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Transport Business Case Report

Kent Thameside – Integrated Door-to-Door Journeys

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1 Introduction

1.1 SELEP Schemes – Business Case Preparation

Amey have been commissioned by KCC (Kent County Council) to prepare Transport Business Cases, appropriate to the size and scope of each scheme, for each of the projects which have been allocated Local Growth Fund finance.

1.2 Purpose of Report

The overall purpose of this report is to provide a Business Case covering the Kent Thameside: Integrated Door-to-Door Journeys scheme. In doing so it draws on the results of the earlier Gap Analysis exercise, also undertaken on behalf of KCC by Amey.

It also forms the basis of a brief to deliver the required elements in order to assist Kent County Council in delivering these or in procuring resource to deliver them.

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

- The potential for the project to be called in for review by Department for Transport (DfT) or other bodies before it is delivered
- The potential for challenge from stakeholders which may jeopardise or delay the project
- The potential that a subsequent review of the project after implementation may identify issues relating to the delivery of overall outcomes (e.g. job creation or transport modal shift)

1.3 Specific Scheme

This scheme, in previous submission to the SELEP, is entitled:

Kent Thameside: Integrated Door-to-Door Journeys

This describes the function of the proposal, though the scheme itself consists of a number of Local Sustainable Transport Fund (LSTF) capital measures for implementation in Kent Thameside in 2015/16. These measures will compliment and be introduced alongside a number of LSTF revenue measures that were successful in receiving support from the Department for Transport (DfT) in the recent 2015/16 revenue funding round.

Similar LSTF capital measures are envisaged for the Kent Thameside: Integrated Door-to-Door Journeys scheme in years 2016/17, 2017/18, 2018/19, 2019/20 and 2020/21. However, it is intended that these should draw on the experience gained from implementation of the initial measures and therefore they will be the subject of a further Business Case submission in the latter part of 2015/16, when they can be more clearly defined. Only the Fastrack vehicle upgrades and infrastructure improvements measure will not continue beyond 2015/16

2 Scheme Summary

2.1 Introduction to Project

Kent Thameside: Integrated Door-to-Door Journeys comprises a package of measures to reduce congestion and improve accessibility through the delivery of a fully integrated sustainable transport network, allowing the user to transfer seamlessly between modes and making sustainable transport a real alternative to the private car. The existing Fastrack project has delivered an internationally recognised high frequency Bus Rapid Transit scheme and the package will build upon this success by delivering new vehicles for the service and significant enhancements to interchange facilities across the network. The scheme will ensure that rail, bus, walking and cycling routes are fully integrated to provide a real opportunity for door-to-door journey planning and will also promote the use of the river transport available via the Gravesend to Tilbury Ferry.

The capital package will be supported by KCC's 2015/16 revenue LSTF bid, which includes the development of an innovative website and Smartphone 'app', promotion of the transport network and future ticketing technologies and promotion to businesses of technologies such as telephone and video conferencing and connection software to allow home working. The website and 'app' will provide cost, mode and journey time comparisons, real time information throughout the journey, access to ticketing accounts and promote the use of sustainable modes and car sharing, building a profile of the user to target future publicity and promotions. Personalised journey planning will be used to promote the website and app to those who would not usually consider any means other than the car for their journey/s. There are no LSTF revenue funds available beyond 2015/16 and as a result ongoing revenue support for future years will be limited to local sources, unless future rounds of LSTF revenue are made available by government.

2.2 Category of Transport Business Case

With overall expenditure across the full 6 year duration of the scheme expected to be around £7.5m and projected expenditure in 2015/16 alone of £5,584m, the scheme is categorised as 'small'

In 2015/16 the scheme has Local Growth Funds (LGF) allocated of £2,428m. In addition private sector match funds amounting to £3,150m will be provided by Arriva and £6k by Network Rail and HS1. There is also the possibility of South Eastern trains contributing a further £685k depending on the outcome of a funding bid they have made to the DfT Cycle-Rail Fund.

2.3 Overall Summary of Gap Analysis Exercise

The gap analysis exercise established that whilst an overall scheme plan exists for implementation of measures in 2015/16, there is no overall plan currently in place beyond then as this will be dependent on the outcome of implementation of the initial measures. The only exceptions to this is the Local Cycle Path Improvements measure which has been specified between 2016/17 and 2020/21, the Way Finding Information measure specified for 2016/17 and the roll out of Ticketing Technology measure, which will continue to be rolled out over the life of the scheme although at what location when is yet to be defined. The following table illustrates the current position for the scheme as a whole, including a summary of the specific initiatives proposed for 2015/16 within each of the overall scheme measures:

Measure	15/16	16/17	17/18	18/19	19/20	20/21
Fastrack Vehicle Upgrades and Infrastructure Improvements	**Routes A and B -** 21 buses & Infrastructure improvements **474/475** – 1 bus	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Station Access improvements and town centre links	**Gravesend Station Cycle Hub -** 160-180 cycle parking spaces	**tbc**	**tbc**	**tbc**	**tbc**	**tbc**
Cycle Parking at Stations and town centres	**Dartford station –** 90 additional cycle parking spaces	**tbc**	**tbc**	**tbc**	**tbc**	**tbc**
Bus/Cycle/Ferry interchange	**Access between Ferry, town centre and station –** access route/s, signs, lighting at both Ferry pontoons	**tbc**	**tbc**	**tbc**	**tbc**	**tbc**
Way finding information	**Dartford town centre –** pedestrian signs/maps	**Gravesend Town Centre**	**tbc**	**tbc**	**tbc**	**tbc**
Local Cycle Path improvements	**Cycle Route -** Bob Dunn Way, Dartford	**Princes Road**	**St James Lane -**	**Leigh Academy Path**	**St Clements Way**	**St Clements Way**
Cycle Infrastructure Improvements	**Ebbsfleet International Station – 20 x** cycle parking spaces and dedicated route from car park C to station entrance	**tbc**	**tbc**	**tbc**	**tbc**	**tbc**
Future Ticketing Technology	**Hardware -** to support roll out of pilot to one sixth Thameside	**Continues**	**Continues**	**Continues**	**Continues**	**Continues**
Bus infrastructure Improvements	**Fastrack & route 306 and 308 Sevenoaks to Bluewater -** bus stops upgraded	**tbc**	**tbc**	**tbc**	**tbc**	**tbc**

All measures proposed for 2015/16 are well advanced. The result of a bid for match funds for the Cycle hub at Gravesend Station is not yet known. However, this will not prevent the measure from proceeding as if the bid is not successful LGF funds alone will be used. Identified gaps in the Bus/Cycle/Ferry interchange have been resolved following a recent decision to extend the contract of the existing operator, although some sensitivity remains that may affect the measure as it is due to be implemented within a heritage site. The pathway for rollout of Future Ticketing Technology has yet to be finalised but it is envisaged this will be evenly spread across Kent Thameside over the duration of the scheme, meaning around a sixth of the roll out will occur in 2015/16.

A simple options appraisal has been undertaken and design/delivery risks are limited. There are a few gaps in the scheme appraisal elements. However, these must be seen in the context that this 'small' scheme which should only require a light touch appraisal. This is generally recognised as being based on:

- A narrative argument supported where possible with existing information
- The strategic fit of the scheme, which is already well established in this case in relation to supporting housing and employment growth in the area
- Complementary support for larger schemes, which in this case includes many of the other capital schemes proposed for Kent Thameside as well as the LSTF revenue scheme
- Design issues whereby the designs of complementary schemes must take into account the requirements of each other to ensure their development is aligned, conflicts are avoided and there is maximum scope for synergy between the schemes.

2.4 The Transport Business Case

The UK Treasury 'Green Book' sets out a process for presenting the business case for investment schemes involving public funds. This approach involves three stages:

Strategic Outline Case (SOC)

This is the scoping stage of the investment process. The purpose of the SOC is to confirm the strategic context of the investment; to make a robust case for change; and to provide stakeholders and customers with an indication of the proposed way forward, together with indicative costs.

Outline Business Case (OBC)

This is the detailed planning phase of the investment, revisiting the OBC in more detail and to identify a preferred option which demonstrably optimises value for money. It also sets out the likely approach to funding; demonstrates its affordability; and details the supporting procurement strategy, together with management arrangements for the successful rollout of the scheme.

Full Business Case (FBC)

This takes place within the procurement phase of the project, though before a formal decision to proceed has been made and prior to the formal signing of contracts and the procurement of goods and services. The purpose of the FBC is to revisit the OBC and record the findings of the subsequent procurement process. It also sets out the recommendation for an affordable solution which continues to optimise VFM, and includes detailed arrangements for the successful delivery of goods and implementation of services from the recommended supplier.

2.4.1 5-Case Model

The Transport Business Case process is designed to ensure that investments are directed at the right schemes and that these are managed and delivered in the best way. This ensures that transport investment addresses important issues in an effective way, delivering value for money.

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

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

This document uses this 5-case model in an appropriate and proportionate way to demonstrate the merit of investing in the proposed scheme in 2015/16.

2.5 Context of the Transport Business Case

Currently promoters of all schemes involving an investment of public funds over a threshold set locally (understood to be £8m in the South East) for 'major schemes' are required to prepare and submit a Transport Business Case. Previously a Business Case would be submitted to the Department for Transport (DfT).

Recent Government policy changes have involved the devolution of decision-making for smaller major schemes to Local Enterprise Partnerships (LEPs). These bodies are designed to direct investment for an area based on economic priorities set through a partnership which is private-sector led. Kent County Council is in the South East LEP (SELEP) area.

The devolved funding arrangements were put in place in July 2014 through the Local Growth Deal announcements, including devolution of funds to the SELEP.

This Transport Business Case, which will be submitted to the SELEP, effectively forms a bid to request confirmation of the already allocated LGF funding for the scheme.

2.6 Scheme Description

The aim for Kent Thameside: Integrated Door-to-Door Journeys is to deliver a fully integrated sustainable transport system in Dartford and Gravesham, providing access to employment and services, reducing the need and desire to travel by the private car and thereby reducing congestion, especially at peak times. The scheme will deliver substantial enhancements to pedestrian, cycle and public transport facilities and infrastructure, to make these modes more attractive when compared to the private car.

The overall measures that make up the scheme and the specific initiatives proposed for each in 2015/16 are listed in Table 1 below. Further detail on each initiative is provided in section 2.7 below.

Scheme Measure	2015/16 Initiative
Fastrack Vehicle Upgrades and Infrastructure Improvements	21 New vehicles for Fastrack and 1 for 474/5. Fastrack Infrastructure Improved
Station Access Improvements and Town Centre Links	High quality, manned, cycle hub for Gravesend Station. Cycle path to Cyclopark.

Scheme Measure	2015/16 Initiative
Cycle Parking at Stations and Town Centres	Dartford Station Cycle Parking
Bus/Cycle/Ferry interchange	Gravesend to Tilbury Ferry access improvements and cycle path
Way Finding Information	Dartford Town Centre
Local Cycle Path Improvements	Bob Dunn Way
Cycle Infrastructure Improvements	Ebbsfleet International Station
Future Ticketing Technology	Roll out of Maidstone pilot to one sixth of the remainder of Kent Thameside
Bus Stop Infrastructure Improvements	Bus stop upgrades for 306/308 & Fastrack service & 2 new rural bus stops.

Figure 1 – Fastrack Services

2.7 Existing Situation and Proposed Improvements

Fastrack Vehicle Upgrade and Infrastructure Improvements

Fastrack provides a high quality, fast, reliable and efficient BRT service across Kent Thameside and is fast becoming the transport mode of choice for local journeys from new and existing developments around Dartford, Bluewater, Ebbsfleet and Gravesend. It also links with the main Southeastern rail network at Dartford, Greenhithe (for Bluewater) and Gravesend as well as Ebbsfleet International. As an integral part of the regeneration of the area it provides essential access to businesses & employment opportunities, education, healthcare and shopping throughout the area.

Since its introduction in 2006/7 Fastrack has been a 'benchmark' for Bus Rapid Transport (BRT) in the United Kingdom and beyond. Its success must be seen in the context of the development of the Kent Thameside area where, in common with many other areas of the UK, older industries such as quarrying, power generation and manufacturing are moving elsewhere and being replaced by demand for distribution centres and housing. In Kent this is especially driven by the area's proximity to London and to the National and International transport infrastructure. However, many of the roads in the area use narrow chalk spines left from quarrying, which, together with the capacity constraints of key junctions and links, leave little room to expand road capacity.

In order to enable development of the area, it was clear that public transport must play a significant role and the Fastrack concept was borne out of this. High-quality infrastructure was funded through Planning conditions, supplemented by the developer of The Bridge (Prologis) being mandated to take a direct role in supporting the development and operation of Fastrack in that area. This resulted in two Fastrack services (A and B) being established, linking Dartford and Gravesend through Bluewater and Ebbsfleet. Fastrack B (Dartford to Gravesend via Darent Hospital, Bluewater Geenhithe rail station, and Ebbsfleet International) commenced in March 2006, followed by Fastrack A (Dartford - Joyce Green - The Bridge - Crossways - Greenhithe – Bluewater) in June 2007.

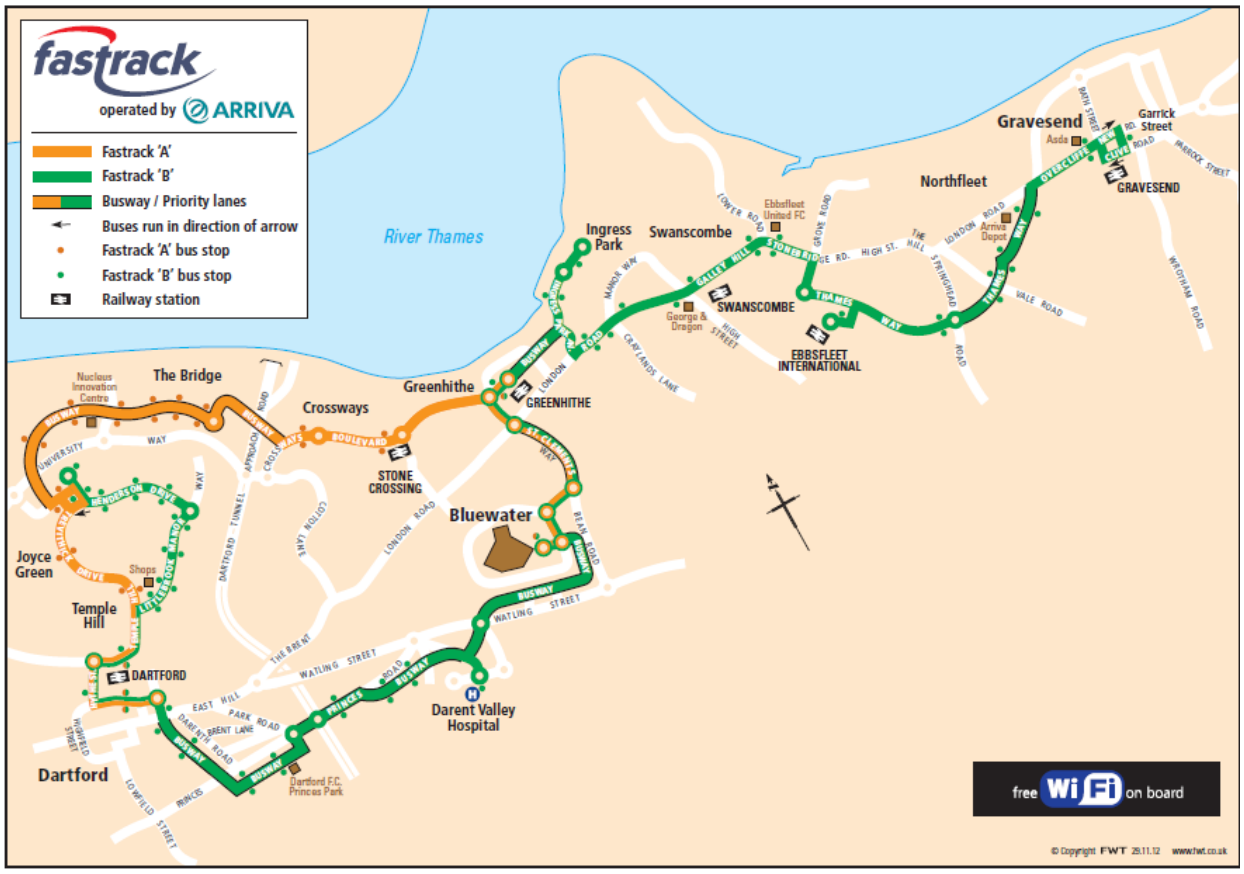

Figure 2 – Fastrack Services

Both services are operated by Arriva and both have seen significant growth in patronage since their inception. However, the current contracts are in the process of being renewed and Fastrack vehicles are at the end of their 'premium' life and need to be replaced. There are also major development plans proposed for the area served by Fastrack, including the proposed Paramount Studios theme park, as well as planned housing developments in Eastern Quarry and Ebbsfleet.

Following a review of Fastrack in 2013 it has been agreed that a quality bus partnership for the area will be established shortly, whist the current and future contracts and service specifications for Fastrack services include the specific quality measures and minimum standards these are required to meet. As part of the contract renewal process Arriva have agreed to purchase 21 new low floor, single deck, buses for the service. Currently Volvo Wrightbus vehicles with Wright Eclipse bodies are used. However, Arriva will upgrade these to 41 seat (plus standing) Wrights Streetlite 11.5m Micro Hybrids, built to Arriva's highest quality (Sapphire) specification. The vehicles will all be dedicated to Fastrack services and based on typical usage can be expected to support operations for, at least, a further 7 years.

Built to Euro 5 standard the new vehicles will also offer significant environmental benefits over the current Euro 3 vehicles, as follows:

	Euro 3	Euro 5	Savings (all vehicles)
CO2 g/kwh	2.1	1.5	12.6
NOx g/kwh	5.0	2.0	63.0
Particulates g/kwh	0.10	0.02	1.68

Arriva will own and maintain all 21 vehicles. They will also continue, as now, to provide monitoring information to KCC on the take up of Fastrack services and undertake regular on-board passenger surveys.

In addition to the Fastrack vehicles themselves, the measure will ensure all are liveried in modernised Fastrack branding and fitted with on board Wi-Fi. It will also provide for the design of a Bus Hub at Garrick St, Gravesend and the purchase of a Diesel Hybrid bus to be piloted on the 474/475 Arriva service which operates from Greenhithe Station, via Bluewater to Longfield and return. This is an hourly service operating Monday to Friday from 08:00 to 16:25. Purchasing this vehicle will reduce the revenue costs for the service tender from £84,544 to £70,444, a saving of £13,800.

There is also a need to address an issue with signalling throughout the Fastrack service. At present there are compatibility issues between the transponders on buses and readers at signals. This leads to buses not always being recognised and therefore signals not being adjusted to optimise the bus flow. As a result there are impacts on the timetabling and reliability of Fastrack services making them less attractive than they could be. To address this it is intended to undertake an audit of all bus to signal reading and other communications technology and subsequently to upgrade or replace this technology to ensure compatibility across the system.

Arriva will contribute £3,150k to the measure to match the £1,149k from LGF. The former will be focussed primarily on the purchase of Fastrack buses whilst the latter will focus on the technology upgrades for the Fastrack routes and also includes £140.5k to ensure the vehicle provided for the 474/5 is a Diesel Hybrid.

Station Access improvements and town centre links – Gravesend Cycle Hub

Gravesend railway station serves the town of Gravesend in Thameside with train services operated by Southeastern. High speed HS1 services to London St Pancras International were introduced in December 2009 and have proved highly successful. The station is now seen as a major interchange for metro and high speed services. There is significant customer patronage for high speed services to St Pancras from Gravesend, due (in part) to the sizeable London-bound commuter population in and around Gravesham.

Figure 3 – Gravesend Station Platform, Lifts and Footbridge

The station is at the heart of the £75 million Gravesend Transport Quarter development. In 2013 a £19 million overhaul of the station, platforms and lines involved the installation of a new lift/stair bridge complex towards the western end of the station, the removal of the early 20th century footbridge that spanned the lines close to the ticket halls and a major remodelling of the lines and platforms. This changed the four line, two platform layout into a three line, three platform layout enabling the station to accommodate 12 coach trains as opposed to the previous 10 coach limit. Other works include enlarged ticket halls, new baby changing facilities, revamp and reopening of the Gents WC on Platform 2, new indicator screens and additional space for retail opportunities.

Typically services currently include:

- 2tph (trains per hour) to London St Pancras via Ebbsfleet International
- 2tph to London Charing Cross via Dartford and Sidcup
- 2tph to London Charing Cross via Dartford, Woolwich Arsenal and Lewisham
- 2tph to Gillingham (Kent)
- 2tph to Faversham
- 4tpd to St Pancras and Maidstone West via Strood

Gravesend has a densely populated town centre and many housing developments within cycling distance of the station. The proposed LSTF capital measures will build on the recent improvements to the Station by establishing a Gravesend Station Cycle Hub. The key objective of the project is to increase the volume of passengers travelling to Gravesend station by bicycle, having the confidence to leave their bicycles in the new storage available and being positive about the station facilities. In addition the measure aims to encourage and facilitate an increase in the popularity of sustainable travel, to support the local charity Cyclopark Trust by creating a link between the centre and Gravesend Station and to help improve the general health and fitness of people in the community.

There are currently 90 cycle parking spaces at Gravesend Station. The Hub will significantly enhance the cycle facilities at the station by installing secure storage for at least 180 cycles, including between 40 and 60 covered secure cycle lockers and a further 20 covered cycle stands. In addition there will be CCTV coverage, charging points and storage provided for electric bikes as well as a bespoke building provided from which cycle maintenance, safety checks; free cycle training and general advice will be offered by expert staff.

Southeastern is in the process of developing a cycle strategy. It is also intended to improve links between the station and the Gravesend Ferry interchange (see below) as well as the nearby Cyclopark with routes for both currently being designed in conjunction with the Cyclopark Trust, Sustrans and Gravesham Borough Council. The measure will also link to the proposed Rathmore Road scheme, a realignment of the road intended to remove cars from around the station and to improve the surrounding environment for cycling. A visualisation of the proposed cycle hub is provided in figure 4 below.

Figure 4 – Gravesend Station Cycle Hub

In order to support the measure Southeastern have submitted a bid to the 2015/16 DfT cycle/rail capital fund for £684,160 of the £775,000 required to support the overall measure. A decision has not yet been made by DfT on the bid therefore it is currently proposed that the measure will be funded entirely by LGF. However, if the bid is successful it will provide match funds leaving LGF to find only £90,840 of funding support. If that is the case the £684,160 of LGF released will be reallocated, potentially to support the early delivery of the Bob Dunn Way cycle path proposed; i.e. in late 2015/16 rather than the following year.

Cycle parking at Stations and Town Centres - Dartford Station

Dartford Station serves the town of Dartford in Kent Thameside. All train services from the station are operated by Southeastern, which also manages the station. Dartford is a major interchange station in the North Kent region of the Southeastern network. The station is the nodal point for three lines from London:

- The North Kent Line, via Woolwich Arsenal
- The Bexleyheath Line,
- The Dartford Loop Line via Sidcup.

There are currently 50 cycle storage spaces provided in a cycle rack located at the front of the station. However, the rack is often fully utilised and a need for a substantial number of additional, secure, cycle spaces has been identified. To facilitate this it is proposed to remove the existing cycle storage and replace it with (2x) two tier covered cycle racks, of the type illustrated below, that will accommodate up to 80 cycles. In addition 30 cycle pods will be provided, each of which can accommodate 2 cycles. Together this will provide a total of 140 cycle parking spaces for the station. CCTV will also be installed to cover both the cycle racks and the cycle pods in order to increase the desirability of using them.

Figure 5 – Two Tier Cycle Racks

The measure will be supported by £59k from LGF and in total will provide an additional 90 cycle parking spaces for the station. No match funds are available for the measure.

Bus/Cycle/Ferry interchange – Gravesend to Tilbury Ferry

The Gravesend–Tilbury Ferry is a passenger ferry across the River Thames east of London. It is the last public crossing point before the Thames reaches the sea and offers an alternative to the Dartford crossing for foot, cycle and motorcycle users. The ferry is currently operated by the Lower Thames and Medway Passenger Boat Company under contract to the Borough Council and runs every 30 minutes between 6 am and 7 pm from Monday to Saturday. The ferry operation is subsidised by both Thurrock Council and Kent County Council. Adult passengers are charged a return fare of £5 at peak times, £3 off-peak and cycles and motorcycles are carried free of charge, subject to capacity.

In Gravesend, the ferry currently operates from two pontoons dependent on the tide and weather. The Town Pier pontoon is owned by Gravesham Borough Council while that in West Street is currently owned by the ferry operator. As this leads to uncertainty about which pontoon passengers should go to and neither can be seen from the access route, which consists of a corridor between retail premises, it is proposed that signage should be erected near the entrance to the access route to direct prospective passengers to the appropriate pontoon. The sign will use a flip display that can be altered by the ferry operator to indicate which pontoon is in use and also to display any other relevant information to passengers.

In addition a number of other measures to improve cycle and pedestrian access to the ferry are proposed. These include provision of a cycle route from Gravesend Station cycle hub to the ferry, automating the entry door to the corridor leading to the pontoons to increase security and aid the disabled/those with push chairs, improving lighting on the walk way between the 2 pontoons and general improvement to cycle and pedestrian access in the vicinity of the ferry terminal and pontoons.

An audit is currently being undertaken by Sustrans to finalise the route design for the cycle route from Gravesend Station. However, it is envisaged that it will be a bespoke on road route and therefore delivered primarily by KCC, although there is some uncertainty about the use of land near to the ferry terminal. As the terminal is located within a heritage area consultation is also currently taking place with the Conservation Officer both about the use of land and the location and type of signage to be used.

Detailed designs and costings are currently being undertaken for all the above. It is expected that the package of improvements will require £50,000 of LGF funds. No match funds are available for the measure.

Way finding information - Dartford Town Centre

KCC recently tendered a pilot scheme to improve pedestrian signage in Folkestone town centre based on Legible London. The pilot scheme is due to complete at the end of March 2015 and the learning from this will then be rolled out throughout Kent over the next 6 years, in Kent Thameside starting in Dartford Town Centre.

Despite walking often offering the quickest route to get around the town centre or to get to the desired end destination from a bus or rail terminal, London identified that many people are put off using this mode by inconsistent signage and confusion about distances between areas. Legible London was trialled in 2007 and introduced in 2009 to tackle these issues and help both residents and visitors walk to their destination quickly and easily. It was also integrated with other transport modes so when people are leaving a transport terminal they can quickly identify the route to their destination.

Legible London is now working successfully across London, with more than 1,300 signs erected, whist research in 2013 showed that signs were used by significant numbers of pedestrians, with usage ranging from 1 an hour to over 300 an hour and that nine out of ten people were keen to see more Legible London signs introduced. A typical London sign is illustrated to the left.

The proposal for Dartford will be finalised once the pilot in Folkestone is complete and following a signage audit across the town centre. Cycling and pedestrian groups have already been engaged to participate in the audit, as have disability groups, including a group representing those with sight impairments to ensure signs can be used by all. These groups will form the basis for a user group that will also involve tourist and local business facilities. It is envisaged that signs will inform both pedestrians and cyclist to encourage active travel that can replace car use. Alongside the introduction of new signs the measure will also include the removal of redundant or other signage that might confuse users.

A total of £120,000 will be provided by LGF to support the measure. No match funds are available for the measure.

Local Cycle Path improvements – Bob Dunn Way

Bob Dunn Way (A2026) is a major road in Dartford providing links to the M25 and to businesses in Crossways Business Park, including Asda, Thames Water and the sewage works. It is proposed that an off road cycle path should be introduced, through marshland, between the Thames Road / Burnham Road junction to the west and the Marsh Street roundabout to the east. The path will follow a commuting desire line for cyclists and will be approximately 1.3 miles (2.1km) in length. It will link with recent and planned development in the area to encourage increased use by cyclists to access these facilities.

A recent feasibility study by KCC has identified that cycle demand along this route is likely to increase in the near future. The study outlines 4 options, although the preferred option is still to be decided with the project having a number of complexities, including the need for ecological studies to be undertaken. As a result it is expected that only the design would be able to be completed in 15/16 and delivery of the path would be in a later financial year.

The design work will be supported by a contribution of £50k from LGF. No match funds are available for this measure.

Cycle Infrastructure Improvements - Ebbsfleet International Station

Ebbsfleet International is unique in the United Kingdom in being the sole station in the entire country served only by high-speed services. Ebbsfleet International railway station, opened in 2007, is located in Ebbsfleet Valley, in the Borough of Dartford, Kent. It is near Dartford and the Bluewater shopping centre to the west and Gravesend to the east. The station is part of the Thames Gateway urban regeneration project.

The station is owned by HS1 Ltd, which acquired a 30-year concession to own and operate the High Speed 1 railway and the stations: St Pancras International, Stratford International, Ebbsfleet International and Ashford International. On High Speed 1 there are avoiding lines in each direction and four platforms, two serving international Eurostar services and two the Southeastern High-speed services. Southeastern services travelling between London and the North Kent Line use a junction to the north of the station and are served by another pair of platforms that curve away to the east.

There are up to five Eurostar services to Paris on Mondays to Fridays, up to four on Saturdays and three on Sundays. Most run non-stop from Ebbsfleet to Paris, though some also stop at Ashford en route. There are four trains to Brussels on Mondays to Fridays, three on Saturdays and two on Sundays. All Brussels services call at Lille and some also call at Calais. There is also a return service on most days to Marne-la-Vallée for the Disneyland Paris resort, which also calls at Ashford and Lille (in the France-bound direction only).

In 2009 Southeastern commenced provision of a regular service between St Pancras International and Ebbsfleet International, extending to Ashford International during peak hours and also on occasions to Ramsgate via Canterbury West or Dover.

A total of 50 cycle parking spaces are currently provided at the station using covered cycle racks located next to the drop off area and there are good existing cycle links to the station. However, demand is believed to be suppressed by the cycle routes not linking well, through the station car park, in to the cycle parking area and it is therefore proposed to move the cycle parking to better fit the route. There is also a need to define the most appropriate route through the station car park by marking and signing this and to increase the provision of cycle parking to accommodate the additional demand expected.

An outline design has been completed by a contractor appointed by HS1. The measure will provide 20 additional covered cycle parking spaces in addition to the dedicated cycle route. For the purpose, funds totalling £25,000 will be provided by LGF, and match funds of £5.5k will be provided by Network Rail and HS1.

Future Ticketing Technology – Roll out to 1/6 of Kent Thameside

The Ticketing measure will ensure that sustainable door-to-door journeys can be completed easily and conveniently through the provision of intelligent ticketing solutions including Smart Ticketing and EMV (contactless bank cards). It will build on a Smart Ticketing pilot e-purse scheme provided by KCC and Arriva already underway to provide a Smart Card for use across bus services provided by all operators in Kent. It is intended to build on this, over time, to deliver a countywide e-purse, multi-operator season tickets and development of EMV. Furthermore, it will continue development towards the delivery of a multi-modal e-purse, providing access to buses, trains and other transport services (bike hire, car hire etc.).

The aim for 2015/16 is to achieve roll out of the pilot across at least one sixth of the whole of Kent Thameside. Capital support is required for hardware, including ticket machines for buses, top-up machines at interchange points, smart cards and IT hardware at booking offices. LGF will contribute funds of £20k for this in 2015/16. No match funds are available for the measure.

Bus stop infrastructure improvements - 306/308 and Fastrack service

The 306/308 Sevenoaks to Bluewater, bus service in Gravesham and Dartford operates on at least an hourly basis Monday to Saturday between 05:45 and 24:00. There is also a bi-hourly service provided on Sundays. The service supports not only sustainable access to shopping and other facilities at Bluewater but also provides access to employment opportunities both at Bluewater and elsewhere along its route. The proposed measure will enable improvements to be made to all 25 stops used by the 306/08; including 2 new shelters in the more rural areas serviced and raised kerbs, as necessary.

In addition the existing Fastrack routes A and B will be surveyed to ensure that all stops for these meet the high quality standard required for the network. This includes in particular a requirement to ensure bus stop signs are provided on all shelters.

Figure 6 – Fastrack Bus Stop

A total of £90k from LGF in 2015/16 will be used to support the improvements to bus stops for the 306/308 and £50k to support improvements to Fastrack infrastructure. No match funds are available for the measure.

Project Management

The project management measure will provide a source of capital funds to support the management of the scheme as a whole. During 2015/16 this will consist of a £40,000 contribution from LGF.

3 Strategic Case

3.1 Purpose of the Proposed Investment

Our aim is to achieve a step change in smarter travel in Kent Thameside. To this end, the scheme is made up of a number of integrated smarter transport capital measures which together with the LSTF revenue measures will enhance the modal alternatives to travelling by car available in the Thameside area, especially at peak times. In particular the capital measures will provide new or improve existing sustainable transport infrastructure in order to increase opportunities for use of public transport, cycling and walking for the whole or part of the transport journey. By ensuring these measures are integrated with each other, the existing network and co-ordinated with the proposed revenue (soft) measures they will facilitate seamless door to door travel by sustainable modes reducing congestion, improving air quality, impacting on health and improving quality of life as well as accessibility for Thameside residents. In turn, this will help to lock in the capacity benefits of other transport schemes targeted at improving travel time and reducing congestion in Thameside and overall will support the economic growth, in terms of the jobs and housing, sought for the area.

Figure 9 sets out these elements in a Causal Chain.

3.2 Strategic Fit – National Context

There are a number of recent national policy and guidance documents available all of which are influential in terms of the latest thinking on smarter choices and which the package of measures proposed aims to support. They include:

Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen - This White Paper (DfT, 2011) puts an emphasis on enabling choice and encouraging people to make sustainable transport choices for shorter journeys as this is where the biggest opportunity exists for people to make a change. It highlights the importance of providing targeted information, marketing and travel plans to influence peoples' travel choices. However, it also recognises that while 'nudges' are vital to ensure modal shift, equally critical is that these are complemented by sufficient and appropriate transport infrastructure.

Smarter Choices - Changing the way we travel (DfT, 2005) draws on earlier studies of the impact of soft measures, new evidence from the UK and abroad, case study interviews relating to 24 specific initiatives, and the experience of commercial, public and voluntary stakeholders involved in organising such schemes. Each of the measures is analysed separately, followed by an assessment of their combined potential impact. This suggests a benefit cost ratio (BCR) of at least 10 can be expected from an integrated package of Smarter Choice measures. One of the key considerations of the paper is the significant number of single occupancy vehicle trip savings that can be made through the adoption of smarter choices measures.

The Active Travel Strategy (DoH and DfT, 2010) highlights plans to put walking and cycling at the heart of local transport and public health strategies over the next decade. The guiding principles for the strategy are that walking and cycling should be everyday ways of getting around, not just for their own sake, but also because of what they can do to improve public health, increase participation in physical activity, tackle congestion, reduce carbon emissions and improve the local environment.

The Door to Door Strategy (DfT 2013) sets out the government's vision for integrated sustainable journeys. It focuses on four key areas to help encourage people choose greener modes of transport. These are:

- Accurate, accessible and reliable information about different transport options
- Convenient and affordable tickets for an entire journey
- Regular and straightforward connections at all stages of the journey and between different modes of transport
- Safe and comfortable transport facilities.

Walking and Cycling: local measures to promote walking and cycling as forms of travel or recreation (NICE 2012), sets out how people can be encouraged to increase the amount they walk or cycle for travel or recreation purposes. This can assist with numerous public health objectives as well as helping to reduce traffic congestion and air pollution. The guidance is for commissioners, managers and practitioners involved in physical activity promotion or who work in the environment, parks and leisure or transport planning sectors.

3.3 Strategic Fit – Regional

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 roads. This pace of change is set to accelerate further over the next 20 years with a projected 8 per cent population increase, and Kent Thameside is one of the UK's four identified Growth Areas.

Local growth alone is predicted to result in 250,000 extra journeys on Kent's roads by 2026. Coupled with a forecast increase in international traffic this leads to tackling congestion being regarded as one of the main priorities for Kent. KCC's framework for regeneration "Unlocking Kent's Potential" defines what Kent should look like in 20 years' time and includes as 1 of its 5 priorities "delivering growth without transport gridlock" - by designing communities that will encourage walking, cycling, and healthy leisure activities. Based on this "Growth without gridlock: A transport delivery plan for Kent" establishes transport priorities for the next 20 to 30 years to support Kent's Environment Strategy target of reducing greenhouse gas emissions by 20% by 2020 and 80% by 2050.

Growth without Gridlock recognises that road transport is responsible for around 30% of Kent's greenhouse gas emissions and that the way forward is to provide low carbon transport options allied with better planning to reduce the need to travel, which in turn will support economic growth, housing growth and tackle climate change. 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 transport network which will create opportunities for real transport choice as well as enabling economic growth and regeneration". Some of the key transport challenges identified by the Plan are:

- Transferring existing and new car trips onto public transport, walking and cycling, especially for short journeys
- Tackling congestion hotspots
- Integrating rail services and improving connectivity between stations

- Providing sufficient transport infrastructure to mitigate the impact of the planned development including walking and cycling routes

Kent's third "Local Transport Plan (LTP3), 2011-16" sets out KCC's Strategy and Implementation Plans for local transport investment in the short term. It 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, make Kent a safer and healthier county, improve access to jobs and services, especially in disadvantaged areas, and cut carbon emissions. Its planned measures are prioritised under five themes: Growth Without Gridlock, A Safer and Healthier County, Supporting Independence, Tackling a Changing Climate and Enjoying Life in Kent. Under each theme the Plan prioritises a range of sustainable transport initiatives, by area and by mode which have also subsequently been aligned with the local area development and regeneration plans produced or in the process of being produced by Gravesham Borough Council and Dartford Borough Council.

3.4 Strategic Fit – Kent Thameside

Kent Thameside is one of the UK's four growth areas, but suffers from significant congestion in the town centres of Gravesend and Dartford and on the A2 corridor. Reducing the reliance on the private car, especially for journeys between or around the town centres at peak times, can have a substantial impact on the congestion in the town centres, thereby facilitating economic growth.

The key developments planned in this area are Ebbsfleet Valley (500,000 sqm of mixed used development), Ebbsfleet Garden City (15,000 residential units in initial phase), Dartford Northern Gateway (mixed use development with 2,000 residential units and 1,200 new jobs), Eastern Quarry (6,000 residential units), Dartford Town centre (Town centre rejuvenation with 1,000 residential units and 300 new jobs), Crossways Business Park in Dartford (3 million sq. ft of offices, warehousing and industrial units), Northfleet Embankment (mixed used development with 500 residential units and 1500 new jobs), Bluewater shopping centre extension (Redevelopment of West village to accommodate 30,500 sqm of retail space), Paramount Park, Swanscombe Peninsula (leisure resort with potential of 27,000 jobs) and Rejuvenation of Gravesend Town centre (Gravesend Heritage Quarter which includes 800 new jobs and 330 residential units).

An additional 17,000 homes are planned in Dartford up to 2026, which will increase the borough's population by over 40%. New communities will be created in the Ebbsfleet to Stone corridor, on the Thames waterfront and in Dartford town centre. One of the largest of these will be at Eastern Quarry, where more than 6,000 homes will be built. If this growth is to be delivered without creating transport gridlock, a high quality public transport network linking the new development sites with local town centres, employment areas, transport interchanges and key services is essential. Dartford's growth strategy is therefore predicated on the further development of the Fastrack Bus Rapid Transit (BRT) network, including a direct route through the Eastern Quarry development to Ebbsfleet International Station.

The delivery of approximately 9,000 new homes is expected in Gravesham up to 2026. Key development sites include Gravesend town centre and Canal Basin and Northfleet Embankment. Ebbsfleet International Station is located in the west of the borough and will form the focus of a major mixed use development. This will include a business district which will create up to 20,000 new jobs. Like Dartford, Gravesham's existing road network is already operating at close to maximum capacity during peak periods. Continuing modal shift to rail and bus services is therefore crucial if future levels of housing and economic growth are to be accommodated.

The Fastrack network has delivered a high quality BRT service to Kent Thameside and it is now necessary to invest in the wider transport network to fully maximise the benefits of this infrastructure. Delivering a fully integrated network in the region, linking Fastrack with walking and cycling routes, as well as high speed and domestic rail services, can therefore deliver a significant reduction in the proportion of journeys made by private cars. There are relatively high levels of deprivation in Kent Thameside as indicated by The Indices of Deprivation 2010, and increasing access to services, employment and education for those within the area who do not have access to a car is essential to allow economic growth.

The SE LEP's Strategic Economic Plan refers to the need to support sustainable transport projects throughout the document. In addition to the delivery of the direct benefits attributable to the scheme, the delivery of the LSTF capital measures will support the other SLGF capital schemes in the region, locking in their benefits and ensuring that additional highway capacity created is not immediately filled.

3.5 Strategic Fit – Integration

The scheme will address the following congestion hot spots in Thameside:

Dartford

- Bluewater
- M25/A282 Dartford Crossing
- the A2 corridor including the Bean Interchange
- Dartford town centre

Gravesham

- A2 corridor including the Bean Interchange;
- B262 Hall Road/Springhead Road
- Gravesend town centre

CONGESTION HOTSPOTS	Fastrack Vehicle Upgrades & Infrastructure		Station Access improvements and town centre links		Cycle Parking at Stations		Ferry interchage		Way finding information		Local Cycle Path improvements		Cycle Infrastructure Scheme		Future Ticketing Technology		Bus infrastructure Improvements	
Bluewater in Dartford																		
M25/A282 Dartford Crossing																		
A2 Corridor incl. Bean I/C																		
Dartford Town Centre																		
B262 Hall Road/ Springhead Road																		
Gravesend Town Centre																		

Figure 7 – Links to Congestion Hot Spots

Figure 7, above, highlights which individual scheme measures in 2015/16 will impact on which congestion hot spots in particular:

The proposed links between the scheme LSTF capital measures and the proposed LSTF revenue measures are illustrated in figure 8 below:

LSTF Revenue Measures – Key		LSTF Revenue Measures - Key	
Website and App		Marketing and Branding	
Business Support		Schools Support	
Interchange Audits		Smart Ticketing	
Discount Schemes		Car Drivers	

Thameside LSTF Capital Schemes	Links to Capital Schemes
Fastrack Vehicle Upgrades & Infrastructure	
Station Access improvements & town centre links	
Cycle Parking at Stations and town centres	
Bus/Cycle/Ferry interchange	
Way finding information	
Local Cycle Path improvements	
Cycle Infrastructure	
Future Ticketing Technology	
Bus Infrastructure Improvements	

Figure 8 – Links to LSTF Revenue Measures

The scheme will also compliment the following proposed developments in Kent Thameside:

- Housing & Business park development
- Development along the Ebbsfleet to Stone corridor
- Thames Waterfront
- Eastern Quarry
- Gravesend Town Centre and Canal Basin development
- Dartford Town Centre development
- Northfleet embankment
- Business District around Ebbsfleet station
- Rights of Way development

3.6 Strategic Fit – Individual Measures

Bus Service Improvements

Fastrack Vehicle Upgrades

Fastrack BRT scheme operates an extensive network of bus priority measures in Dartford and Gravesham in order to provide an attractive and sustainable alternative to car travel. It recorded a patronage of 1.75 million passenger journeys in the first year of service. To date the introduction of the two routes of Fastrack has led to a 19% modal shift from car to bus travel while 26% of passengers had a car available for the journey but chose to travel by Fastrack. Further phases of Fastrack are proposed, which will continue to provide cost effective and sustainable links between new developments, the town centres of Dartford and Gravesend, employment sites and transport interchanges.

LTP-3 predicts significant growth in public transport patronage by the Kent Thameside multi-modal transport model, with rail and bus use expected to account for some 27% of journeys to work by 2025, compared to 18% in 2008. The expansion and upgrade of the Fastrack network is considered to be one of the main delivery mechanisms for this modal shift. Targeted bus priority measures will also be introduced to improve journey time reliability for Fastrack passengers and further enhance the attractiveness of the service over the private car.

Bus Infrastructure

Approximately 80% of bus services in Kent are operated on a wholly commercial basis by private bus companies; principally Arriva in the West and Stagecoach in the East. KCC currently subsidises the remaining 20% of services and this has been formalised through the signing of voluntary Quality Bus Partnership (QBP) agreements in a number of areas. The QBPs include commitments by the principal bus operator, the County Council and the relevant district council to work collectively to improve all aspects of bus travel and to increase passenger numbers. The success of Kent's bus partnership arrangements is reflected in the significant patronage growth recorded by the County's bus operators over the past 10 years, which has bucked the national trend outside London. Total passenger journeys increased from 38.3 million in 2000/01 to 58.8 million in 2009/10, representing growth of 65%. The County Council plans to work with bus operators and district councils, through Quality Bus Partnerships, to introduce more low emission vehicles and invest in new and improved bus stop infrastructure, including raised kerbs to provide easy access for parents with buggies and the disabled, bus shelters and clearways, improved integration between bus and rail services and new ticketing options.

Future Ticketing

KCC has invested heavily in Smart Ticketing since 2008 and now plans to extend the benefits of this investment. It is proposed to develop a new Travel Smartcard for use on bus and rail services across Kent and Medway. The Vision is to provide a convenient and cost-effective way to access transport services in line with the Government's Door-to-Door Strategy, making it easy to travel on different routes, with multiple operators, across both bus and rail.

The Smartcard will comprise Pay-As-You-Go (credit stored on card) and Period Pass tickets (unlimited day, weekly and 4 weekly travel). The scheme will be developed in the longer term to offer the following benefits:

- Multi-operator day, weekly and monthly tickets.
- Allow automatic fare capping - never pay more than the equivalent Period Pass ticket, regardless of distance or number of trips.
- Allow use on the rail network, which will deliver bus and rail integration with seamless journeys and no need for multiple tickets and payments.
- Introduce payment by contactless bank card (EMV) and Mobile Phone (NFC) to attract new customers to bus travel.

- Move away from cash fares on bus to speed up boarding times.
- Include cycle hire (such as Brompton Docks) and access to car club schemes (such as Zipcar.)

Cycling Improvements

Kent has approximately 415 miles (670 km) of cycle routes, of which 96 miles (155 km) are off road. The percentage of Kent Thameside residents who use cycle as a means of transport are listed in the following table.

Table 1 - Cycle Usage in Kent Thameside

	DfT data for the % of residents who cycle (any length or purpose) Oct 2011- Oct 12			2011 Census Data for the percentage of adults who cycle to work
	Once a month (at least)	Once a week (at least)	Five times a week (at least)	
Dartford	9	6	2	1
Gravesham	10	4	1	1

A survey conducted by Kent County Council of new residential sites in Kent has identified that there is a strong negative correlation between cycling to the station and a lack of destination facilities. Hence, an increase in cycle parking provision will encourage more people to cycle more often. Approximately 60% of the population live within a fifteen minute cycle ride of a railway station, making cycling a viable means of transport.

A 15 minute cycle ride to and from work would meet the Government's recommended daily level of physical activity. Approximately 2% of children currently cycle to school in Kent; however evidence from surveys suggests that some 30% would like to. Cycling is supported as a means of, amongst other things, cutting congestion, improving health, reducing carbon emissions and improving accessibility in key national, county-wide and local policy documents. A White Paper published by DfT in 2011 outlines its support for the development of cycling at the local level. It notes that "a substantial proportion of drivers would be willing to drive less, particularly for shorter trips, if practical alternatives were available" and that "the biggest opportunity for encouraging sustainable travel lie in short, local journeys".

The Vision for Kent (the Community Strategy for the County) produced by The Kent Forum, a partnership of the councils that provide services to the people of Kent also talks about widening the choice of transport available, developing public transport, walking and cycling. The approach to LTP 3 states that KCC is committed to the provision of a comprehensive cycle network for residents and visitors in Kent with priority given to routes which enable people to cycle continuously to schools, work places, shops and leisure opportunities.

Interchange Improvements

Station Access Improvements and Town Centre Links

LTP-3 envisages KCC working closely with partners to deliver physical improvements to aid interchange at rail stations and encourage people to travel to the station by sustainable modes. This will include improvements to bus access and infrastructure, cycle parking, walking and cycling routes and signage. The Council is currently working with Gravesham Borough Council, Southeastern and Network Rail to deliver a new 'Transport Quarter' close to Gravesend station as part of the Town Centre regeneration project. Fastrack is also proposed to provide cost effective and sustainable links between new developments, the town centres of Dartford and Gravesend, employment sites and transport interchanges.

Ferry Interchange

The Gravesend to Tilbury ferry service has a history dating back to the 13th century and today the service operates as a passenger ferry service meeting a number of essential and recreational needs with over 80,000 passenger journeys recorded annually. KCC plans to develop the new town pier at Gravesend as a major interchange point for various transport modes. Towards the end of 2015 KCC aims to market test operators who will provide the ferry service for passengers between Gravesend and Tilbury, providing links for social and employment purposes.

Way finding Information/ Pedestrian Information

Research has shown that one of the biggest barriers to walking is the lack of reliable and targeted information. As part of the Supporting Independence and Enjoying Life in Kent theme of LTP-3, the council proposes to upgrade the street furniture, in order to improve pedestrian movements. This includes new monoliths and finger post signs as well as providing information leaflets for walks and tourist signs.

The County Council will also continue to develop web-based resources to improve the availability of information relating to cycling in Kent. This will include information about cycle routes, tips for safe cycling and the development of an online Cycle Journey Planner. The journey planner delivered by Kent Connected will promote cycle routes to both new and returning cyclists, as well as tourists unfamiliar with cycle routes in the area. Users will be able to choose the quietest, quickest, or most recreational route depending on their journey purpose.

3.7 Case for Change - Rationale for the Scheme

Of the total economic growth expected across Thameside the SELEP, Growth Deal and Strategic Economic Plan identifies that the overall scheme will support 963 jobs and 657 houses. This represents around 3% of all jobs and 3% of all housing resulting from transport investments in Kent Thameside by 2020/21.

3.8 Causal Chain

In order to present the scheme and its objectives in its overall context, a Causal Chain has been prepared.

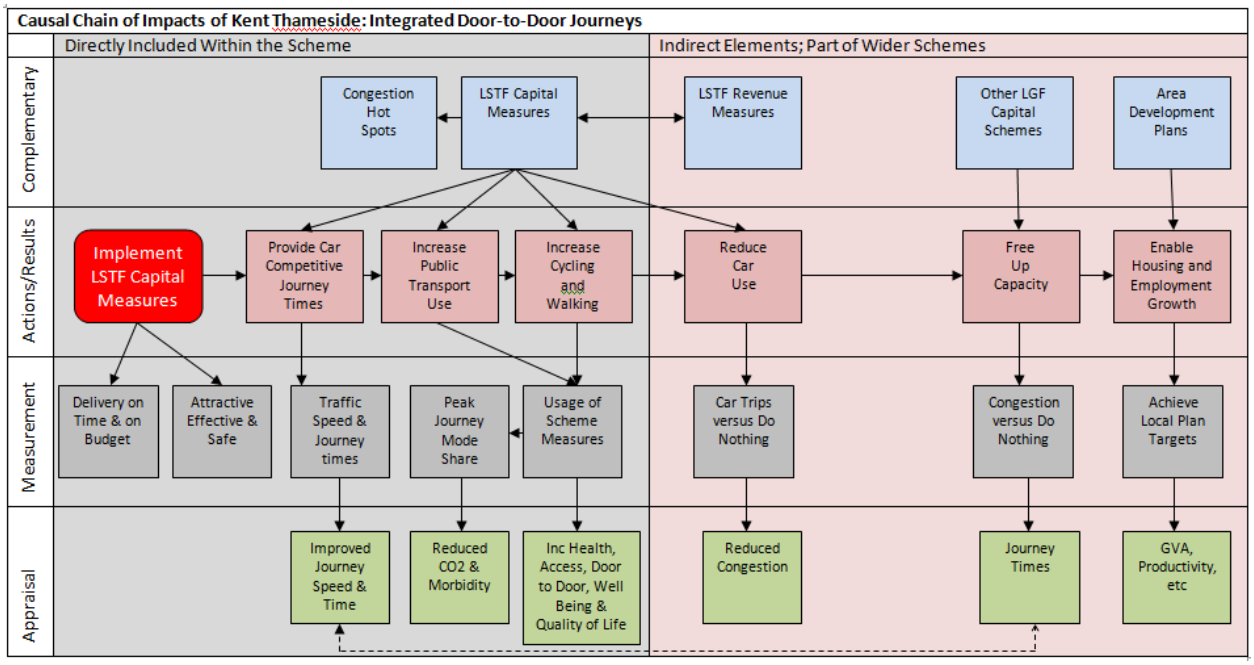

Figure 9 – Scheme Causal Chain

3.9 Summary of Scheme Objectives

The main objective of all scheme measures is to reduce the use of cars in favour of the use of more sustainable modes, especially at peak times and in relation to the local congestion hot spots. As a consequence it is expected that the scheme will also address air quality concerns and improve health and well-being. The expected outcome in relation to all 3 of these objectives is quantified with the impact on congestion measured in terms of reduced vehicle kilometres, the impact on air quality measured in terms of reduced CO2 and the impact on health measured in terms of reduced morbidity. Qualitative information on the impact on health and well-being of encouraging active travel is also provided.

There are also a number of secondary scheme objectives, none of which can be quantified but which are all illustrated qualitatively. These further objectives are:

- To provide seamless travel between modes for the whole journey, from door to door.
- To improve accessibility to jobs, education and training for all Kent Thameside residents, especially those living in areas of deprivation or who are often socially excluded such as older people, disabled people, young people, unemployed people, people on low incomes, people in households with no access to a car, etc.
- To improve the quality of life for Kent Thameside residents

In addition there are some further objectives sought as a result of the scheme complementing the LSTF revenue scheme, other LGF capital schemes and development plans in Thameside. The main objective in this respect is to lock in the benefits of other LGF capital schemes seeking to alleviate congestion at hot spots in the area. There is also the overall objective to support economic growth in terms of the jobs and housing required, the objective to support local development plans and the specific targets set for the LSTF revenue scheme, which would be far more difficult to achieve without the LSTF capital supporting the infrastructure improvements this is intended to promote (and vice versa).

The above objectives are set out in the Causal Chain (see Figure 9) and are summarised in the table below:

Table 1 - Scheme Objectives

Primary Objectives	**1. Reduce Car Usage through the introduction of a number of smarter choice measures** • Reduce car use at congestion hot spots at peak times • Increase journey to work/education by cycle/walk • Increase journey to work/education by public transport (bus & rail) • Increase sustainable transport use for other trips, including health, shopping and leisure • Improve journey time/speed at hot spots at peak times • Reduce morbidity • Reduce CO2
Secondary Objectives (scheme delivery)	**2. Deliver a sustainable scheme** • Limit long-term maintenance liabilities 3. Deliver an attractive, effective and safe scheme • Providing a scheme that is well used • Providing safety and security for all users
Secondary Objectives (direct)	**4. Improve health and well-being through increased active travel** • Increase cycle/walk journeys **5. Improve seamless travel, accessibility and quality of life for Thameside residents** • Increase bus journeys • Increase use of transport interchange facilities
Secondary Objectives (Indirect)	**6. Compliment the LSTF revenue scheme, other LGF capital schemes and development plans** **7. To lock in the capacity benefits of other initiatives** **8. To support the LSTF revenue targets** 9. **To support economic development targets**

Scheme Scope:

- The scheme will deliver all smarter choice capital measures and complement all LSTF revenue measures in Kent Thameside in 2015/16.

- The planning of the scheme is encompassed within the Thames Gateway Key Transport Investments programme, within the SELEP strategy.
- The scheme links into Housing & Business park development, development along the Ebbsfleet to Stone corridor, the Thames Waterfront, Eastern Quarry, Gravesend Town Centre and Canal Basin development, Dartford Town Centre development, Northfleet embankment, Business District around Ebbsfleet station and Rights of Way development in Thameside
- The selection of measures has been undertaken in part to optimise maintainability. However, maintenance is not included in the scheme costs. Maintenance will be undertaken through established processes and budgets of scheme partners.

3.10 Critical Success Factors (CSFs)

The key CSFs for the Kent Thameside: Integrated Door-to-Door Journeys scheme, using the 5-Case Model headings are as follows:

- **CSF1: Strategic Fit (Strategic Case)**
  - Reduced car use and increased active travel;
  - Enables sustainable development (housing; employment) to take place;
  - Locks in benefits of other transport investments in Kent Thameside;
  - Improved public health through active travel;
  - Reduces CO_2 emissions;
- **CSF 2: Value for Money (Economic Case)**
  - Maximises return on investment, striking a balance between the cost of delivery and the cost to the economy of non-delivery.
- **CSF 3: Achievability (Commercial Case)**
  - Deliverable utilising current engineering and technology solutions
  - Limits long-term maintenance liabilities
- **CSF 4: Affordability (Financial Case)**
  - Deliverable within the likely capital funding available;
  - Revenue liabilities are affordable within current budgets.
- **CRF 5: Timescale for Implementation (Management Case)**
  - Deliverable within the timescale during which funding is likely to be available.

3.11 Stakeholders

Stakeholders have been defined and analysed in relation to:

- All stakeholders, categorised in terms of their interest in the scheme how they will be engaged with and consulted through the design and delivery process

- Further analysis of stakeholders benefitting from the scheme. These scheme beneficiaries have been mapped against the scheme objectives, enabling consultation to be targeted effectively and assisting in framing the Benefits Realisation Plan for the scheme.

3.11.1 Stakeholder Categorisation

Table 2 – Stakeholder Categorisation

Category	Detail
Beneficiary	Stakeholders which will receive some direct or indirect benefit from the scheme. For details see separate table
Affected	Stakeholders which are directly affected by the scheme in terms of its construction or operation
Interest	Stakeholders with some interest in the scheme though not affected directly by its construction or operation
Statutory	Stakeholders with a statutory interest in the scheme, its construction, operation or wider impacts
Funding	Stakeholders involved in the funding of the construction or operation of the scheme

3.11.2 Engagement Categories

Table 4 – Stakeholder Engagement

Category	Detail
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
Information	Stakeholders with some interest in the scheme or its use. Information to be provided at appropriate stages

3.11.3 Stakeholder Matrix

The following table summarises the engagement envisaged with individual stakeholders.

Table 5 – Stakeholder Engagement Matrix

Stakeholder	Categories	Engagement and Consultation	Comments
Scheme users	Beneficiary	Consultation Information	Through established mechanisms. Focus on scheme design, construction and operation
Other road users	Beneficiary	Information	
Transport Operators	Beneficiary Affected	Intensive Consultation Information	
Transport user groups (Bus & Rail)	Beneficiary	Consultation Information	
Cycling & Pedestrian groups	Beneficiary	Consultation Information	
Disabled access groups and individuals	Beneficiary	Consultation Information	
Socially excluded groups	Beneficiary	Information	
Elected Members	Interest	Consultation	Specific Consultation dependent on measure
Local authorities	Beneficiary Affected Statutory	Intensive consultation	
Developers & Employers	Beneficiary	Information	As part of wider LGF consultation
Wider business community	Beneficiary	Information	
Wider community	Beneficiary	Information	
Local taxpayers	Beneficiary	Information	

Stakeholder	Categories	Engagement and Consultation	Comments
Tourists and visitors	Beneficiary	Information	Through established channels

3.11.4 Stakeholder Benefits

The table below identifies the key qualitative benefits that will be provided for individual stakeholders.

Table 6 – Stakeholder Benefits

Stakeholders	Bus Service Improvements	Cycling Improvements	Interchange Improvements	Way Finding Improvements
Scheme users & User Groups	Safety Well Being Quality of Life Accessibility Financial	Safety Health Well Being Accessibility Financial	Accessibility Door to Door Financial	Health Well Being Accessibility Door to Door Financial
Other road users	Congestion Well Being	Congestion Well Being	Congestion Well Being	Congestion Well Being
Transport Operators	Congestion Financial	Congestion	Congestion Financial	Congestion
Disabled access groups and individuals	Well Being Accessibility	Accessibility	Accessibility	Accessibility
Socially excluded groups	Accessibility Financial	Accessibility Financial	Accessibility Financial	Accessibility Financial

Stakeholders	Bus Service Improvements	Cycling Improvements	Interchange Improvements	Way Finding Improvements
Elected Members & Local authorities	Economic Congestion Air Quality Quality of Life	Economic Congestion Air Quality Health Quality of Life	Economic Congestion Air Quality Health Quality of Life	Economic Congestion Air Quality Health Quality of Life
Developers & Employers	Economic Congestion Financial	Economic Congestion Financial	Economic Congestion Financial	Economic Congestion Financial
Wider business community	Congestion Well Being Financial	Congestion Well Being Financial	Congestion Well Being Financial	Congestion Well Being Financial
Wider community & Taxpayers	Air Quality Financial	Air Quality Financial	Air Quality Financial	Air Quality Financial
Tourists and visitors	Safety Well Being Quality of Life Accessibility Financial	Safety Health Well Being Accessibility Financial	Accessibility Door to Door Financial	Health Well Being Accessibility Door to Door Financial

3.11.5 Key Stakeholders

In addition to the above, the following key stakeholders and methods to engage with these have been identified in relation to each individual scheme measure

Theme	Scheme Title	Key Stakeholders Identified	Methods of Engagement
Fastrack Upgrades	Vehicles and Infrastructure for Routes A and B	Kevin Hawkins - Arriva Shane Hymers - KCC Public Transport Rob Bright - GBC Tania Smith - DBC	Monthly steering group meetings
Station Access Improvements and Town Centre Links:	Gravesend Cycle Hub	Nina Peak - Southeastern Matthew Arnold (Arriva) Rob Bright - GBC County Members District Councillors Local Residents/Station users Association of Taxis John Farmer - KCC major projects PM - Rathmore RD	Monthly steering group meetings Email consultation Plans displayed at Station Letter drop for residents JTB meetings
Cycle Parking at Stations and town centres	Dartford Station	Nina Peak - Southeastern Tania Smith - DBC County Members District Councillors Sustrans Tay Arnold - KCC cycling officer	Monthly steering group meetings Email consultation
Bus/Cycle/Ferry Interchanges	Access to Gravesend Ferry	Sue Lord - GBC Allan Cox - GBC Conservation Officer Ferry Operator County Members District Councillors Sustrans	Monthly steering group meetings Email consultation Site meetings
Pedestrian Information Displays	Dartford Town Centre	Tania Smith - DBC County Members District Councillors Kent Association for the Blind Sustrans	Monthly steering group meetings Email consultation
Cycle Paths	Design of Bob Dunn Way cycle path	Tania Smith - DBC Tay Arnold - KCC cycling officer County Members District Councillors Local residents/road users Sustrans	Monthly steering group meetings Email consultation Public notices on site
Cycle Infrastructure	Increased cycle storage and dedicated route through the car park at Ebbsfleet International	David Fielding - High Speed 1 Kevan Collins - Network Rail County Members District Councillors Tania Smith - DBC	Monthly steering group meetings Email consultation Plans displayed at Station
Future Ticketing	Roll out of smart cards to Kent Thameside	Colin Clemmence - Arriva David Bond - Medway Council Tania Smith - DBC Rob Bright - GBC	Monthly steering group meetings Public launch event
Bus Infrastructure	Route 306/308 Sevenoaks to Bluewater	Rob Bright - GBC Tania Smith - DBC Matthew Arnold (Arriva) County Members District Councillors Shane Hymers - KCC Public Transport	Monthly steering group meetings Email consultation Letter drop for residents

Table 7 – Key Stakeholders

3.11.6 Communications Strategy

Aim: To raise awareness among residents of West Kent of the alternatives to using a private car to travel to work and/or school, achieving a step change towards smarter travel.

Objectives:

- For parents of children attending schools in Kent Thameside to change the way they think about getting their children to school, and to use an alternative to the car once a week.
- For businesses in Kent Thameside to adopt a travel plan and actively encourage their employees to consider alternatives to the private car for both the commute and business travel.
- For existing and new rail users who live within 3 miles of a railway station in Kent Thameside to consider walking or cycling to the station once a week.

There are 4 key audiences within Kent Thameside who need to be reached to ensure the success of the programme:

- Businesses in Kent Thameside who do not have a travel plan or do not promote their existing plan to employees.
- Parents of school children
- Adults aged 17-64 travelling to work by car
- Adults aged 17-64 travelling to railway stations by car

To engage with these groups KCC will work with District Councils, Transport Providers, schools and employers, who have the ability to engage with their users/pupils/employees on mass. Each audience group will be targeted with a different approach in order to appeal to their individual needs and requirements. For example, it is widely accepted based on previous successful projects that in order to achieve a change in the way parents take their children to school, it is necessary to first communicate the message to the pupils and gain their enthusiasm.

There are several key messages that need to be communicated to the target audience:

- That infrastructure is being implemented to provide alternatives to the private car.
- The health benefits of travelling by alternative modes.
- The carbon benefits of travelling by alternative modes.
- The financial benefits of travelling by alternative modes.

These messages will be communicated using a number of different media channels, including:

- Email newsletter (existing e-bulletins to schools and businesses)
- Online presence (Kent Connected, Kent.gov)
- Presentations at other people's events (Business events, EduKent, Modeshift etc.)
- Printed materials
- Officer engagement with schools and businesses

The LSTF 2015/16 revenue programme, Kent Connected, provides a marketing budget which can be utilised to promote the messages that need to be communicated, with £5k of this being 'ring fenced' for Kent Thameside.

3.12 Scheme Risks

Three low and one moderate risk relating directly to the delivery of the scheme measures has been identified. These risks are captured, together with the mitigation proposed, in the LEP Scheme Board, Risk Register (see Management Case, section 7.5), as illustrated below.

RISK REGISTER

Project Title: Kent Thameside LSTF - Door to Door

Project Manager: Kerry Prescott

Date of Last Review: 1/12/14

H High
M Medium
L Low

Total Risk Allowance: 0

Risk Number	Risk Description	Date Logged	Initial Impact	Initial Probability	Initial Priority	Nature of Impact (Commercial/Programme/H&S)	Action to be taken (Mitigation)	By Whom	By When	Residual Impact	Residual Probability	Residual Priority	Progress	Residual Cost Allowance in Project Estimate	Risk Closed	Risk amended this review ?
01	DfT funding for the Gravesend cycle hub is not awarded in time to allow for delivery in 15/16	01/12/2014	M	M	M	Delay to project and will impact what can be delivered	The bid has been submitted - if it is unsuccessful will value engineer the scheme so that the hub can be expanded when further funding becomes available	KCC/Southeastern	01/04/2016	L	L	L	An allocation has been made from LGF funding to cover the whole cost of the cycle hub. If the cycle hub is successful in the DfT bid then this funding will be used to progress the Bob Dunn Way cycle path to delivery rather than completing design only in 15/16.			
02	A large proportion of the programme is contributions to partners to deliver 3rd party schemes. There is therefore a risk that the partners do not deliver 3rd party schemes by agreed deadlines	01/12/2014	L	L	L	Programme would be delayed, could impact on scheme costs.	Close partnership working including regular update meetings to ensure delivery is on target	KCC	ongoing	L	L	L	Partners are emgaged with. Southeastern will deliver the cycle hub at Gravesend station. Arriva will procure the new fastrack buses and are geared up to deliver early 15/16			
03	District partners do not give support to scheme elements due for delivery in 15/16	01/12/2014	L	L	L	Schemes would need to be altered at the last minute resulting in delays to delivery	Districts to be engaged with to gain support, and to be asked to submit scheme proposals for 16/17 onwards and to accept that the programme is set for 15/16.	KCC	ongoing	L	L	L	Districts have been fully engaged with and are supportive of the programme for 15/16			
04	Match funding is not secured from partners	01/12/2014	L	L	L	Will impact the scope of indivdual schemes in the programme and could set back delivery.	Early engagement with partners to secure match funding. 15/16 match funding is identified and secured so need to focus on 16/17 onwards.	KCC	31/03/2016	L	L	L	Full match funding requirement for 15/16 is secure			

Table 8 - Key Risks

In addition some further risks have been identified in relation to the complimentary measures required and mitigation approaches have again been defined to address these:

Risk	Likelihood	Impact	Mitigation
Complimentary schemes do not progress at the rate expected	Medium	Take up of the proposed scheme measures may be reduced	Liaison with other scheme promoters to track overall progress
Reduced take up will reduce quality of life benefits	Medium	Scheme benefits will not be recognised by the wider community	Significant marketing and promotional activities
Website and App supported by LSTF revenue funds may take longer to implement than envisaged	Medium	Scheme take up may be reduced	Significant other marketing and promotional activities

Table 9 – Risks, Complementary Measures

3.13 Required Powers and Consents

Those elements of the scheme that will be delivered by KCC are anticipated to be all within the existing public highway boundary and KCC represent the local highway authority. As such those elements are designated as permitted development and, therefore, all required powers and consents are in place.

4 Economic Case

4.1 General KCC Approach to Scheme Economic Case

4.1.1 General Overview of Approach to Economic Case

The economic case is one of five strands of evidence required to support the scheme transport business case. Kent County Council's general approach to the economic case has been determined by the need for it to be proportionate to the scale, scope and cost of the proposed scheme and the preparation time available. This approach is fully consistent with Department for Transport advice to scheme promoters (KCC) and adjudicators (SELEP). This advice recurs in the following DfT guidelines:

- Transport Analysis Guidance (WebTAG) (The Proportionate Update Process January 2014);
- Value For Money advice note, December 2013 (sections 1.4, 1.17, 5.3);
- The Transport Business Cases, January 2013 (Sections, 1.4, 2.7, 6.2);
- LEP Assurance Framework, December 2014 (Sections 5.6, 5.7, Annex A); and
- HM Treasury The Green Book, July 2011 (Appraisal and Evaluation in Central Government).

However, none of the above guidance specifies the parameters of what constitutes a proportionate approach to appraisal. Therefore, KCC has applied best judgement to decide how much rigour there should be in the scheme economic case.

4.1.2 Quantitative and Qualitative Economic Appraisal

In line with the proportionate approach, KCC has prepared partly quantitative and partly qualitative evidence to support the scheme economic case. Generally, for a scheme with relatively large cost (>£5m), the economic appraisal has been substantiated with quantified outcomes. Conversely for a scheme with relatively small cost (<£5m), mainly qualitative evidence has been assembled.

It has also been inappropriate to calculate monetised economic impacts for certain KCC schemes for which the LGF bid is not primarily aimed at achieving transport user benefits. Here, the main scheme objective has been, for example, to enable a more prosperous economy and community by improving public realm, or to save unnecessary future expense by maintaining existing transport assets more effectively.

4.1.3 Components of Economic Case

The economic case has initially considered all aspects of scheme performance and likely impacts, in line with the TAG criteria outlined in the Appraisal Summary Table (AST), broadly:

- Economic prosperity and efficiency –
  - User travel costs; congestion; reliability; regeneration and wider economy;
- Environment –
  - Noise; air quality; greenhouse gases; landscape; townscape; heritage; biodiversity; water;
- Social well-being –
  - Accidents; physical activity; journey quality; value for non-users; affordable travel; security; access to opportunities and door-to-door options; severance;
- Public accounts –
  - Cost to transport budget; indirect tax; value for money (VfM).

However, many of these aspects are insignificant, or not easily assessed, in the context of the KCC scheme in question. Therefore, the economic case has finally focussed on economic efficiency for transport users, decongestion, reliability, greenhouse gases (carbon), safety, capital cost and VfM, as the core aspects for appraisal.

4.1.4 Quantitative Evidence for Economic Case

Where the predicted economic outcomes from the scheme have been quantified and monetised, the appraisal method used in the economic case has largely followed the non-modelling approach identified in TAG. This is centred on a 2010, present value (PV), cost and benefit analysis, which weighs up the net economic savings to scheme users, against the net economic costs to public accounts, of the investment. Here, the net impacts are derived by subtracting the with-scheme outcomes from the without-scheme outcomes.

Generally, transport model outputs and economic appraisal software has not been used to assess the schemes, because of the disproportionate costs, resources and data inputs that would be entailed. This has precluded use of TUBA, COBALT, INCA, QUADRO and TfL Urban Design Toolkit.

The time period for the economic appraisal is matched to the context of the scheme, ranging from a 60-year horizon for a longer-term one-off investment, to a 1-year horizon for a shorter-term, staged or packaged investment. Intermediate appraisal terms have been used to suit the likely duration of a particular scheme's impacts.

In the quantified economic approach, manual calculations, or the TAG Marginal External Costs technique, have been used to assess the following scheme impacts: travel time and delay savings for transport users; vehicle kilometre and decongestion savings for society; journey time reliability improvements for users; accident savings for users; health benefits for active mode users; carbon emission savings for society; and the capital cost to public accounts of preparing and constructing the scheme.

Standard TAG economic appraisal summary tables have not largely been produced, owing to the limited scope of the KCC schemes and because neither the required breakdown of benefits, by user-type and journey-purpose, nor segmentation of costs by investment item, have been available. This has ruled out inclusion of Transport Economic Efficiency (TEE) and Public Accounts (PA) tables. However, a summary table for Analysis of Monetised Costs and Benefits (AMCB) has generally been included in the quantified economic case.

A recommended TAG and 'Green Book' method has been followed to convert monetised scheme economic costs and benefits from their year of occurrence to 2010 PV equivalents. In essence, this entailed the following steps:

Converting year-of-estimate capital costs to a 'base cost', by adjusting for real construction cost increase between estimate year and year of cost occurrence;

Converting base cost to 2010 prices, by adjusting for GDP deflation;

Discounting year-on-year costs and benefits to 2010 at 3.5% per annum; and

Adjusting 2010 PV costs and benefits from 'factor cost' to 'market prices', by allowing for indirect taxation (+19% increment).

Final summation of the scheme PV outcomes gives a quantified value for PV Benefit (PVB), PV Cost (PVC), Net Present Value PVB-PVC (NPV) and Benefit to Cost ratio PVB/PVC (BCR).

4.1.5 Qualitative Evidence for Economic Case

Where the potential economic outcomes from the scheme have been not been quantified and monetised, they have been assessed by aligning with a qualitative scale. This appraisal method for the economic case has largely followed the steps outlined in the DfT 'Value for Money' approach. The qualitative method is considered to be appropriate for schemes of modest cost and scope, which do not merit an elaborate, quantified economic case.

A sequence of six steps has been traced, to attribute a qualitative scale to the scheme's economic impacts, as follows:

- Define an initial BCR (for usually monetised impacts); and
- Work out an adjustment to the BCR (for sometimes monetised impacts);
  - Both against a 5-point scale (poor/low/medium/high/very high);
- Undertake a qualitative assessment (for rarely monetised impacts), against a 7-point scale (slight/moderate/large beneficial, neutral, slight/moderate/large adverse);
- Combine items above, to give initial an VfM, against a 4-point scale (low/medium/high/very high);
- Make a risk assessment, to derive a further adjustment to the initial VfM, using the 7-point scale; and
- Finalise the overall VfM, by adjusting the initial VfM for risk, using the 4-point scale.

Qualitative evidence used to support the economic case is based around applying an order of magnitude to a likely scheme outcome, rather than by calculating a precise, quantified, impact value.

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4.2 Background

The objectives set out in the Strategic Case, along with the expression of stakeholder benefits, provide a framework for what the scheme must achieve. These Critical Success Factors (CSFs) in turn provide the basis for the appraisal of the scheme. In line with HM Treasure guidance these CSFs are categorised according to Strategic Fit, Value for Money, Achievability, Affordability and Timescale. These effectively map onto the 5-case model, enabling the scheme and its options to be appraised and compared in order to identify the most effective solutions.

The following subsections describe the scheme options, their advantages and disadvantages and whether they have shown sufficient merit to take forward for more detailed economic appraisal. A summary of the options, mapped against the scheme objectives and CSFs is provided.

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

An Appraisal Summary Table, setting out the key issues relevant to this scheme is provided.

Whilst the scheme is expected to contribute to the wider economic development of the area, it is focused on addressing congestion by reducing the number of car trips and increasing the use of sustainable modes, in particular at peak times. As set out in **Error! Reference source not found.**, this will also provide morbidity benefits, reductions in CO_2 emissions and (in conjunction with complementary schemes) will contribute to health and well-being, accessibility, quality of life and enable seamless door to door travel across Kent Thameside. Together these benefits will all facilitate economic growth in the area, in terms of jobs and housing. Consequently the Economic Case is focused on these specific benefits.

4.3 Appraisal Process

With devolution of major scheme approval to Local Enterprise Partnerships, it is important that an approach to appraisal is used which gives regard to local priorities (especially in enabling investment, job creation and housing construction). This must be done with due regard to standard practice, which in transport terms means the use of WebTAG guidance. Discussions with the Department for Transport have indicated that a 'proportionate' approach to WebTAG should be used. Kent County Council has held discussions with the South East Local Enterprise Partnership, in the light of Government Guidance[1], on how the appraisal of devolved small major schemes should be handled. As a result of this the following approach has been applied:

- The scheme measures are appraised in their current form; i.e. as they are envisaged at the time of producing the business case. This has changed a little since the scheme was first submitted to SELEP and it is possible they will evolve further, within acceptable parameters, as implementation progresses. Any changes will only seek to enhance the impact of the scheme;
- All anticipated scheme design and delivery costs have been calculated as accurately as possible, given the relatively early stage of the design of most measures (The source for the costs used is identified in the scheme budget provided in section 5);
- The scheme outputs identified relate directly to what the funds available for each measure can procure (ie these are the outputs used in the cost calculations);
- Scheme impacts (quantitative and qualitative) are based on the experience of similar schemes elsewhere, locally, nationally and internationally, including data obtained from Web Tags and recognised research studies in the field of sustainable transport;
- The scheme impacts, used to calculate the quantitative scheme benefits, are applied only to peak traffic flows at the congestion hot spots as this is the issue measures are directly targeted at addressing and for which data is most readily available to support quantification and monetisation;

[1] Growth Deals: Initial Guidance for Local Enterprise Partnerships. HM Government July 2013

- Quantitative analysis is undertaken on each scheme measures apart from the design of Bob Dunn Way (Cycle Path Improvement) as this is unlikely to be delivered in 2015/16 and the Wayfinding Information measure as pedestrian flows are not available for the traffic counts at congestion hot spots used;
- Further benefits are identified as qualitative benefits.

Traffic Estimation

DfT count sites on/near the congestion hotspots were identified.

DfT annual average daily classified vehicle counts for 2013 were extracted for the above sites.

The AADF was converted to peak period flows i.e., flows during the AM period of 0700 to 1000 and PM period of 1600 to 1900. The peak period factors were calculated from the National Travel Survey.

The peak period vehicular flows were converted to peak period person trips using the following occupancy factors:

- Cars: 1.23
- Buses: 24
- Other Vehicles: 1

The congestion, morbidity and Co2 impact of various schemes on the modes was calculated on the person trips identified.

Congestion Impact

The impact on congestion on the roads due to introduction of various LSTF schemes was calculated using the Marginal External Cost (MEC) Technique. The MEC technique is the monetised valuation of various transport user 'external impacts', on the basis of predicted travel distance changes, by car, which would result from a scheme. The impacts are classified as external when they may not be perceived by a user, namely: Congestion delay, infrastructure maintenance, accidents, local air quality, noise, greenhouse gas and indirect tax (fuel). The MEC approach is useful when a multi-modal model is not available to provide quantified evidence of likely scheme impacts.

The following steps were followed in order to arrive at the congestion impact:

Step 1: The change in car kilometres with and without scheme was calculated for the AM and PM peak periods (using the impacts identified in 4.6.1)

Step 2: The MEC monetary valuation was extracted from WebTAG (A5.4.4) for the relevant time period. The values for 2016 were estimated by interpolation of values extracted for 2015 and 2020. The calculated values were them estimated for the whole year

Step 3: The annualised and monetised car km benefits, were then discounted back to 2010 present value (PV) based on a 3.5% p.a. factor cost.

Step 4: The discounted benefits were then converted from factor cost to market prices (MP), (i.e. allowing for indirect taxation adjustment).

Morbidity Impact

The impact on morbidity on the roads due to the introduction of LSTF schemes was calculated where there was a change in cycle kilometres identified that was sufficient to obtain a result from inputting this to the World Health Organisation's (WHO), HEAT model. This was possible in the case of the Station Improvements and Bus/Cycle/Ferry interchange measures.

The following steps were followed in order to arrive at the morbidity impact:

Step 1: The change in cycle kilometres with and without scheme was calculated for the AM and PM peak periods (using the impacts identified in 4.6.1)

Step 2: The outputs were fed directly into the HEAT model currently available from the WHO website and the monetary valuation provided by this for 2016 was extracted.

Step 3: The annualised and monetised cycle km benefits, were then discounted back to 2010 present value (PV) based on a 3.5% p.a. factor cost.

Step 4: The discounted benefits were then converted from factor cost to market prices (MP), (i.e. allowing for indirect taxation adjustment).

Co2 Impact

The impact on Co2 on the roads due to the introduction of LSTF schemes was calculated where there was a change in car kilometres identified that was sufficient to obtain a result from inputting this to DfT Carbon Calculation model. This was possible in the case of all but the Cycle Infrastructure and Cycle Parking measures.

The following steps were followed in order to arrive at the Co2 impact:

Step 1: The change in car kilometres with and without scheme was calculated for the AM and PM peak periods (using the impacts identified in 4.6.1)

Step 2: The outputs were fed directly into the Co2 model currently available from the DfT website and the monetary valuation provided by this for 2016 was extracted.

Step 3: The annualised and monetised car km benefits, were then discounted back to 2010 present value (PV) based on a 3.5% p.a. factor cost.

Step 4: The discounted benefits were then converted from factor cost to market prices (MP), (i.e. allowing for indirect taxation adjustment).

4.4 Options Considered

A simple Options Appraisal was undertaken by the Transport Innovations Team of KCC prior to submission of the scheme to SELEP. The key elements identified in the Options Appraisal have been analysed against the scheme objectives and critical success factors and have been incorporated into a table at the end of the summary analysis.

Option A - Do nothing

The option of taking no action was explored, which would maintain the status quo with regards to travel options in Kent Thameside. This would retain the excellent Fastrack, other bus services and rail services in the area but would not add to the sustainable transport choices available in the area.

As a result this option will not allow for economic growth to take place without having a negative impact on congestion, air quality, and the health and wellbeing of residents. Furthermore, the expansion of transport choices in general and in particular the Fastrack Service through Ebbsfleet International into the Eastern Quarry site is required to unlock the potential to increase homes and jobs. The expected growth in Kent Thameside would lead to bus and rail services reaching capacity, putting a further strain on the already congested roads and negatively impacting on air quality and health.

Option B - Do something

This is the preferred option as, supported by the KCC LSTF revenue bid, it will lead to a fully integrated and accessible transport network in Kent Thameside, delivering a real alternative to the private car and ensuring that sustainable growth in the region can be achieved. This option involves implementing measures to incentivise sustainable transport for residents, commuters and visitors, through improving necessary infrastructure and information. The option will deliver a reduction in car journeys, leading to reduced congestion, improved air quality and improved health and wellbeing for Kent's residents. The increased transport choices it will offer will also address accessibility issues, especially amongst the disabled and socially excluded groups in the community.

Option C - Do maximum

The maximum scheme would comprise an expansion of Fastrack and wider infrastructure improvements, to give formal priority to sustainable modes over the private car. However, the capital costs of such a scheme are likely to be unaffordable and there will be a requirement for a significant amount of revenue to pump prime new services. The long term sustainability of this option also carries more risk and it has the potential to adversely affect economic growth in the region, by penalising those using the single occupancy car.

The table below summarises this analysis against the objectives and success factors of the scheme:

Table 10 - Summary of Scoping Options

Reference to:	Option A	Option B	Option C
Option:	**Do Nothing**	**Do Something**	**Do Maximum**
Investment Objectives			
1. Reduce Car Usage	✗	✓	✓
2. Deliver a sustainable scheme	✗	✓	✗
3. Deliver an attractive, effective and safe scheme	✓	✓	✗
4. Improve health and well being through increased active travel	✗	✓	✓
5. Improve seamless travel, accessibility and quality of life for	✗	✓	✓

Reference to:	Option A	Option B	Option C
Option:	**Do Nothing**	**Do Something**	**Do Maximum**
Thameside residents			
6. Compliment the LSTF revenue scheme, other LGF capital schemes and development plans	×	✓	✓
Critical Success Factors			
Strategic Fit	×	✓	✓
Value for Money	**N/A**	✓	×
Potential Achievability	✓	✓	×
Potential Affordability	✓	✓	×
Timescale for Implementation	✓	✓	×
Summary	**Discounted**	**Preferred**	**Discounted**

4.5 Economic Overview

As set out in the Strategic Case, this scheme represents an important complementary measure in supporting the development of jobs and housing in Kent Thameside. It provides a means to reduce congestion by offering both commuters and those undertaking the school run attractive sustainable alternatives that are integrated with the wider public, cycle and pedestrian transport networks, enabling seamless door to door travel to employment and schools in the area.

At around £5.5m, it is in itself a relatively low-value scheme which does not justify a fully WebTAG compliant economic appraisal as required for schemes above £8m, in the South East. In addition, the complementary nature of the scheme does not lend itself to such an appraisal in isolation. Consequently the Economic Case for this scheme is focused on:

- The direct benefits of the scheme, including congestion savings, health economic benefits and greenhouse gas emission savings stemming from usage of the scheme measures, especially usage involving transfer from car.

- Qualitative appraisal of other direct and also the wider benefits in the context of the planned developments in the area, major transport schemes in the area and complementary sustainable transport revenue schemes. These benefits include decongestion benefits which are impossible to attribute to individual scheme measures.
- Direct scheme construction costs, not taking into account any additional measures such as those supported by the LSTF revenue bid or any ongoing maintenance costs, as these are included in existing maintenance budgets and have not been separately defined.

For the purposes of this small scheme, the direct employment benefits (i.e. people employed in constructing the scheme) have not been calculated, though these may be aggregated into the direct employment generated by the LGF programme as a whole.

As detailed in the Causal Chain, the benefits of the scheme and the overall approach to the appraisal of these are as follows:

Table 11 - Key Appraisal Elements

Appraisal Item	Direct/ Indirect	Approach to Appraisal
Social - Health benefits from active travel	Direct	Use of World Health Organisation HEAT tool to calculate health economic benefits, based on projected usage and peak time, impacts on congestion hot spots
Environmental - Carbon emission savings from transfer from car	Direct	Use of DfT Carbon Tool to calculate CO2 savings from transfer from car, based on projected usage and peak time, impacts on congestion hot spots
Economy - Journey time reduction on highway network (decongestion)	Direct	Estimates of car kilometre savings based on peak time projected usage and peak time, impacts on congestion hot spots
Wider Economic, Social and Environmental benefits (GVA, productivity etc.)	Indirect	Estimates based on projected usage, in conjunction with LSTF revenue and other LGF capital schemes

In addition to these, a number of other key benefits have been taken into account and included in the Appraisal Summary Table alongside less detailed commentary on all relevant aspects:

Table 12 - Additional Appraisal Elements

Appraisal Item	Direct/ Indirect	Approach to Appraisal
Economy - Regeneration	Indirect	Narrative approach based on enabling development of the area, linked to other initiatives. Includes tourism.
Environmental – Air Quality	Direct	Narrative approach based on the wider benefits generated by the increased use of sustainable transport
Social – Health & Well Being	Direct	Narrative approach based on the wider benefits generated by the increased use of active travel modes
Social – Accessibility & Inclusion	Direct	Narrative approach based on provision of improved access to employment, training and education without the need for a car
Social – Quality of Life	Direct	Narrative approach based on improvements to the travel environment and reductions traffic impacts
Economic – Door to Door	Direct	Narrative approach based seamless travel benefits
Economic – Financial	Direct	Narrative approach based on increased patronage for providers of sustainable transport

4.5.1 Appraisal Flowchart

The approach to economic appraisal, using WebTAG principles is shown in Figure 10 below.

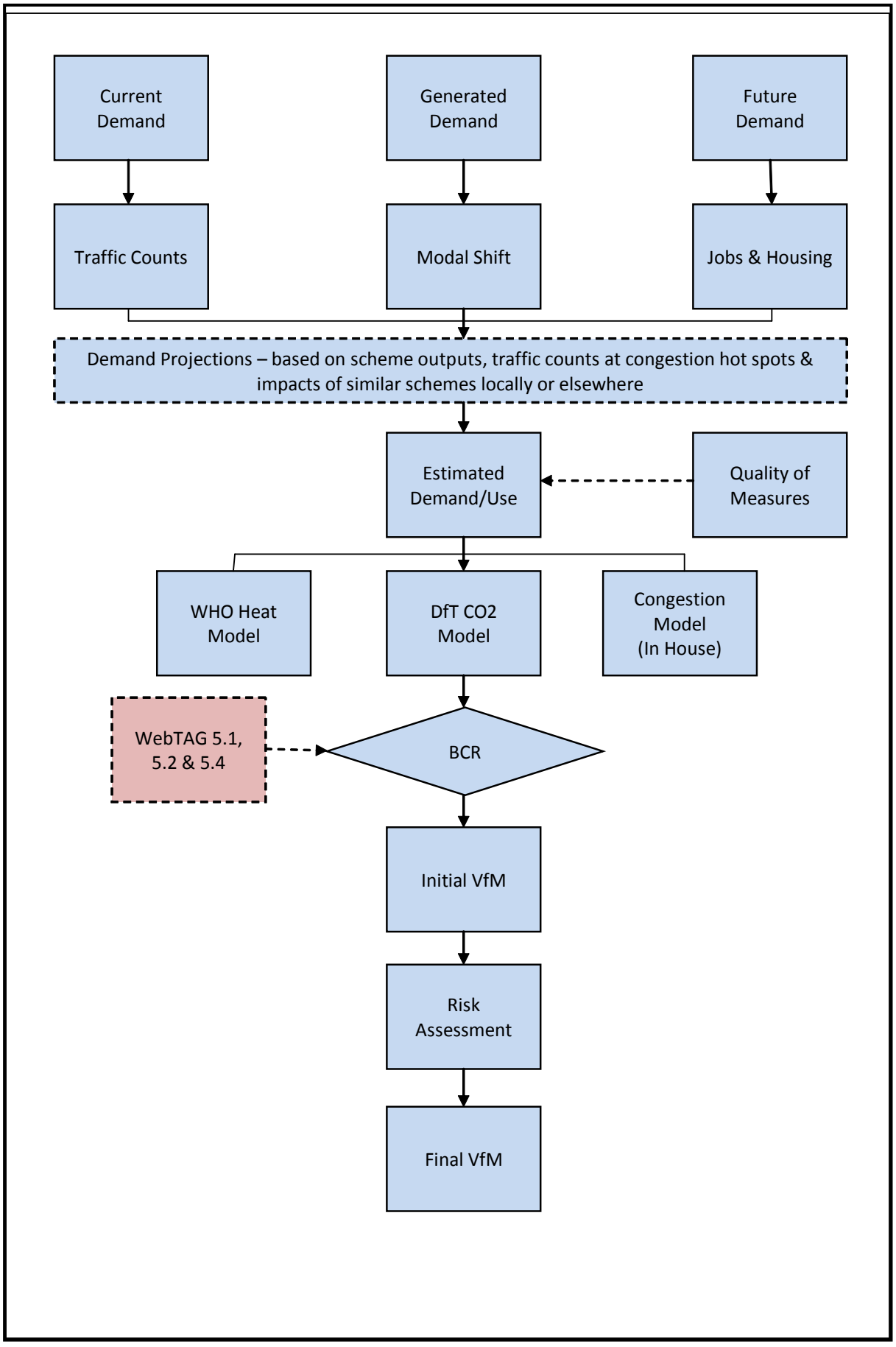


Figure 10 - Appraisal Flowchart

4.5.2 Appraisal Scenarios

The Preferred Option has been identified through an appraisal process, taking into account the long-term maintainability of the scheme as well as its effectiveness against the core objectives.

In view of this, with only one option demonstrating overall cost-effectiveness, the appraisal has been undertaken against two options:

- Do Nothing, with the scheme not delivered – No Change
- Do Something, with delivery of Option B

4.6 Projected Scheme Usage – Demand Projections

The scheme provides significant improvements in terms of the provision of additional, high quality, sustainable transport measures and the quality and attractiveness of existing measures. Each measure is targeted at a number of congestion hot spots with the aim of reducing car trips and increasing use of sustainable modes or potentially removing users altogether by encouraging them to take a different route. The impact of measures, in this context, is based on the experience of the introduction of similar measures elsewhere.

Together the improvements will:

- Retain existing users. All measures intended to build on existing provision will rely on counts of current users to provide a baseline demand level against which to monitor future development. Such counts exist for all bus measures, in terms of patronage data obtained from ticket machines, although this data is not normally published because of its commercial nature. Baseline counts are required for all other measures. Wayfinding Information and Bob Dunn Way cycle path, as the only new measures, will utilise a baseline of zero;
- Attract new users travelling between existing housing, employment and education locations. Future user counts will seek to differentiate between existing, new and future (see below) users.
- Attract further new users as new housing and employment locations are developed.
- Attract additional retail, leisure users and tourists.

The baseline traffic counts for congestion hot spots impacted by each measure for which quantitative appraisal is undertaken are identified in the following table. The only measures not appraised in this way are the Cycle path and Wayfinding information measures. The former because only the design stage is to be considered in 2015/16 and the latter primarily because the traffic counts available for congestion hot spots do not include pedestrians.

Table 13 - A.M. Peak Vehicle Counts

Fastrack Vehicle Upgrades						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	15	38	3537	52	427	164
A2 Corridor	2	561	39414	185	7785	3488
DARTFORD TOWN CENTRE	37	90	7396	206	1100	210
B262 Hall Road/ Springhead Road	1	2	180	2	32	3
GRAVESEND TOWN CENTRE	13	19	2439	66	345	75
Station Access improvements and town centre links						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	15	38	3537	52	427	164
A2 Corridor	2	561	39414	185	7785	3488
B262 Hall Road/ Springhead Road	1	2	180	2	32	3
GRAVESEND TOWN CENTRE	13	19	2439	66	345	75
Cycle Parking at Stations and Town Centres						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	15	38	3537	52	427	164
A2 Corridor	2	561	39414	185	7785	3488
DARTFORD TOWN CENTRE	37	90	7396	206	1100	210
Bus/ Cycle/ Ferry Interchange						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
DARTFORD CROSSING	1	57	4909	14	992	1103
GRAVESEND TOWN CENTRE	13	19	2439	66	345	75
Future Ticketing Technology						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	15	38	3537	52	427	164
A2 Corridor	2	561	39414	185	7785	3488
DARTFORD TOWN CENTRE	37	90	7396	206	1100	210
B262 Hall Road/ Springhead Road	1	2	180	2	32	3
GRAVESEND TOWN CENTRE	13	19	2439	66	345	75
Bus Infrastructure Improvements						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	15	38	3537	52	427	164
A2 Corridor	2	561	39414	185	7785	3488
DARTFORD TOWN CENTRE	37	90	7396	206	1100	210
B262 Hall Road/ Springhead Road	1	2	180	2	32	3
GRAVESEND TOWN CENTRE	13	19	2439	66	345	75

Table 14 – P.M. Peak Vehicle Counts

Fastrack Vehicle Upgrades						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	18	45	4126	60	498	191
A2 Corridor	2	654	45983	215	9083	4069
DARTFORD TOWN CENTRE	43	105	8629	240	1283	246
B262 Hall Road/ Springhead Road	1	3	210	2	37	3
GRAVESEND TOWN CENTRE	15	23	2845	77	402	88
			61793			
Station Access improvements and town centre links						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	18	45	4126	60	498	191
A2 Corridor	2	654	45983	215	9083	4069
B262 Hall Road/ Springhead Road	1	3	210	2	37	3
GRAVESEND TOWN CENTRE	15	23	2845	77	402	88
Cycle Parking at Stations and Town Centres						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	18	45	4126	60	498	191
A2 Corridor	2	654	45983	215	9083	4069
DARTFORD TOWN CENTRE	43	105	8629	240	1283	246
Bus/ Cycle/ Ferry Interchanges						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
DARTFORD CROSSING	1	66	5728	17	1158	1287
GRAVESEND TOWN CENTRE	15	23	2845	77	402	88
Future Ticketing Technology						
HOT SPOT	Cycles	Motorcycle	Cars	Buses	LGV	HGV
BLUEWATER	18	45	4126	60	498	191
A2 Corridor	2	654	45983	215	9083	4069
DARTFORD TOWN CENTRE	43	105	8629	240	1283	246
B262 Hall Road/ Springhead Road	1	3	210	2	37	3
GRAVESEND TOWN CENTRE	15	23	2845	77	402	88

In all cases, it is assumed that effective complementary schemes, in particular the LSTF revenue measures, will be undertaken to accompany the delivery of all measures. These are incorporated into the Benefits Realisation Plan and include:

- Adequate maintenance of each measure;
- Attractive, direct; connections (with signage and markings) to the measure;
- Marketing and promotion of each measure to ensure its availability is continually presented to potential users;
- Integration with other transport modes, especially at local rail stations;
- Complementary 'soft' measures, including a website and app, residential, employment and education travel plans, personal travel plans, bikeability schemes, cycle training, etc;
- Complementary infrastructure schemes to address congestion pinch points.

4.6.1 Assumptions Used in Demand Projections

The expected impact of measures is identified from the experience of similar schemes elsewhere. Considering each measure in turn, for which quantitative benefits have been calculated, the table below identifies the impact applied and the research source/s from which this has been obtained.

Table 15 – Impacts of Measures

Measure	2015/16 Impact	Source
Fastrack Vehicle Upgrades & Fastrack Infrastructure Improvements	Bus Use +1.8%	The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England, CPT 2010
	Bus Use +2.23%	The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England, CPT 2010
Station Access improvements - Gravesend	Bus Use +3.38% Cycle Use +0.6% Car Use -1.04%	ITS, Leeds University, 2009 & Association of Train Operating Companies Cycle Access Study for SE England Rail Users, 2013

Measure	2015/16 Impact	Source
Cycle Parking at Stations - Dartford	Cycle Use +0.6% (70% from cars, 30% from bus)	Association of Train Operating Companies Cycle Access Study for SE England Rail Users, 2013
Ferry Interchange	Bus Use +3.38% Cycle Use +0.6% Car Use -1.04%	ITS, Leeds University, 2009 & Association of Train Operating Companies Cycle Access Study for SE England Rail Users, 2013
Future Ticketing Technology	Bus Use +3.83%	White 2004, Fitzroy & Smith, 1998
Bus Infrastructure Improvements	Bus Use +1.63% Car Use -0.13%	The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England, CPT 2010
Cycle Path Improvements (combined with Gravesend & Dartford Station)	Effect of additional mile per 1,000 pop Cycle Use + 0.55%	Factors influencing the cycling levels in Cities, Kolin Institute of Technology, 2013

4.6.2 Economic Benefit Calculations

The approach set out in Figure 9 details the key components of the appraisal of the scheme in isolation:

- Quantified congestion benefits as a result of the reductions in vehicle kilometres through congestion hot spots at peak times;
- Quantified health benefits from increased active travel through congestion hot spots, based on reduced mortality benefits and calculated using the World Health Organisation HEAT tool;
- Quantified greenhouse gas emission benefits arising from the reduction of car kilometres through congestion hot spots, calculated using the DfT Carbon Toolkit
- Journey quality benefits, stemming from the increase in sustainable transport opportunities and the benefit derived by users from this.

The economic contribution of the scheme, in terms of the quantified benefits of reduced congestion, Co2 and morbidity, is delivered in conjunction with the complementary LSTF

revenue scheme measures and alongside the capacity improvements stemming from complementary infrastructure schemes in Kent Thameside.

Additional qualitative benefits are considered after the calculation of a BCR, in order to support the assessment of overall Value for Money. The quantitative and qualitative assessments of impacts have been input to the Appraisal Summary Table (AST) for the LSTF scheme package at 2015/16, as provided below.

Table 16 – Appraisal Summary Table

Kent Thameside LSTF Scheme Appraisal Summary Table (AST) – First Year 2015/16											
Impact Category	**Monetised / Non-Monetised Impact?**	**Specific Impact**	**Quantitative Outcome (Monetised) 2010 Present Value**	**Qualitative Outcome (✓) (Non-Monetised)**							
				Beneficial			**Neutral**	**Adverse**			
				Large	**Moderate**	**Slight**		**Slight**	**Moderate**	**Large**
Economy	Usually Monetised	Travel Costs to Business Users and Providers –	Included with commuter & other users	✓						
	Sometimes Monetised	Reliability for Business Users – Regeneration – Wider Impacts –			✓		✓ ✓			
	Rarely Monetised	None								
Environment	Usually Monetised	Noise – Air Quality – Greenhouse Gases –		✓ ✓	✓					
	Sometimes Monetised	Landscape –					✓			
	Rarely Monetised	Townscape – Heritage / Historic Environment – Biodiversity – Water Environment –					✓ ✓ ✓ ✓			
Social	Usually Monetised	Travel Costs to Commuter & Other Users – Accidents – Physical Activity – Journey Quality –	£35,024m	✓	 ✓ ✓	 ✓				
	Sometimes Monetised	Reliability for Commuter & Other Users – Non-User Option/Non-Use Values –			✓		 ✓			
	Rarely Monetised	Security – Access to Services – Affordability – Severance –				 ✓ ✓	✓ ✓			
Public Accounts	Usually Monetised	Cost to Broad Transport Budget – Indirect Tax Revenue –	£5.045m					✓ ✓		
	Sometimes Monetised	None								
	Rarely Monetised	None								

Sustainability (non-AST e.g. LSTF)	Usually Monetised	None								
	Sometimes Monetised	None								
	Rarely Monetised	Co-ordinated Door-to-Door Journeys – Traffic Congestion – Active Travel –		✓ ✓ ✓						

4.7 Detailed Appraisal

The table below summarises the results of the quantified appraisal for the impacts of the individual scheme measures over a 6 year period; ie the duration of the LSTF capital scheme as a whole.

Table 17 – Quantified Appraisal (Present Values in 2010 prices and values)

Measure	**Outputs**	**Quantitative Benefits (£000s)**			**Cost (£000s)**	**BCR**
		Congestion	CO2	Morbidity		
Fastrack Vehicles Upgrade & Infrastructure	22 new vehicles + Branding & Wi- Fi Design of New Bus Hub design Upgraded Signal Technology	£10,571	£522	N/A	£3,190,952	2.85
Station Access Improvements	Cycle hub 180 additional parking CCTV Electric cycle storage and charging points New cycle route	£11,068	£586	£53	£591,423	16.62
Cycle Parking at Station	122 additional cycle parking	£6	£0	£0	£47,830	0.1
Ferry interchange	Signage Access door Lighting Improved disabled access New cycle route	£1,730	£100	£5	£40,997	37.31
Wayfinding	Pedestrian signs Redundant signs removed	N/A	N/A	N/A	£40,997.25	N/A
Cycle Path Improvements	Design of new cycle route	N/A	N/A	N/A	£26,192	N/A
Cycle Infrastructure	20 additional cycle parking Cycle parking realignment Signage & Marking	£0	£0	£0	£24,405	0.0
Future Ticketing Technology	Ticket machines Top up machines Smart cards IT	£8,403	£404	N/A	£18,221.00	398.79

Measure	Outputs	Quantitative Benefits (£000s)			Cost (£000s)	BCR
Bus Infrastructure Improvements	25 bus stops Audit of Fastrack stops and subsequent improvements	£1,519	£57	N/A	£109,326	12.08
All Measures		£35,024			£5,045	6.94

The overall BCR obtained from all 2015/16 measures appraised is 6.94, indicating a high level of overall benefit will be obtained from the scheme. This comes about as a result of the particularly high level of benefits generated by the Future Ticketing Technology, Ferry Interchange, Station Improvements and Bus Infrastructure measures. It is tempered by the lower, but still significant, benefits from the Fastrack Vehicles Upgrade and Infrastructure Improvements measure and the substantially lower Cycle Parking at Stations measure. It is also lowered by the Cycle Infrastructure measure having no impact on the congestion hot spots, it not being possible to identify the impact of the Way Finding measure (due to the lack of data from similar schemes) and because it was considered inappropriate to appraise the Cycle Path Improvements measure at the design stage.

Extrapolating from the benefits identified it is possible to arrive at an estimate for the BCR of the LSTF capital scheme as a whole, assuming similar measures are applied in future years and taking account of projected costs. As costs are due to reduce in later years this estimate suggests the overall BCR will increase over time to around 15, still a realistic figure for an integrated package of smarter choice measures.

It should be noted that until the locations of future measures are decided and as a result, the congestion hot spots these will impact on can be identified, this estimate cannot be confirmed. However, it will be the subject of the appraisal undertaken for the business case to be submitted for the remainder of the LSTF capital scheme towards the end of 2015/16.

As the scheme is also complementary to and to some extent inter-dependent on, the LSTF revenue scheme it will also support this scheme in achieving its projected BCR of 10.0.

4.8 Value for Money Statement

4.8.1 Present Value of Benefits (Initial VfM Category)

The anticipated net present value of the recommended Option B, net of all procurement, construction and implementation costs, has been calculated as £29,979m.

4.8.2 Risk adjustment

As risks for the scheme are considered minimal then there is no need to adjust the net present value to take account of these.

4.8.3 Final VfM Category

A quantified economic appraisal of the first year capital costs and user benefits, for the full Kent Thameside LSTF 2015/16 package, shows the positive monetised outcomes below, at 2010 present value and market prices.

Table 18 – Value for Money, 2015/16

	Present Values in 2010 prices and values
PVB	£35,024m
PVC	£5.045m
NPV = PVB - PVC	£29,979m
Initial BCR = PVB/PVC	6.94 (High)
Adjusted BCR	No adjustment made for non-quantified items
Qualitative Assessment	Improved Health and Well Being, Quality of Life, Accessibility and Seamless Door to Door Journeys. Also financial benefits to sustainable transport operators and environmental benefits.
VfM Category	High

4.8.4 Summary of Benefits and Costs

The immediate benefit from the scheme will be the provision of a range of integrated smarter choice measures which will facilitate a large increase in the use of sustainable transport modes for journeys, in full or in part, between residential areas and employment and education facilities across Kent Thameside.

In combination with the complementary LSTF revenue scheme and other LGF capital measures, the scheme will help 'lock in' the benefits of transport investment and will facilitate the sustainable growth of housing and employment set out in the SELEP Strategic Economic Plan and the Local Plans for the area. This in turn will encourage inward investment and enable commercial and employment growth in the area. The primary financial benefits that have been used to calculate the value of the scheme are:

- The health benefits of cycling in terms of reduced mortality
- A reduction in greenhouse gas emissions as a result of a reduction in car trips
- Decongestion benefits

In addition, there are a number of further benefits which have not been monetised, the most important of which are:

Economy – Regeneration

The scheme will support the sustainable development of employment, housing and retail throughout Kent Thameside and within this contribute directly to the creation of 963 jobs and 657 housing.

Economy – Congestion

The scheme will reduce journey times and increase journey speed for travel through each of the key congestion hot spots in Kent Thameside.

Economy – Financial

There are significant benefits available to the local economy from changes in the travel behaviour of Kent Thameside residents and visitors. These include:

- Benefits to retailers from improved access to their facilities;
- Benefits to operators of sustainable modes from increased patronage;
- Benefits to employers from improved attendance at work and productivity.

Environmental – Air Quality

As well as reducing CO2, the scheme will contribute to improvements in Nitrous Oxide and Particulates levels at each of the air quality management areas in Kent Thameside, in turn improving the air to breathe for the general public and those undertaking active travel.

Social – Health

The active travel measures in the scheme will assist in improving the general health of all those take these up, including:

- Help to lower blood pressure and improve heart health;
- Help with weight loss and improved fitness;
- In congested areas cyclists and pedestrians breathe in less fumes than drivers;
- Help reduce the number of days of illness each year.

Social – Well Being

The scheme as a whole will reduce traffic and traffic noise, improving the environment around congestion hot spots for those living in close proximity to these areas and those travelling through them. The active travel measures will also enhance the well being of those that use them. Together this will lead to benefits of:

- Improved mental health;

- Reduced stress.

Social – Quality of Life

By increasing the transport options available in Kent Thameside the scheme will help to extend the journey opportunities of residents and visitors, increasing access to greater range of facilities and in the process improving their sustainability. The stress free nature of sustainable travel will also enhance the journey quality of users, relative to car use.

Social – Accessibility

Involving users in the design and implementation of measures will help to ensure they are appropriate and accessible to all. Increasing the sustainable transport options available in Kent Thameside will also help to extend travel horizons and opportunities for those without access to a car, commonly including the more vulnerable and socially excluded members of the community; i.e. older people, young people, disabled people, job seekers, low income families, etc.

Social – Door to Door

The aim to integrate measures with each other, complimentary schemes and the wider transport network will increase opportunities for seamless door to door journeys to be undertaken by sustainable modes, encouraging greater use of all sustainable modes rather than the scheme measures in isolation. It will also improve the safety, security and reliability of journeys made this way and increased usage will enhance this further.

Social – Safety

Reduced congestion at key pinch points in the road network will improve road safety for both those living close to these and road users.

5 Commercial Case

5.1 Introduction

KCC has well established procedures for project management and partnership working and has frequently worked in partnership with transport providers, schools, businesses, District and Borough Councils, health services and charity organisations to deliver joint schemes in the sustainable transport sector. In recent years, successful projects have been delivered with Southeastern (LSTF-funded Station Forecourt Enhancements), Arriva, Stagecoach and other bus operators (Bus corridor and route upgrades), Schools (Walking and Cycling Behaviour change initiatives and infrastructure enhancements), Businesses (schemes aimed at reducing business transport costs) and Sustrans and British Cycling (Skyride and other related activities). Electric Vehicle Charging Points have also been delivered with District and Borough Councils. Therefore the relationships required to deliver the elements within the scheme are well established, reducing risk and helping to ensure project completion.

5.2 Scheme Procurement

The scheme procurement process will vary according to whether the measure under consideration is to be delivered in house or through partnership working with an external delivery agent. The details of how this will be managed are outlined in section 7. The following provides a summary of the proposed specification, delivery and procurement arrangements for each measure:

Measure	Specification & Delivery lead	Procurement
Fastrack Upgrades (vehicles)	Arriva (to Sapphire specification)	Incorporated in fleet wide procurement programme for 2015.
Station Access improvements and town centre links	Southeastern	Separate tenders for the: - Construction of the Hub - Commissioning of cycle expert - Construction of link to cyclopark
Cycle Parking at Stations and town centres	Southeastern	Cycle stands purchased and installed by public tender based on existing protocols.
Bus/Cycle/Ferry interchange	KCC	All elements to be procured by KCC via existing term contract with Amey
Wayfinding Information	KCC	Manufacture and installation of monoliths and finger posts to be procured by public tender in line with public spending

Measure	Specification & Delivery lead	Procurement
		procurement rules.
Cycle Path - Bob Dunn Way	KCC	Design to be completed either in house or using the existing contract with Amey
Cycle Infrastructure	Network Rail	Contractor to be procured in line with public spending procurement rules.
Future Ticketing Technology	Arriva	Using existing procurement arrangements established for the pilot.
Bus Infrastructure Improvements	KCC	In house staff team to carry out both audit and upgrades to stops

Table 19 – Procurement

NB - Delivery through existing Amey Highways Term Maintenance Contract (HTMC)

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.

5.3 Required Services

The implementation of all measures will be overseen by the KCC scheme promoter with support from the KCC Transport Innovations team of which they are the lead officer. The scope of the works required for project management of each measure is outlined below. KCC management costs will be met by the Project Management measure incorporated within the scheme.

1. Design/specification
2. Procurement
3. Construction
4. Maintenance
5. Monitoring

5.4 Potential for Risk Transfer

There are limited opportunities for the transfer of some risks through the procurement process for the following measures (risks to transfer are adjoined):

- Fastrack Upgrades – build quality
- Station Access improvements and town centre links – construction & timeframe
- Bus/Cycle/Ferry interchange – timeframe
- Cycle Path – design complications
- Wayfinding information – design & timeframe

6 Financial Case

The following budget has been identified for the scheme as a whole in 2015/16. Costs are broken down between LGF contributions to the design/procurement process and the construction process, with the latter including both the costs of capital items and any works required to locate these. Where match funding is to be provided this is identified separately. The source of the financial estimates established for each measure, which together make up the overall budget, is listed in the final column of the table.

West Kent Capital (£000) 15/16	Design/Procurement	Construction	Total LGF contribution	Match funding	Total Scheme Cost	Cost Estimate Source
Fastrack Upgrades (vehicles and infrastructure)	£4	£1,145	£1,149	£3,150	£4,299	Arriva
	22 new high spec vehicles and new infrastructure for Fastrack Route A and B					
Station Access Improvements and Town Centre Links	£4	£771	£775	£0	£775	Quote from industry
	Gravesend Cycle Hub					
Cycle Parking at Stations and town centres	£4	£55	£59	£0	£59	Quote from industry
	Dartford Station					
Bus/Cycle/Ferry Interchanges	£4	£46	£50	£0	£50	GBC
	Improved lighting, signage and public realm between Town Pier Pontoon and West Street Pontoon, Gravesend					
Pedestrian Information Displays	£4	£116	£120	£0	£120	KCC
Cycle Paths	£50	£0	£50	£0	£50	KCC
	Design of new cycle route adjacent to Bob Dunn Way, Dartford to serve a commuting desire line					
Cycle Infrastructure	£4	£21	£25	£6	£31	High Speed 1 (Quote)
	New cycle storage and cycle route through Ebbsfleet Station car park to the station entrance					
Future Ticketing	£4	£16	£20	£0	£20	KCC
	Roll out of smart card to a sixth of Kent Thameside					
Bus Infrastructure Improvements	£4	£136	£140	£0	£140	KCC
	Upgrade of bus infrastructure on the route 306/308 Sevenoaks to Bluewater, and new bus shelters in rural locations					
Project Management	£40	n/a	£40	£0	£40	KCC
Total	**£122**	**£2,306**	**£2,428**	**£3,156**	**£5,584**	

Table 20 – Scheme Costs

If Southeastern's funding bid to DfT for Gravesend cycle hub is successful then there will be £685k match funding made available for station access improvements. This will release £685k of LGF support from that measure reducing the LGF contribution to £90k. The LGF funds would then be used to deliver the Bob Dunn Way Cycle Path towards the end of 15/16 when the design is complete.

6.1.1 Overall Affordability

The major proportion of the 2015/16 budget is made up of a match funding contribution from Arriva of £3,150m. This funding is secure and the vehicle procurement process it supports is already underway. The continuation of the scheme design, procurement and eventual construction of all other measures is entirely dependent on LGF funding, unless Southeastern are successful with their funding bid to DfT for the Gravesend Station Cycle Hub.

The budget will be further refined as the design process proceeds with the bulk of costs expected to contribute to the purchase and installation of infrastructure. Maintenance costs for all measures delivered by external partners will be met by their maintenance budgets, as the improvements will be the asset of the delivery partner. All measures delivered on the highway will be maintained by KCC, the lead Partner, from their existing maintenance budget.

7 Management Case

7.1 Overview

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.

7.2 Project Plan

The project timetable for the scheme is still at a relatively early stage and will be refined as the design and procurement processes become clearer. Assuming that funding for the scheme measures is available the following chart indicates the schedule for 2015/16:

Task	Milestones				2014/15		2015/16			
	Duration	Start	Finish	% complete	Q3	Q4	Q1	Q2	Q3	Q4
Fastrack Vehicle Upgrades		01/08/2014	01/03/2016							
Outline Design	20 weeks	01/10/2014	17/02/2015	100						
Detailed Design	8 weeks	17/02/2015	14/04/2015	0						
Consultation	6 weeks	14/04/2015	26/05/2015	0						
Procurement										
PQQ	4 weeks	26/05/2015	23/06/2015	0						
Tender Documents	4 weeks	23/06/2015	21/07/2015	0						
Tender Period	12 weeks	21/07/2015	13/10/2015	0						
Contract Award	0	13/10/2015	13/10/2015	0						
Implementation										
Mobilisation	10 weeks	13/10/2015	22/12/2015	0						
Construction	10 weeks	22/12/2015	01/03/2016	0						
Cycle Hub - Gravesend Station		01/09/2014	09/03/2016							
Outline Design	4 weeks	01/10/2014	29/10/2014	100						
Detailed Design	8 weeks	01/04/2015	27/05/2015	0						
Consultation	5 weeks	27/05/2015	01/07/2015	0						
Procurement										
PQQ	4 weeks	01/07/2015	29/07/2015	0						
Tender Documents	4 weeks	29/07/2015	26/08/2015	0						
Tender Period	12 weeks	26/08/2015	18/11/2015	0						
Contract Award	0	18/11/2015	18/11/2015	0						
Implementation										
Mobilisation	6 weeks	18/11/2015	30/12/2015	0						
Construction	10 weeks	30/12/2015	09/03/2016	0						
Cycle Parking at Stations		12/01/2015	17/08/2015							
Outline Design	2 weeks	12/01/2015	26/01/2015	0						
Detailed Design	2 weeks	13/04/2015	27/04/2015	0						
Consultation	4 weeks	27/04/2015	25/05/2015	0						
Place order	2 weeks	25/05/2015	08/06/2015	0						
Implementation										
Mobilisation	6 weeks	08/06/2015	20/07/2015	0						
Construction	4 weeks	20/07/2015	17/08/2015	0						
Access to Ferry		05/01/2015	05/10/2015							
Outline Design	4 weeks	05/01/2015	02/02/2015	0						
Detailed Design	8 weeks	06/04/2015	01/06/2015	0						
Consultation	4 weeks	01/06/2015	29/06/2015	0						
Implementation										
Mobilisation	6 weeks	29/06/2015	10/08/2015	0						
Construction	8 weeks	10/08/2015	05/10/2015	0						
Pedestrian Information Displays		01/10/2014	31/03/2016							
Pilot study	26 weeks	01/10/2014	31/03/2015	75						
Procurement										
PQQ	12 weeks	01/12/2014	03/03/2015	75						
Tender Documents	6 weeks	03/03/2015	14/04/2015	0						
Tender Period	20 weeks	14/04/2015	08/09/2015	0						
Contract Award	0	08/09/2015	08/09/2015	0						
Implementation										
Mobilisation	12 weeks	08/09/2015	25/11/2015	0						
Construction	16 weeks	25/11/2015	23/03/2016	0						
Bob Dunn Way Cycle Route		05/01/2015	17/12/2015							
Outline Design	4 weeks	05/01/2015	02/02/2015	0						
Detailed Design	12 weeks	27/04/2015	20/07/2015	0						
Consultation	4 weeks	21/07/2015	18/08/2015	0						
Ebbsfleet Cycle Infrastructure Improvements		22/01/2015	03/09/2015							
Outline Design	4 weeks	22/01/2015	19/02/2015	0						
Detailed Design	6 weeks	19/02/2015	02/04/2015	0						
Consultation	4 weeks	02/04/2015	30/04/2015	0						
Implementation										
Mobilisation	6 weeks	30/04/2015	11/06/2015	0						
Construction	12 weeks	11/06/2015	03/09/2015	0						
Future Ticketing Technologies		01/04/2015	16/01/2016							
Outline Design	4 weeks	01/04/2015	29/04/2015	0						
Detailed Design	8 weeks	30/04/2015	25/06/2015	0						
Order placed	2 weeks	26/06/2015	10/07/2015	0						
Implementation										
Mobilisation	12 weeks	10/07/2015	02/10/2015	0						
Construction	16 weeks	02/10/2015	16/01/2016	0						
Bus Infrastructure Improvements		30/04/2015	17/03/2016							
Outline Design	8 weeks	25/06/2015	20/08/2015	0						
Detailed Design	8 weeks	03/09/2015	29/10/2015	0						
Consultation	4 weeks	29/10/2015	26/11/2015	0						
Implementation										
Mobilisation	6 weeks	26/11/2015	05/01/2016	0						
Construction	6 weeks	05/01/2016	16/02/2016	0						

Figure 11 – Project Plan

7.3 Project Governance, Roles and Responsibilities

KCC have set up a clear and robust structure to provide accountability and an effective 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.

Figure 12 below provides an outline of the overall governance structure implemented to manage the delivery of each scheme.

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.

Project Steering Group (PSG) Meetings

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.

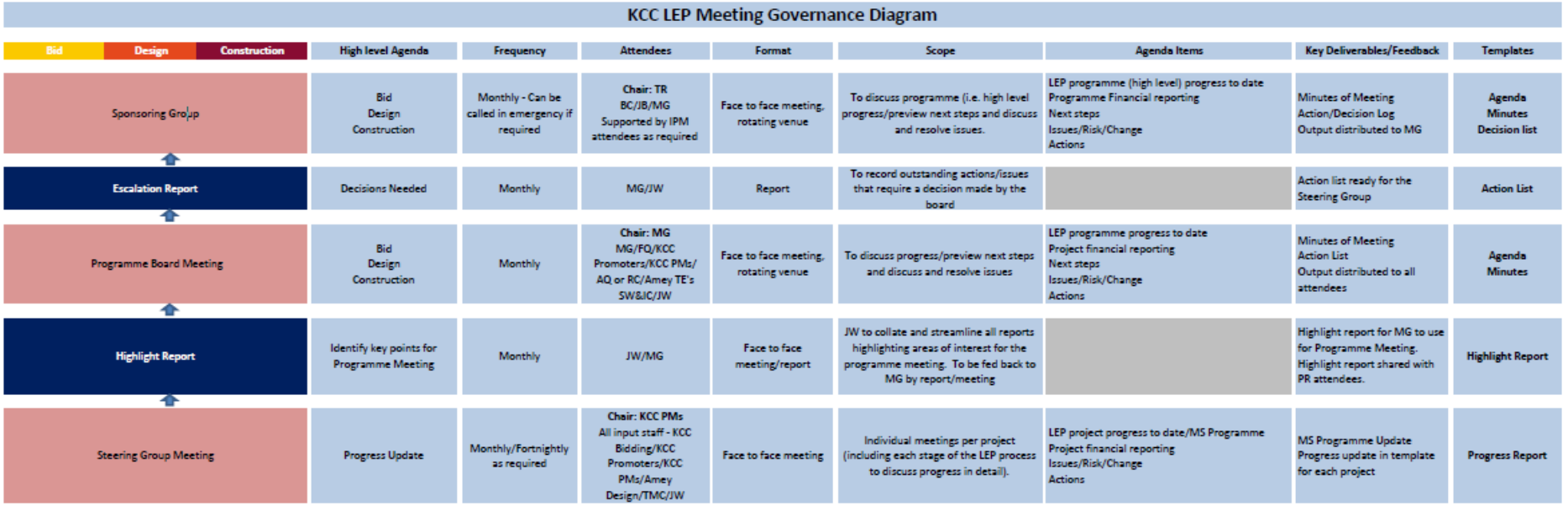
Highlight Report

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

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). 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.

Figure 12 – Governance Diagram



KCC LEP Meeting Governance Diagram

Bid / Design / Construction	High level Agenda	Frequency	Attendees	Format	Scope	Agenda Items	Key Deliverables/Feedback	Templates
Sponsoring Group	Bid Design Construction	Monthly - Can be called in emergency if required	**Chair: TR** BC/JB/MG Supported by IPM attendees as required	Face to face meeting, rotating venue	To discuss programme (i.e. high level progress/preview next steps and discuss and resolve issues.	LEP programme (high level) progress to date Programme Financial reporting Next steps Issues/Risk/Change Actions	Minutes of Meeting Action/Decision Log Output distributed to MG	**Agenda** **Minutes** **Decision list**
Escalation Report	Decisions Needed	Monthly	MG/JW	Report	To record outstanding actions/issues that require a decision made by the board		Action list ready for the Steering Group	**Action List**
Programme Board Meeting	Bid Design Construction	Monthly	**Chair: MG** MG/FQ/KCC Promoters/KCC PMs/ AQ or RC/Amey TE's SW&IC/JW	Face to face meeting, rotating venue	To discuss progress/preview next steps and discuss and resolve issues	LEP programme progress to date Project financial reporting Next steps Issues/Risk/Change Actions	Minutes of Meeting Action List Output distributed to all attendees	**Agenda** **Minutes**
Highlight Report	Identify key points for Programme Meeting	Monthly	JW/MG	Face to face meeting/report	JW to collate and streamline all reports highlighting areas of interest for the programme meeting. To be fed back to MG by report/meeting		Highlight report for MG to use for Programme Meeting. Highlight report shared with PR attendees.	**Highlight Report**
Steering Group Meeting	Progress Update	Monthly/Fortnightly as required	**Chair: KCC PMs** All input staff - KCC Bidding/KCC Promoters/KCC PMs/Amey Design/TMC/JW	Face to face meeting	Individual meetings per project (including each stage of the LEP process to discuss progress in detail).	LEP project progress to date/MS Programme Project financial reporting Issues/Risk/Change Actions	MS Programme Update Progress update in template for each project	**Progress Report**

List of Initials:

BC	Barbara Cooper
JB	John Burr
TR	Tim Read
MG	Mary Gillett
FQ	Fayyaz Qadir
AQ	Andrew Quilter
CM	Chris Morris
RC	Richard Cowling
SW	Steve Whittaker
IC	Ian Cook
JW	Joanne Whittaker

Escalation Report

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

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

Project Roles and Responsibilities

Role	Name
KCC SELEP Schemes Delivery Manager	Mary Gillett
Project Sponsor	Kerry Prescott

7.4 Availability and Suitability of Resources

The scheme is intended to be delivered using a collaborative approach between KCC staff and their appointed support organisation Amey. KCC have identified appropriately trained and experienced staff that will be the responsible for the delivery of the scheme. The identified staff fulfilling the Project Sponsor role for the scheme has been ring-fenced to support the scheme throughout its duration and will have more junior staff available to support them.

Furthermore, the Project Sponsor and Project Manager will utilise appropriate staff from two existing contracts with Amey. Design and technical services support will be provided through the Technical and Environmental Services Contract (TESC) which is active until at least 2018. Amey have a dedicated multi-discipline team located in Maidstone to support the LGF funded schemes. KCC will also utilise dedicated Amey resource through the existing HTMC contract to undertake the construction of the scheme and also to provide early contractor involvement (ECI), where appropriate, to the design process to ensure best value.

7.5 Evidence of Previously Successful Scheme Management Strategy

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).

The EKA2 scheme, completed in May 2012, was designed to support economic development, job creation and social regeneration, improving access with high quality connections between the urban centres, transport hubs and development sites in East Kent. The overall objectives of the scheme were to unlock the development potential of the area, attract inward investment and maximise job opportunities for local people. The extent of the scheme is shown in the Figure below.

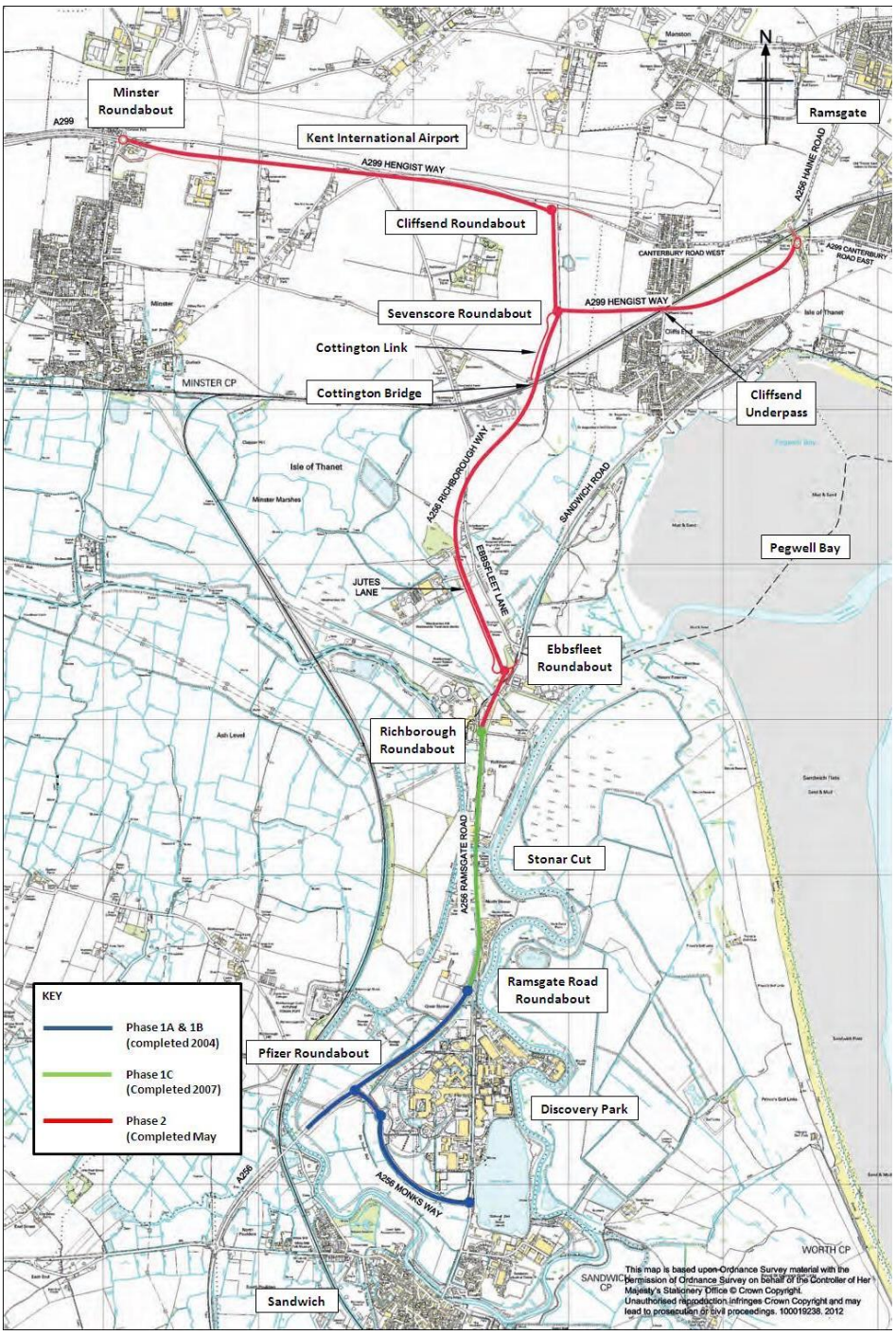


Figure 13 – EKA2 Scheme Layout

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 current LEP funded schemes. The total value of the scheme was £87.0m of which £81.25m was funded by Central Government.

The intended scheme outcomes are currently being monitored but the intended benefits of the scheme are anticipated to be realised.

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.

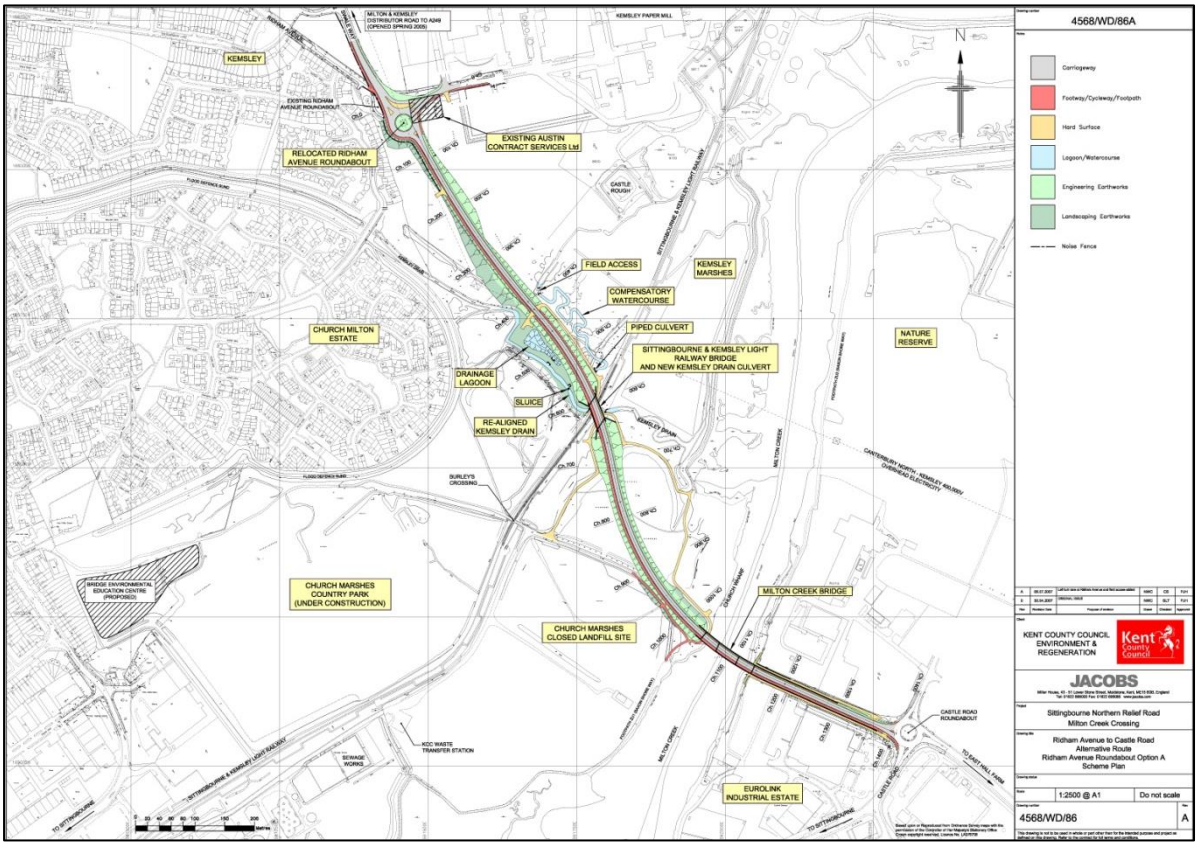


Figure 14 – SNRR Scheme Layout

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 Kent Thameside 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.

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

7.6 Project Risks

Project risk is managed as an on-going process as part of the scheme governance structure, set out above. 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.

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.

An example scheme risk register is shown below:

Figure 15 – Example Risk Register

7.7 Gateway Review Arrangements

Since this scheme is being funded through a completely new arrangement of devolved major scheme funding, the Gateway Review arrangements are as yet undefined. As the Transport Business Case progresses, these will be fully defined and reported, in consultation with the LEP and other stakeholders.

7.8 Project Assurance

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

7.9 Monitoring, Evaluation and Reporting

Overall Scheme

The overall impact of the scheme will be monitored using the traffic counts at congestion hot spots as defined in the scheme appraisal process. This will be undertaken by the scheme promoter examining the traffic counts at 6 and 12 months into 2015/16. Results will be compared with the projections for reduced cars and increases in bus and cycle use at each hot spot and once analysed will form part of the scheme promoters report to the overall management group for LGF schemes. Together with the data obtained on individual measures (below) outcomes will also be used to inform the development of scheme measures in future years.

Fastrack Vehicle Upgrades

Passenger data is currently captured by the Ticket Machines on Fastrack vehicles and downloaded to bespoke software in spreadsheet format. The passenger numbers broken down between those paying fares and concessionary pass holders (School/Pensioner) are already collated monthly and submitted to KCC the contractor in the case of Fastrack B and Prologis the contractor in the case of Fastrack A. In addition there is a requirement for passenger satisfaction surveys to be carried out at least annually.

The above will remain a requirement of the terms and conditions of the new service contracts issued. However, going forward, the results will be shared with a Fastrack Management board currently in the process of being established. These results will be evaluated by the board and used to inform future service development. In addition they will be passed, together with any board recommendations for action, to the LSTF capital scheme promoter to enable them to compare the outcomes to the current baseline. They will also form part of the scheme promoters report to the overall management group for LGF schemes. Due to the commercially sensitive nature of the data this will not form part of any published report.

Station Access Improvements and Town Centre Links

The Gravesend Station cycle hub will be monitored by Southeastern undertaking regular (monthly or bimonthly) counts of the cycles using it and occasional satisfaction surveys of hub users. Results will be evaluated by them and used to inform development of the hub. They will also be passed to the scheme promoter for them to monitor overall progress with the measure with the results of this forming part of the scheme promoters report to the overall management group for LGF schemes.

Cycle Parking at Stations and town centres

Cycle parking at Dartford Station will be monitored, evaluated and reported in the same way as that for Gravesend Cycle Hub.

Wayfinding Information

Wayfinding information will be monitored by KCC using counts of those using signs and satisfaction surveys. Results will be compared with a baseline of zero and included in the scheme promoters report to the overall management group for LGF schemes.

Cycle Path - Bob Dunn Way

As only the design stage for this measure is due to take place in 2015/16 monitoring will consist of regular examinations of the design reports produced. This will be undertaken by the scheme promoter on behalf of KCC and subsequently form part of their report to the overall management group for LGF schemes.

Future Ticketing Technology

The roll out of future ticketing technology will be managed by Arriva and monitored by them, based on the number of services improved. They will also include questions on the technology introduced in the passenger satisfaction surveys they regularly undertake on their services. Results will subsequently be reported directly to the scheme promoter for inclusion in their report to the overall management group for LGF schemes.

Bus Infrastructure Improvements

KCC will monitor the results of infrastructure audits undertaken to establish the number of these, the shortcomings in infrastructure identified and the improvements made. Subsequently Arriva will be asked to include questions on the infrastructure introduced in the passenger satisfaction surveys they regularly undertake on their services. The responses obtained to these will be reported back to the scheme promoter for inclusion in their report to the overall management group for LGF schemes.

8 Conclusions and Recommendation

8.1 Conclusions

The proposed 2015/16 LSTF scheme demonstrates a clear benefit in terms of reducing congestion for those that now and in the future, that travel through the key congestion hot spots in Kent Thameside. This has been subjected to an economic appraisal using WebTAG principles and has demonstrated a high CBR over the life of the overall scheme.

8.2 Recommended Approach and Next Steps

Following submission of this Strategic Outline Case to the South East Local Enterprise Partnership and the agreement to allocate funds, it is recommended that the specification for the measures be taken forward for further detailed assessment and implementation.

It is also recommended that KCC seek to improve their collation of data sources in the area of pedestrian and cycle movements to ensure measures to address these can be included in future economic appraisal or appraised more comprehensively. This will be assisted by the monitoring of the LSTF pedestrian and cycling measures to be implemented in both West Kent and Kent Thameside in 2015/16.

8.3 Value for Money Statement

An outline Value for Money Statement has been prepared and will be refined as the Transport Business Case is developed.

8.4 Recommendation

It is recommended that a total of £2,428m LGF funding be allocated to support the Option B LSTF measures proposed for 2015/16.

In addition, it is recommended that KCC continue to fund the scheme preparation costs, including the design and specification of measures in order that implementation can commence as soon as possible in 2015/16.

Appendix A Section 151 Officer Letter