Transport Business Case Report

Maidstone Integrated Transport Package

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1 Introduction

1.1 Overview

1.1.1 Amey have been commissioned by KCC (Kent County Council) to develop proportionate business cases for various South East Local Enterprise Partnership (SELEP) schemes being promoted by Kent to be funded by the South East Growth deal as part of the Government's Local Growth Fund.

1.2 Maidstone Integrated Transport Package

1.2.1 The Maidstone Integrated Transport Package (ITP) aims to reduce congestion and ease traffic movements through the town. The scheme's purpose is to help to fulfil the strategic aims of delivering the SELEP housing and employment growth targets, delivering the Maidstone Borough Council Transport Strategy and Local Plan, whilst complying with DfT transport scheme performance and approval criteria to justify investment of capital funds. The scheme is programmed for delivery before the end of 2017.

1.2.2 The scheme (alongside a number of others across Kent) will contribute to the planned introduction of 165,000 new jobs and construction of 128,000 new homes across the 6 year period 2015 to 2021.

1.2.3 The overall Maidstone ITP has an estimated value of £13.9 million. This total is broadly split across funding years from 2016 to 2020 and comprises of £8.9 million LGF contribution and £5.0 million private sector contribution. Additional potential for funding from the Local Authority is under review.

1.2.4 The Maidstone ITP is intended to be delivered in a phased approach as the exact scheme proposals for some elements of the package are developed in greater detail. The first phase of the Maidstone ITP, and the focus of this business case, is the proposed improvements to the junctions at either end of Willington Street, located to the east of Maidstone town centre.

1.2.5 Willington Street connects the A20 and A274 routes which are the two key corridors into Maidstone from the east and south east. The scope of this first phase if the strategy is to improve the operation of the junction at the northern end of Willington Street with the A20 Ashford Road and the junction at the southern end of Willington Street with the A274 Sutton Road. At present these signalised junctions at each end of Willington Street are heavily congested under peak traffic conditions.

1.2.6 The Willington Street Junction Improvements scheme is intended to be delivered in the financial year 2016/17 with an estimated cost of £1.74 million, incorporating the £1.3m LGF allocation for 2016/17.

1.2.7 The remaining phases of the Maidstone ITP will be detailed in a subsequent updated business case to secure the LGF funding allocated funding for the Maidstone ITP scheme for 2017/18 onwards.

1.3 Area Description

1.3.1 Maidstone Borough is a Non-Metropolitan District bounded by Medway and the district authorities of Tonbridge & Malling, Tunbridge Wells, Swale and Ashford. The main urban settlement within the borough is the county town of Maidstone, with rural villages and parishes making up the remainder (Figure 1-1).

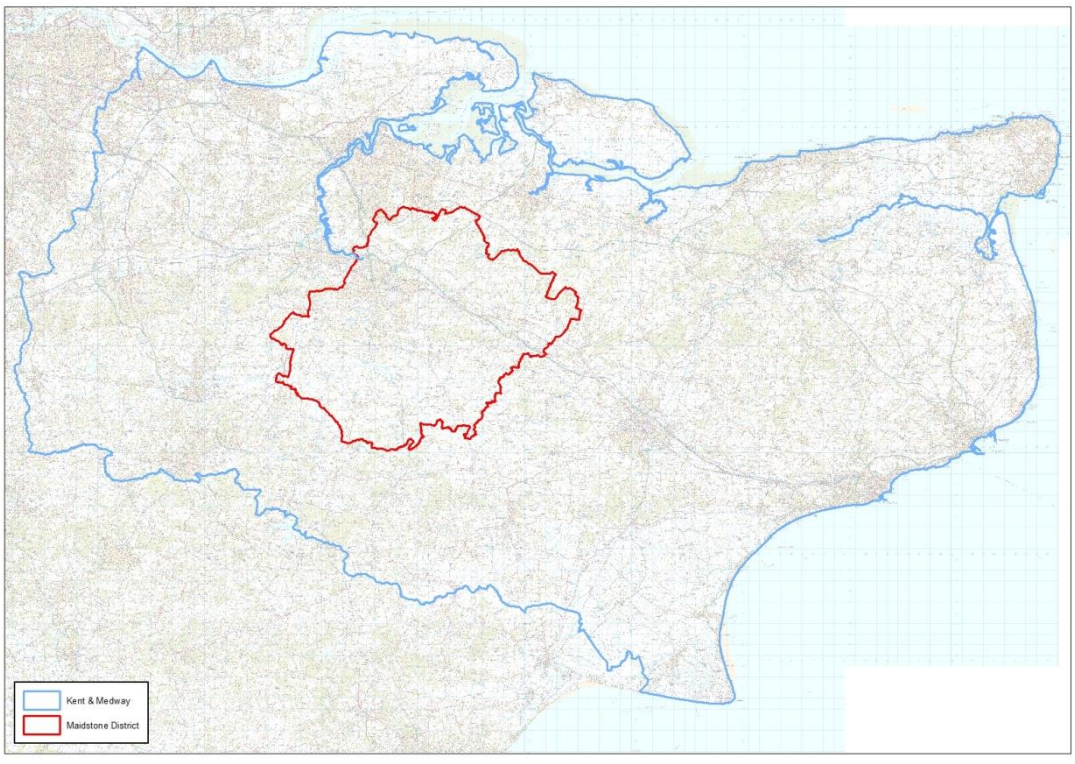


Figure 1-1: Kent and Maidstone Borough Council Boundaries

1.3.2 In 2011, the borough had a population of 155,143 with 80% of these people living in urban areas. Census figures indicate that the population of the town of Maidstone rose by 11% between 2001 and 2011. In 2011, the population of Maidstone town was estimated to be 137,137.

1.3.3 Maidstone is located in the heart of Kent and is the county town, providing an administrative, commercial, education and employment hub.

1.3.4 The M20 passes to the north of the town and can be accessed from Maidstone from Junctions 5 to 8. Maidstone is served by radial routes which converge at the river crossing in the heart of the town. The highway network is such that there are limited opportunities for traffic to move between the radial routes without passing through the river crossing. Willington Street provides one of the few links between the two key radial routes to the east of the town, connecting with the A20 and A274.

1.4 Background to the Business Case

1.4.1 In July 2014, the government negotiated a Growth Deal with 39 Local Enterprise Partnerships (LEPs), which awarded a significant proportion of a £12 billion Local Growth Fund to LEPs.

1.4.2 The South East Local Enterprise Partnership (SELEP) brings together key leaders from business, local government, further and higher education in order to create the most enterprising economy in England through exploring opportunities for enterprise while addressing barriers to growth Covering Essex, Southend, Thurrock, Kent, Medway and East Sussex and are the largest strategic enterprise partnership outside of London.

1.4.3 SELEP has secured £442.2 million (as at July 2014) in funding from HM Government to boost economic growth - with a particular focus on transport schemes that will bring new jobs and homes until 2021. This includes £358.2 million for new growth schemes on top of £74 million already committed for large transport projects. The Deal will see at least £84.1 million invested in the SELEP area next year, supporting the delivery of up to 35,000 jobs and 18,000 new homes and over £100 million in private investment over the 6 year period. For Kent the funding allocation is £104 million which was won by the Kent & Medway Economic Partnership – the local arm of the SELEP.

1.4.4 The government asked all LEPs as part of their Growth Deal to sign up to working with them to develop a single assurance framework covering all Government funding flowing through LEPs, to ensure all LEPs have robust value for money processes in place. The purpose of this LEP assurance framework is to support the developing confidence in delegating funding from central budgets and programmes via a single pot mechanism. As part of their Growth Deal, LEPs will be expected to use this national framework to inform how they work locally, which must be set out in their own local assurance framework.

1.4.5 It is important that all LEPs have robust arrangements in place to ensure value for money and effective delivery, through strong project development, project and options appraisal, prioritisation, and business case development.

1.4.6 The methodology used to assess value for money and the degree of detail to which business cases are developed in support of particular projects or programmes should be proportionate to the funding allocated and in line with established Government guidance including the HM Treasury Green Book. Typically the Government expect business cases to address, in a proportionate manner, the 5 cases set out in supplementary guidance to the Green Book.

1.5 Purpose of this Document

1.5.1 This report follows the 5 case model guidance issued by DfT for Business Case preparation. The intention of the report is to provide robust evidence to the SELEP of the merits of the Willington Street junction improvements as the first phase and key part of a wider integrated transport strategy for Maidstone; and justifying the application for the earmarked 2016/17 LGF funding allocation.

1.6 Structure of the Document

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

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

2 Willington Street Junction Improvements

2.1 Introduction

2.1.1 The junctions at each end of Willington Street are considered to represent significant 'pinch points' along the A20 and A274 corridors, inhibiting traffic movement to the east and south of the town. Both junctions currently operate as signalised T junctions, which cater for heavy turning movements to and from Willington Street.

2.1.2 The scope of the scheme is to improve the existing signalised junctions of Willington Street with the A20 and with the A274 in order to maximise efficiency of the network and reduce queueing and delays. The A274 / Willington Street junction also encompasses the adjacent signalised junction of Wallis Avenue with the A274.

2.1.3 The Willington Street Junction Improvements Scheme will include:

- Widening of carriageway to allow for an additional lane westbound on the A274 on the approach to the Willington Street junction;
- Widening of the westbound carriageway between the Willington Street and Wallis Avenue junctions to allow for 2 lanes of traffic;
- Signal optimisation of the Willington Street and Wallis Avenue junctions to take account of the new arrangement;
- Widening of carriageway to allow for a left turn lane on the westbound approach of the A20 to Willington Street;
- Signal optimisation to take account of the revised junction arrangement; and
- Existing pedestrian and cycle facilities to be retained and enhanced where possible.

2.1.4 Plans showing the specific improvements proposed at each location are contained within **Appendix A** of this report.

2.2 Background

2.2.1 The A20 Ashford Road is the main route to Maidstone town centre from the east and from the M20 junction 8. This single carriageway, 30mph road has an average annual 2 way daily flow of between 13,800 and 21,800 vehicles per hour, to the east and west of the Willington Street junction respectively. The route carries two way peak flows of up to 1,850 vehicles per hour.

2.2.2 The A274 Sutton Road corridor is the main route to Maidstone for the communities to the south east of the town. This route also serves the main commercial and industrial area of Maidstone at Parkwood. The A274 is a single carriageway 30mph road which has a two way average daily flow of 19,000 and peak flows of 1,680 vehicles per hour.

2.2.3 Willington Street provides an important link between the A20 and A274 route corridors to the east of the town centre. A significant number of vehicles travel via Willington Street, the A20 and New Cut to access the M20 at junction 7 and routes to north Kent. The road is heavily used by traffic travelling between the route corridors, attempting to avoid congestion in the town centre. Consequently there is a significant level of turning traffic at each end of Willington Street to and from the A20 and A274.

2.2.4 Figure 2-1 below indicates the location of the junctions to be improved.

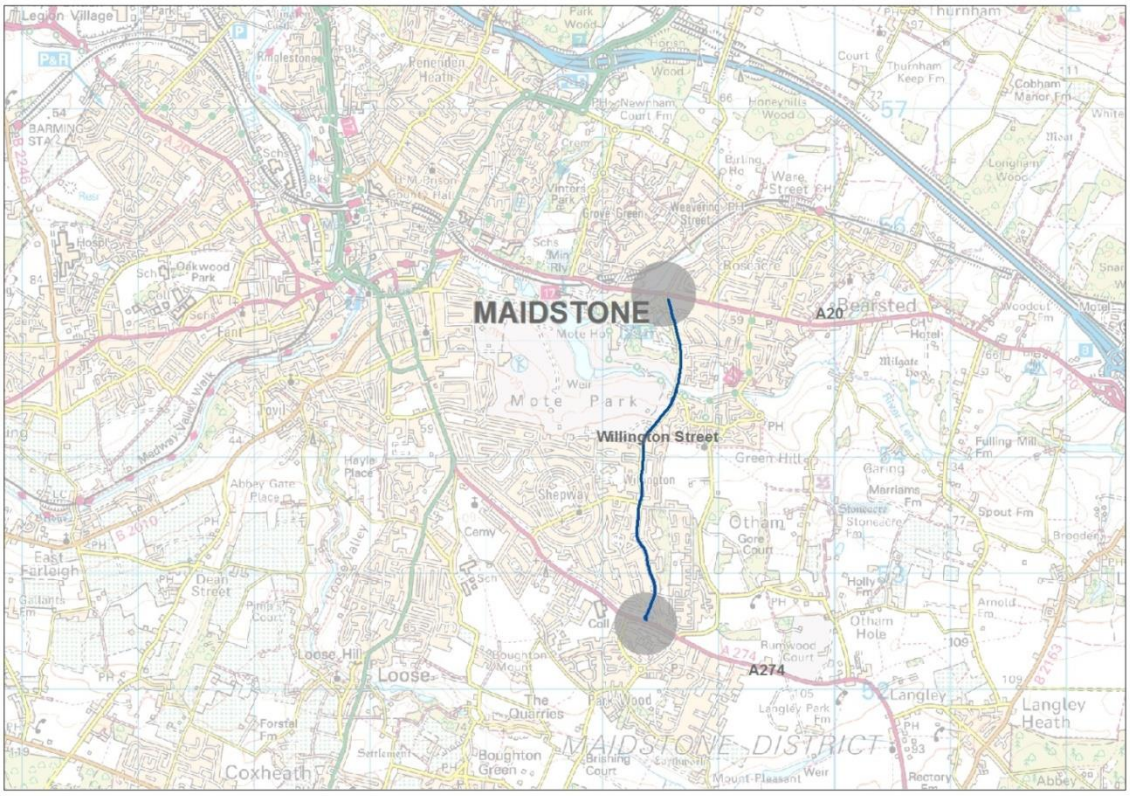


Figure 2-1: Location of Proposed Willington Street Junction Improvements

2.2.5 Willington Street is an unclassified 30mph road serving the residential area with residential frontage. Two way peak hour flows range from 1,200 to 1,800 vehicles per hour at the southern end and northern end of Willington Street, respectively. The Willington Street Park and Ride site is located to the west of Willington Street near to the A20 junction and the Park and Ride bus accesses the site via the A20 / Willington Street junction.

2.3 Purpose of the Scheme

2.3.1 The Willington Street junction improvements are the first phase of the Maidstone ITP, which comprises of a package of measures across the town aimed at reducing the level of congestion within urban area.

2.3.2 The junctions at each end of Willington Street are currently operating with significant delay for traffic on the A20, A274 and on Willington Street, with queues on all arms. The purpose of the scheme is to ease congestion at these junctions, reducing delay and improving journey time reliability and the overall efficiency of the network.

2.3.3 Maidstone Borough Council is committed to the provision of 18,560 additional homes by 2031 as part of the Local Plan housing target. More than 2,000 of these homes are currently planned to the east of the town centre and in particular along the A274 corridor. Improvements to the junctions of Willington Street with the A20 and A274 will be crucial to accommodate additional demand arising from the new homes.

2.4 Complementary Measures

2.4.1 The Willington Street junction improvements are an example of a range of schemes being undertaken by KCC to achieve its strategic aims of being a better, more accessible and more sustainable county. In particular the Willington Street junction improvements will complement the subsequent elements of the wider integrated transport strategy for the Maidstone, which aims to relieve congestion and ease traffic movements through the town.

3 Strategic Case

3.1 Introduction

This section sets out the 'case for change', by explaining the rationale for making investment and presenting evidence on the strategic policy fit of the proposed scheme. This section also sets out the scheme options under consideration.

The Strategic Case establishes the:

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

3.2 Strategic Context

National Transport Priorities

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

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

3.2.3 Transport infrastructure can play a vital role in driving economic growth by improving the links that help to move goods and people around. With regards to the highway network, the strategy aims to;

- increase capacity;
- tackle congestion;
- support development;
- strengthen connectivity; and
- improve reliability and resilience.

3.2.4 The Department for Transport (DfT) is responsible for planning and investing in transport infrastructure to keep people and business in the UK moving. The key priorities for the DfT are aimed at ensuring that these responsibilities are met both now and in future years. Key priorities for the DfT are;

- Continuing to develop and lead preparations for a high speed rail network;
- Improving existing rail and creating new capacity to improve services;
- Tackling congestion on roads;
- Improving road safety;
- Encouraging sustainable travel;
- Promoting lower carbon transport;
- Supporting market for ultra-low emission and electric vehicles;
- Supporting development of aviation; and
- Maintaining high standards of safety and security.

3.2.5 It is clear that whilst not all of the visions are directly associated with the proposed scheme such as rail and aviation, there is considerable overlap between the scheme and measures to tackle congestion and encourage more sustainable forms of travel.

Regional Transport Priorities

3.2.6 In March 2014, the SELEP submitted their Strategic Economic Plan (SEP). Within the six year period covered by the SEP (2015/16 to 2020/21) several considerable developments are planned within Kent. Kent is South East England's fastest recovering region and has potential for successful economic growth. Over the last 20 years Kent has seen 100,000 more people living in the county, housing stock increase by over 60,000 homes and 130,000 more cars on the road. The pace of change is set to accelerate further over the next 20 years with a projected 8% population increase.

3.2.7 Through the Kent and Medway Growth Deal (as part of the Strategic Economic Plan), the public and private sectors intend to invest over £80 million each year for the next six years to unlock potential through:

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

3.2.8 The integrated transport package for Maidstone has been included in the South East Local Enterprise Partnership provisional allocation for transport schemes starting in 2016-17 and beyond. The proposed Willington Street Junction Improvements is a key feature of the integrated transport package.

3.2.9 Growth without Gridlock is the delivery plan for transport investment in Kent, published in 2010. It sets out the priorities for transport investment and how these will be delivered in order to meet the current and future demands of the County in the context of its crucial role in the UK and European economy.

3.2.10 The overarching goal of Growth without Gridlock is to enable growth and prosperity for Kent and the UK as a whole. Although predating the South-East LEP Strategic Economic Plan, the key elements of both are entirely in accord. This has enabled the development of an effective package of transport schemes to be brought forward as part of the Local Growth Fund investment.

3.2.11 In Growth without Gridlock, Maidstone is identified as an area experiencing severe congestion. The key transport challenges facing the town are;

- Tackling congestion hotspots and areas of poor air quality, particularly in the town centre and on the A roads into Maidstone;
- Providing multi-modal access to the town for development proposed to meet the Borough's challenging housing target;
- Maintaining accessibility to the town centre by public transport;
- Maintaining and enhancing rail services, particularly to the City of London.

Local Transport Priorities

3.2.12 The Borough has a target of providing 18,560 new homes by 2031. The location of the new housing is to be distributed across the borough and will be controlled by the policies set out in the Maidstone Borough Local Plan, which is currently being finalised. As part of this plan a number of larger housing developments are planned along the A274 corridor to the south west of the town centre.

3.2.13 The Maidstone Borough Local Plan is supported by a transport strategy which has been developed to manage the additional travel demand that will be generated by proposed new housing

3.2.14 One of the key priorities is the relief of congestion hot spots on the major routes into the town. The objective is to maximise the functionality of the existing network to free up movements around the town where possible. The junctions at each end of Willington Street are both regarded as significant points of congestion for the A20 and A274 which are the main corridors into Maidstone from the south and east.

3.2.15 Air Quality Management is an important element of the transport strategy and air quality is monitored at a number of locations around the town, including Willington Street, the A20 and A274 in the vicinity of the proposed improvements.

3.3 Problem Identified

3.3.1 Kent's LTP3 identifies the following key transport related issues affecting the county;

- Transport congestion;
- Supporting economic growth;
- The need to improve access to jobs and services;

- The need for a resilient network;
- Importance as a UK gateway; and
- A safer and healthier county.

3.3.2 The urban area of Maidstone currently suffers from severe traffic congestion with excessive delay on many of the major radial routes into the town during peak periods. The highway network of Maidstone is dominated by the radial routes and the potential to move between these main corridors is limited. Consequently there are a number of key locations where traffic converges which have been identified as congestion 'hotspots'.

3.3.3 Throughout the urban area of Maidstone the highway network is operating close to capacity during the peak periods. The existing heavy delays are prone to rapid escalation in response to problems that arise at recognised congestion hotspots and from any interruption to traffic flow, however small. This situation is exacerbated by any incidents on the M20 locally and on the M20 corridor generally, the impact of which rapidly spills over into and across the whole town. Delays and congestion through the town result in traffic searching out alternative routes, often on inappropriate roads.

3.3.4 The junctions at each end of Willington Street with the A20 and A274 routes have been identified as congestion 'hotspots'. The A20 and A274 are key routes serving the east and south east of Maidstone. The A20 provides an important link to the M20 at junction 8 and the A274 serves the commercial and industrial area around Parkwood. Willington Street is the only reasonable route for traffic movements between the A20 and A274 corridors which can serve all traffic and offers an alternative to crossing the congested town centre. Consequently the junctions at each end of Willington Street handle a significant volume of turning traffic as well as through movements.

3.3.5 The delay and congestion experienced at each junction inevitably has an impact on the bus services operating along the A20, A274 and Willington Street. This has an impact on the bus journey times and reliability of the services which in turn affects the attractiveness of the bus as an alternative mode of transport.

3.3.6 The Willington Street Park and Ride site is located to the west of Willington Street, near to the junction with the A20. Park and Ride buses and potential users of the services experience delay at the A20 junction when they arrive and leave the site via the A20 junction.

3.3.7 As a stand-alone scheme, the junction improvements are intended to tackle current local issues by:

- Improving the operation of the junctions in order to reduce congestion and delay,
- Improving journey time reliability for all vehicles including public transport.

3.3.8 As the first phase of the Maidstone ITP, the Willington Street Junction Improvements will relieve congestion on two major routes into the town.

3.4 Current Conditions

3.4.1 Congestion at the junctions of Willington Street with the A20 and A274 has been assessed based on manual classified turning counts, queue length surveys and travel times through the junctions.

Queue Length Surveys

3.4.2 Queue length surveys carried out in 2013 at the junction of A274/Willington St indicate significant queues on all arms throughout the peak hour. Figure 3-1 and Figure 3-2 show that queues approach 50 metres in length on Willington Street and 40 metres on the A274 during the peak periods. Throughout the AM peak period there are reasonably consistent queues on the A274 W and on Willington Street.

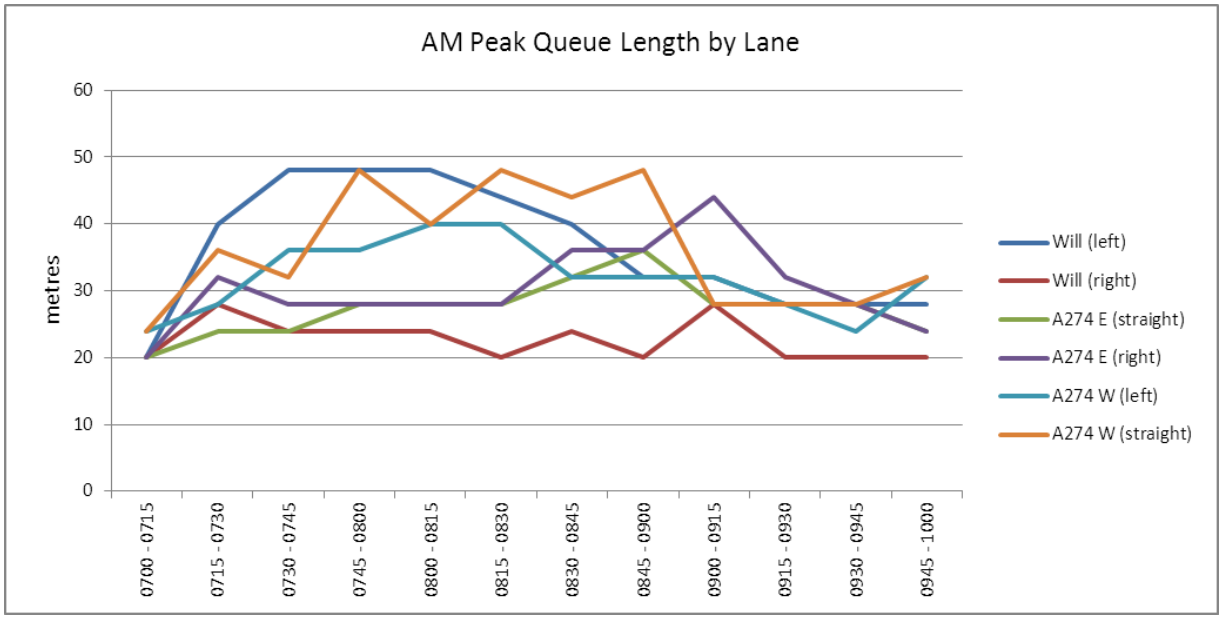


Figure 3-1: A274/Willington Street AM Peak Queues

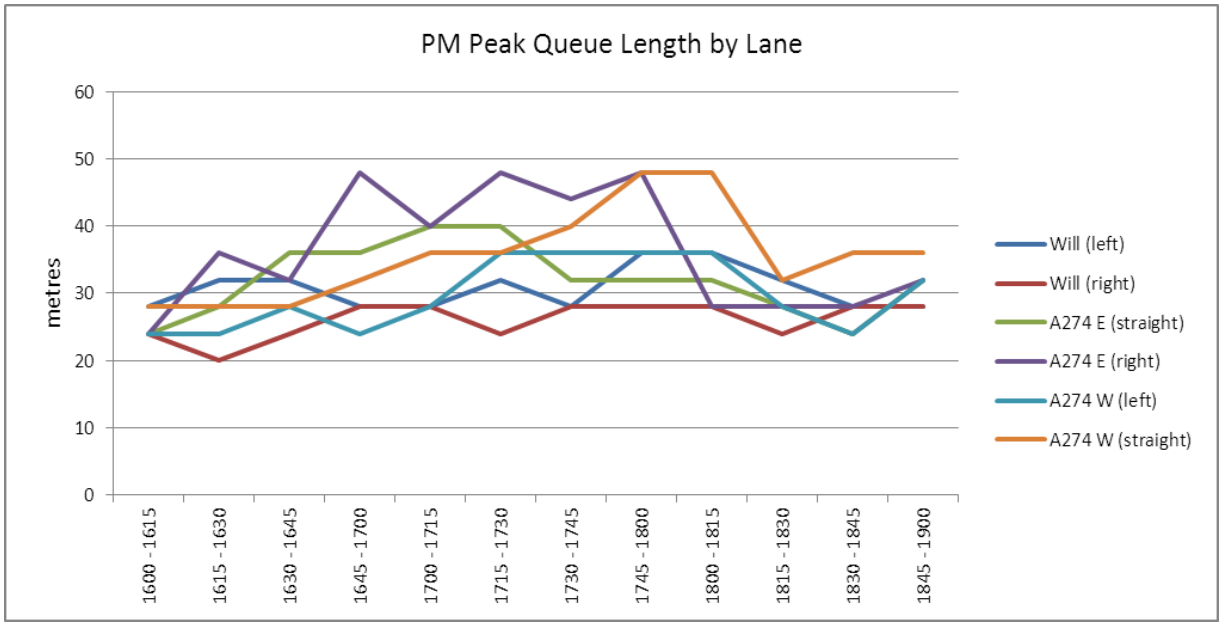


Figure 3-2: A274 / Willington Street PM Queues

Manual Classified Junction Turning Counts

3.4.3 Manual classified junction counts were recorded on 16th July 2014 at each end of Willington Street and are summarised in Figure 3-3 below. The average two way 12 hour traffic flow is over 19,800 on the A20 and over 17,900 on the A274. Willington Street has an average two way 12 hour flow of between 17,400 and 11,800 on the northern and southern sections, respectively.

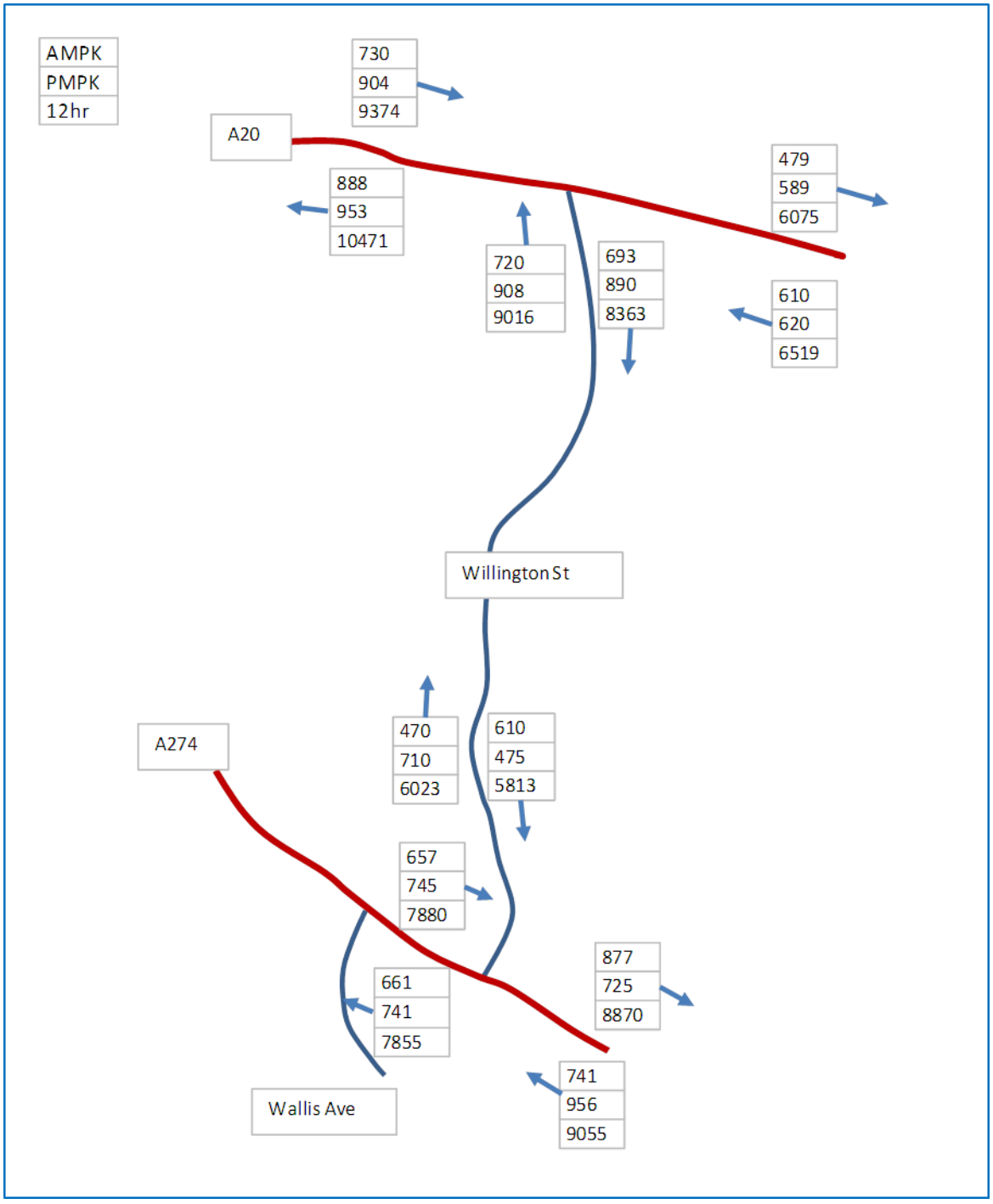


Figure 3-3: Willington Street Traffic (2014)

3.4.4 The junctions at each end of Willington Street both carry a significant volume of traffic throughout the day. During the peak periods the A20 junction caters for 2100 to 2400 vehicle movements, the PM peak having the heavier flows. The A274 junction has a total peak inflow of 2000 to 2180 vehicle movements (Figure 3-4).

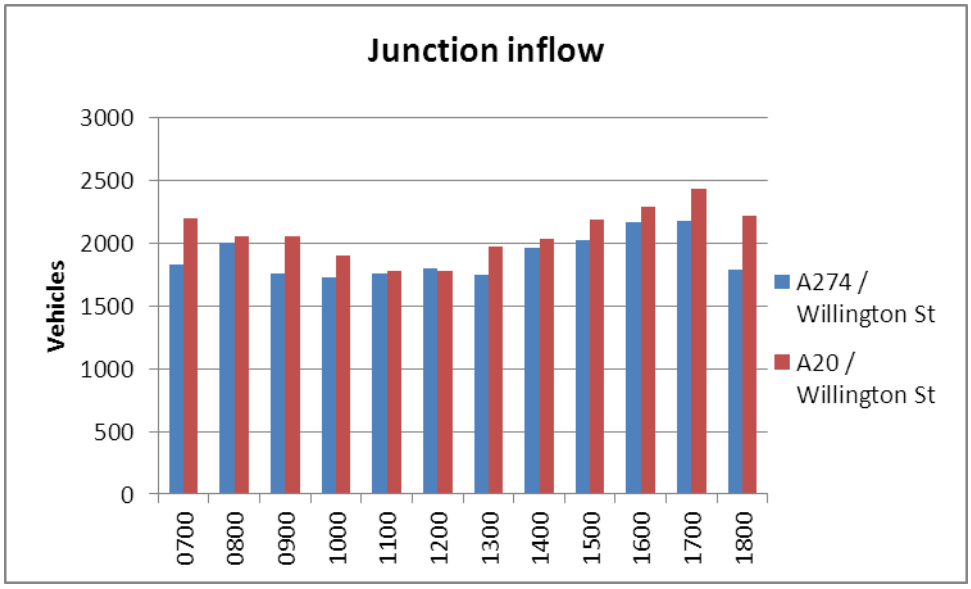


Figure 3-4: Willington Street Junctions - Inflow

3.4.5 The operation of each of the junctions is affected by the pattern of turning movements and the limitations of the current junction layouts. The 2 way link flows on the approach to the A20 junction shown in Figure 3-5 indicate that the A20 (west) and Willington Street are the most heavily used arms.

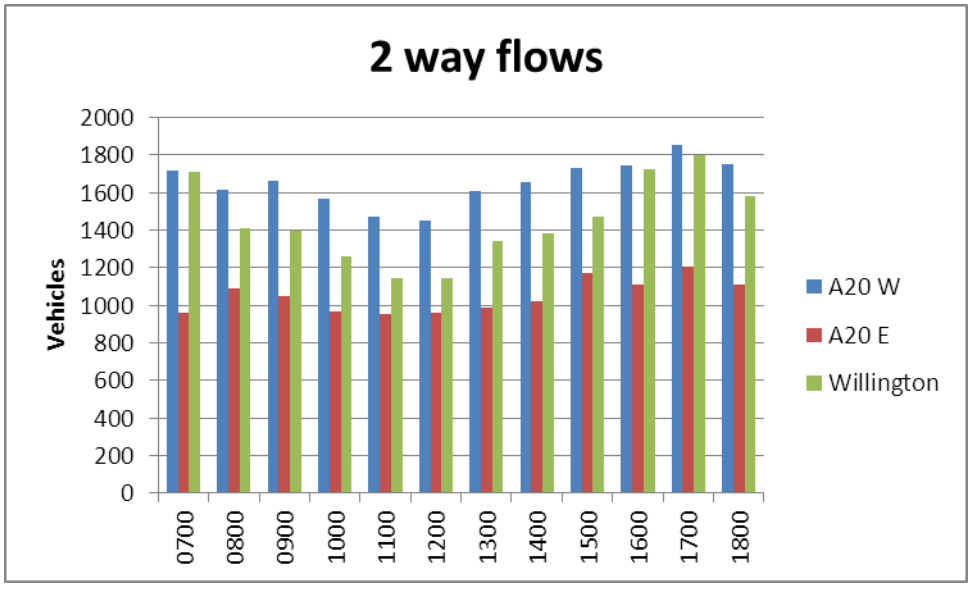


Figure 3-5: A20 / Willington Street Link Flows

3.4.6 At the southern end of Willington Street the flows on A274 (east and west) approaches are dominant at the junction (Figure 3-6). However there is also a significant volume of traffic on the Willington Street approach where HGVs account for 9% of the AM peak traffic moving from the A274 (east) to Willington Street.

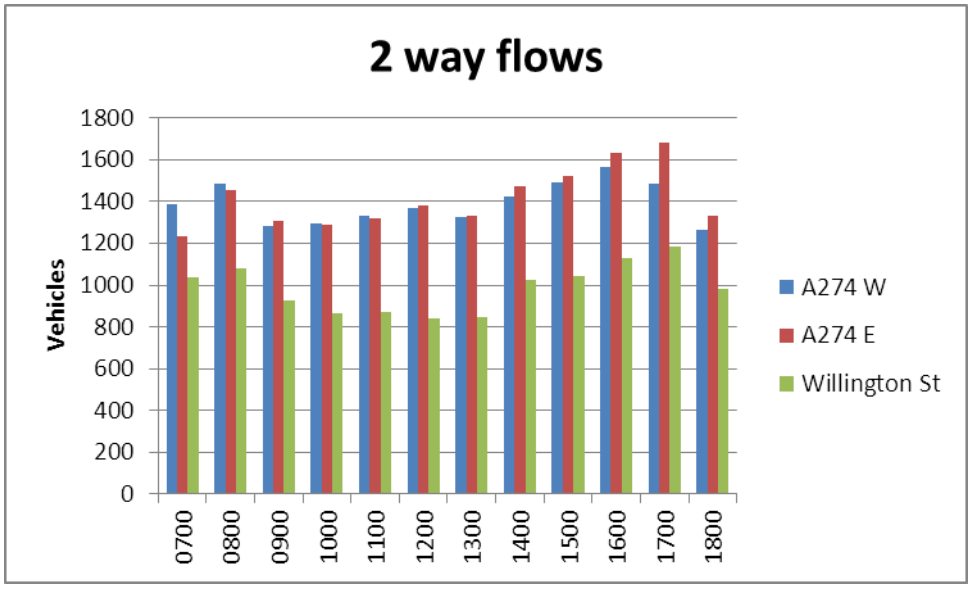


Figure 3-6: A274 / Willington Street Link Flows

Travel Time Data

3.4.7 The impact of congestion and delay on travel time along the A274, A20 and Willington Street has been assessed using Traffic Master GPS data. Weekday travel times have been extracted from 2014 Traffic Master data for three routes over a four week period to capture the impact of typical pattern of delays at the key junctions during the AM and PM peak periods. The routes analysed are;

- A20 between New Cut Road and The Landway to capture the impact of delay to the through movement on the A20;
- A274 between Bircholt Road and Nottingham Avenue to capture the impact of delay to through movements on the A274;
- Willington Street between the A20 and A274 junctions. This will capture the impact of delay to traffic using Willington Street, including the approaches to the junctions at each end.

3.4.8 The minimum, maximum and average travel times for each route are summarised in Figure 3-7. The minimum travel time effectively reflects the free and unimpeded movement of traffic. The difference between the minimum and average travel time indicates the typical level of delay experienced on each of the routes in the peak periods. The maximum travel times recorded were up to 5 minutes longer than the estimated average time.

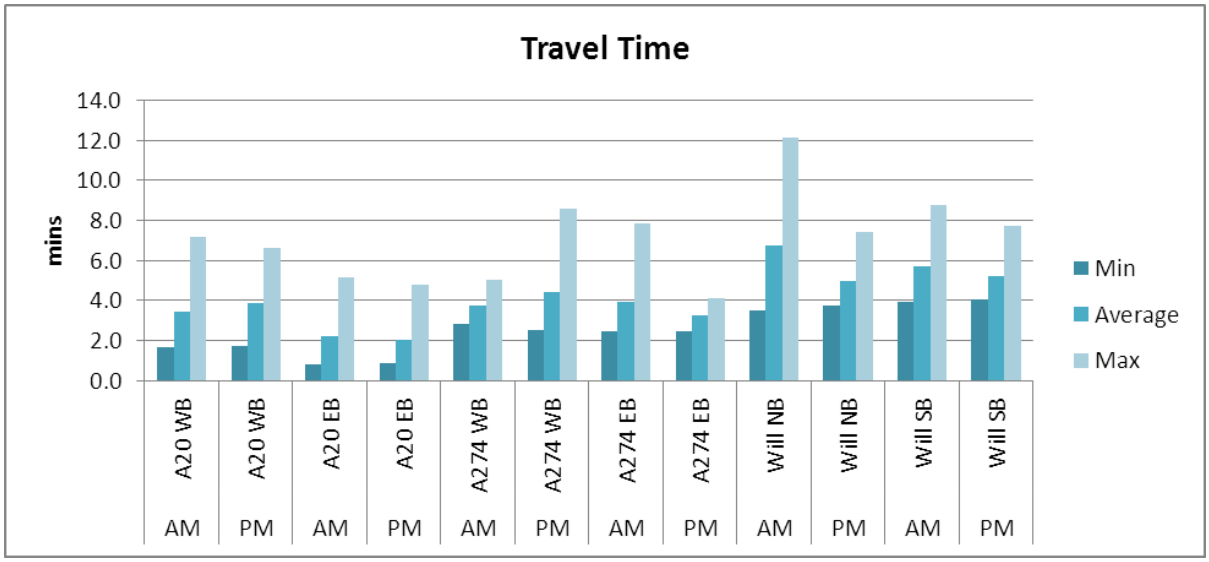


Figure 3-7: AM and PM Peak Travel Time

3.4.9 The frequency of the occurrence of delay above the average provides an indication of journey time reliability. Figure 3-8 indicates the frequency with which the average journey time is exceeded and the percentage of journeys which exceeded the average time by more than 1 minute.

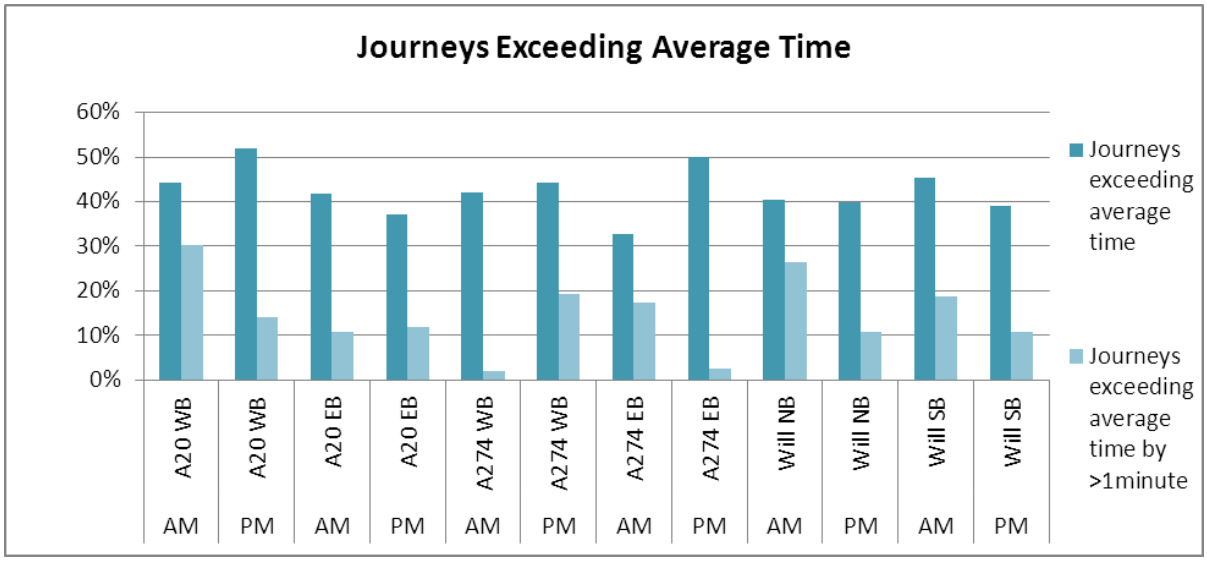


Figure 3-8: Proportion of Journeys Exceeding Average Travel Time

3.4.10 The movements suffering from higher total delay, most frequent delay and most frequent longer delay are:

- A274 eastbound in the AM peak;
- A274 westbound in the PM peak;
- Willington Street northbound in the AM peak;
- Willington Street southbound in the AM and PM peak
- A20 westbound in the AM and PM peak.

Accident Data

3.4.11 The main objective of the Willington Street Junction Improvements is the reduction of delay and congestion. Although the improvements are not designed to deal with issues around crashes specifically, a brief review of available data is included. The data indicates that there were a total of 27 accidents were recorded on Willington Street over a 5 year period between May 2010 and April 2015. In addition there were 4 accidents at or on the approach to the junction of Willington Street with the A20, 4 associated with the junction with the A274 and 5 associated with the junction of Wallis Avenue with the A274.

3.4.12 The observed accident rate for Willington Street and for the junctions is less than the average accident rates used for COBALT, as set out in the WebTAG DataBook (Autumn 2015 v1.4) (Table 3-1). These are determined by the number of personal injury accidents (PIA) every million vehicle kilometres (mvk) for links and PIA per annum for junctions.

Table 3-1: Crash Data

Location	Cobalt Accident rate	Accident rate recorded
Willington Street between A20 and A274	0.41 (PIA/mvk)	0.13 (PIA/mvk)
Junction of Willington St with A20	2.85 (PIA/annum)	0.80 (PIA/annum)
Junction of Willington St with A274	3.02 (PIA/annum)	0.80 (PIA/annum)
Junction of Wallis Avenue with A274	2.70 (PIA/annum)	1.20 (PIA/annum)

Air Quality

3.4.13 The A20, A274 and Willington Street routes all lie within the Maidstone town Air Quality Management Area (AQMA) which incorporates the entire urban conurbation. There are 4 nitrogen dioxide monitoring sites in the vicinity of Willington Street and the junctions with the A20 and A274. The Air quality report for Maidstone[1] for 2014 indicates that annual mean concentration of nitrogen dioxide at each of these sites is currently within the air quality objectives defined for Local Air Quality Management.

3.4.14 Although the existing air quality is at acceptable levels, the main source of air pollution in the borough is traffic emissions, a major factor being the impact of standing and slow moving traffic in queues at congestion 'hot spots'.

3.5 Impact of No Change

3.5.1 Allowing the existing situation to continue is likely to lead to the levels of congestion and delay described above to worsen. This will present a constraint to the planned development aspired to for the A274 and A20 corridors.

3.5.2 The introduction of further homes and employment opportunities to the local area will inevitably increase the number of people using the already saturated highway network. Increasing delay and congestion will encourage drivers to use inappropriate minor roads and to take longer circuitous routes to their destinations.

3.5.3 Bus services will be exposed to the same delay and congestion which will worsen journey times and the reliability of services.

3.5.4 Although the air quality recorded at the monitoring stations is above the recommended threshold it will deteriorate as a consequence of additional traffic travelling through congestion 'hot spots'.

3.5.5 Excessive congestion at key points on the network will further inhibit movement around the town. This in turn will make the town less accessible and consequently less attractive as a retail and business centre.

3.6 Internal Drivers for Change

[1] Maidstone Borough Council LAQM Progress Report 2014 (Bureau Veritas January 2015)

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

3.6.2 A main objective of the Willington Street junction improvements is to reduce delay and congestion on the A274 and A20 corridors and on Willington Street. This will allow the existing network to operate more efficiently and also present some potential capacity to accommodate the future trip growth arising from new development in and around Maidstone.

3.7 External Drivers for Change

3.7.1 Journey time reliability and congestion are the primary drivers and the planned growth of housing and jobs across the South East will contribute the existing problems. Whilst KCC has the power and ability to control what happens within its boundaries, it cannot be accountable for development elsewhere in the South East and beyond which may have repercussions within its boundaries.

3.8 Objectives

3.8.1 The objectives of the scheme align with both local and national strategic aims. The main purpose of the scheme is to reduce delay and ease congestion along the A274 and A20 routes into Maidstone. The introduction of the scheme is expected to reduce delay and improve journey times along these routes, which in turn could help reduce the impact of pollution from vehicles.

3.8.2 The following are the primary objectives associated with the scheme;

- Objective 1: Relieve congestion on the A20 and A274 corridors and on Willington Street, reducing disruption to traffic movements;
- Objective 2: Improve journey times and journey time reliability for all travellers.

3.8.3 Achieving the primary objectives will inevitably lead to a number of secondary objectives being realised although these may not be directly linked. These are likely to be;

- Improvement in bus travel time and reliability attracting travellers to more sustainable modes;
- Improved access to Maidstone town centre to benefit the economic heart of the town; and
- Increase capacity on the network to accommodate further development.

3.8.4 It can be seen that both primary and secondary objectives accord well with the strategic aims of both the local authority and national policy.

3.9 Measures for Success

3.9.1 It is envisaged that successful outcomes from the scheme will be gauged in terms of its easing of travel delays for traffic on Willington Street, the A20 and A274 corridors, delivery of planned homes and jobs growth across the District and improved performance against various measures of transport and travel activity on key routes, specifically:

- Travel time and distance by bus and car;
- Journey time variability by bus and car.

3.10 Constraints

3.10.1 The key constraints likely to affect delivery of the scheme are summarised below:

- KCC committee approval;
- The preferred option may require land take;
- Statutory procedures must be completed in time for works procurement, construction preparation, and the main works;
- LGF funding allocation granted by SELEP.

3.11 Interdependencies

3.11.1 The Willington Street Junction Improvements are the first key phase of the wider ITP for Maidstone.

3.11.2 As a scheme developed in isolation, the Willington Street Junction Improvements are expected to demonstrate benefits locally to Willington Street, the A20 and the A274 corridors.

3.11.3 As the first phase of the Maidstone ITP the scheme will make a major contribution to the overall effectiveness and impact of the wider strategy.

3.12 Stakeholders

3.12.1 Key stakeholders have been identified by KCC who will play a key role in ensuring that the scheme can not only be delivered successfully, but also operated and maintained in future. The list of Stakeholders identified by KCC is neither definitive nor exhaustive and will be added to during the transport business case process. The following have been identified at this stage:

- Maidstone Borough Council;
- Arriva Buses and other smaller operators;
- Land-use developers;
- South East Local Enterprise Partnership;
- Local residents and businesses; and
- Regular users of affected transport facilities (road, rail, bus, walk and cycle).

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

3.13 Options

3.13.1 KCC have considered alternative solutions to improve the operation of the junctions of Willington Street with the A20 and A274. The first option investigated was the optimisation of the existing signal arrangement at the junction the A20 with the north end of Willington Street and the junction of the A274 with the southern end of Willington Street, in conjunction with the Wallis Avenue signals.

3.13.2 The junctions at each end of Willington Street were reviewed and a preliminary assessment of the potential to optimise the current signal arrangements carried out. The optimisation of the existing signal arrangements resulted in minimal changes in traffic delays. It was concluded that there is limited potential to achieve any significant improvements without some physical reconfiguration of the junctions.

3.13.3 The second option, which has been selected as the preferred route forward, was to develop alternative layouts for the junctions with additional lane provision and revised signal arrangements. Indicative layouts for the revised junction layouts are attached in Appendix A.

3.13.4 At the northern end of Willington Street the preferred option proposes an additional lane on the A20 approach to Willington Street from the east, for left turning traffic. This will allow increased capacity for the straight ahead movement westbound at this junction.

3.13.5 At the junction of Willington Street with the A274 an additional lane westbound on the A274 is provided, from east of the junction with Willington Street to west of the junction with Wallis Avenue. This will allow two lanes for straight ahead movements westbound and a right turn lane at the Willington Street signals. The two lanes westbound merge to one lane after the Wallis Avenue junction.

4 Economic Case

4.1 Overview

4.1.1 The Economic Case provides evidence of how the scheme is predicted to perform, in relation to its stated objectives, identified problems and targeted outcomes. The Economic Case determines if the proposed scheme is a viable investment, whose strengths outweigh its weaknesses and which provides good value for money.

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

4.1.3 The junction improvement scheme is being assessed based on LINSIG results of the junction delays comparing the 'with' and 'without' scheme scenarios. These results are available for the AM and PM peaks. The method used was spreadsheet-based, undertaking a TUBA-like calculation for travel time savings for vehicle users and for public transport passengers.

4.1.4 The LINSIG reports are provided as **Appendix B**.

4.2 Economic Case Criteria and Method

4.2.1 The economic case for this scheme is focussed on

- Assessing the direct, localised, economic efficiency benefit of the scheme.
- Qualitative appraisal of wider scheme benefits, relating to other complementary elements of the wider Maidstone ITP.
- Assessing the scheme benefits against the direct scheme costs as an individual package.

4.2.2 The appraisal criteria and overall approach for their assessment are as shown in Table 4-1.

Table 4-1: Appraisal Criteria for Assessing Scheme Performance

Appraisal Criteria	Direct / Indirect Impact Appraisal	Approach Adopted
Journey time savings	Direct	Linsig modelling with TUBA style calculation of benefits
Improved junction layout and journey perception	Indirect	Qualitative
Wider economic impacts (*key part of the transport strategy supporting emerging local plan*)	Indirect	Qualitative

4.3 Assumptions

4.3.1 The economic case has been developed based on the comparison of a 'without scheme (optimisation of existing signals) and the 'with scheme' (proposed improvements to junctions).

4.3.2 The following assumptions have been made in the development of the economic case;

- The signal arrangements modelled for the 'without scheme' scenario are assumed to be optimised, on the grounds that this would be necessary natural step in the future, in the absence of any other junction improvements.
- Optimisation of 'with' scheme signal timings (as shown in LINSIG report).
- Signal delay savings extracted from LINSIG, for weekday AM and PM peak hours, have been annualised over 253 days. There is potential for benefits beyond the peak hours but these have not been accounted for.
- Value of time per vehicle and journey purpose proportions are taken from the WebTAG DataBook (Autumn 2015 v1.4). To be conservative these values are not growthed over time.
- Downstream capacity initially assumed not to be a limiting factor. However, this will be taken into further consideration with regards to the wider transport strategy.
- LINSIG is assumed to be a robust tool for this assessment.

- All efforts will be made to minimise the effect of roadworks and these are not included in the assessment. KCC are aware of importance of minimising the impact of roadworks and successfully operate a lane rental scheme to this end.
- Maintenance costs are not included as the broad network stays unchanged.
- No variable demand responses, particularly trip distribution, have been included.
- Opening year (2017) flows have also been used for forecast years. This will present a conservative estimate of the BCR, and to be realistic with the wider ITP which is likely to include demand management features.
- Optimism bias of 3% - ('final stages of approval') in line with WebTag Unit A1.2 (November 2014). This allows for some safeguards against cost escalation.
- Scheme opening year 2017
- Appraisal period of 10 years – As the wider strategy develops the benefits of this scheme will become entrenched in the wider benefit stream in the longer term.

4.4 Scheme Performance – Willington Street Junction Improvements

4.4.1 The scheme performance locally is assessed based on predicted travel time savings during the peak periods. No account is made for any travel time savings outside the peak hours. The total vehicle travel time is based on the average delay time per vehicle, provided from Linsig output, and the vehicle turning movements (Table 4-2).

Table 4-2: Total Vehicle Movements (2017)

	Total Vehicle Movements (2017)	
Junction	**AM**	**PM**
A20 / Willington St	2085	2456
A274 / Willington St	2043	2193
A274 / Wallis Avenue	1888	2149
Total	6016	6789

4.4.2 Buses are assumed to experience the same average delay per vehicle. The total passenger hours are based on the same average delay per vehicle, the number of buses and the average number of bus passengers per bus. Up to 14 buses per hour pass through each of the junctions in the peak periods. The estimated average number of passengers is based on 50% occupancy of seats. The number of seats per bus is weighted to allow for single and double deck vehicles.

4.4.3 Table 4-3 summarises the opening year delay (total vehicle and passenger hours) with and without the scheme and the travel time saving.

Table 4-3: Localised Scheme Performance – Vehicle and Passenger Delay per day

Scenario	Units	AM	PM	AM + PM
Without scheme	Vehicle hrs	132	245	377
With scheme	Vehicle hrs	62	117	179
Travel time saving	Vehicle hrs	70	128	198
Scenario	**Units**	**AM**	**PM**	**AM + PM**
Without scheme	Passenger hrs	10	25	35
With scheme	Passenger hrs	8	14	22
Travel time saving	Passenger hrs	2	11	13

4.5 Appraisal Summary Table

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

4.5.2 The Willington Street Junction Improvements is essentially a highway scheme and the key quantitative outcome has been calculated for travel time savings. These are recorded as travel costs for commuters and other users. Qualitative statements are included for other key items.

4.5.3 It is noted that highway schemes are often assessed with both travel time savings and accident benefits. Accident benefits normally come from a change of junction or link types or of flow volume. Scheme accident benefits have not been directly assessed in this case because the proposed scheme does not involve any change to junction types or to traffic flows. In addition the accident rate in the area is not above what might be expected and the scheme is not being promoted as an accident reduction measure.

However analysis of this data will become part of the design process; and accident monitoring will be part of the post-opening evaluation.

4.6 Present Value Outcomes from Economic Appraisal

4.6.1 The present value outcomes of the Willington Street Junction Improvements are set out in Table 4-4, which summarises the Analysis of Monetised Costs and Benefits (AMCB). The costs and benefits are calculated based on the following:

- Scheme cost (2015 prices) - KCC supplied (**Appendix D**);
- Risk and optimism bias adjusted cost (2015 prices excl. VAT);
- Risk and optimism bias adjusted cost in 2010 prices;
- Discounted Risk and optimism bias adjusted cost in 2010 prices;
- Discounted Risk and optimism bias adjusted cost in 2010 market prices;
- User Benefits (PVB) for the initial BCR are based on vehicle and bus user time savings.

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

Item	Present Value (£000s)
User Present Value Benefit (PVB)	£5,734
Capital Present Value Cost (PVC)	£1,443
Scheme Net Present Value (NPV) = PVB - PVC	£4,290
Scheme Initial Benefit to Cost Ratio (BCR) = PVB / PVC	3.97

4.7 Sensitivity Tests

4.7.1 Sensitivity tests have been carried out to provide a broader understanding of the value for money presented by the Willington Street Junction Improvements. The initial BCR of 3.97 is based on travel time benefits for vehicle users and for bus passengers. The sensitivity tests, which address the assumptions made in the calculation of traveller benefits and the estimation of costs, are summarised in Table 4-5.

Table 4-5: Sensitivity Test Summary (2010 present values and prices)

Item	Present Values (£000s)		
	Initial BCR	**Test 1**	**Test 2**
	Vehicle user & bus user benefits	**Vehicle user benefits only**	**Vehicle user benefits only & cost increase by 50%**
Present Value Benefit (PVB)	£5,734	£5,479	£5,479
Present Value Cost (PVC)	£1,443	£1,443	£2,165
Net Present Value (NPV) = PVB - PVC	£4,290	£4,036	£3,315
Benefit to Cost Ratio (BCR) = PVB / PVC	3.97	3.80	2.53

4.7.2 Based on travel time benefits for vehicle users only, the BCR is 3.80. An increase of 50% in scheme costs would reduce the BCR to 2.53.

4.8 Value for Money Assessment

4.8.1 The initial BCR of 3.97 for the Willington Street Junction Improvements is based on travel time savings alone and is reported in the Analysis of Monetised Costs and Benefits (AMCB) Table 4-4.

4.8.2 The Value for Money (VfM) Assessment of the initial BCR of 3.97 would be 'high' based on the DfT 'Value for Money Assessment: Advice Note for Local Transport Decision Makers'. Sensitivity tests around the estimated benefits and scheme costs reduce the initial BCR to 2.53, which would also return a VfM assessment of 'high'.

4.8.3 The Value for Money Assessment builds on the initial BCR with the objective of capturing qualitative and quantitative impacts in an adjusted BCR.

4.8.4 The Willington Street Junction Improvements, as part of the wider ITP, are expected to contribute to improvements in journey time reliability on the major route corridors. Journey time reliability benefits for the Willington Street Junction Improvements, as the first phase of the strategy, have not been directly quantified and the adjusted BCR for the Willington Street Junction Improvement is based on a qualitative assessment.

4.8.5 The impact of the Willington Street Junction Improvements on journey time reliability is assumed to be slight, which the DfT 'Value for Money Assessment: Advice Note for Local Transport Decision Makers' suggests may be reflected by a 5% uplift in time savings. A 5% uplift in the benefits from time savings would result in a BCR of 3.99.

4.8.6 The Value for Money Assessment has been summarised in Table 4-6 below.

Table 4-6: Summary of Scheme Value for Money Assessment

Scheme Value for Money (VfM) Summary				
VfM Component	**VfM Assessment Mechanism & Outcome Measurement Method**	**Scope of VfM Component**	**VfM Component Strands**	**VfM Outcome** **Qualitative (See 2nd Column)**
Initial BCR	Quantified BCR, or 5pt Qualitative BCR: Poor (<1.0) Low (1.0-1.5) Medium (1.5-2.0) High (2.0-4.0) Very High (>4.0)	Derived from usually-monetised scheme user economic appraisal and cost/benefit analysis	Economic Efficiency (Consumer Users) – Economic Efficiency (Business Users & Providers) – Noise – Local Air Quality – Greenhouse Gases – Journey Quality – Physical Activity – Accidents – Wider Public Finances (Indirect Tax revenues) – Broad Transport Budget –	
			Overall	High (3.97)
Adjusted BCR	Quantified adjustment to BCR, or 5pt Qualitative adjustment to BCR: Poor Low Medium High Very High	Initial BCR adjusted to allow for sometimes-monetised scheme impacts	Journey Reliability – slight (5% uplift of time benefits) Area Regeneration – Wider economy – Landscape – Non-user option / non-use values –	
			Overall Adjusted	High
Qualitative Assessment	7pt Qualitative outcome: Large Beneficial Moderate Slight Neutral Slight Moderate Large Adverse	Covers rarely-monetised scheme impacts	Townscape – Heritage / Historic Environment – Biodiversity – Water Environment – Security – Access to Services – Affordability – Severance –	
			Overall	Neutral
Initial VfM Category	4pt Qualitative outcome: Low Medium High Very High	Aggregate of above VfM components, excluding risk component	Initial BCR – High Adjusted BCR – High Qualitative Assessment - Neutral	
			Overall Initial VfM Category (excluding risk adjustment)	High
Key Risks, Uncertainties & Sensitivities	7pt Qualitative negative or positive adjustment to initial VfM: Large Beneficial Moderate Slight Neutral Slight Moderate Large Adverse	*Risk around scheme performance, outcome sensitivity, outline capital costs over or under estimated etc.*	Scheme performance may be impinged on by other works – slight adverse Conservative estimate of scheme performance – slight beneficial	
			Overall risk/uncertainty/sensitivity adjustment	Neutral
Final VfM Category	**4pt Qualitative outcome:** **Low** **Medium** **High** **Very High**	**Aggregate of above VfM components, including risk component**	**Overall Final VfM Category (including risk adjustment)**	**High**

4.9 Overall Value for Money Statement

4.9.1 The initial BCR calculated for the scheme is 3.97. This is based on conservative estimates of travel time benefits in the peak hours only. The improved junctions also offer the potential for improved journey time reliability for consumer users, business users and providers.

4.9.2 The overall Value for Money category for the Willington Street Junction Improvements, as a stand-alone element of the Maidstone ITP, is considered to be High.

4.10 Wider Integrated Transport Strategy

4.10.1 The wider ITP for Maidstone is currently being finalised in association with the local plan process, which will build on and lock in the benefits gained from the Phase 1 schemes. The strategy, which takes into account the location and quantum of development included in the local plan, will include a package of measures aimed at demand management and further improvement of network efficiency.

5 Financial Case

5.1 Overview

5.1.1 The Financial Case for Phase 1 of the Maidstone ITP gives an breakdown of the expected project cost components and the time profile for the transport investment. It considers if these capital costs are affordable from public accounts at the times when the costs will arise. It also identifies where contributions of anticipated funding will be obtained, to meet the scheme costs and it assesses the breakdown of funds between available sources and by year and considers how secure these funds are likely to be. Finally, it reviews the risks associated with the scheme investment and examines possible mitigation.

5.2 Phased Approach

5.2.1 The Maidstone ITP has been developed in conjunction with the Maidstone local plan which is currently being finalised. The objective of the strategy is to accommodate and manage the current heavy travel demand as effectively as possible, in the expectation of the forecast development in the Local Plan.

5.2.2 The strategy will incorporate a wide package of highway and demand management measures. The highway measures proposed are aimed at maximising the efficiency of the network within the limitations of what is feasibly achievable. The Willington Street Junction Improvements are to be completed as the first phase in this process.

5.2.3 This funding bid, for the Maidstone ITP, has been phased, to cover the initial 2016/17 costs of Phase 1, Willington Street Junction Improvements, and also the subsequent costs of complementary transport improvements which form part of the complete strategy.

5.2.4 Phase two will include schemes across the network which will build on the benefits achieved by the Willington Street Junction Improvements. It is proposed that a separate transport business case will be prepared for the second strand of funding for 2017/18 to 2020/21, when the details of complementary schemes have been fully established.

5.3 Project Funding

5.3.1 Funding for the wider Maidstone ITP is sought from SELEP (LGF) with supporting funds from developer funding and from local sources, primarily Kent County Council. The total SELEP contribution sought for the wider strategy is £8.9 million. A breakdown of funding sources for the strategy is summarised in Table 5-1.

Table 5-1: Maidstone ITP - Funding Sources

Funding Sources	Maidstone ITP £(m)	Phase 1 of ITP £(m)
LGF Funding	£8.9	£1.3
Developer Funding / Contribution	£5.0	£0.44
Other Local Funding / Contribution	To be confirmed	
Total	£13.9*	£1.74

**The current total project funding reported here excludes 'other local funding' which is under review/awaiting confirmation.*

Table 5-2 summarises the breakdown of the funding stream for the wider Maidstone ITP from 2016 to 2021. Funding for the Willington Street Junction Improvements is sought from SELEP as the first phase of the wider Maidstone ITP, programmed for the funding period 2016/17. The SELEP contribution being sought for this phase is £1.3 million.

Table 5-2: Funding Stream Breakdown

Funding Period	£(m)
2016/17	£1.3
2017/18	£2.0
2018/19	£2.0
2019/20	£3.6
2020/2021	£0.0
Total	£8.9

5.3.2 Phase 1, Willington Street Junction Improvements, is dependent on £1.3m SELEP funding and £0.44m developer contribution to meet the project cost of £1.74 million.

5.4 Project Costs

5.4.1 The breakdown of the wider project costs for the two phases of the Maidstone ITP is summarised in Table 5-3.

Table 5-3: Maidstone ITP Project Costs

Phase	Item	Cost (£m)
Phase 1 (2016/17)	Willington St Junction Improvements	£1.74
Phase 2 (post 2017)	Study and outline design of complementary schemes for remainder of the Integrated Transport Package	£12.2*
Total		£13.9*

**The current total project funding reported here excludes 'other local funding' which is under review/awaiting confirmation.*

5.4.2 The scheme costs for Phase 1 (Willington Street Junction Improvements) are summarised in Table 5-4 and the full breakdown of costs is included in **Appendix D**. The breakdown of costs makes allowance for inflation and excludes 'sunk costs' incurred prior to the scheme appraisal.

Table 5-4: Phase 1 Breakdown of Costs (2015 prices)

Item	Cost (£m)
Main works	£1.09
Fees etc.	£0.32
Contingency	£0.21
Inflation	£0.12
Total	£1.74

5.5 Risks / Leverage

5.5.1 The Willington Street Junction Improvements Scheme is dependent on SELEP funding of £1.3 million and funding from local sources.

5.5.2 Should scheme costs escalate, delivery will be hindered, most likely with a delivery including a reduced level of service which doesn't lock-in the benefits of the junction improvements. The scheme cost estimate for the Willington Street Junction Improvements include a 15% allowance for risk.

6 Commercial Case

6.1 Overview

6.1.1 The Commercial Case for the Willington Street Junction improvements provides evidence that the proposed investment can be procured, implemented and operated in a viable and sustainable way. The aim is to achieve best value during the process, by engaging with the commercial market.

6.2 Expected Outcomes from the Commercial Strategy

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

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

6.3 Scheme Procurement Strategy

Procurement Options

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

Full OJEU Tender

This option is required for schemes with an estimated value of over £4,322,012.

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

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

Delivery through existing Amey Highways Term Maintenance Contract (HTMC)

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

Preferred Procurement Option

The preferred procurement route for the Willington Street Junction improvements is the existing HTMC contract. This option has been selected as the value of the scheme, £1.74m, is less than the OJEU scheme value threshold.

6.4 Commercial Risk Assessment

The commercial risk assessment is shown in Table 6-1 below.

Table 6-1: Commercial Risk Assessment

Qualitative Commercial Risk Assessment										
Scheme Commercial Risk Item	**Likelihood of Risk Arising (✓)**			**Impact Severity (✓)**			**Predicted Effect on Scheme Procurement, Delivery & Operation (✓)**			**Immediate Bearer of Risk and Suggested Mitigation**
	Low	**Medium**	**High**	**Slight**	**Moderate**	**Severe**	**Slight**	**Moderate**	**Severe**	
Scheme construction is delayed and costs increase, owing to unexpected engineering difficulties.		✓				✓		✓		Kent CC, as scheme promoter, bears the risk. Ensure that scheme development, design, procurement and construction procedures are sufficiently robust to minimise likelihood of construction difficulties.

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. It also covers monitoring of the scheme.

7.2 Approach to Scheme Development and Delivery

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

7.3 Evidence of Previously Successful Scheme Management Strategy

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

7.3.2 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 Figure 7-1.

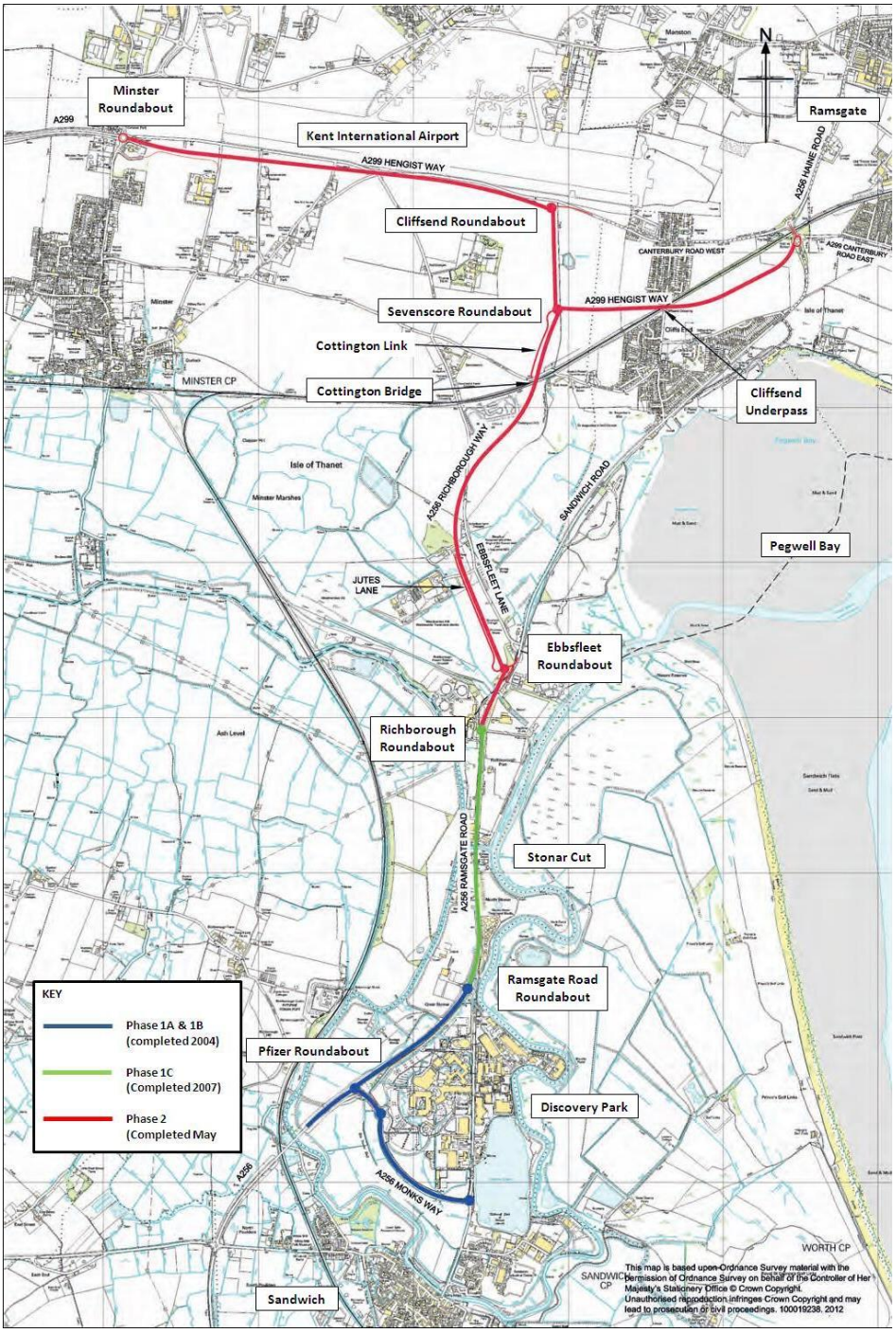


Figure 7-1: EKA2 Scheme Layout

7.3.3 The scheme was successfully delivered within budget and ahead of programme through the adoption of a robust management approach similar to that set out above to deliver the Willington Street Junction Improvements. The total value of the scheme was £87.0m of which £81.25m was funded by Central Government.

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

7.3.5 The SNRR scheme, completed in December 2011, was designed to remove the severance caused by Milton Creek and give direct access to the A249 trunk road for existing and new development areas, thereby relieving Sittingbourne town centre.

7.3.6 The delivered scheme is shown in Figure 7-2 below:

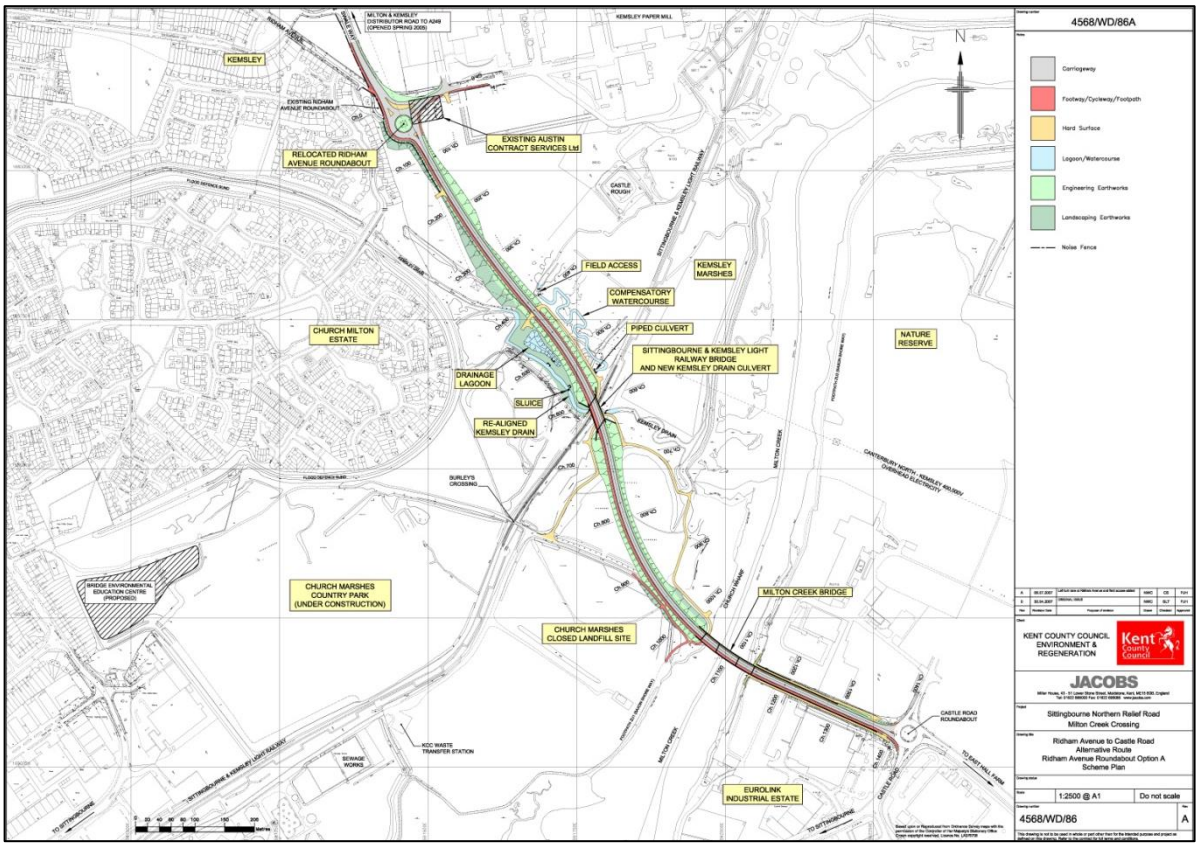


Figure 7-2: SNRR Scheme Layout

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

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

7.4 Key Project Work Stages and Tasks

7.4.1 The key stages identified are:

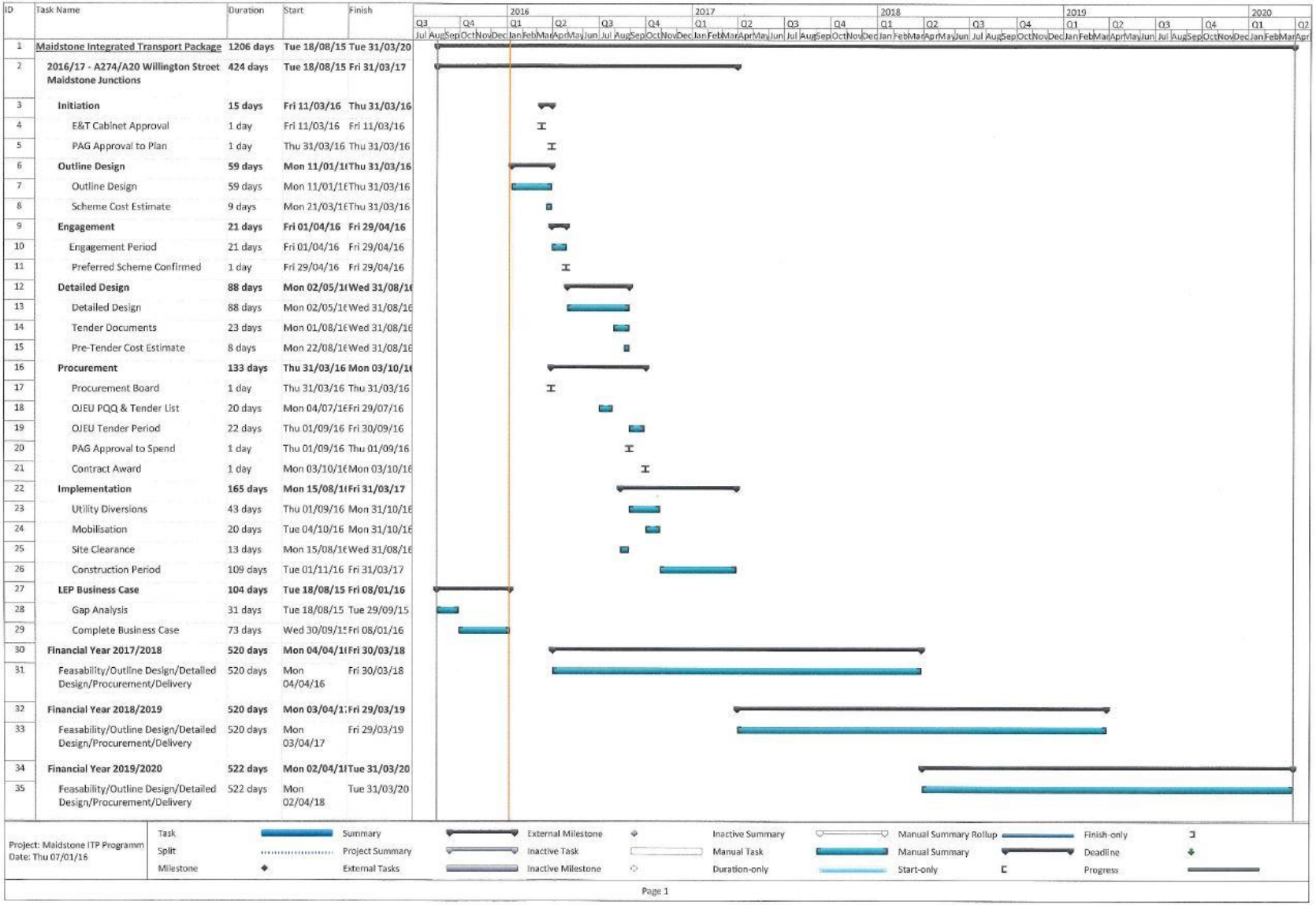
- Initial scheme design / Outline Business Case
- Feasibility work
- Land Acquisition
- Consultation
- Committee Approval
- Detailed design / Full Business Case
- Acquisition of statutory powers
- Procurement
- Environmental surveys
- Start/end of construction
- Monitoring

7.5 Project Delivery Programme

7.5.1 An overall Project Delivery Programme has been developed for the Maidstone ITP, which also sets out the key stages of the Willington Street Junction Improvements as the first phase of the project (Figure 7-3).

7.5.2 The key project milestones for the Willington Street Junction Improvements are:

- Complete outline design March 2016
- Complete detailed design August 2016
- Complete procurement October 2016
- Complete construction March 2017



ID	Task Name	Duration	Start	Finish
1	Maidstone Integrated Transport Package	1206 days	Tue 18/08/15	Tue 31/03/20
2	2016/17 - A274/A20 Willington Street Maidstone Junctions	424 days	Tue 18/08/15	Fri 31/03/17
3	Initiation	15 days	Fri 11/03/16	Thu 31/03/16
4	E&T Cabinet Approval	1 day	Fri 11/03/16	Fri 11/03/16
5	PAG Approval to Plan	1 day	Thu 31/03/16	Thu 31/03/16
6	Outline Design	59 days	Mon 11/01/16	Thu 31/03/16
7	Outline Design	59 days	Mon 11/01/16	Thu 31/03/16
8	Scheme Cost Estimate	9 days	Mon 21/03/16	Thu 31/03/16
9	Engagement	21 days	Fri 01/04/16	Fri 29/04/16
10	Engagement Period	21 days	Fri 01/04/16	Fri 29/04/16
11	Preferred Scheme Confirmed	1 day	Fri 29/04/16	Fri 29/04/16
12	Detailed Design	88 days	Mon 02/05/16	Wed 31/08/16
13	Detailed Design	88 days	Mon 02/05/16	Wed 31/08/16
14	Tender Documents	23 days	Mon 01/08/16	Wed 31/08/16
15	Pre-Tender Cost Estimate	8 days	Mon 22/08/16	Wed 31/08/16
16	Procurement	133 days	Thu 31/03/16	Mon 03/10/16
17	Procurement Board	1 day	Thu 31/03/16	Thu 31/03/16
18	OJEU PQQ & Tender List	20 days	Mon 04/07/16	Fri 29/07/16
19	OJEU Tender Period	22 days	Thu 01/09/16	Fri 30/09/16
20	PAG Approval to Spend	1 day	Thu 01/09/16	Thu 01/09/16
21	Contract Award	1 day	Mon 03/10/16	Mon 03/10/16
22	Implementation	165 days	Mon 15/08/16	Fri 31/03/17
23	Utility Diversions	43 days	Thu 01/09/16	Mon 31/10/16
24	Mobilisation	20 days	Tue 04/10/16	Mon 31/10/16
25	Site Clearance	13 days	Mon 15/08/16	Wed 31/08/16
26	Construction Period	109 days	Tue 01/11/16	Fri 31/03/17
27	LEP Business Case	104 days	Tue 18/08/15	Fri 08/01/16
28	Gap Analysis	31 days	Tue 18/08/15	Tue 29/09/15
29	Complete Business Case	73 days	Wed 30/09/15	Fri 08/01/16
30	Financial Year 2017/2018	520 days	Mon 04/04/16	Fri 30/03/18
31	Feasability/Outline Design/Detailed Design/Procurement/Delivery	520 days	Mon 04/04/16	Fri 30/03/18
32	Financial Year 2018/2019	520 days	Mon 03/04/17	Fri 29/03/19
33	Feasability/Outline Design/Detailed Design/Procurement/Delivery	520 days	Mon 03/04/17	Fri 29/03/19
34	Financial Year 2019/2020	522 days	Mon 02/04/18	Tue 31/03/20
35	Feasability/Outline Design/Detailed Design/Procurement/Delivery	522 days	Mon 02/04/18	Tue 31/03/20

Figure 7-3: Maidstone ITP Delivery Programme

7.6 Project Governance, Roles and Responsibilities

7.6.1 KCC have set up a clear and robust structure to provide accountability and an effectual decision making process for the management of the LEP funded schemes. Each scheme will have a designated project manager (Russell Boorman for the Maidstone ITP) who is an appropriately trained and experienced member of KCC staff.

7.6.2 Figure 7-4 provides an outline of the overall governance structure implemented to manage the delivery of each scheme.

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/RW/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**
Sponsoring Group Progress 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/KCC Promoters/KCC PMs/ AQ or RC/SW/PC/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
RW	Roger Wilkin
TR	Tim Read
MG	Mary Gillett
AQ	Andrew Quilter
RC	Richard Cowling
SW	Steve Whittaker
PC	Paul Couchman
JW	Joanne Whittaker

Figure 7-4: Governance Diagram

7.6.3 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.

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), Roger Wilkin (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).

7.7 Communication and Stakeholder Management Strategy

7.7.1 Consultation is a key stage in the project programme. The approach to the management of different stakeholders and other interested parties is illustrated in Figure 7-5.

Itemise Stakeholders to be Handled in Accordance with Interest / Influence Matrix		
High	**To be Passively Monitored:**	**To be Actively Engaged and Managed:** ***SELEP / DfT*** ***MBC***
Stakeholder Influence **Low**	**To be Passively Conciliated:** ***Local population***	**To be Actively Informed:** ***Local businesses*** ***Bus Operators (Arriva)***
	Low **Stakeholder Interest** **High**	

Figure 7-5: Stakeholder Management Plan

7.8 Project Risk Management and Contingency Plan

7.8.1 Project risk is managed as an on-going process as part of the scheme governance structure, as set out in section 7.2 of this report. A scheme risk register is maintained and updated at each of the two-weekly Project Steering Group meetings. Responsibility for the risk register being maintained is held by the KCC PM and is reported as part of the monthly Progress Reports.

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

7.8.3 An example scheme risk register is shown in Figure 7-6 below:

Figure 7-6: Example Risk Register

7.8.4 Table 7-1 shows a summary of the project risk assessment. This includes higher level risks associated with Willington Street Junction Improvements, their potential, effects, likelihood of occurring and mitigation. The scoring is based on a 5 point scale where 1 = unlikely and 5 = extremely likely.

Table 7-1: Project Risk Assessment

Project Risk Management Strategy				
Risk description	**Likelihood**	**Impact**	**Likelihood x Impact**	**Mitigation**
Increase in Scheme Costs	2	3	6	Investigate scheme design and amend to achieve greater BCR & VFM
Funds do not cover costs	2	3	6	Lobby alternative sources for shortfall in funding
Changes in direction (from government, LEP, Local Authority)	2	3	6	Ensure co-operation and communication between all concerned parties
Scheme Performance e.g. downstream capacity erodes	2	3	6	Phase 2 improvements will mitigate

benefits				
Statutory Undertakers	1	4	4	KCC to ensure that relevant searches along scheme corridor are conducted as early as is practicable to flag up any issues at the earliest possible juncture
Issues uncovered during construction (environmental, archaeology etc.)	1	4	4	Early liaison with geotechnical, environmental and archaeology specialists to minimise impact
Opposition to scheme (Residents/ Cyclists/ Road Users)	3	2	6	Ensure clear and effective consultation is undertaken with all relevant consultees providing fullest possible information

7.9 Project Assurance

A signed Section 151 officer letter is provided in **Appendix E**. The resources required to complete the project will be made available by Amey via the preferred procurement option of the HTMC contract.

7.10 Scheme Monitoring

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

7.10.2 It is important for a congestion relief scheme to compare traffic flows so that the changes in delay are put into context. Table 7-2 shows the scheme monitoring plan. The acceptability will be judged on delivering the scheme objectives.

Table 7-2: Scheme Monitoring, Evaluation and Benefits Realisation Plan

Potential Benefit / Impact	Measure	Owner	Review timescale	Review Method
Travel-time improvement	Journey times Queues	KCC	One and five year post-opening	Traffic master data Queue surveys
Air Quality improvement	Nitrogen Dioxide	MBC		On-going measurements
Impact on accidents and safety	Number and type of accidents	KCC	Five year post-opening	KCC data base

Impact of potential change in traffic routing	Traffic Flows on A20, A274 and Willington St	KCC	One and five year post-opening	ATC data

8 Conclusion

8.1 Summary

8.1.1 The scheme provides an affordable and deliverable scheme that can improve the existing problem of congestion and delay at the junctions of Willington Street with the A20 and A274. This scheme is association with the subsequent elements of the Maidstone ITP will assist in the provision of infrastructure to support the Local Plan.

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

8.2 Recommended Next Steps

8.2.1 The development and delivery of the scheme, as the first phase of Maidstone ITP, should be approved and should proceed.

8.3 Value for Money Statement

8.3.1 The 'value for money' statement in this report suggests a 'high' value for money. This should be revisited if scheme costs escalate.

8.4 Funding Recommendation

8.4.1 The £1.3 million for the first phase of the Maidstone ITP, which comprises of the Willington Street Junction Improvements, should be released from SELEP to KCC.

Appendix A Scheme Layout

Appendix B Linsig Report

Appendix C AST

Appendix D Cost Breakdown

Appendix E Section 151 Officer Letter