth without Gridlock is to enable growth and prosperity for Kent and the UK as a whole. Although predating the South-East LEP Strategic Economic Plan, the key elements of both are entirely in accord. It sets out the priorities for transport investment and how these will be delivered in order to meet the current and future demands of the County in the context of its crucial role in the UK and European economy. 'Growth Without Gridlock' is a concept that has been incorporated into the new LTP4, which is expected to be adopted in in the near future.
- 3.2.15 The Plan states that: "the private car will continue to remain the most popular and dominant form of transport for our residents and these expectations and demands increase pressure on our transport network, on our environment and on us as individuals. This reliance is also the reason why our road network is congested and in response our vision is to create a high quality integrated network which will create opportunities for real transport choice as well as enabling economic growth and regeneration".
- 3.2.16 Some of the key transport challenges identified by the Plan are:
- Tackling congestion hotspots;
 - Transferring existing and new car trips onto public transport, walking and cycling, especially for short journeys; and
 - Providing sufficient transport infrastructure to mitigate the impact of planned development.
- 3.2.17 The Plan suggests that transport investment should seek to support the development of land in Sheppey. The plan states that new housing and employment developments in Swale will be focused around Sittingbourne and Sheppey. The western part of Swale (including the Isle of Sheppey) forms part of the Thames Gateway Growth Area and 9,500 new dwellings are planned by 2026.
- 3.2.18 The key transport challenges for Swale highlighted in the policy are to secure the necessary infrastructure to open up key development areas for housing and employment and to delivery capacity improvements on the strategic network.

- 3.2.19 Growth without Gridlock identifies the need to support development of land on Sheppey, such as the land that this scheme will unlock as well as improving the existing transport network, supporting links to neighbouring developments.

Growth Deal and Strategic Economic Plan

- 3.2.20 In March 2014, the South East Local Enterprise Partnership (SELEP) submitted their Strategic Economic Plan (SEP). The SEP outlines the vision and investment strategy to drive growth in the economy to 2021. The SEP outlines the case for necessary investment to infrastructure enterprise and employment that is required for the South East region's economy to continue its successful upward trajectory.
- 3.2.21 Kent is South East England's fastest recovering region and has potential for successful economic growth. Over the last 20 years Kent has seen 100,000 more people living in the county, housing stock increase by over 60,000 homes and 130,000 more cars on the road. The pace of change is set to accelerate further over the next 20 years with a projected 8% population increase.
- 3.2.22 Government has confirmed an allocation of investment into the South East LEP (SELEP) area of £102.65 million as part of the Growth Deal Programme Round Three (February 2017). The third investment of £102.65 million forms part of the wider SELEP Plan and will deliver an additional 6,129 new homes, create or safeguard 30,785 jobs and secure a further £141 million of private sector investment into the area.
- 3.2.23 A component element on the SEP for the area is the Kent and Medway Growth Deal and sets out the plans for the public and private sectors to invest over £80 million each year for the next six years to unlock 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.
- 3.2.24 The A2500 Lower Road scheme is specifically referred to within the SEP and forms part of growth deal three. The level of new development and improvements to the transport network which will come forward as a direct result of LGF investment in this project provides a strong example of how LGF investment in the SELEP area can achieve outcomes above and beyond those already committed to under the existing Growth Deal. The improvements to the junction of Lower Road/Barton Hill Drive directly accords with SELEP's aims to unlock growth.

Local Transport Priorities

Local Transport Plan for Kent 2011-2016

3.2.25 Kent's third 'Local Transport Plan (LTP3), 2011-2016' sets out KCC's strategy and implementation plans for local transport investment in the short term. The plan proposes a new approach to prioritising investment in transport infrastructure in order to support housing and employment in Kent's growth areas and growth points, improve access to jobs and services, make Kent a safer and healthier county (in particular in disadvantaged areas), and cut carbon emissions. The plan prioritises its planned measures under five themes:

- Growth without Gridlock;
- A Safer and Healthier County;
- Supporting Independence;
- Tackling a Changing Climate; and
- Enjoying Life in Kent.

3.2.26 Under each theme, the plan prioritises a range of transport initiatives and the principles and policies underlying them, by area and by mode. Whilst some of the initiatives have already been put in place or are in progress, a number provide the basis for the proposals prioritised by the SELEP for capital investment support. These initiatives have also subsequently been aligned with the local area development and regeneration plan produced or in the process of being produced by the 12 District or Borough Councils in the County.

3.2.27 The plan highlights Sheppey as an area within Swale identified for new housing and employment growth. With Swale Borough Council is proposing the development of between 13,500 and 18,500 new homes up to 2031. Investment in new infrastructure such as the junction improvement at the A2500 Lower Road/ Barton Hill Drive will facilitate predict growth forecasts.

Developing Local Transport Plan 4 (LTP4): Delivering Growth without Gridlock (2016 – 2031)

3.2.28 Kent County Council is currently developing Local Transport Plan 4 (LTP4): Delivering Growth without Gridlock (2016 – 2031). A public consultation ran from 8 August 2016 to 30 October 2016. The plan was then subsequently revised taking into account the consultation responses. The new plan merges Growth without Gridlock and the LTP3.

- 3.2.29 The plan specifically draws on congestion issues on the A2500 and references a need to improve traffic flow by improving the junction at Lower Road/ Barton Hill Drive.

Local Transport Policies

Swale Borough Local Plan (2008)

- 3.2.30 The current adopted Swale Borough Local Plan (2008) remains as an important part of the planning framework for the Borough until adoption of the new emerging Local Plan *Bearing Fruits 2031*.
- 3.2.31 In the summer tourist season the population of the Island can increase substantially, serving to further highlight these local transport deficiencies.
- 3.2.32 The improvement of existing queuing problems on the A2500 Lower Road approaches to the A249 will largely be a matter for the County Council to resolve via its transport strategy for Swale. However, housing sites at Thistle Hill, Plover Road and other locations may be expected to contribute financially to its solution.
- 3.2.33 The Local Plan Main Modifications (June 2016) are currently being consulted on following the Examination of the Local Plan. It includes the specific need for Thistle Hill to contribute financially to the delivery of A2500 Lower Road improvements and identify A2500 Lower Road as one of five key transport interventions required in the Borough to address the accessibility, connectivity and capacity issues in Swale which present challenges for the delivery of growth.
- 3.2.34 The need for the delivery of the improvements comes strongly as the result of the need for Swale Borough Council to achieve housing targets above those already identified.

The emerging Swale Local Plan Bearing Fruits (2031)

- 3.2.35 The emerging Swale Borough Local Plan sets out the vision and overall strategy for the area and how it will be achieved for the period from 2011 until 2031.
- 3.2.36 The draft Local Plan Bearing Fruits 2031 identifies the need for improvements to A2500 Lower Road and the need for residential sites to contribute financially to the delivery of these works. This project will increase capacity of the highway network along the A2500 Lower Road, so will support the delivery of the Local Plan allocations as/when they come forward. It will remove a longstanding and growing problem of journey time delay for all users of the local highway network on the Island.

3.3 Problem Identified

- 3.3.1 This section of the report will outline the existing problems encountered at the A2500 Lower Road junction with Barton Hill Drive junction and provide evidence as to why the scheme is required.

Existing Situation

- 3.3.2 The A2500 Lower Road is one of the primary local highway routes in Sheppey connecting the west, with the Sheppey Crossing and the mainland via the A249, and the east with the B2231 at Eastchurch for onwards routes to Leysdown-on-Sea.
- 3.3.3 The study area is situated along the section of A2500 at the Lower Road/ Barton Hill drive Junction, in between the Queensborough and Thistle Way Roundabouts and to the south of the village of Minster. Approaching 85% of households in the wards within the Isle of Sheppey own a car¹. The result of significant new planned development, high car ownership, general growth in background traffic and the largely tourism focussed economy on the Island will put strain on the local highway network, which is currently subject to significant traffic volumes that results in unacceptable traffic congestion.
- 3.3.4 The highway capacity issue at the junction currently has a demonstrable impact on the travelling public. Journey times are unreliable for private car users and public transport operators alike along the A2500 corridor and these must be addressed to release further new development. Delays at the junction have resulted in traffic issues occurring elsewhere in the Sheppey network particularly across the AM and PM peak hours, Weekend and across the tourist season.
- 3.3.5 The limited route options for traffic wanting to enter or leave the Island places a significant demand on the A2500 Lower Road across the typical weekday periods. The Island's tourism-related economy with holidaymakers visiting resorts such as Leysdown, coupled with the significance of the Prison Service on the Island with increased traffic from the Island's three prisons at Eastchurch and new housing estates at Minster gives rise to further peaks in traffic demand. Unsurprisingly, the cumulative pressures being placed on the A2500 Lower Road are currently resulting in significant delays and issues concerned with journey time reliability for all users, which has reached an unacceptable level.

¹ Census 2011 – Car or Van Availability

- 3.3.6 As part of the junction assessment summary report, the existing traffic conditions at the A2500 Lower Road/Barton Hill Drive junction, Sheppey have been captured through the collection of traffic surveys. Junction turning count surveys were carried out from Tuesday 10th to Monday 16th November 2015 between 7AM and 7PM.
- 3.3.7 In addition to the counts the DfT's historic journey time data 'TrafficMaster' has been accessed using the Basemap software 'Highways Analyst'. Historic data up until 1st May 2015 is available via the software. This data was assessed to provide journey time data for several consecutive years and clearly demonstrates a worsening trend year on year.
- 3.3.8 A short term trial congestion measure was installed in September 2016 this was an operational quick fix deployment to alleviate holiday period traffic entering the island. The series of measures included the reconfiguration of the traffic signals, the banning of specific vehicle movements and diverting these approaches elsewhere. This provided interim relief at the junction but users continued to make the newly restricted movements raising potential safety issues. The movement restrictions caused traffic to rat run/ divert onto other congested routes and didn't account for future growth values and therefore a more involved junction re-design is required.

Traffic Flows

- 3.3.9 The A2500 Lower Road carries an average 12 hour traffic flow of 19,000 vehicles at approximately 1,600 vehicles per hour. The junction carries approximately 2000 vehicles in the AM peak (7:15-8:15) and 1700 in the PM peak (16:00-17:00).

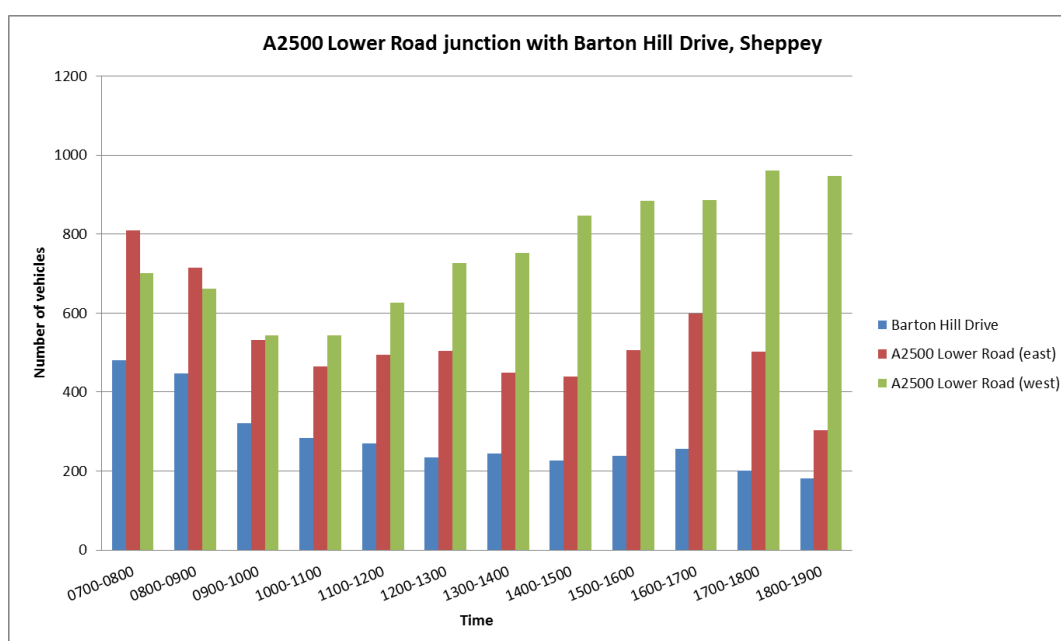


Figure 3-1: 12 Hour Traffic Flows November 2015

3.3.10 An initial analysis of the data identified the highway peaks at the junction as follows:

- Weekday AM 07:15-08:15
- Weekday PM 16:00-17:00
- Saturday 11:45-12:45

3.3.11 The peak hour turning movements are summarised in Figure 3-2 to Figure 3-4.

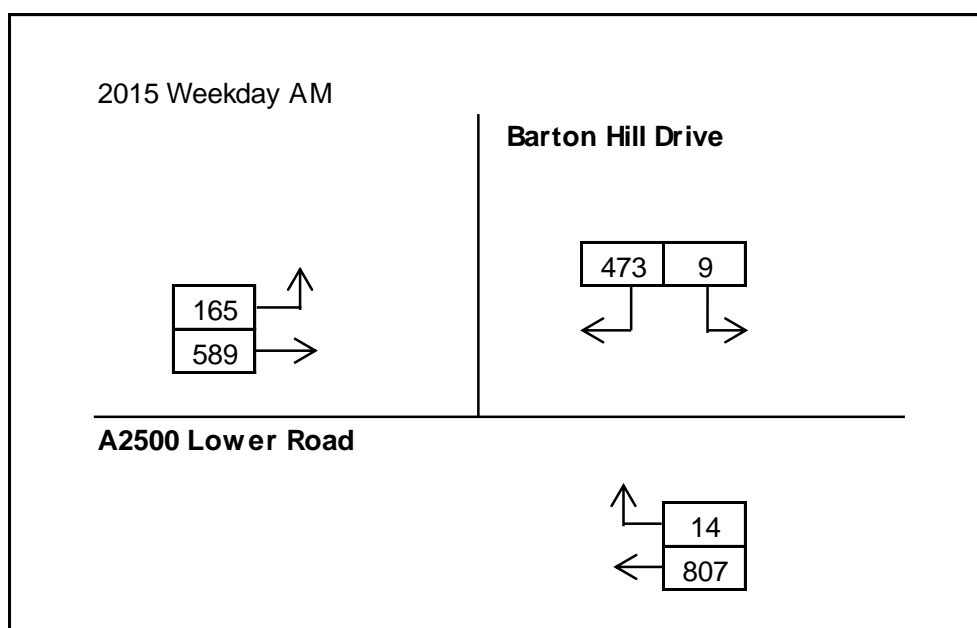


Figure 3-2: AM Peak Turning Movements

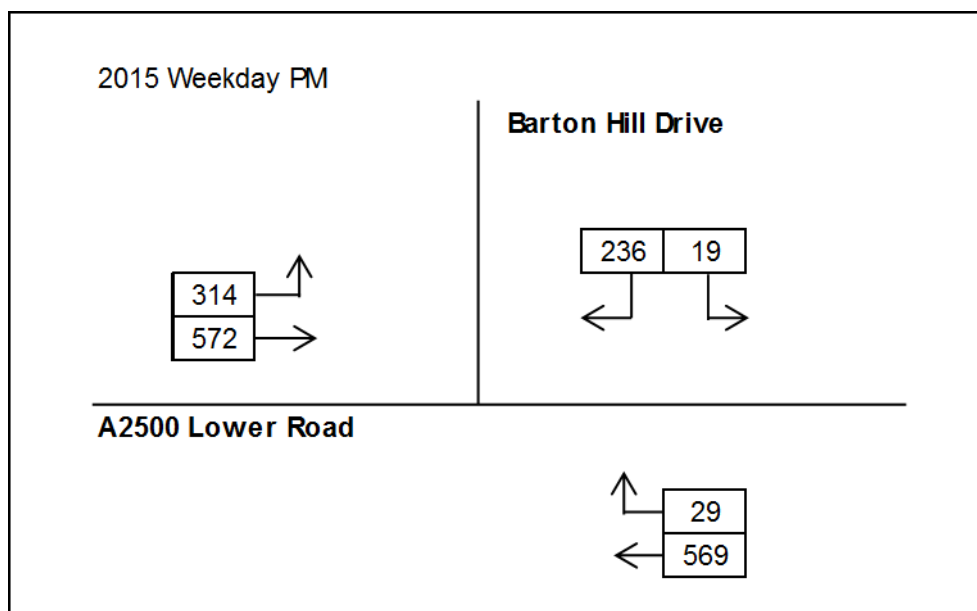


Figure 3-3: PM Peak Turning Movements

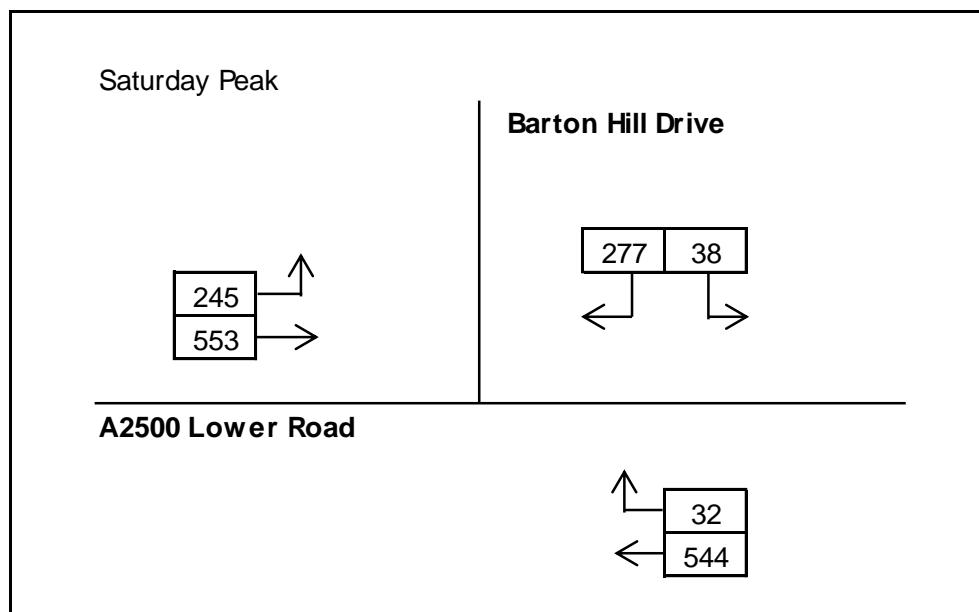


Figure 3-4: Saturday Peak Turning Movements

Journey Time Analysis

- 3.3.12 One of the overarching objectives of the junction reconfiguration is to reduce congestion and thus improve user journey times along the A2500 and at neighbouring junctions. Journey time data has been analysed for the A2500 Lower road, for both approach and exit arms at the Barton Hill Drive junction. The extent of analysis covers both the Queensborough Road (Cowstead corner) and Thistle Hill Way roundabouts.
- 3.3.13 Four journey time routes have been assessed to determine any reliability issues at the A2500 Lower Road/ Barton Hill Drive Junction and its connecting arms. Route BH1 runs from the Queensborough Road Roundabout and travels eastbound towards the current signalised Lower Road Junction. Route BH2 continues this eastbound movement from the Lower Road signals towards the Thistle Hill roundabout. Route BH3 starts at the Thistle Hill roundabout and runs westbound towards the Lower Road signalised junction. The remaining route BH4 begins at the Lower Road junction and ends at the Queensborough roundabout.
- 3.3.14 **Error! Reference source not found.** overleaf illustrates the stretches of highway analysed. BH1 is the 1.10km stretch of road travelling from Queensborough Road roundabout (Cowstead corner) eastbound towards the A2500 Lower Road/ Barton Hill Drive junction.

3.3.15 Data was analysed over a 4 year period between 2012 and 2015 (shown in Figure 3-5). It is evident that user journey times have steadily increased over this period; the issue is more prevalent in the PM peak and shoulder peak hours between 3.00pm and 6.00pm. The latest evidence suggests that users can experience journey times of 4 minutes in congested periods compared to the standard 1.5 minute journey time taken to complete the 1.10km stretch of highway.

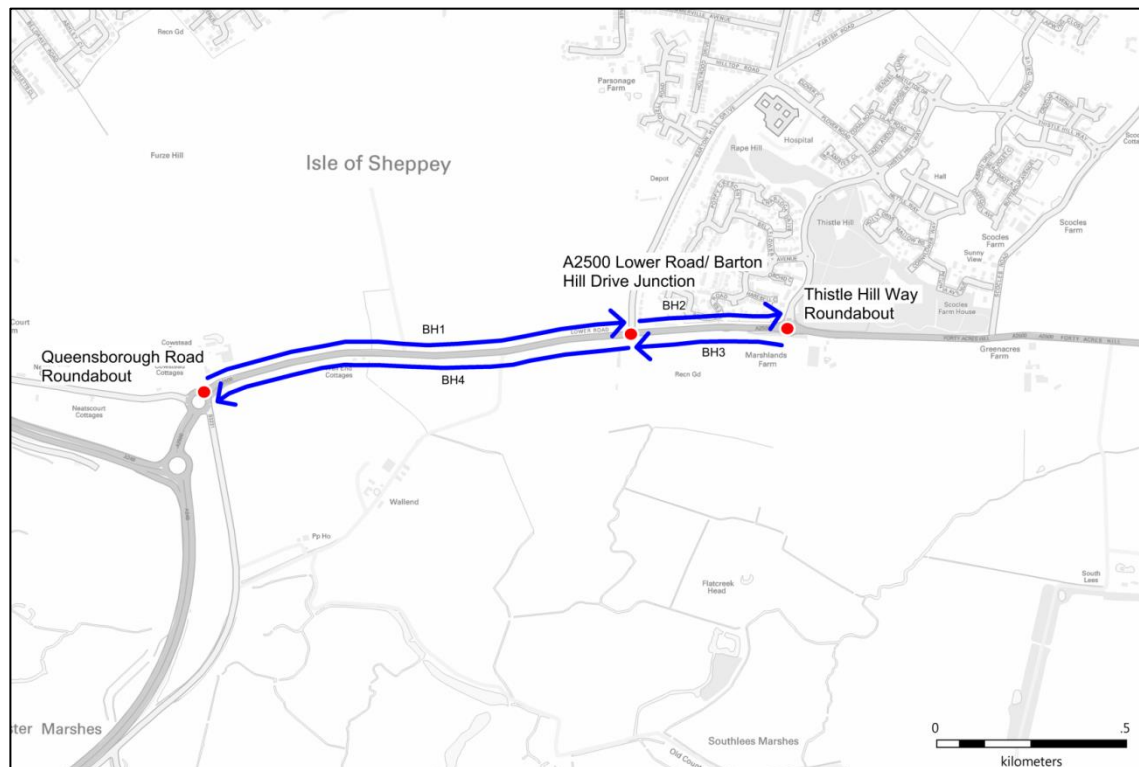


Figure 3-5: Journey Time Routes

- 3.3.16 The analysis supports the increasing journey time trend over the 4 year period. The maximum increase in journey time for the remaining routes is 20 seconds and occurs in the morning peak (8.00am-9.00am) along route BH4.
- 3.3.17 In conclusion, observations of the network determine that the PM peak is the most congested with the major delay occurring along BH1 across the hours 3.00pm and 6.00pm see Figure 3-6. Although off peak summer holiday periods have been excluded from analysis at this stage it is anticipated that journey times are worse in comparison to the existing conditions across these months due to growing tourist traffic on the network.
- 3.3.18 In addition to affecting the operation of the A2500 Lower Road/ Barton Hill Drive Junction, this slow moving traffic has the effect of increasing harmful emissions into the atmosphere.

BH1 - A2500 Lower Road EB to Barton Hill Drive

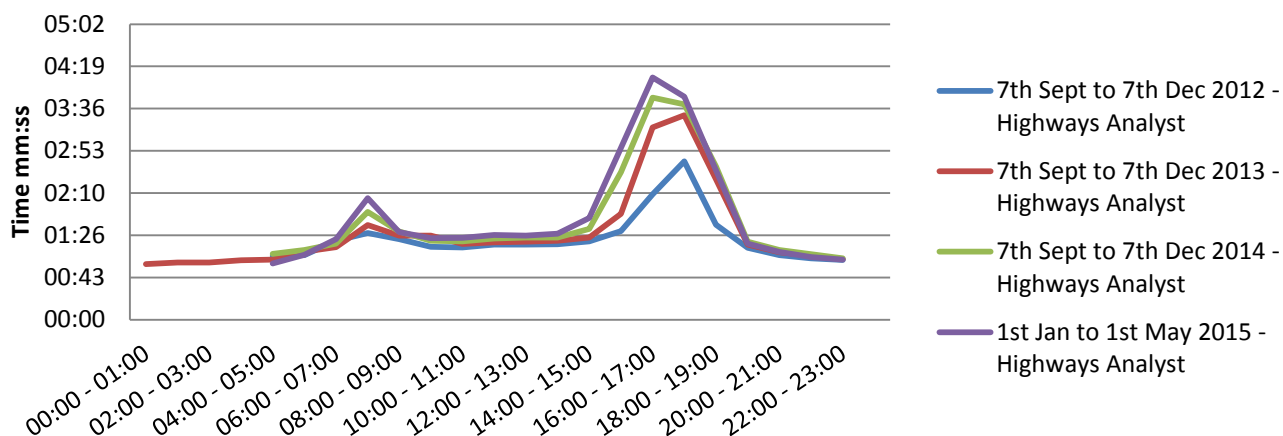


Figure 3-6: 12 Hour Journey Time Plot BH1

Impact on surrounding junctions

- 3.3.19 The existing network congestion issues at the Lower Road and Barton Road Junction appear to be linked with capacity issues at neighbouring roundabouts.
- 3.3.20 The Queensborough Road (Cowstead corner) roundabout situated west of the Lower Road/ Barton Road junction experiences congestion issues across the pm peak period. It is possible to suggest that these issues are caused by eastbound queuing traffic at the Lower Road/ Barton Road junction.
- 3.3.21 Other neighbouring junctions that currently experience queuing and congestion issues include the roundabout at Thistle Hill Way located 0.25 miles west of the Lower Road/ Barton Road junction.
- 3.3.22 No significant analysis has been completed for the surrounding junctions. It is considered that if the efficiency of the Lower Road/ Barton Road junction is improved it will reduce the need for traffic to rat-run and take alternative junctions.

Air Quality

- 3.3.23 There are three Air Quality Management Areas (AMQA's) declared for Swale. The designated areas are St Pauls Street, Sittingbourne, the area encompassing parts of London Road and High Street, Newington and East Street, Sittingbourne. None of which extend to the A2500 Lower Road/ Barton Hill Drive Junction nor are any of the declared areas within close proximity.

By improving the operation of the junction, it is anticipated that a reduction in slow moving and queuing traffic will mitigate further air quality issues.

Accident Data

- 3.3.24 Analysis has been undertaken in order to identify any patterns with regards to accidents that may exist at the existing junction highlighted in red below. Personal Injury Accident data was supplied by Kent County Council for the years 2014-2016 (full calendar years). Three accidents in total were observed at the A2500 Lower Road/Barton Hill Drive Junction. All of the reported incidents were classified as slight with no serious or fatal accidents. **Error! Reference source not found.** indicates the spread of accidents along the A2500 Lower Road.
- 3.3.25 Any other accidents occurring along the A2500 Lower Road corridor have been excluded from analysis at this stage as evaluation is considered unnecessary as they do not directly relate to the scheme junction in question.

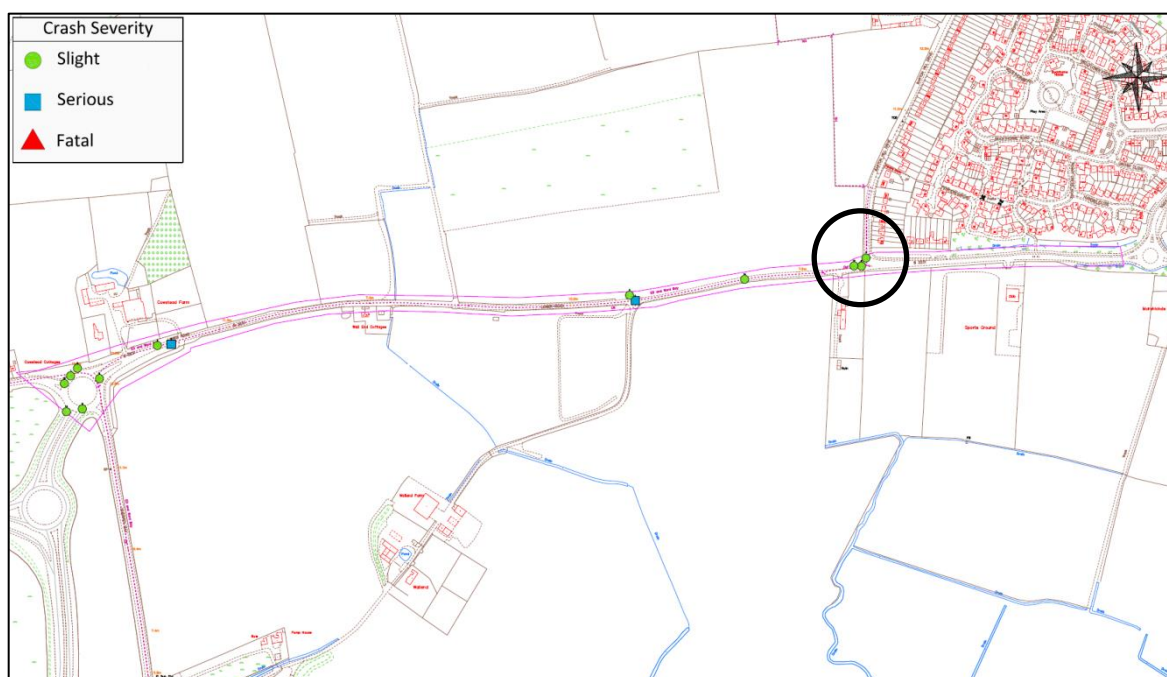


Figure 3-7: Crash Statistic Map for the A2500 Lower Road

3.4 Impact of Not Changing

- 3.4.1 The key rationale for the scheme is primarily in its role in supporting the planned growth in housing and tourism, helping ensure that this takes place in a sustainable manner and impacts on the transport network are kept to a minimum. This is within the following context:
- Housing and employment growth will generate additional trips in the area;
 - Investment in the highway network, designed to cater for these additional trips, enabling the developments to take place; and

- This 'locking in' will ensure that growth can continue as planned and not become unsustainable through rising congestion.
- 3.4.2 Growing the local and regional economy through the creation of employment opportunities through tourism and providing new housing are key drivers identified by the Government, the SELEP and KCC.
- 3.4.3 It is clear that the traffic signal controlled junction of A2500 Lower Road/Barton Hill Drive is no longer 'fit for purpose' as the level of traffic demand through this junction cannot be adequately catered for and further development is only going to exacerbate problems further. A poorly operating traffic network will limit economic growth across all local industries and the wider Kent area.
- 3.4.4 It is important that the travelling public can place a suitable level of confidence in journey time reliability, thereby removing the very evident constraint that currently impacts on traffic flow conditions over extended periods of time.
- 3.4.5 Swale Borough Council is currently consulting on proposed modifications to their Local Plan. The draft Local Plan states that the Isle of Sheppey is to provide for a proportionate level of allocations, to include new site allocations that will require these improvements to come forward. It is expected that the project will support the delivery of around 1500 new homes and jobs in total through the planning period to 2031 in Sheppey.
- 3.4.6 In order to support the projected housing and jobs growth the transport network must be able to withstand future increasing traffic flows.
- 3.4.7 There is a firm commitment from the developers to contribute to the project financially and through the gifting of land. See **Error! Reference source not found.** for details of the development. The viability constraints of development on the Isle of Sheppey prevent the project from being fully funded through developer contributions.
- 3.4.8 The local highway authority has a clear mandate on the A2500 Lower Road in that an improvement strategy for the A2500 Lower Road has to come forward as a priority. To illustrate this commitment, monies have already been committed to complete an outline design for a roundabout upgrade to the junction of Lower Road/Barton Hill Drive.

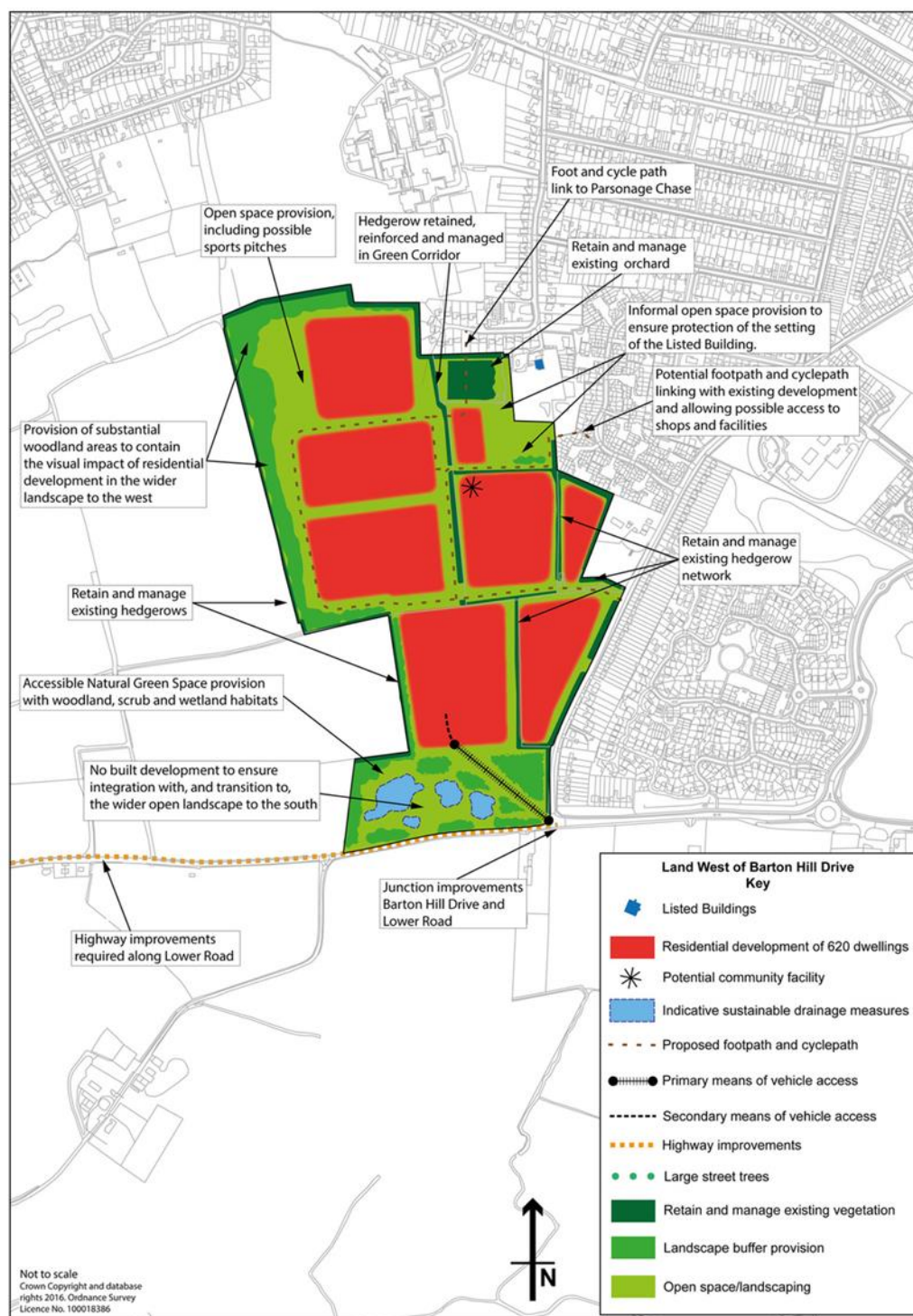


Figure 3-8: Proposed Development West of Barton Hill Drive

3.4.9 The scheme is also designed to facilitate growth in the existing popular tourist industry, as the junction is a major through route for Sheppey Isle Tourism. Visitors to the area will help support local businesses, including those within the holiday resorts of Sheerness, Warden and Eastchurch.

Future Junction Capacity

- 3.4.10 Forecast junction capacity assessments have been undertaken in order to provide a comparison of the operation of the junction both with and without the proposed scheme. The assessments have been carried out in ARCADY/ LinSig industry standard software for the weekday AM and PM highway peak hours for the current year and a horizon year (2031).
- 3.4.11 The key outputs from the assessments are in the form of Degree of Saturation (DoS) for signal controlled junctions and Ratio of Flow/Capacity (RFC) for roundabouts. Maximum queue length in PCUs (Max Q) are also summarised in Table 3-2 overleaf.

Arm	Existing Signal Controlled Junction (LINSIG)				Preferred Option - 3 Arm Roundabout (ARCADY)			
	AM Peak		PM Peak		AM Peak		PM Peak	
	DoS	Max Q	DoS	Max Q	RFC	Max Q	RFC	Max Q
Year of (2016)								
Barton Hill Drive (N)	84.8	490	86.7	273	0.38	0.6	0.21	0.3
A2500 Lower Road (E)	57.6	620	49.2	651	0.61	1.5	0.43	0.8
A2500 Lower Road (W)	85.5	19.5	86.4	25.8	0.47	0.9	0.60	1.5
Horizon Year (2031)								
Barton Hill Drive (N)	99.8	591	104.4	329	0.49	1.0	0.28	0.4
A2500 Lower Road (E)	69.2	747	59.3	785	0.78	3.4	0.55	1.2
A2500 Lower Road (W)	100.4	45.9	104.2	76.1	0.57	1.3	0.75	3.0

Table 3-2: Junction Capacity Assessment – Output Summary

- 3.4.12 The above table indicates that the existing junction arrangement is currently operating close to full capacity on the Barton Hill Drive (N) and the A2500 Lower Road Westbound arms across both peak hours in 2016. By 2031 the existing junction arrangement is forecast to operate at or over capacity during both the AM and PM peaks; and in particular on the Barton Hill Drive (N) and the A2500 Lower Road (W) arms.
- 3.4.13 The existing signalised junction remains over capacity in 2031 with the preferred option presenting the best overall balance throughout the junction. In particular the proposal is forecast to improve the operation of all junction arms significantly when compared to the existing arrangement.

3.5 Internal Drivers for Change

- 3.5.1 A key delivery strand of 21st Century Kent—Unlocking Kent's Potential, "Growth Without Gridlock" outlines how economic growth and regeneration can be delivered in a sustainable manner and also details the infrastructure required to deliver an integrated transport network which is fit for purpose in the 21st Century. If Kent is to accommodate this growth, its transport network must have sufficient capacity and resilience to provide for efficient and reliable journeys.

3.6 External Drivers for Change

- 3.6.1 Journey time reliability and congestion are the primary drivers and the planned growth of housing and jobs across the South East will exacerbate the existing problems. This supports the assertion that the existing problems are likely to worsen in the future and in particular in and around Swale which has been identified in Kent LTP3 as a major growth area.

3.7 Objectives

- 3.7.1 The scheme will cater for future traffic growth by providing additional junction capacity and relieving current congestion on the network. It will link major transport routes and increase the efficiency of the existing network. By improving the identified issues at the junction the scheme will support plans for housing and tourism growth.
- 3.7.2 The objectives of the scheme align with both local and national strategic aims see Table 3-3. The scheme will achieve the following objectives:
- Alleviate significant congestion issues experienced;

- Supporting the largely tourism focused economy and the potential of the eastern part of the Island;
- Directly support the development of 1,519 new homes by 2031, either subject to live planning applications or through allocations coming forward in the new Local Plan; and
- Support Sheppey's case for the potential expansion of the Prisons, the largest employer on the Island.

Table 3-3: Scheme Objectives

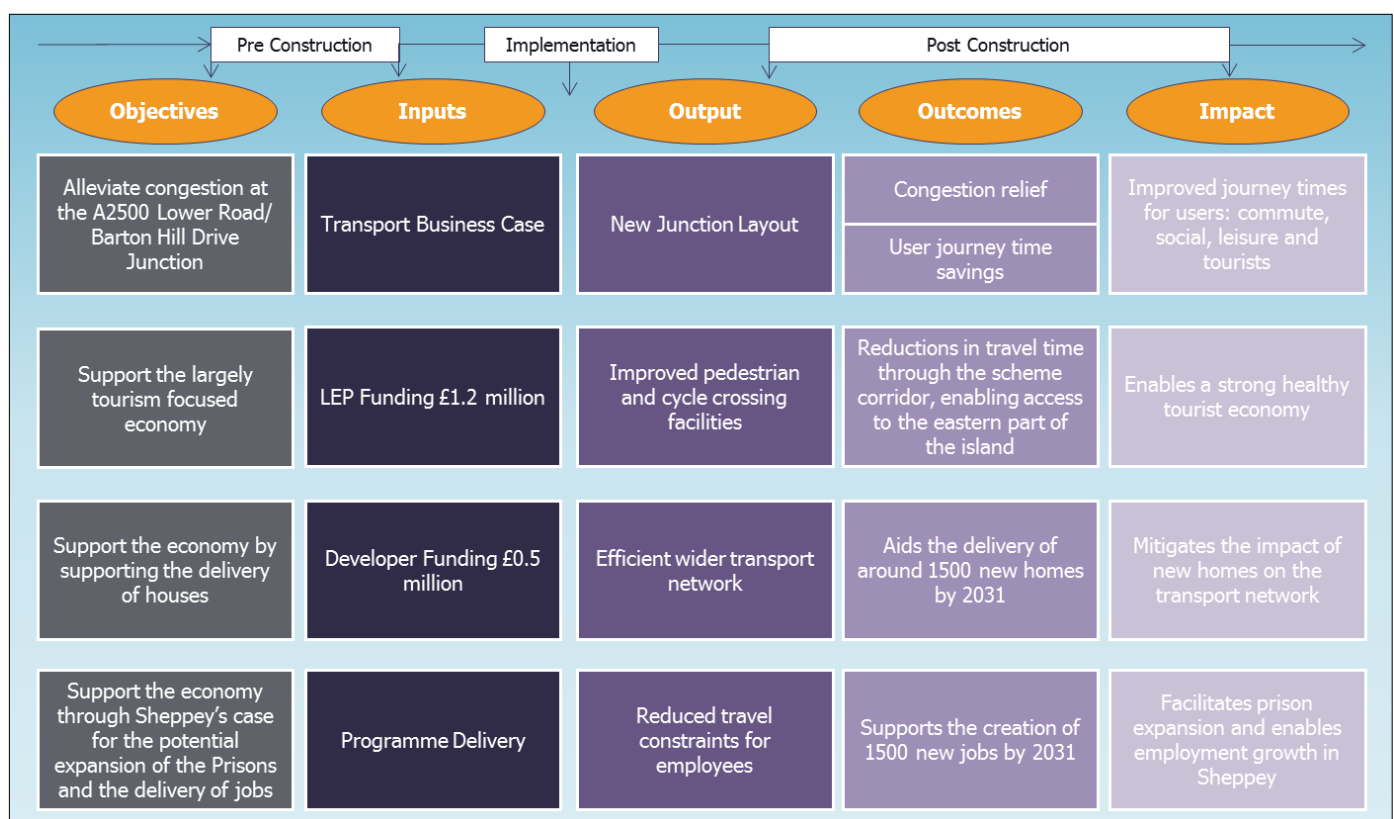
Objective	Desired Outcomes
1. Alleviate congestion at the A2500 Lower Road/ Barton Hill Drive Junction	Reductions in delay at the junction.
2. Support the largely tourism focused economy by improving the efficiency of the transport network	Reductions in travel time through the scheme corridor, enabling access to the eastern part of the island.
3. Support the economy by supporting the delivery of houses.	Contributes to mitigating the impact of new homes in Swale.
4. Support the economy through Sheppey's case for the potential expansion of the Prisons and the delivery of jobs.	Contributes to mitigating the impact of new jobs in Sheppey.

3.8 Measures for Success

- 3.8.1 In order to measure whether the scheme objectives set out above have been met, a series of specific; measurable; achievable; realistic and time-bound targets have been derived. The measure for success will therefore determine the successful delivery of the scheme objectives. Timeframes have been chosen to coincide with either the scheme opening year of 2019 or the horizon year of 2033, as these are consistent with the years selected for the traffic model.
- 3.8.2 The Logic Map provided in Figure 3-9 summarises the rationale for the intervention provided in strategic policy documents and baseline evidence, leading you through a time sequence from the objectives, through implementation to targets and ultimately desired outcomes.

3.8.3 The scheme objectives have been used to develop the desired targets and outcomes for the scheme. The desired targets are the actual benefits that are expected to be derived from the scheme (i.e. taken from junction model outputs) and are directly linked to the original set of objectives. The definition of outputs and outcomes are:

- Targets – tangible effects that are produced directly as a result of the scheme; and
- Outcomes – final impacts brought about by the scheme.



3.8.4 It is important that we are mindful of these targets as the outputs of the scheme are measured and monitored. The outcomes identified are important to understanding if the scheme components have fulfilled their objectives.

Figure 3-9: Scheme Logic Map

3.9 Scope

3.9.1 Details of the scheme (and its scope) have been provided in section 2 of this report with a detailed drawing of the extent of the scheme provided at **Appendix A**.

3.10 Constraints

- 3.10.1 No key project delivery constraints have been identified at this stage. It is anticipated that the project will be delivered by Kent County Council under permitted development rights.
- 3.10.2 Whilst some of the land required to deliver the project is currently owned by the developer, it was agreed at the Local Plan EIP that the land would be gifted to enable the delivery of the roundabout.

3.11 Inter-dependencies

- 3.11.1 There are internal and external factors upon which the successful delivery of the A2500 Lower Road/ Barton Hill Drive scheme is dependent. The proposed scheme conforms with priorities set by the national, regional and local policy environments. Successful delivery will require continued alignment with policy priorities and subsequent political support.
- 3.11.2 A list of risks has been prepared as part of the management case (Chapter 7). The delivery of the scheme is dependent on these risks either not arising or being sufficiently mitigated so that scheme delivery remains unaffected.

3.12 Stakeholders

- 3.12.1 Key stakeholders have been identified by KCC who will play a key role in ensuring that the scheme can not only be delivered successfully, but also operated and maintained in future. The list of Stakeholders identified by KCC is neither definitive nor exhaustive and will be added to during the transport business case process. The following have been identified at this stage:
- Swale Borough Council;
 - Queensborough Town Council;
 - KCC and SBC Councillors;
 - Land-use developers;
 - South East Local Enterprise Partnership;
 - Local residents and businesses
 - Emergency Services; and
 - Regular users of affected transport facilities (road, bus, walk and cycle).

- 3.12.2 In addition to these stakeholders, it is anticipated that a number KCC staff will be consulted across a range of departments.

3.13 Scheme Options Considered

- 3.13.1 A feasibility study was undertaken to determine the Preferred Option for increasing capacity at the A2500 Lower road/ Barton Hill Drive junction.
- 3.13.2 A number of options have been considered for the scheme and been through an iterative process to determine the preferred option for increasing capacity at the A2500 Lower road/ Barton Hill Drive junction, which achieves value for money and delivers the objectives set out in section 3.7.
- 3.13.3 Six options were initially identified to provide better connectivity between sites planned for development in East Kent with London and the wider Kent area. These options are listed below together with the 'do minimum' scenario:

Do nothing

- 3.13.4 If the capacity of the local highway network is not improved through the scheme of mitigation proposed there would be an increase in traffic volumes on this part of the network in future with increased levels of congestion both directly and within the surrounding area. This would act as a barrier to planned housing growth in the immediate area (anticipated 1,519 dwellings) and hinder future economic growth on the Isle of Sheppey. Accordingly, the 'do nothing' option is a stance that cannot be endorsed by the local Highway Authority or Local Planning Authority (LPA).

Do minimum

- 3.13.5 Involves delivering the most straightforward elements of the scheme that do not require third party land. This option cannot be supported and, given the significant political concern for the issue any such credible scheme available to the LPA and/or Highway Authority would have already implemented. If the 'Do Minimum' scheme was implemented there's a very probable likelihood that the local Highway Authority would object to planning applications on the Island that would have a traffic impact on the A2500 Lower Road as a result of the associated highway impact. As a result the proposed allocations within the Swale Local Plan would have question marks over their delivery.

Do something

- 3.13.6 Involves the implementation of elements of a comprehensive scheme i.e. implementation of the roundabout scheme at the junction of Lower Road/Barton Hill Drive, without widening to A2500 Lower Road. This option compromises a wider objective of delivering a package of improvements to the principal part of the local highway network on the Island. It is currently believed that such a scheme will facilitate the planned housing growth but may limit future growth in the face of local highway authority objection.

Do maximum

- 3.13.7 Involves the delivery of a comprehensive scheme including the junction improvements proposed, alongside improvements to the A2500, linking to the A249 Trunk Road. Delivering the scheme as a single package in one phase would deliver significant cost savings when compared to a multi-phased approach. It would also limit the period of construction work to a single phase, as opposed to multiple periods of delay owing to Traffic Management. However, the total cost of the scheme, estimated at £6.2m, is significantly greater than that proposed, with the level of growth that is supported not clearly defined.

Preferred Option – Do something

- 3.13.8 Whilst there is strong political support for the delivery of a larger package of transport improvement, this LGF bid sets out a request for funding to deliver the proportionate scale of highway improvements necessary to enabling the residential development sites which are dependent on this junction to come forward. Therefore the option taken forward for appraisal at this Outline Business Case stage is a three arm roundabout at the site of the A2500 Lower Road/ Barton Hill Drive Junction. See **Appendix A** for details of the scheme in question.

4 Economic Case

4.1 Overview

- 4.1.1 The Economic Case provides evidence of how the scheme is predicted to perform, in relation to its stated objectives, identified problems and targeted outcomes. The Economic Case determines if the proposed A2500 Lower road/ Barton Hill Drive junction improvement scheme is a viable investment, describing the common appraisal criteria and assumptions used to determine the scheme's economic worth and value for money (VfM).
- 4.1.2 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. DfT WebTAG, VfM Assessment and HM Treasury 'Green Book').
- 4.1.3 The economic appraisal has been tailored to reflect the needs of the A2500 Lower Road/ Barton Hill Drive Junction Improvement Business Case and is discussed under the following headings:
- Options Appraised;
 - Value for Money Method;
 - Assumptions;
 - Initial BCR;
 - Adjusted BCR;
 - Qualitative Impacts;
 - Appraisal Summary Table (AST);
 - Value for Money Statement; and
 - Conclusion.
- 4.1.4 Table 4-1 illustrates where the above information can be found in this document:

Table 4-1: Economic Case Requirements

Sub Section	Section of the Business Case	Stage at Outline Business Case
Scheme Options Appraised	4.2	Updated since SOC
Assumptions	4.6	Updated since SOC

Sub Section	Section of the Business Case	Stage at Outline Business Case
Sensitivity and Risk Profile	4.8	Complete
Appraisal Summary Table	4.9	Complete
Value for Money Statement	4.11	Complete

- 4.1.5 The economic assessment for the A2500 Lower road/ Barton Hill Drive junction improvement scheme is based on a reduction in junction delay estimated using Arcady and LinSig to compare the forecast 'with' and 'without' scheme scenarios. These results have been calculated for the AM and PM peak periods. The method used was spreadsheet-based, undertaking a TUBA-like calculation for travel delay for vehicle users.

4.2 Scheme Options Appraised

- 4.2.1 Appraisal of A2500 Lower Road Junction Improvement scheme has been undertaken for two scenarios: first, without the scheme ('do minimum' – DM) and second, with the scheme ('do something' – DS).
- 4.2.2 Alternative with-scheme options have not been assessed in this later OBC stage of the transport business case. The economic appraisal has been prepared for the proposed 'Do Something' option at the A2500 Lower Road/ Barton Hill Drive Junction.
- 4.2.3 Therefore it is not considered that any scheme alternatives to this proposed 'do something' layout will need to be assessed, except for a 'do minimum' (without-scheme) option.

Do Nothing

- 4.2.4 This option, without the A2500 Lower Road Junction Improvement scheme, would not entail any changes to the existing transport network in Sheppey, in respect of the highway layout, capacity, traffic routing and management, junction controls, or facilities for pedestrians, cyclists, and bus passengers.
- 4.2.5 Committed transport changes to the existing network would be included, if relevant, but none have been identified within the impact area of A2500 Lower Road Junction.

Do Something

- 4.2.6 The proposed A2500 Lower Road Junction Improvement scheme would entail widening existing arms by re-aligning and re-configuring the signalised priority junction at Barton Hill Drive, to a three arm roundabout. Land to the north of the junction would need to be procured from the developer in order to replace the junction with a three arm roundabout.
- 4.2.7 The Barton Hill Drive arm will include a signal controlled pedestrian 'toucan' crossings, towards the southern end of the road on the roundabout exit/ entry. The new design will have a shared pedestrian footway/ cycle path from the Lower Road eastbound approach arm to the Barton Hill Drive exit arm. Another shared pedestrian footway and cycle link would connect Barton Hill Drive to the Lower Road Westbound approach arm. Both links will be connected at the Barton Hill Drive signalised 'toucan' crossing.
- 4.2.8 The A2500 Lower Road Junction would provide for all turns from each arm whilst maintaining residential access and potentially access to development land to the north of the A2500.
- 4.2.9 The neighbouring roundabouts at Queensborough Road (Cowstead corner) and Thistle Hill Way will remain as is. However is anticipated that the congestion issues at the identified junctions will be addressed at a later stage as part of Policy AX1 as a revision to the Draft Swale Local Plan.

4.3 Cost Benefit Analysis

- 4.3.1 Essentially, the economic appraisal for A2500 Lower Road Junction comprises an assessment of the overall, net, monetised, economic worth of the scheme, in which the following two calculations are made:
- [Net value of scheme option = (benefit – cost)]; calculated for each of the Do Minimum and Do Something scenarios (above); and
 - [Net A2500 Lower Road Junction scheme worth = (Do Min net value – Do Some net value)].
- 4.3.2 These calculations are summed across each of the strands of assessed economic impact, which are considered to be significant and quantifiable for the A2500 Lower Road Junction scheme. This gives an overall scheme economic outcome, which is summarised in the final, Analysis of Monetised Costs and Benefits (AMCB) table.

4.4 Value for Money Assessment

4.4.1 The criteria for assessing the likely performance of the named scheme have been established in terms of measures for success as outlined in section 3.8 of the Strategic Case, as they will predict the scheme's ability to achieve its objectives and resolve identified problems. They have also been detailed in Figure 3-9 Scheme Logic Map.

4.4.2 The Economic Case for this scheme is focused on:

- Assessing the monetised direct, localised and economic efficiency benefits of the scheme;
- Qualitatively appraising the wider scheme benefits, in terms of enabling planned developments; and
- Offsetting the scheme benefits against the direct scheme capital costs.

4.4.3 **Error! Reference source not found.** shows the approach used to develop the economic case for the A2500 Lower road/ Barton Hill Drive junction improvement scheme.

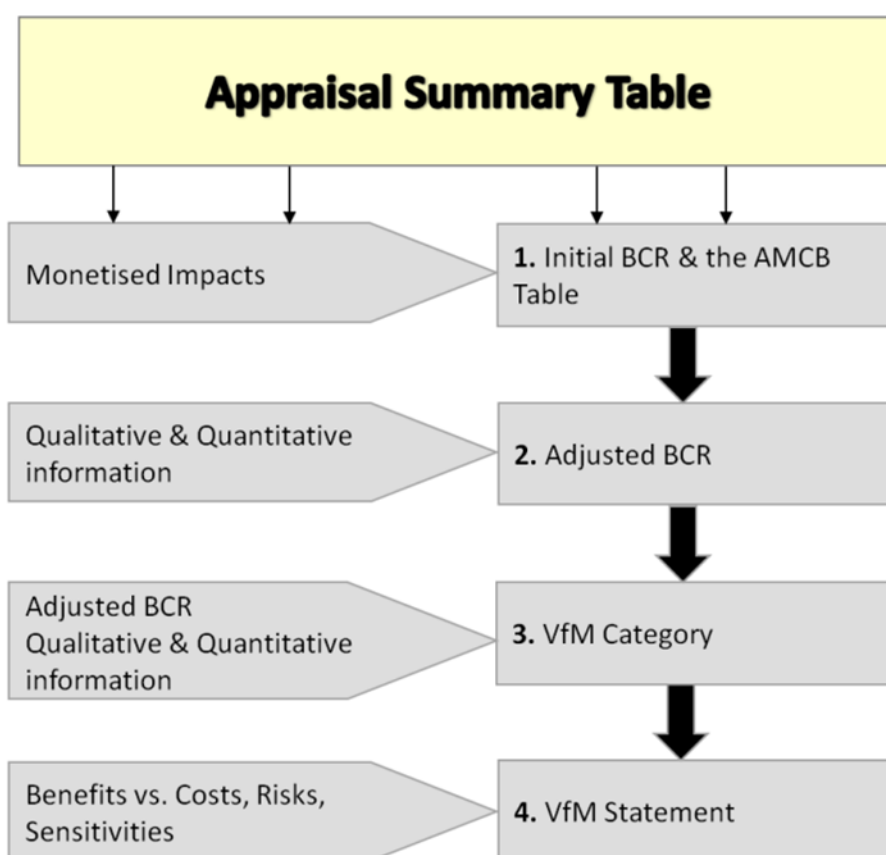


Figure 4-1: Value for Money Process

Stage 1 - Initial BCR

- 4.4.4 The Value for Money assessment follows guidance contained within 'Value for Money Assessment: Advice Note for Local Transport Decision Makers – December 2013. Stage 1 assesses those impacts that can be expressed in monetary terms. These monetised impacts are summed to construct an Initial Benefit Cost Ratio (BCR).
- 4.4.5 Calculation of benefits was based on the outputs of spreadsheet based spreadsheet-based TUBA-like calculation assessing travel delay for vehicle users, constructed specifically for the purpose of supporting the Business Case.
- 4.4.6 The initial BCR has been assessed within a WebTAG compliant framework drawing on the following:
- An assessment of monetised economic impacts, including business users and providers and commuting and other users; and
 - An assessment of public accounts impacts, namely: cost to the broad transport budget; and changes in indirect taxes.

Stage 2 - Adjusted BCR

- 4.4.7 The second stage of a Value for Money assessment would typically build on the initial monetised costs and benefits and considers qualitative and quantitative information on those impacts which can be monetised but where the evidence base used to derive the monetary values is less robust or unavailable.
- 4.4.8 In this particular case it wasn't deemed proportionate to monetise the impacts, however they have nevertheless been appraised and given an overall qualitative assessment score. These impacts are as follows:
- Economy impacts on reliability, regeneration and wider impacts;
 - Environment impacts on noise, air quality, greenhouse gases and landscape; and
 - Social impacts on accidents, physical activity, journey quality, reliability and option and non-use values.

Stage 3 - Qualitative Impacts

- 4.4.9 At Stage 3, where a monetary assessment is not feasible, analysis of non-monetised impacts have been undertaken in accordance with the methodology recommended within the relevant WebTAG units and the results have been summarised within this section. These impacts are as follows:

- Impacts on Townscape;
- Impacts on Historic Environment;
- Impacts on Biodiversity;
- Impacts on Water Environment;
- Impacts on Security;
- Impacts on Access to Services;
- Impacts on Affordability; and
- Impacts on Severance.

Stage 4 – Value for Money (VfM) Statement

4.4.10 Finally, at Stage 4 a Value for Money conclusion has been drawn considering the evidence pulled together from Stages 1 to 3.

4.5 Economic Case Criteria

4.5.1 The economic case for this scheme is focussed on:

- Assessing the direct, localised, economic efficiency benefit of the scheme;
- Qualitative appraisal of wider scheme benefits; and
- Assessing the scheme benefits against the scheme costs.

4.5.2 The appraisal criteria and overall approach for their assessment are shown in Table 4-2.

Table 4-2: Appraisal Criteria for Assessing Scheme Performance

Appraisal Criteria	Direct / Indirect Impact Appraisal	Approach Adopted
Journey time savings	Direct	ARCADY/ LinSig modelling with TUBA style calculation of benefits
Improved junction layout and journey perception	Indirect	Qualitative
Wider economic impacts	Indirect	Qualitative

4.6 Assumptions

4.6.1 The economic case has been developed based on the comparison of a without scheme 'do nothing' scenario (signal controlled junction) and the with scheme 'do something' scenario (proposed roundabout junction).

- 4.6.2 The scheme assessment is based on a conservative estimate of potential benefits to car users in the peak period only. Additional benefits from off peak periods including the summer months, for bus users and providers and for pedestrians have not been assessed.
- 4.6.3 The following assumptions have been made in the development of the economic case:
- Vehicle delay savings extracted from LinSig/ARCADY, for weekday AM and PM peak hours, have been annualised over 253 days. There is potential for benefits beyond the peak hours but these have not been accounted for;
 - Delays estimated are based on 2019 opening year flows and 2038 forecast year flows. Benefits from delay savings are extrapolated for intermediate years;
 - 2019 and 2038 forecast flows based on 2016 traffic data and locally adjusted NTM growth;
 - Value of time per vehicle (in 2010 prices) and journey purpose proportions are taken from the WebTAG Data Book (March 2017);
 - Downstream capacity assumed not to be a limiting factor;
 - ARCADY and LinSig are assumed to be a robust tool for this assessment;
 - All efforts will be made to minimise the effect of roadworks during construction and these are not included in the assessment. KCC are aware of importance of minimising the impact of roadworks and successfully operate a lane rental scheme to this end;
 - Optimism bias of 15% - ('conditional approval' stage 2) in line with WebTag Unit A1.2 (November 2014);
 - Scheme opening year 2019; and
 - Appraisal period of 20 years assumed as the benefits of this scheme will become entrenched in the wider benefit stream of other improvements along the corridor in the longer term.

Scheme Performance

- 4.6.4 The scheme performance locally is assessed based on predicted travel time savings during the peak periods. No account is made for any travel time savings outside the peak hours. The total vehicle travel time is based on average delay time through the junction per vehicle, provided from ARCADY/ LinSig output, and from vehicle turning movements (Table 4-3).

Table 4-3: Peak Hour Vehicle Movements

Year	AM	PM
2016	1891	1933
2019	1968	2013
2038	2459	2517

- 4.6.5 Table 4-4 summarises the estimated delay per day (total vehicle hours) in the opening year, with and without the scheme, and the net travel time saving per day.

Table 4-4: Localised Scheme Performance –Delay per day (Vehicle Hours)

	Do Nothing		Do Something		Total Delay Saving	
	AM	PM	AM	PM	AM	PM
2016	15.78	14.72	2.61	2.48	13.17	12.24
2019	21.5	24.8	3.05	2.85	18.45	21.95
2038	57.6	87.817	5.9	5.21	51.70	82.61

4.7 Present Value Outcomes from Economic Appraisal

- 4.7.1 The present value outcomes of the A2500 Lower road/ Barton Hill Drive junction improvement scheme are set out in Table 4-5, which summarises the Analysis of Monetised Costs and Benefits (AMCB). The costs and benefits are calculated based on the following:

- Scheme cost (2016 prices) – KCC supplied;
- The base costs have been adjusted to incorporate real cost increases (WebTAG A1.2) in construction costs;
- Cost adjusted for quantified risk and optimism bias (2016 prices excl. VAT);
- Risk and optimism bias adjusted cost converted to 2010 prices;
- Discounted Risk and optimism bias adjusted cost in 2010 prices;
- Discounted Risk and optimism bias adjusted cost in 2010 market prices;
- User Benefits (PVB) for the initial BCR are based on vehicle user time savings; and
- PVB has been adjusted to register the cost of developer contributions to the private sector developer.

Table 4-5: Summary of Monetised Costs and Benefits (2010 values and prices)

Item	Present Value (£m)
User Present Value Benefit (PVB)	£2.89
Capital Present Value Cost (PVC)	£1.12
Scheme Net Present Value (NPV) = PVB - PVC	£1.77
Scheme Initial Benefit to Cost Ratio (BCR) = PVB / PVC	2.58

4.8 Sensitivity Tests

- 4.8.1 A series of sensitivity tests have been undertaken to understand how some of the parameters and assumptions used within the appraisal of the A2500 Lower Road/ Barton Hill Drive Junction Improvement influence the economic and commercial case of the proposal.
- 4.8.2 Sensitivity analysis will test the vulnerability of the option against unavoidable future uncertainties to test the robustness of A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme.
- 4.8.3 Sensitivity tests have been undertaken by assuming uncertainty surrounding delay savings. By assuming the current delay saving (user benefits) variable is an over estimate, sensitivity tests have been conducted by reducing the annual delay saving by 10% and 15% to understand the full extent of the scheme benefits.
- 4.8.4 Sensitivity tests have been carried out to provide a broader understanding of the value for money presented by the A2500 Lower Road/ Barton Hill Drive junction improvement. The initial BCR of 2.58 is based on travel time savings for vehicle users, no estimate is included for bus user benefits. The sensitivity tests, which address the assumptions made in the calculations of traveller benefits and are summarised in Table 4-6.

Table 4-6: Sensitivity Test Summary (2010 present day values and prices)

Item	Present Values (£000s)		
	Initial BCR	Test 1	Test 2
	PVB based on benefits extrapolated for years between 2019 and 2038	Reduce Delay Savings (10% reduction in the VoT Difference)	Reduce Delay Savings (15% reduction in the VoT Difference)
Present Value Benefit (PVB)	£2.89	£2.56	£2.39
Present Value Cost (PVC)	£1.12	£1.12	£1.12
Net Present Value (NPV) = PVB – PVC	£1.77	£1.44	£1.27
Benefit to Cost Ratio (BCR) = PVB / PVC	2.58	2.28	2.13

4.9 Appraisal Summary Table

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

4.10 Value for Money Assessment

4.10.1 The Value for Money (VfM) Assessment of the initial BCR of 2.58 would be 'high' based on the DfT 'Value for Money Assessment: Advice Note for Local Transport Decision Makers'. Sensitivity tests around the scheme user benefits potentially reduce the initial BCR to 2.13 – 2.28, which would return a VfM assessment of 'high'.

4.10.2 The Value for Money Assessment builds on the initial BCR with the objective of capturing qualitative impacts which have been assessed (shown in the AST in **Appendix B**).

4.10.3 A2500 Lower road/ Barton Hill Drive junction improvement scheme is expected to contribute to vehicle user time savings at the junction. Other benefits for the scheme have not been directly quantified and the final value for money assessment for the scheme is based on a qualitative assessment and quantified initial BCR.

4.10.4 The Value for Money Assessment has been summarised in Table 4-7 overleaf.

Table 4-7: Summary of Scheme Value for Money Assessment

Scheme Value for Money (VfM) Summary				
VfM Component	VfM Assessment Mechanism & Outcome Measurement Method	Scope of VfM Component	VfM Component Strands	VfM Outcome Qualitative (See 2 nd Column)
Initial BCR	Quantified BCR, or 5pt Qualitative BCR: ➤ Poor (<1.0) ➤ Low (1.0-1.5) ➤ Medium (1.5-2.0) ➤ High (2.0-4.0) ➤ Very High (>4.0)	Derived from usually-monetised scheme user economic appraisal and cost/benefit analysis	Vehicle Delay Savings (Business Users & Providers) – £0.14M Vehicle Delay Savings (Commuting & Other Users) – £1.63 Wider Public Finances (Indirect Tax revenues) – not assessed Broad Transport Budget – £1.12m	BCR based on vehicle delay savings only
			Overall	High (2.58)
Adjusted BCR	Quantified adjustment to BCR, or 5pt Qualitative adjustment to BCR: ➤ Poor ➤ Low ➤ Medium ➤ High ➤ Very High	Initial BCR adjusted to allow for sometimes-monetised scheme impacts	Reliability impact on Business Users & Providers – beneficial Reliability impact on Commuting and Other users – beneficial Noise – neutral Local Air Quality – slightly beneficial Greenhouse Gases – slightly beneficial Journey Quality – beneficial Physical Activity – neutral Accidents – neutral Journey Reliability – beneficial Area Regeneration – neutral Wider economy – neutral Landscape – neutral Non-user option / non-use values – neutral	Adjusted BCR score is Neutral
			Overall Adjusted	High (2.58)
Qualitative Assessment	7pt Qualitative outcome: ➤ Large Beneficial ➤ Moderate ➤ Slight ➤ Neutral ➤ Slight ➤ Moderate ➤ Large Adverse	Covers rarely-monetised scheme impacts	Townscape – neutral Heritage / Historic Environment – neutral Biodiversity – neutral Water Environment – neutral Security – neutral Access to Services – slight beneficial Affordability – neutral Severance – none	Qualitative assessment score is Neutral
			Overall	Neutral
Initial VfM Category	4pt Qualitative outcome: ➤ Low ➤ Medium ➤ High ➤ Very High	Aggregate of above VfM components, excluding risk component	Initial BCR – High Adjusted BCR – High Qualitative Assessment – High	
			Overall Initial VfM Category (excluding risk adjustment)	High
Key Risks, Uncertainties & Sensitivities	7pt Qualitative negative or positive adjustment to initial VfM: ➤ Large Beneficial ➤ Moderate ➤ Slight ➤ Neutral ➤ Slight ➤ Moderate ➤ Large Adverse	<i>Risk around scheme performance, outcome sensitivity, outline capital costs over or under estimated etc.</i>	Conservative estimate of scheme performance (peak hour savings only) – slight beneficial Chosen option minimises delivery constraints/risks – slight beneficial	Sensitivity tests return a VfM category of 'high'
			Overall risk/uncertainty/sensitivity adjustment	High

Final VfM Category	4pt Qualitative outcome: <ul style="list-style-type: none">➤ Low➤ Medium➤ High➤ Very High	Aggregate of above VfM components, including risk component	Overall Final VfM Category (including risk adjustment)	High
---------------------------	---	--	---	-------------

4.11 Overall Value for Money Statement

- 4.11.1 The initial BCR for the scheme is 2.58. This is based on conservative estimates of travel time benefits in the peak hours only. The improved junction also offers potential for improved journey time reliability for consumer users, business users and providers.
- 4.11.2 The overall Value for Money category for the A2500 Lower Road/ Barton Hill Drive junction improvement is considered to be 'High'.

5 Financial Case

5.1 Overview

- 5.1.1 The Financial Case will examine the affordability, funding arrangements and technical accounting issues of the A2500 Lower Road/ Barton Hill Drive junction improvement.
- 5.1.2 The Financial Case for the A2500 Lower Road/ Barton Hill Drive junction improvement gives a 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.
- 5.1.3 Table 5-1 illustrates where the above information may be found in this document:

Table 5-1: Financial Case Requirements

Sub Section	Section of the Business Case	Stage at Outline Business Case
Costs	5.2, 5.3, 5.4 and 5.5	Complete
Budgets/ Funding Cover	5.7	Complete

5.2 Base Costs

- 5.2.1 Table 5-2 shows that the base cost estimate is £1,548,324. The cost estimate was last reviewed by KCC in June 2016 and is considered by KCC to be robust. The estimates were undertaken by cost consultants Allen Dadswell who are experienced in highway scheme cost estimation. A detailed breakdown is included in **Appendix C**.

Table 5-2: Component of Investment Cost (2016/Q2 prices)

Cost Component	Cost (£)
Construction	820,612
Preparation, supervision and administration	727,712
Total Scheme Cost	1,548,324

5.3 Inflation

- 5.3.1 The basis of the inflation calculation in this cost plan is the BCIS (Building Cost Information Service), Civil Engineering Cost Index. The BCIS takes account of the actual level of pricing in the construction market and also anticipates trends. The total allowance for inflation is estimated to be £112,728.

5.4 Risks / Leverage

- 5.4.1 The A2500 Lower Road/ Barton Hill Drive junction improvement scheme is dependent on SELEP LGF funding of £1.26 million and funding from section 106. Should scheme costs escalate, delivery will be hindered.
- 5.4.2 A Quantified Risk Assessment (QRA) has been undertaken by Allen Dadswell Consultants for the scheme. A total of £143,877 has been identified as the anticipated QRA.

5.5 Optimism Bias

- 5.5.1 Optimism bias refers to the tendency for scheme promoters to be overly optimistic about scheme costs. DfT WebTAG unit A1.2 sets out the recommended contingency which should be added to the scheme costs. However, in line with HM Treasury guidance document "Early financial cost estimates of infrastructure programmes and projects and the treatment of uncertainty and risk- March 2015" optimism bias has been excluded from project funding. The risk-adjusted scheme cost estimate is considered robust but will be reviewed as the scheme proceeds.

5.6 Final Scheme Costs

Table 5-3 overleaf outlines the costs associated with the proposed scheme including inflation and risk allowance.

Table 5-3: Summary of Final Scheme Costs (2016/Q2 prices)

Cost Component	Cost (£)
Scheme Cost	1,548,324
Inflation	112,728
Risk Allowance	143,877
Total	1,804,930

5.7 Funding Arrangements

5.7.1 Funding for the scheme is sought from SELEP (LGF) with supporting funds from developer funding. The total SELEP contribution sought for the junction improvement is £1.26 million. A breakdown of funding sources for the scheme is summarised in Whole Life Costs

5.7.2 Future maintenance works associated with the scheme will be added to the maintenance inventory and funded from KCC's maintenance budgets. It is anticipated that the provision of new or upgraded assets (such as drainage system, street lighting, signing and pavement/footways) will reduce future maintenance liabilities on KCC.

5.7.3 .

Table 5-4: Funding Sources

Funding Sources	(£)
LGF Funding	1,264,708
Developer Contribution	540,222
Total	1,804,930

5.8 Whole Life Costs

5.8.1 Future maintenance works associated with the scheme will be added to the maintenance inventory and funded from KCC's maintenance budgets. It is anticipated that the provision of new or upgraded assets (such as drainage system, street lighting, signing and pavement/footways) will reduce future maintenance liabilities on KCC.

5.9 Section 151 Officer Letter

- 5.9.1 Any cost over runs above the level of quantified risk will be accounted for by KCC. A signed letter from KCC's Section 151 Officer is attached (**Appendix D**) to confirm KCC's financial commitment and ability to fund the scheme.

6 Commercial Case

6.1 Overview

6.1.1 The Commercial Case for the A2500 London Road/ Barton Hill Drive junction improvement scheme provides evidence that the proposed investment can be procured, implemented and operated in a viable and sustainable way. The aim is to achieve best value during the process, by engaging with the commercial market. Detailed consideration of the commercial case takes place at FBC stage and therefore certain aspects have only been outlined in the Stage 2 OBC.

6.1.2 This chapter defines the current progress of the commercial aspects requirements. Areas this chapter considers include:

- Output Based Specification;
- Procurement Options
- Procurement Strategy;
- Payment Mechanisms;
- Pricing Framework and Charging Mechanisms;
- Potential for Risk Transfer;
- Contract Length; and
- Contract Management.

6.1.3 Table 6-1 illustrates where the above information can be found in this document:

Table 6-1 Commercial Case Requirements

Sub Section	Section of the Business Case	Stage at Outline Business Case
Output Based Specification	6.2	Complete
Procurement Strategy	6.3	Complete
Sourcing Options	6.4	Outlined
Payment Mechanisms	6.5	Outlined

Sub Section	Section of the Business Case	Stage at Outline Business Case
Pricing Framework and Charging Mechanisms	6.6	Outlined
Risk Allocation and Transfer	6.7	Outlined
Contract Length	6.8	Outlined
Contract Management	6.9	Outlined

6.2 Output based specification

6.2.1 The outcomes which the commercial strategy must deliver are to:

- Confirm that procedures are available to procure the scheme successfully;
- Check that available / allocated capital funds will cover contractor and construction costs;
- Verify that risk allowance is sufficient; and
- Ensure that arrangements have been made to handle cost overruns.

6.2.2 The outcomes which the procurement strategy must deliver are to:

- Achieve cost certainty, or certainty that the scheme can be delivered within the available funding constraints;
- Minimise further preparation costs with respect to scheme design by ensuring best value, and appropriate quality;
- Obtain contractor experience and input to the construction programme to ensure the implementation programme is robust and achievable; and
- Obtain contractor input to risk management and appraisals, including mitigation measures, to capitalise at an early stage on opportunities to reduce construction risk and improve out-turn certainty thereby reducing risks to a level that is 'As Low As Reasonably Practicable'.

6.2.3 The Output Based Specification for the A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme has yet to be developed, this is to be expected at this stage for the following reasons:

- The need to secure funding approval for the preferred scheme prior to undertaking this significant piece of work;
- The detailed design components are not programmed to begin until (2017/18); and
- The tendering process does is not due to start until Spring 2018.

6.2.4 The expected outcomes and outputs associated with the scheme are provided in the Benefits Realisation Plan in the Management Case section. Prior to the submission of the Full Business Case, these outcomes and outputs will be reviewed.

6.3 Scheme Procurement Strategy

6.3.1 The A2500 Lower Road/ Barton Hill Drive procurement strategy evaluates the best approach to procure the required services, supplies or works for the junction improvement scheme.

Procurement Options

6.3.2 KCC have identified two procurement options for the delivery of their LEP funded schemes. The alternative options are:

- Full OJEU tender, or
- Delivery through existing Amey Highways Term Maintenance Contract (HTMC).

Full OJEU tender

6.3.3 The overall scheme costs including inflation, land, consultancy fees etc. is circa £1.8m which is below the OJEU threshold, therefore the scheme can be procured through this method.

6.3.4 KCC will then need to opt for an 'open' tender, where anyone may submit a tender, or a 'restricted' tender, where a Pre-Qualification is used to whittle down the open market to a pre-determined number of tenderers. This process takes approximately one month and the first part is a 47 day minimum period for KCC to publish a contract notice on the OJEU website.

6.3.5 The minimum tender period is 6 weeks but could be longer for larger schemes. Once the tenders are received they must be assessed and a preferred supplier identified. There is a mandatory 10 day 'standstill' period, during which unsuccessful tenderers may challenge the intention to award to the preferred contractor.

Delivery through existing Amey Highways Term Maintenance Contract (HTMC)

- 6.3.6 This option is strictly not procurement as the HTMC is an existing contract. The HTMC is based on a Schedule of Rates agreed at the inception of the contract. The price for each individual scheme is determined by identifying the quantities of each required item into a Bill of Quantities. Amey may price 'star' items if no rate already exists for the required item. If the scope of a specific scheme is different from the item coverage within the HTMC contract a new rate can be negotiated.

Preferred Procurement Option

- 6.3.7 The preferred procurement route for the A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme is through *full OJEU* tender. Although the scheme construction cost is below the threshold for this option, this process is considered best practice. The proposed procurement route is by the West Sussex County Council Framework Works Contract.

6.4 Sourcing Options

Kent County Council will utilise procurement procedures to source quotes from suppliers and will follow a tendering process to establish the best value and quality supplier in line with the requirements which will be clearly set out by Kent County Council as part of the tendering process. An OJEU Restricted Procedure will be followed.

6.5 Potential Payment Mechanisms

- 6.5.1 The section of the commercial case only describes the potential payment mechanisms at this Outline Business Case stage. It considers and records how payment is intended to be made over the life span of the scheme to reflect the optimum balance between risk and return in the contract.
- 6.5.2 Payment timing will be adopted to maximise the value from the contract through minimising financing and construction costs. Prompt and fair payment mechanisms will be applied throughout the supply chain. This is covered under the procurement process and will be monitored during the contract to ensure full value is delivered.

6.6 Pricing Framework and Charging Mechanisms

- 6.6.1 Under the preferred procurement approach which has been adopted the Contractor will provide the A2500 Lower Road/ Barton Hill Drive Junction Improvement works described in the contract for a sum of money. The contract will provide for specified risks to be carried by the Employer which will result in the lump sum being adjusted if the compensation events occur.

6.7 Risk Allocation and Transfer

- 6.7.1 In order to achieve successful delivery of schemes, management policies, processes and procedures are required to be followed accurately. An important aspect of the management process is identifying risks associated with scheme delivery and funding early in the process to allow mitigation to be identified.
- 6.7.2 At Outline Business Case stage this is not assessed in detail, however will be refined at the later Full Business Case Stage.
- 6.7.3 The following risk allocation table ('risk transfer matrix') should illustrate the proportion of risk borne by each party. This ensures that all risks are assigned to the party best placed to manage them achieving value for money.

Table 6-2: Risk Allocation Table

Risk Category	Potential Allocation		
	Public	Private	Shared
1. Design Risk		✓	
2. Construction and Development Risk			✓
3. Transition and Implementation Risk			✓
4. Availability and Performance Risk			✓
5. Operating Risk		✓	
6. Variability of Revenue Risks			✓
7. Termination Risks		✓	
8. Technology and Obsolescence Risks			✓
9. Control Risks		✓	
10. Residual Value Risks			✓
11. Financing Risks		✓	
12. Legislative Risks			✓

13. Other Project Risks		✓	
-------------------------	--	---	--

- 6.7.4 Although many of the design risks can only be resolved through rigorous design and review processes, once the design options are clear and the scope of land acquisition, planning requirements, environmental requirements are fully identified; the primary risks will be related to construction. There is potential for transferring these risks through the construction procurement process. This will be explored fully as the design and procurement process progresses.
- 6.7.5 The Commercial Case for the proposed junction improvement provides evidence that the proposed investment can be procured, implemented and operated in a viable and sustainable way. The aim is to achieve the best value during the procurement process by engaging with the commercial market. The commercial risk assessment is outlined in Table 6-3.

Table 6-3: Commercial Risk Assessment

Qualitative Commercial Risk Assessment										
Scheme Commercial Risk Item	Likelihood of Risk Arising (✓)			Impact Severity (✓)			Predicted Effect on Scheme Procurement, Delivery & Operation (✓)			Immediate Bearer of Risk and Suggested Mitigation
	Low	Medium	High	Slight	Moderate	Severe	Slight	Moderate	Severe	
Scheme construction is delayed and costs increase, owing to unexpected engineering difficulties.		✓				✓		✓		Kent CC, as scheme promoter, bears the risk. Ensure that scheme development, design, procurement and construction procedures are sufficiently robust to minimise likelihood of construction difficulties.
LEP funding not available leading to a shortfall		✓			✓			✓		KCC, as scheme promoter, bears the risk. Ensure that Business Case process is followed and scheme benefits are achievable and realistic.

6.8 Contract Length

6.8.1 It is envisaged that the contract will be of approximately 6 months duration in the last 6 months of 2018, with an anticipated contract start date around spring 2018.

6.9 Contract Management

6.9.1 KCC will meet with the contractor on a monthly basis throughout the construction period, or more frequently if this is deemed necessary by the Project Manager. The contractor will be contractually obliged to provide monthly progress and financial updates to KCC, which will include updates to the project programme.

7 Management Case

7.1 Overview

7.1.1 The Management Case outlines how the proposed scheme and its intended outcomes will be delivered successfully. It gives assurances that the scheme content, programme, resources, impacts, problems, affected groups and decision makers, will all be handled appropriately, to ensure that the scheme is ultimately successful. It also covers monitoring of the scheme. The management case will test to see if the following components have been appropriately assessed at this Outline Business Case (OBC) stage:

- Project planning;
- Governance structure;
- Risk management;
- Communications and stakeholder management; and
- Benefits realisation and assurance.

7.1.2 The following components will be expanded or introduced at Full Business Case stage once the scheme has been developed further following the DfT Transport Business Case Guidance:

- Key issues for implementation;
- Contract management;
- Completed benefits realisation plan;
- Scheme monitoring and evaluation; and
- Contingency plan.

7.1.3 Table 7-1 illustrates where the above information can be found in this document:

Table 7-1: Management Case Requirements

Sub Section	Section of the Business Case	Stage at Outline Business Case
Evidence of Previously Successful Schemes	7.3	Updated
Project Dependencies	7.4	Complete

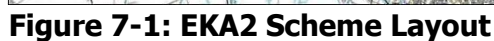
Sub Section	Section of the Business Case	Stage at Outline Business Case
Project Governance, Roles and Responsibilities	7.5	Updated
Project Delivery and Approvals Programme	7.7	Complete
Project Assurance	7.8	Updated
Communication and Stakeholder Management Strategy	7.9	Complete
Project/ Programme reporting	7.10	Complete
Contract Management	7.11	Outlined
Project Risk Management and Contingency Plan	7.12	Complete
Benefits Realisation Plan	7.13	Outlined
Monitoring and Evaluation	7.14	Outlined
Options	7.15	Complete

7.2 Approach to Scheme Development and Delivery

- 7.2.1 Although not fully defined at this OBC stage, the project is likely to be managed in house by PRINCE2 trained and experienced Kent County Council staff, using a well-established governance structure, which has been successfully applied to deliver other transport improvement schemes.

7.3 Evidence of Previously Successful Schemes

- 7.3.1 KCC have a successful track record of delivering major transport schemes within the county. The most recent of which were the East Kent Access Phase 2 (EKA2) and Sittingbourne Northern Relief Road schemes (SNRR).



Issued: July 2017

- 7.3.3 The scheme was successfully delivered within budget and ahead of programme through the adoption of a robust management approach similar to that set out above to deliver the A2500 Lower Road/ Barton Hill junction improvement. The total value of the scheme was £87.0m of which £81.25m was funded by Central Government.
- 7.3.4 The intended scheme outcomes are currently being monitored but the intended benefits of the scheme are anticipated to be realised.
- 7.3.5 The SNRR scheme, completed in December 2011, was designed to remove the severance caused by Milton Creek and give direct access to the A249 trunk road for existing and new development areas, thereby relieving Sittingbourne town centre.
- 7.3.6 The delivered scheme is shown in Figure 7-2 below:

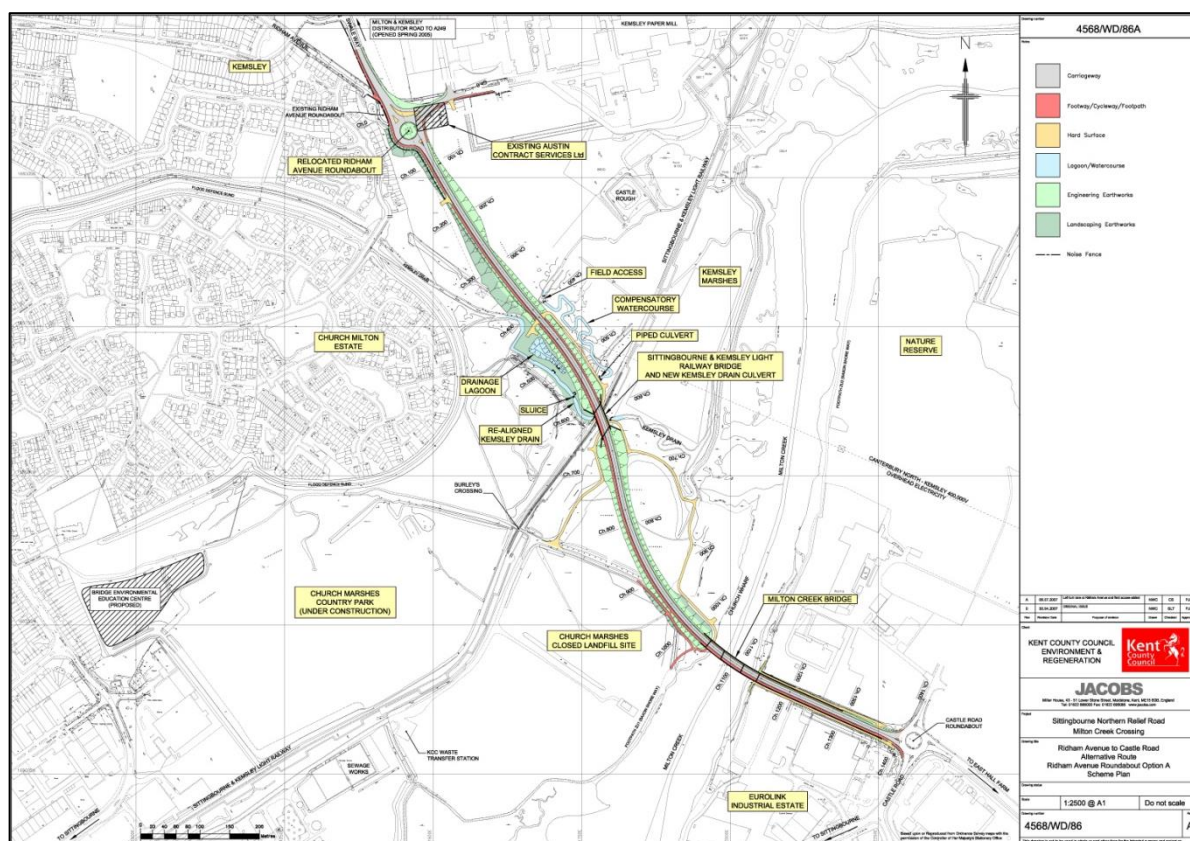


Figure 7-2: SNRR Scheme Layout

- 7.3.7 The project is an excellent example of multi agencies working towards a common aim. The scheme was funded by the Homes & Communities Agency in its Thames Gateway (Kent) regeneration role, by the Department of Transport in its support of local major schemes and by private sector S106 contributions. The scheme was delivered under budget and to programme.

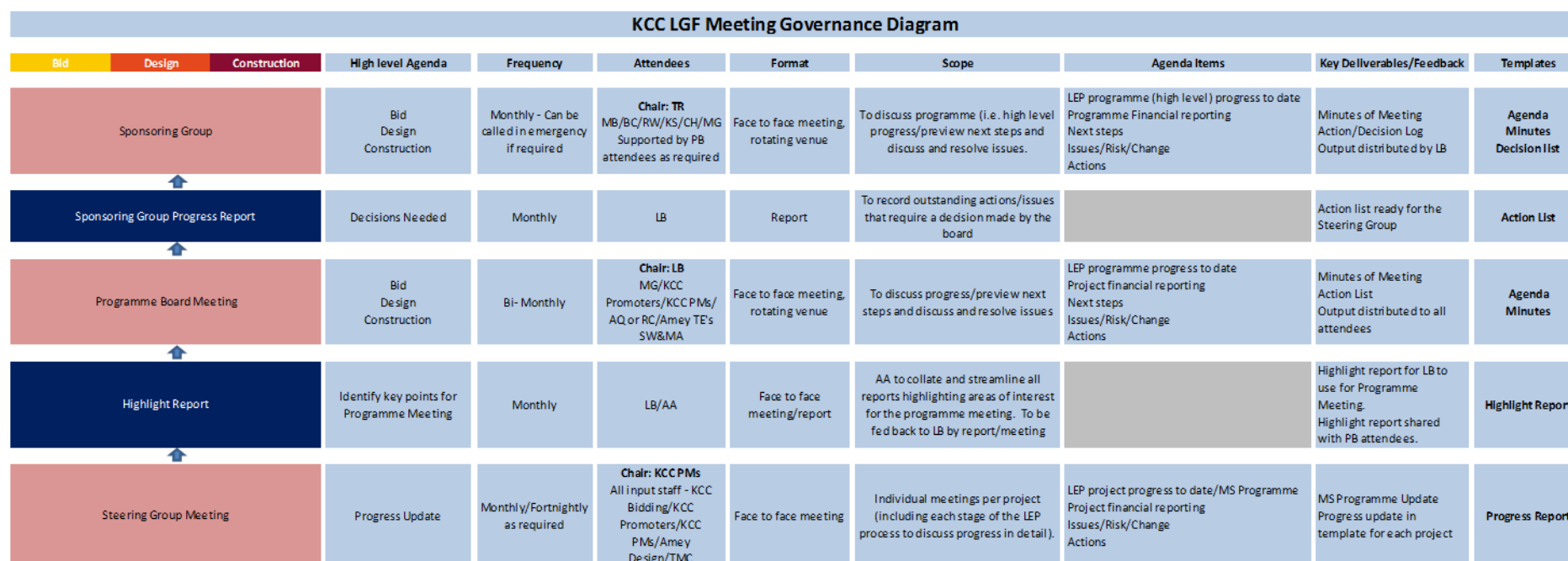
- 7.3.8 Both the EKA2 and SNRR schemes have since been awarded regional Institute of Civil Engineers (ICE) Excellence Awards.

7.4 Project Dependencies

- 7.4.1 The delivery of the project is dependent on the timely approval of those development proposals from which S106 contributions are to be secured. However, this risk is mitigated as those sites from which contributions are sought benefit from policy allocations and the two development proposals are to be reported to the Swale Borough Council Planning Committee in June and August 2016 regarding agreement over the S106 Heads of Terms, which is the only outstanding item. The wording of the Heads of Terms requires upfront payment of the S106 monies from the two concerned parties to ensure S106 monies are collected within a short timeframe following any grant of a planning consent, and so the dependency risk is of a low significance.

7.5 Project Governance, Roles and Responsibilities

- 7.5.1 Kent County Council (KCC) will take overall responsibility for development and delivery of the project, but with input from stakeholders such as Swale Borough Council and Land-use developers. KCC will also commission specialist consultants to assist where necessary.
- 7.5.2 PRINCE 2 Project Management methodologies will be applied to project delivery, giving full attention to the whole spectrum of activities from overall project strategy and objectives through to the detailed management and control of work stream activity.
- 7.5.3 KCC have set up a clear and robust structure to provide accountability and an effectual decision making process for the management of the LEP funded schemes. Each scheme will have a designated project manager who will be an appropriately trained and experienced member of KCC staff.
- 7.5.4 Figure 7-3 provides an outline of the overall governance structure implemented to manage the delivery of each scheme.
- 7.5.5 A detailed breakdown of the meetings (along with the attendees, scope and output of each) which make up the established governance process is set out below.



List of Initials:

MB	Matthew Balfour
BC	Barbara Cooper
RW	Roger Wilkin
KS	Katie Stewart
CH	Cath Head
TR	Tim Read
MG	Mary Gillett
LB	Lee Burchill
AQ	Andrew Quilter
RC	Richard Cowling
SW	Steve Whittaker
MA	Martin Addison
AA	Alice Alexander

Figure 7-3: Governance Diagram

Project Steering Group (PSG) Meetings

- 7.5.6 PSG meetings are held fortnightly to discuss individual progress on each scheme and are chaired by KCC Project Managers (PMs). Attendees include representatives from each stage of the LEP scheme (i.e. KCC Bid Team, KCC sponsor, KCC PMs, Amey design team and construction manager). Progress is discussed in technical detail raising any issues or concerns for all to action. A progress report, minutes of meeting and an update on programme dates are provided ahead of the Programme Board (PB) meeting for collation and production of the Highlight Report.

Highlight Report

- 7.5.7 The Progress Reports sent by the KCC PMs comprise of the following updates; general progress, project finances, issues, risks and governance meeting dates. The Highlight Report identifies any areas of concern or where decisions are required by the PB meeting or higher to the KCC LEP Programme Manager. An agreed version of the Highlight Report is issued to the PB meeting attendees during the meeting.

Programme Board (PB) Meeting

- 7.5.8 The PB meeting is held monthly and is chaired by the KCC LEP Programme Manager. Attendees include representatives from all three stages of the schemes (i.e. KCC LEP Management, KCC LEP Bidding, KCC Sponsors, KCC PMs, Amey Account Manager, Amey Technical Advisors, Amey Construction representatives).
- 7.5.9 This meeting discusses project progress to date, drilling into detail if there is an issue or action (as identified in the PSG meeting), financial progress, next steps and actions. Outputs of this meeting are the Highlight Report and the minutes of meeting.

Escalation Report

- 7.5.10 A list of actions and decisions that the PB meeting was unable to resolve is prepared ready for the Sponsoring Group (SG) meeting to discuss and ultimately resolve.

Sponsoring Group (SG) Meeting

- 7.5.11 The SG is held monthly and will be chaired by Tim Read (KCC Head of Transportation). Attendees are Barbara Cooper (Corporate Director), Roger Wilkin (Director of Highways, Transportation and Waste), Tim Read and Mary Gillett (KCC Major Projects Planning Manager).

- 7.5.12 This meeting discusses high-level programme progress to date, financial progress, next steps and closes out any actions from the escalation report. Output is sent to Mary Gillett for distribution. Technical advisors are invited if necessary to expand upon an issue. All actions from the start of this meeting cycle are to be closed out by the SG when they meet (i.e. no actions roll over to subsequent meetings).

7.6 Key Work Stages and Critical Tasks

7.6.1 The key stages identified are:

- Feasibility work;
- Land Acquisition;
- Consultation;
- Committee Approval;
- Detailed design / Full Business Case;
- Acquisition of statutory powers;
- Procurement;
- Environmental surveys;
- Start/end of construction; and
- Monitoring.

7.7 Project Delivery and Approvals Programme

7.7.1 The construction programme for this scheme is based on the current provisional LEP allocation which means construction will take place in 2019. The project delivery timescales are listed below in Table 7-3.

Table 7-2: Project Delivery Timescales

Project milestone	Description	Indicative date
Feasibility	Concept design already completed	16/17
Public engagement and consultation	Scheme open to public consultation	Summer 2017
Funding Approval	Approval to SELEP funding	September 2017
Detailed design	Advance concept design to detailed design	October 2017

Project milestone	Description	Indicative date
Procure a works contractor	Raise works order with term maintenance contractor (once all funding held on account by KCC)	Spring 2018
Complete acquisition of land	s106 contributions	Spring 2018
Construction	Contractor implements scheme	2019

7.8 Project Assurance

- 7.8.1 A signed letter by KCC's Section 151 officer providing appropriate project assurances is contained as **Appendix D**.

7.9 Communication and Stakeholder Management Strategy

- 7.9.1 Consultation is a key element in the programme. KCC have a tried and tested Communication and Engagement Management Plan which is used on all major projects. Effective use of the plan has resulted in limited adverse feedback from the public and ensured successful delivery of schemes both from a project management and public relations perspective. This section will provide further information on how stakeholders are identified, how they are communicated to and the methods/techniques used to communicate.

Aims and objectives

- 7.9.2 The main aim of the Communication and Engagement Plan is to ensure that stakeholders and members of the general public are kept informed throughout the development and implementation of a scheme. This can range from keeping key stakeholders updated with critical information, essential to the successful delivery of the scheme to providing information to the general public.

Target Audiences

- 7.9.3 Table 7-3 indicates the approach used by KCC to categorise the various scheme stakeholders.

Table 7-3: Stakeholder Categorisation Approach

Stakeholder Category	Stakeholder Characteristics
Beneficiary	Stakeholders who will receive some direct or indirect benefit from the scheme.
Affected	Stakeholders who are directly affected by the scheme in terms of its construction and/ or operation
Interest	Stakeholders who have some interest in the scheme, although not affected directly by its construction or operation
Statutory	Stakeholders who have a statutory interest in the scheme, its construction, operation or wider impacts
Funding	Stakeholders who are involved in the funding of the construction or operation of the scheme

Engagement Categories

- 7.9.4 As has previously been mentioned, the information supplied to stakeholders can vary depending on their involvement with the scheme. The following table indicates the level of engagement that the variety of stakeholders can expect in relation to the Thanet Parkway Station scheme.

Table 7-4: Stakeholder Engagement Levels

Engagement Category	Details of Engagement Method
Intensive consultation	Stakeholders who are directly affected by the scheme and whose agreement is required in order for the scheme to progress. Consultation throughout the design and implementation.
Consultation	Stakeholders who are affected by the scheme and can contribute to the success of its design, construction or operation. Consultation at key stages

Engagement Category	Details of Engagement Method
Information	Stakeholders with some interest in the scheme or its use. Information to be provided at appropriate stages

Stakeholder Communication Plan

- 7.9.5 Table 7-5 summarises the strategy for managing engagement with stakeholders for the scheme. It itemises the relevant stakeholders and interests and indicates the stakeholder category with which each is associated.

Table 7-5: Stakeholder Management Strategy

Name of Stakeholder / Interest Group	Stakeholder Category	Engagement and Consultation Level
Swale Borough Council (SBC)	Beneficiary Statutory	Intensive
SBC and KCC Councillors	Beneficiary Statutory	Intensive
Local Parish Councils	Beneficiary Statutory	Intensive
Scheme Users	Beneficiary	Consultation
Environment Agency	Statutory	Intensive
Statutory Undertakers	Statutory	Consultation
Developers	Beneficiary Affected Funding	Consultation
Elected Members	Interest	Intensive
Land Owners	Affected	Intensive
Local Residents	Affected	Consultation

Name of Stakeholder / Interest Group	Stakeholder Category	Engagement and Consultation Level
Local Businesses	Interest Beneficiary	Information
Tourists and visitors	Beneficiary	Information

7.10 Project/ Programme reporting

7.10.1 Details of project reporting are provided in section 7.5 of this report.

7.11 Contract Management

7.11.1 KCC will meet with the contractor on a monthly basis throughout the construction period, or more frequently if this is deemed necessary by the Project Manager. The contractor will be contractually obliged to provide monthly progress and financial updates to KCC, which will include updates to the project programme. Further confirmation of arrangements will be defined at Full Business Case stage.

7.12 Project Risk Management and Contingency Plan

7.12.1 The Management Case for the proposed junction improvement provides evidence that the proposed investment can be procured, implemented and operated in a viable and sustainable way. The aim is to achieve the best value during the procurement process by engaging with the commercial market. The commercial risk assessment is outlined in Table 6-3.

7.12.2 Project risk is managed as an on-going process as part of the scheme governance structure, as set out in section 7.5 of this report. A scheme risk register is maintained and updated at each of the two-weekly Project Steering Group meetings. Responsibility for the risk register being maintained is held by the KCC PM and is reported as part of the monthly Progress Reports.

7.12.3 Any high residual impact risks are then identified on the highlight report for discussion at the Programme Board (PB) meeting. Required mitigation measures are discussed and agreed at the PB meeting and actioned by the KCC PM as appropriate.

7.12.4 An example scheme risk register is shown in Figure 7-4:

RISK REGISTER																
Project Title: Example 1				H		High				H		High				
Project Manager: Mr Smith				M		Medium				M		Medium				
Date of Last Review: 24/02/2014				L		Low				L		Low				
Risk Number		Risk Description		Date Logged	Residual Impact	Residual Priority	Notes of Impact (Commercial/Programme/R&D)	Action to be taken (Mitigation)		By When	By When	Residual Impact	Residual Priority	Progress	Residual Cost Allowance in Project Estimate	Risk closed this review
01		Example: Planning permission for development not obtained in time		01/01/2014	L	L	Example: Delay to project on time as an contract re-arrangement.	Example: Ensure that this is project programme with adequate time/management.		Amey/RCC		L	L			

Figure 7-4: Example Risk Register

7.12.5 Table 7-6 shows a summary of the project risk assessment. This includes aspects from all elements of the business case, and also adds 'operational' and 'scheme performance' elements.

Table 7-6: Project Risk Assessment

Risk description	Likelihood	Impact	Likelihood x Impact	Mitigation
Increase in scheme Costs	2	3	6	Optimism bias included in economic assessment
Funds do not cover costs	2	3	6	Lobby alternative sources for any shortfall in funding
Change in policy (from Central Government, LEP, Local Authority)	2	3	6	Ensure co-operation and communication between all concerned parties
Scheme performance (e.g. downstream capacity erodes benefits)	2	3	6	Other improvements planned for the highway network will mitigate.
Statutory Undertakers	1	4	4	KCC searches conducted as early as practicable to flag up any issues at the earliest opportunity.
Issues emerging during construction (environmental, archaeology etc.)	1	4	4	Early liaison with geotechnical, environmental and archaeological specialists to minimise impact.
Opposition to scheme (residents, cyclists, other road users)	3	2	6	Effective consultation with all relevant consultees providing the fullest possible information.

7.13 Benefits Realisation Plan

7.13.1 The purpose of benefits realisation is to plan for and track the benefits that are expected to be accrued over the lifetime of the scheme. The plan will detail the activities required to track the progress of the scheme including project milestones and responsibilities.

7.13.2 Monitoring will take place prior to scheme opening (baseline) and at predefined intervals upon successful delivery of the scheme, notably:

- 1 year post scheme opening;
- 3 years post scheme opening;

- 5 years scheme opening; and
- 10 years scheme opening.

7.13.3 Scheme benefits can be realised immediately but others do take time and there are wider benefits to be considered. The following scheme benefit indicators must be achieved.

Objective	Desired Outcomes
1. Alleviate congestion at the A2500 Lower Road/ Barton Hill Drive Junction	Reductions in delay at the junction.
2. Support the largely tourism focused economy by improving the efficiency of the transport network	Reductions in travel time through the scheme corridor, enabling access to the eastern part of the island.
3. Support the economy by supporting the delivery of houses.	Contributes to mitigating the impact of new homes in Swale.
4. Support the economy through Sheppey's case for the potential expansion of the Prisons and the delivery of jobs.	Contributes to mitigating the impact of new jobs in Sheppey.

7.14 Scheme Monitoring and Evaluation

7.14.1 Outline arrangements have been made for the monitoring and evaluation of A2500 Lower Road/ Barton Hill Drive Junction Improvement scheme. At this stage it is not deemed necessary to outline a full methodology but to suggest a standard advisory series of monitoring and evaluation task. The following tasks will commence after implementation of the scheme in question.

7.14.2 KCC are committed to monitoring, evaluating and reporting the scheme post-opening. Data surveys undertaken before the scheme will be repeated. In addition pre-opening data for Accidents is available and can also be repeated post-opening.

7.14.3 It is important for a congestion relief scheme to compare traffic flows so that the changes in delay are put into context. Table 7-7 shows the scheme monitoring plan.

7.14.4 The acceptability will be judged on the predictions supporting the economic case and on delivering the scheme objectives.

Table 7-7: Scheme Monitoring, Evaluation and Benefits Realisation Plan

Potential Benefit / Impact	Measure	Owner	Review timescale	Review Method
Travel time improvement	Journey times Queues	KCC	One and five year post opening	Traffic Master data Queue surveys
Impact on accidents and safety	Number and type of accidents	KCC	Five year post opening	KCC database
Increased capacity	Traffic flows	KCC	One and five year post opening	ATC data

7.15 Options

7.15.1 The outlined approach for project management at this OBC stage for the proposed A2500 Lower Road/ Barton Hill Drive Junction Improvement is as follows;

- KCC have extensive experience of delivering major schemes and following the procedures and policies that ensure successful delivery; and
- KCC will use the experience gained on other major projects to ensure that the A2500 Lower Road/ Barton Hill Drive Junction improvement scheme is delivered to budget and timescale.

8 Conclusion

8.1 Summary

- 8.1.1 The scheme provides an affordable and deliverable scheme that can improve the existing problems of congestion and delay at the junction of the A2500 Lower Road and Barton Hill Drive. The scheme is worthwhile from a 'value for money' standpoint. The scheme has full support of Kent County Council and Swale Borough Council and is included in the relevant local policy and strategy documents.

8.2 Recommended Next Steps

- 8.2.1 The development and delivery of the scheme should be approved and should proceed following the completion of the Full Business Case (FBC).

8.3 Value for Money Statement

- 8.3.1 The 'Value for Money' Statement in this report suggests a 'high' value for money. This should be revisited if the scheme costs escalate.

8.4 Funding Recommendation

- 8.4.1 The £1.26 million for the A2500 Lower Road/ Barton Hill Drive junction improvement scheme should be released from SELEP to KCC.

Appendix A Scheme Layout

Appendix B Appraisal Summary Table

Appendix C Scheme Cost Plan

Appendix D Section 151 Officer Letter