BUSINESS CASE

for

ASHFORD INTERNATIONAL RAIL CONNECTIVITY PROJECT

(ASHFORD SPURS)

Executive Summary

Project type: **Rail**
Project Location: **Ashford International Station and railway route totalling 4.8kms**
Project start date: **June 2015**
Project complete date: **June 2018**
Project development stage: **Feasibility, detailed design, implementation**

Promoting authority(ies) name: **Kent County Council and Ashford Borough Council**
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Structure of the Business Case

1. Introduction

1.1 Purpose of the Report

In January 2015, the Government Growth Deal Extension with the South East Local Enterprise Partnership provisionally allocated £2 million towards the delivery of the Ashford International Rail Connectivity Project (Ashford Spurs). This Transport Business Case provides robust justification for the investment of Local Growth Fund in this project. The Benefit Cost Ratio of the project at 3.3:1 demonstrates considerable benefits which will be achieved through Local Growth Fund investment in the project. The project will also deliver Wider Economic Impacts through supporting economic growth in the growth town of Ashford, further enhancing the VfM offered by the project.

This Transport Business Case adopts a proportionate approach to the scale of the project. It follows the DfT and HM Treasury's The Green Book 5 Stage Business Case approach, covering the project's strategic, economic, financial, commercial and management case. The Economic Case includes the calculation of a VfM score for the project by Network Rail following DfT WebTAG Guidance.

1.2 Transport Business Case

The Transport Business Case provides a proportionate approach to the level of Local Growth Fund invested in the project and the total project cost, estimated at £10.5 million. This Transport Business Case is compliant with the South East Local Enterprise Partnership (SELEP) Assurance Framework which requires the Transport Business Case to set out the strategic objectives of the project and the Value for Money (VfM) case of the project.

2. Project Outline

2.1 Introduction

The plans of Eurostar International Ltd to introduce new Eurostar trains have raised concerns about the future International connectivity of Ashford. The existing rail signalling infrastructure at Ashford International Railway Station is currently incompatible with the new International trains set to be introduced. The Ashford International Rail Connectivity project will upgrade the signalling system at Ashford International Railway Station, and will take forward the vehicle change and compatibility process to ensure the retention of international rail services to Ashford. Without the delivery of the project, international rail services will no longer be able to serve the station with adverse consequences for the local economy, employers, employees and residents.

This project has been initiated by Kent County Council (KCC) with the support of the Regions of Connected Knowledge (RoCK) Project, an EU-funded project through its Interreg IVB North-West Europe Programme. In progressing through the initial phases of project development (GRIP Stages 1, 2 and 3a), the project has gained the support of the Department for Transport (DfT), Network Rail (NR), High Speed 1 (HS1), Eurostar, the Office of Rail and Road (ORR), Kent County Council (KCC), Ashford Borough Council (ABC), Kent and Medway Economic Partnership, and the South East Local Enterprise Partnership. Kent County Council will retain oversight of the project, with infrastructure delivery being undertaken by Network Rail.

2.2 Purpose

The purpose of this project is to deliver infrastructure improvements to Ashford International Railway Station to ensure that International Rail services continue to serve the station. In doing so, the project will:

- safeguard approximate 1,000 jobs in Ashford which have been located in the town precisely due to its international rail service

- stimulate the creation of additional jobs by encouraging business location and expansion decisions based on the existence and future guarantee of the international rail service
- stimulate housing growth to match the growth in jobs
- support the creation of a further education hub adjacent to the international station with courses which attract students from other European countries
- support further economic growth in Ashford and in the wider East Kent region in line with regional planning objectives
- create a town in which people want to live, work and participate in business activity
- promote modal shift from road or air to rail transport, providing environmental benefits and a reduction in congestion
- continue to deliver international rail services from Ashford International for an estimated 195,000 passengers per year

2.3 Aim

The Ashford Spurs project aims to ensure that the appropriate level of signalling and station access to provide the required level of train protection is in place to allow existing and future international trains to call at Ashford International Station to support the continued growth of Ashford and East Kent, and prevent damage to the local economy caused by the loss of international travel links.

2.4 Objectives

Our criteria are that any solution should facilitate:

- The continuation of the current level (as of August 2016) of Eurostar services at Ashford International Station (by March 2018).
- The introduction of the new Class 374 Eurostar trains serving Ashford International Station (by March 2018)
- An 'operational' route through Ashford International Station for the new Eurostar Class 374 passenger trains to access the Station via the Ashford Spurs (by March 2018).
- A cost effective solution through implementation and ongoing maintenance.
- Growth in jobs and the prosperity of the East Kent economy through the retention of international passenger services in Ashford.
- An equivalent level of protection to today's system.
- A solution that will be operational and continue to allow access to Ashford International Station via the Ashford Spurs for any international trains operating to European gauge standards until the implementation of ETCS (or an equivalent compatible upgrade solution).

2.5 Brief Description

When Ashford International station opened in February 1996, the Eurostar trains in service were operating along the existing Mainline between the new international terminus at Waterloo and the Channel Tunnel. Ashford was served as part of this route. When phase 1 of the Channel Tunnel Rail Link (CTRL) was opened in 2003, the existing 'Spurs' were created to link Ashford station with the new CTRL route. The CTRL was completed in 2007 with the extension to, and opening of, St Pancras International, at which point CTRL was re-named High Speed 1 (HS1).

Throughout this period the retention of the ex-British Rail signalling system (AWS/TPWS) on the Ashford Spurs did not present a problem, as the Eurostar trains in service were the original stock (Class 373) which had used the Mainline route and so are compliant with this system.

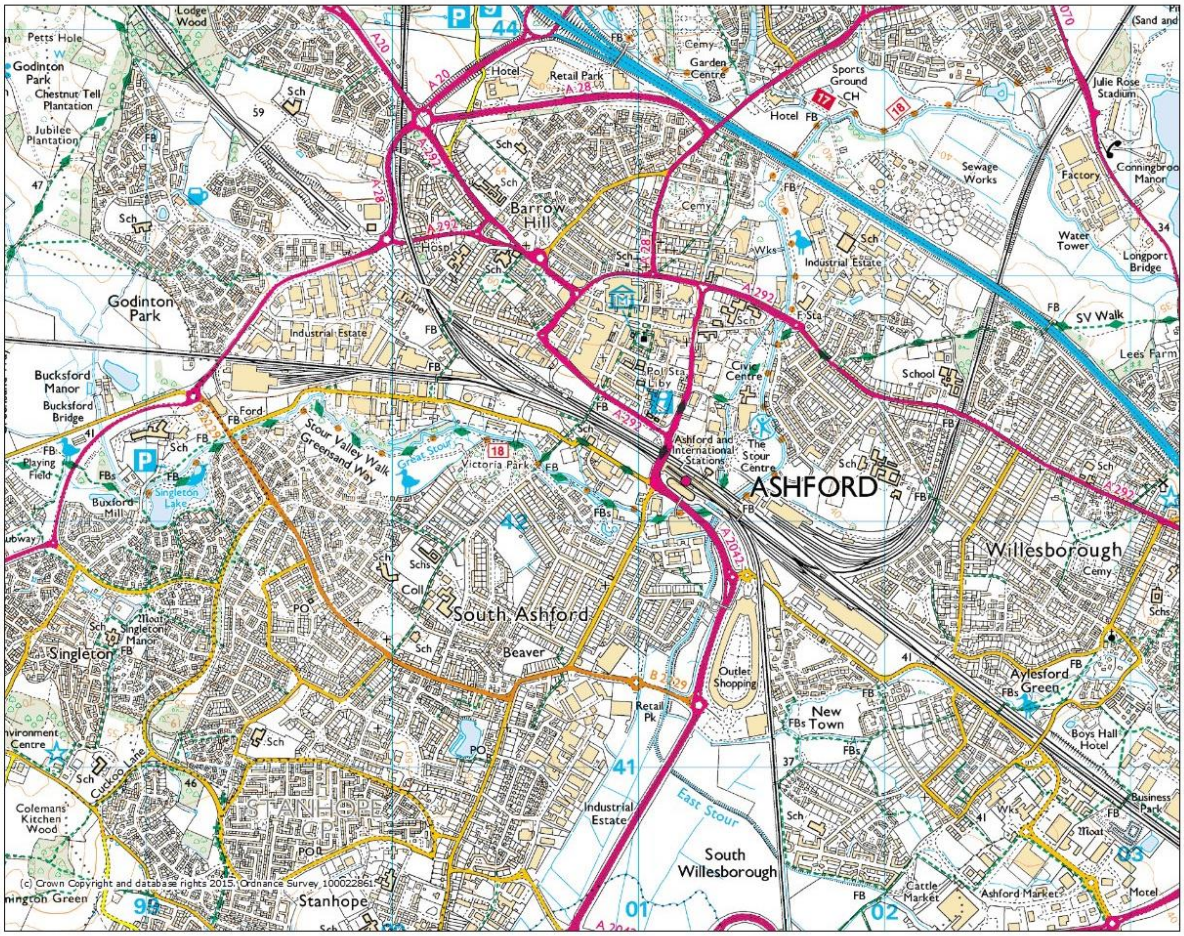
The need for this project has arisen with the introduction by Eurostar of the new Class 374 trains, which are compliant with the modern European signalling systems (ETCS and KVB) but not with AWS/TPWS. These trains will be able to operate on the whole of HS1 and through the Channel Tunnel, but not, at present, on the Spurs which link HS1 with Ashford International station.

Kent County Council and Ashford Borough Council have worked in partnership with Network Rail Infrastructure Ltd, High Speed 1 Ltd, Eurostar International Limited and the Office of Rail and Road with the aim of delivering the necessary upgrade to the Ashford Spurs.

Prior to commencement of the project, a preliminary technical evaluation of the signalling options available was undertaken by Advanced Rail Technologies Ltd, who were commissioned by Kent County Council to produce a detailed technical report.

The project was then divided into three phases: GRIP 1 to 3a (business case development and project cost estimate) is being undertaken by Network Rail and financed by Network Rail, Kent County Council, Ashford BC, HS1, Eurostar, and the EU RoCK project. GRIP 3b to 5 (detailed design and procurement) will be financed by Local Growth Fund (LGF) (round 2) through the SELEP, for which KCC will be the client. GRIP 6 to 8 (installation, testing, commissioning and close-out) will be financed by some LGF round 2 and some LGF round 3. The delivery of the project will be managed by Network Rail.

Figure 1.1 Ashford International Railway Station Location Map



2.6 Current Situation

Eurostar currently operates 79 services at Ashford in a typical week during the Summer period:

- 41 to and from Paris
- 14 to and from Brussels
- 14 to and from Disneyland; and
- 10 to and from Marseilles*

*During the Winter period the services to and from Marseilles are reduced to 2 each week, but the Winter ski service operates 4 trains to and from Bourg-St-Maurice.

If this project is delivered, Eurostar is committed to continue with this level of service, utilising their new Class 374 trains on the Paris, and eventually the Brussels, services. If the project is not delivered, the Paris service is likely to be withdrawn completely from Ashford from December 2017, and it is very likely that the remaining services would be withdrawn after 2017 as each of the old class 373 Eurostar trains is replaced by the new Eurostar trains.

3. Strategy Case

3.1 Strategic Fit

3.1.1 National – National Infrastructure Plan

The Government's 'National Infrastructure Plan' sets out the high level investment policy for Britain's rail network. This is set out in the individual Route Studies which Network Rail will develop for each part of the national railway network.

These objectives for the rail network are to:

- *increase rail capacity, particularly into major cities*
- *reduce journey times*
- *strengthen connectivity*
- *improve reliability, safety and the passenger experience*

The Ashford International Rail Connectivity Project will be the first example of the delivery of KVB on Network Rail infrastructure, supporting the development of International transport links, and as such will not only deliver the capability required for the new fleet of international trains or those of any future International operators at Ashford, but also provide Network Rail with a sample training location for future delivery elsewhere of KVB on the national rail network.

3.1.2 National - Creating Growth, Cutting Carbon

The continuation, and future development, of international rail services between Kent and Nord Pas de Calais will support modal shift from road and air to rail, and thus contribute to the national targets for reduction of carbon emissions.

3.1.3 Regional - Kent Route Study

Network Rail's 'Kent Route Study' for Control Period 6 (2019-2024) is currently being developed and will be published in 2017. This study will include the future development of Ashford International station in its scope, while preserving the present platform capacity to serve the existing and future level of international rail services envisaged. The Kent Route Study will also recognise the wider need in Kent for investment to create additional capacity to meet the expected increase in demand for domestic rail services.

3.1.4 Regional - Growth Deal and Strategic Economic Plan

The SE LEP 'Growth Deal and Strategic Economic Plan' includes the Ashford Spurs project in the list of schemes which are the subject of bids for LGF funding. This Plan recognises the aims of the project as "… safe-guarding [Ashford International's] future and supporting the growth planned across Ashford and the wider Kent economy."

This project will contribute to the overall objectives of the SE LEP by safeguarding existing jobs, supporting the development of new jobs, and delivering housing growth through improved international rail connectivity between Ashford, Calais, Lille, Brussels and Paris.

3.1.5 Local - Growth without Gridlock

KCC's strategic transport delivery plan is set out in 'Growth without Gridlock' (KCC, December 2010). This plan recognises the importance of the county's international rail services at both Ebbsfleet and Ashford International stations:

"KCC's priority is to ensure that Ebbsfleet and Ashford continue to benefit from frequent services to a range of northern European destinations and we will lobby Eurostar and Deutsche Bahn to include a Kent station stop on as many of their services as possible."

The growth in employment as a direct result of the international rail services provided to and from Kent has been demonstrated by the decisions of several French companies to locate in and around Ashford since the opening of the international station in 1996. The removal of these services would demonstrably lead to the loss of existing employment created by these companies, and also to the loss of future employment growth from projected new company locations from France and Belgium.

3.1.6 Local – Kent and Medway Growth and Infrastructure Framework

The Kent and Medway Growth and Infrastructure Framework was published in September 2015, and sets out the overall strategy for economic development in Kent and Medway:

"The link between infrastructure and growth is well known – robust infrastructure can enable development and ultimately raise land values; alternatively, a lack of infrastructure can fundamentally limit development and restrict land values. Whilst some infrastructure can be clearly linked to particular development, much of it transcends individual developments and often individual local planning authorities.

Since the removal of Structure Plans and Regional Spatial Strategies five years ago, there has been limited ability to plan at the strategic level for housing and jobs growth and the infrastructure needed to facilitate this growth. Instead, it has been left to local planning authorities to fill in the gap left at this strategic level, relying on the duty to cooperate. In recognition of this, Kent's Leaders agreed it would be important to produce a pan-Kent and Medway Growth and Infrastructure Framework to bring together a clear picture over the Local Plan period to 2031 on:

- *housing and economic growth planned to 2031 across Kent and Medway;*
- *the fundamental infrastructure needed to support this growth;*
- *the cost of this infrastructure;*
- *the potential funding sources across the public and private sector funding during this period: and,*
- *the likely public sector funding gap and work towards solutions.*

This Growth and Infrastructure Framework (GIF) has therefore been developed working in close collaboration with Medway Council and Kent's twelve district authorities, as well as the health and utilities sectors. It provides a framework not only for identifying and prioritising investment in infrastructure, but also for testing the impact of innovation in the way in which we provide public services. The Kent and Medway Economic Partnership (KMEP) has been, and will continue to shape and be appraised of the GIF work and its findings. The GIF will help support KMEP in setting its priorities and in attracting investment to the infrastructure that will be needed to support the growth to which the Partnership aspires."

[Source: Executive Summary, Kent and Medway Growth and Infrastructure Framework, September 2015]

3.1.7 Local - Kent County Council Local Transport Plan

KCC's Local Transport Plan 3 (2011-2016) was published in April 2011. It sets out clearly the objectives for the county's international rail services, and specifically recognises the importance of the continuation and development of international rail services at Ebbsfleet and Ashford.

"The European Union (EU)'s liberalisation of international rail travel in 2010 seeks to break existing monopolies in order to stimulate competition for services between EU Member States. Several train operating companies have expressed an interest in running services in competition with Eurostar between London and the Continent, although as yet only Deutsche Bahn has formally proposed and received permission to do so.

KCC's priority for international rail services is to ensure that Ebbsfleet and Ashford continue to benefit from frequent services to a range of northern European destinations. This will help to stimulate economic growth in Ashford and Thames Gateway Kent, as well as boosting tourism in other parts of the County."

KCC is currently consulting on Local Transport Plan 4 (2016-2031), which includes the strategic significance of the Ashford International Rail Connectivity project and gives strong support to its delivery.

3.1.8 Local - Rail Action Plan for Kent

KCC has also published a 'Rail Action Plan for Kent' (KCC, April 2011), which sets out the policies and priorities for the development of Kent's rail network throughout the planned new franchise and beyond. This plan recognises the essential contribution to the county's rail network made by international services:

"KCC will continue to lobby for the retention and expansion of Eurostar services from both Ashford International and Ebbsfleet International, including the now planned through services to Amsterdam."

While the international services to Amsterdam to be introduced in December 2017 will not serve either of the Kent international stations, the Council is determined to work for the retention and expansion of Eurostar services at Ashford to Paris, Brussels and other European destinations. This bid to the SE LEP for match-funding of the Ashford International Rail Connectivity project is therefore essential if this strategic objective of the Council is to be delivered.

3.1.9 Local - Ashford Borough Council's Core Strategy

Ashford Borough Council's Core Strategy (July 2008), which has informed the Local Plan for the authority, recognises the significance of international rail services at Ashford in supporting the aspirations for housing and employment growth:

"In 2003, Ashford was identified as one of the Growth Areas in the Government's Sustainable Communities Plan. This role sets the context for this Core Strategy and for the levels of new housing and employment provision required for the Greater Ashford Urban Area over the Core Strategy period.

The scale of growth being planned for is based on a 2002 capacity study completed for the Council and its Ashford's Future partners. The growth figure is set well above the amount indicated by existing population trends in the Borough, providing for an accelerating rate of net inward migration and local population growth. This capacity study evaluated several growth scenarios for Ashford to meet the requirements of the Sustainable Communities Plan.

Following an assessment of social, economic and environmental factors, it concluded that Ashford town has the capacity to provide an additional 31,000 homes and 28,000 jobs over the period 2001 to 2031. This is based on Ashford receiving priority, due to its strategic growth status, in economic development, planning and transport strategies by all relevant stakeholders, at all levels of governance, together with associated capital investment in infrastructure, and a concerted effort to promote the town and its development opportunities.

The growth area agenda applies only to Ashford town and its immediate surrounding area; development needed to meet the growth area requirement will not be spread across the Borough. As a result, the Core Strategy establishes widely differing development profiles for the town, where rapid change and housing, employment and infrastructure is proposed; and the extensive rural area of the Borough, where the emphasis is on continued small scale change designed to protect the quality of the Borough's environment and

heritage, balanced with the need to help foster strong local communities with limited growth in the most suitable locations"

The Core Strategy also recognises the importance of the international rail services at Ashford in support of these housing and employment growth targets:

"Some continental Eurostar services also call at Ashford International station, giving the town access to mainland Europe."

3.1.10 Local – Ashford Borough Council, The Five Year Corporate Plan 2015-2020

Ashford Borough Council has developed 8 big strategic projects which are critical to the delivery of the area's sustainable growth. The Council's Corporate Plan recognises these projects including the Ashford International Station Rail Connectivity project through the delivery of 4 key priorities.

Priority 1 - Enterprising Ashford: Economic Investment and Growth, identifies the specific objective:

*"**Well-planned and well-resourced infrastructure to maintain Ashford's prime location status.***

Focus on delivery of infrastructure projects essential to Ashford's growth and connectivity: Junction 10A (M20), A28 improvement, station signalling upgrade for Eurostar."

3.2 Case for Change

3.2.1 Need for the Project

If the project is not delivered, the new class of international trains will no longer be able to serve Ashford International station after 2016. This is because the new Class 374 Eurostar trains, which are already in service with more trains planned to be introduced through to December 2017, will replace the existing Class 373 fleet on the London-Paris route as well as operating the new London – Amsterdam service. These new trains, as well as those which would be used by any other future international rail operator such as Deutsche Bahn, would not be compatible with the existing signalling system used on the spurs which link HS1 with Ashford International Station.

A letter of support from Eurostar International Limited is attached as **Appendix A**. This letter gives the following categorical assurances:

- that the Ashford to Paris service will be restored once the project is completed, tested and approved;
- that the existing services to Brussels, Disneyland, Marseilles and Winter ski resorts will continue to operate throughout this period using the existing Eurostar stock.

3.2.2 Impact of the Project in overcoming barriers to growth

The Ashford International Rail Connectivity project, if fully funded, will deliver the required signalling upgrade with the addition of the KVB on the Spurs, thus guaranteeing future access by all new fleets of international rolling-stock. The project is therefore key to the economic growth of Ashford and the wider East Kent area, as international rail services have demonstrated already the economic benefits of direct rail access to European destinations. For this reason the project is worthy of support from the SE LEP.

There are currently about 1,000 jobs located in Ashford due directly to the existence of international rail passenger services. Without the planned project, not only would these jobs be lost but also an estimated additional 1,000 jobs which could otherwise be created through the retention and expansion of these services would otherwise be lost.

This would account for £176m of additional productivity within the local area, measured through Gross Value Added (GVA), over a 10-year period from project commissioning [sourced from the Strategic Economic Case Addendum 1: Productivity (Gross Valued Added) impact of the Ashford International Rail Connectivity Project (2016)].

These services are also key to population growth in Ashford, housing targets for which are predicated on the continuation of the international rail connectivity of the Borough and set out in the Ashford Borough Council's Core Strategy.

3.2.3 What will happen if the proposed Project is not funded by LGF?

If LGF is not provided, the project will not be able to be taken forward and International services will be reduced and eventually withdrawn at Ashford International station. Due to the scope of the project changing from ETCS to KVB in the Autumn of 2015, funding that was previously committed from the parallel EU TEN-T CEF bid was not able to be accessed as this funding is only eligible for ERTMS projects. The scope of this project was changed with the new introduction of KVB in June 2015 as a Class B system in the UK, which is now eligible to be implemented on the Ashford Spurs. KVB is a system already in operation at St Pancras and provides a more cost effective and technically deliverable solution at Ashford. All other funding routes have been investigated and with the LGF funding now representing almost 90% of the funding, the project would not be able to be implemented and Eurostar would cease to serve Ashford over time, and any new international operator would also be precluded from accessing Ashford International Station.

Failure for International Services to serve Ashford International would have devastating implications for Ashford and the wider area. There are a number of international businesses which are currently located at Ashford. Without access to Eurostar services from Ashford International Railway Station, these businesses are likely to relocate to alternative locations, resulting in job losses in Ashford.

3.2.4 Justifying public sector support for the Project

Neither the Department for Transport (DfT) nor Network Rail is able to provide any additional funding required for this project, over and above the £580,000 committed by Network Rail to fund Phase 2 (planning and design). The DfT's allocation for capital rail investment is fully allocated within the Control Period 5 (CP5) settlement with Network Rail for the period 2014-2019, and Network Rail is unable to add to their existing commitments which will fully utilise this CP5 funding allocation. Kent County Council and Ashford Borough Council have both investigated methods of funding the project internally; however in these difficult financial times for local authorities there are no local sources of funding that have been identified, and this project is considered to be beyond the usual scope of local authority projects.

The SE LEP is in a unique position to provide funding for transport infrastructure projects such as the Ashford International Rail Connectivity project, and is best placed to act as primary funder of the delivery stage for this project. As has been demonstrated above, the project will support economic growth by retaining and growing the employment offer in Ashford. As such, it is clearly in the public's interest that this project is delivered.

3.2.5 State Aid

The issue of State Aid had previously been addressed separately by the Department for Transport (DfT) in respect of the original parallel funding bid to the EU's TEN-T CEF. The DfT has engaged with High Speed 1 (HS1) and Eurostar to ensure that there is no beneficial gain – however unintended – to either the leaseholder of the international station (HS1) or the rail service operator (Eurostar). It has been established by the DfT that as HS1 is an open access railway route, there would be no particular benefit for Eurostar or for any other future international rail operator from the delivery of this project, as it would benefit (or not) any and all international rail operators and not just the present incumbent.

The issue of State Aid was also raised in respect of the leaseholder of Ashford International Station, HS1. As HS1 is in a unique position as the sole leaseholder, it has been necessary to establish that there would be no State Aid granted, however unintentionally, to HS1 as a result of the proposed investment. KCC has obtained legal advice, based on that provided separately by Counsel in respect of another LEP-funded project in Kent, that no such State Aid would exist. This legal advice is based on the provisions within the EU Community Regulation No 651/2014 of 17 June 2014: General Block Exemption Regulations (GBER), which enables Kent

Legal Services (an independent trading arm of KCC) to advance lawful and complaint aid to be used in the application for LEP funding for the proposed upgrade of the signalling system at Ashford International station.

Based on this advice provided by Counsel on State Aid for another LEP-funded project in Kent, and also on the GBER regulations, the following summarises the legal advice obtained by KCC:

> "11.1 It is my view that the grant to be advanced to Network Rail for the delivery of the "signalling systems" and associated works is compatible with internal market under GBER. The applicable and general provisions of GBER which make this aid compliant and lawful are covered under Articles 56, 16 and 5. In addition to this, the Project also complies with the general provisions of GBER as follows: (a) the outcome of the aid will be for the benefit of the general public (b) it will not be commercially exploited (c) it is transparent aid under Article 5 (d) it has no cross border interest. I am told that the procurement department within KCC has been consulted on this matter, with the appointment of Network Rail being approved as the preferred economic operator who is able to provide the "signalling system".
>
> 11.2 The provisions of Article 6 (in the form of a business case) must be complied with before aid is granted. After it's been granted, all aid under GBER must be notified to the Commission using the State Aid Notification Interactive (SANI) system, within 20 working days of the aid being legally committed. This notification is light touch and is not the same as the formal notification process.
>
> 11.3 Counsel's advice (in particular paragraphs 26 to 41) dated 6th November 2015 and incorporated by reference also apply. This is because the considerations in the advice are relevant and similar to those examined for the award of aid under this Project. Therefore, it is my view that any aid granted for the delivery of the Project will be a compliant and lawful aid compatible with internal market."
>
> *[Source: Memorandum on 'Investment in Signalling at Ashford International Railway Station – State Aid (the "Project"), Kent Legal Services, 07.03.16]*

The current international rail operator, Eurostar International Limited, has also provided a written assurance that the Ashford – Paris service will be reduced between December 2016 to December 2017 and then if required it will be suspended, and not withdrawn, and that it will be restored to its current level once the Ashford Spurs project is completed. This assurance makes very clear the fact that the Ashford - Paris service will be a continuation of a previous service, and not a new service. Consequently, the investment would not be regarded as State Aid in favour of the existing rail operator by enabling the introduction of a new service, as the service level outcome of the project will only be restoration of the *status quo ante* [Appendix D contains a letter from Eurostar confirming service provision Dec 2016 to Dec 2017].

3.3 Determining Success of Project

3.3.1 Project Outcomes

The primary intended outcome of the project is the retention and expansion of international rail services at Ashford. This table sets out the wider outcomes of the project:

Table 1 - Key Project Outcomes

Safeguard approximate 1,000 jobs in Ashford which have been located in the town precisely due to its international rail service
Stimulate the creation of additional jobs by encouraging business location decisions based on the existence and future guarantee of the international rail service
Stimulate housing growth to match the growth in jobs
Support the creation of a further education hub adjacent to the international station with courses which attract students from other European countries
Support further economic growth in Ashford and in the wider East Kent region
Create a town in which people want to live, work and participate in business activity
Continue to deliver international rail services from Ashford International for an estimated 195,000 passengers per year

3.3.2 Project Dependencies and Constraints

Network Rail will need to deliver the project in co-ordination with HS1 as it will be situated on the two operators' infrastructure. Phase 2 (planning and design) will be undertaken by Network Rail, i.e. to design, plan and test the new signalling system and to ensure its compatibility with the new Eurostar (and other operators') international rolling-stock.

While Kent County Council has been instrumental in acquiring, and bidding for, funding for this project, phase 3 (the delivery of the project on the rail network) will be undertaken by Network Rail. This action, as well as the operation of the services by Eurostar, will be outside the control of the County Council.

This is not foreseen as a problem or barrier to project delivery, but is stated here for information.

3.3.3 KVB System Description *[Source: OP# 148655 Ashford International Spurs, dated 14.04.16, version 1]*

Purpose of this Description

This description provides details as to the French based *Kontrol Vitesse par Balise* (KVB) overlay train protection system as used at St Pancras International Station and being proposed for use at Ashford International Station.

Note: Kontrol Vitesse par Balise or Contrôle de Vitesse par Balises which translates to Control Speed Beacon or more commonly referred to as Beacon based Speed Control System.

Project Overview

The connecting lines between High Speed 1 (HS1) and Ashford International Station known as the 'Ashford Spurs' are signalled with conventional colour light signals with AWS/TPWS providing protection against the risk of 'Signal Passed at Danger' (SPADs) and other operational irregularities. Eurostar International Limited (EIL) has introduced a fleet of modern rolling stock, the Eurostar Class 374, which does not incorporate AWS/TPWS equipment on board, thus precluding the new rolling stock from stopping at Ashford International station.

There is a significant operational advantage in retaining Ashford as an alternative to stopping at other HS1 stations if those stations, or the Channel Tunnel itself, become temporarily out of action and at times of

major perturbation, significant engineering works, security incidents, unforeseen incidents, and in the event of train failure and/or recovery.

The project aim is to ensure compatibility between track and train to enable the Eurostar Class 374 international rolling stock to call at Ashford International Platforms 3 and 4. Previous Client Remit documentation regarding this enhancement stated that an agreement was reached that the most efficient way to achieve this is through an enhancement to the infrastructure, rather than fitting legacy systems to modern rolling stock types.

The signalling objective of this project is to provide an overlay train protection system that is compatible with the new Eurostar Class 374 rolling stock in the Ashford International Station and Spurs area.

KVB System Overview

KVB is a safety device designed to correct any unsuitable actions of the Train driver and when the speed is considered dangerous. KVB is a permanent Speed Control System based on Information Point Transmission. It only applies to lines equipped with Lineside Signalling

The KVB system orders a Compulsory Emergency Braking of the Train, irreversible until the Train comes to a complete STOP as well as the Traction Circuit Breaker re-set (traction power).

KVB is a French based speed control train protection system in use throughout France and at St Pancras International Station. Track mounted balises provide information to the train in respect of signal aspects and speed limits. The on-board equipment monitors train speed against permitted speed and limit of movement authority, taking account of the train's braking capability, and intervenes if it judges that the train speed is excessive.

The KVB system uses a balise based message, sending a command similar to the current UK train protection TPWS to provide a way of controlling the speed and braking of the new Eurostar Class 374 rolling stock.

KVB consists of:

1. The on-board installation, which comprises:

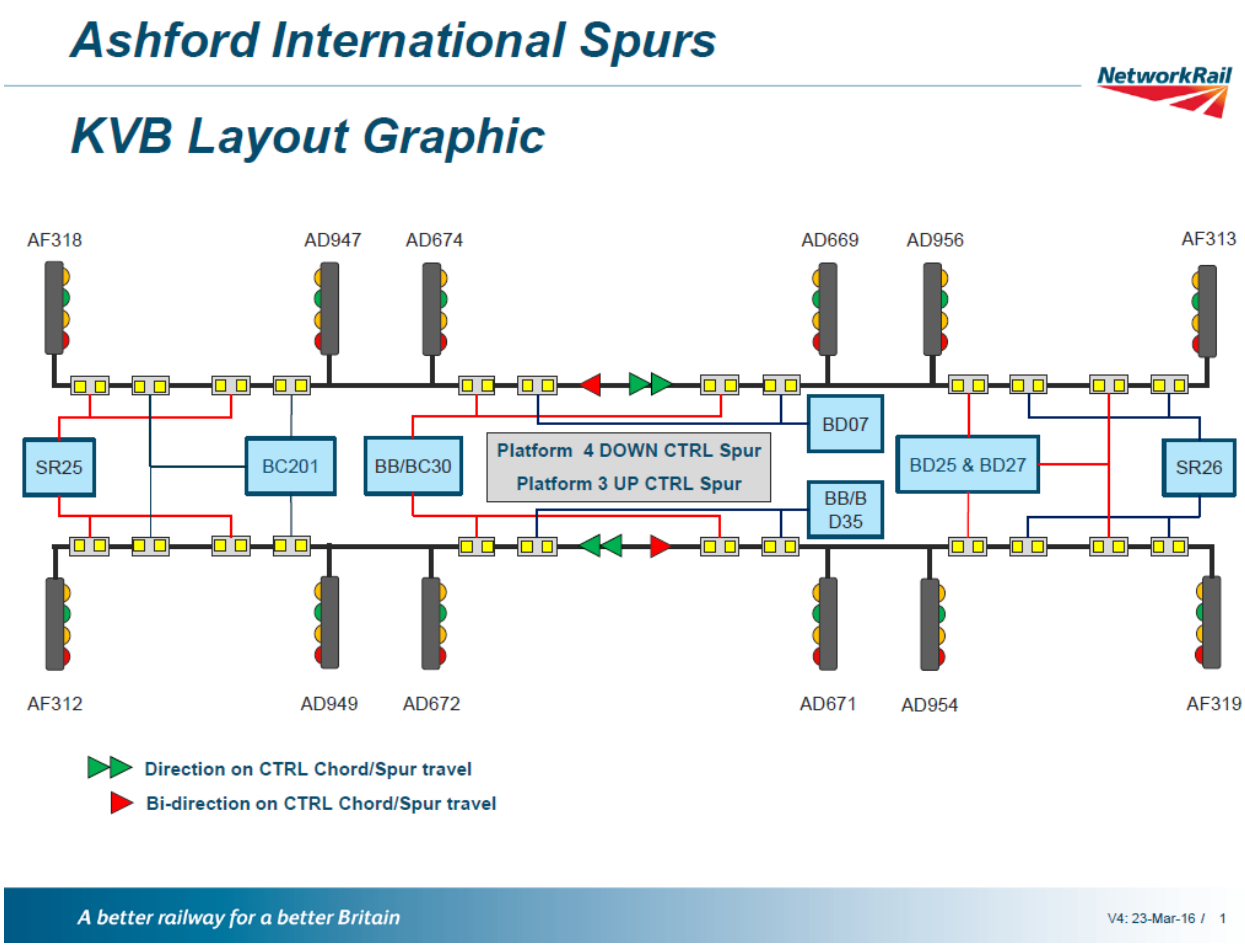
- An on-board computer (UEVAL) containing a processor, a communication unit and recording equipment
- A visual interface for the use of the driver, which:
    - permits data entry regarding the train's speed, length and category.
    - displays information about the state of the system. It does not replicate trackside signals for the driver (for example, the speed limits are not indicated). This is because the KVB is a train protection system, not a cab-signalling system.
- An antenna, placed under the locomotive, to receive information sent by the ground installations.

2. The ground-based installation, made up of:

- Beacons or balises - digital or analogue transponders placed between the two track rails. These can be fixed beacons (sending a single set of information, e.g. placed at a point where there is a change of speed limit) or switchable beacons (sending a variety of messages, so that one signal can send different sets of information as required).
- A coder used as an interface between the existing signal and the switchable beacons.

The on-board computer generates two speed-thresholds based on the received signals from the balises. If the train is over the speed limit, passing the first speed-threshold, an audible alarm sounds and the control panel indicates to the driver to adjust the train speed without delay. If the second speed threshold is passed, the KVB automatically engages emergency brakes on the train.

Figure 1.2 - KVB System Layout Graphic



3.4 Case for Change

3.4.1 Options Considered

Option 1	Do Nothing	This option would result in a worse situation than that which exists today. From December 2016, for the reasons stated above, Ashford would cease to be a viable international station in the long term, with only a minimal service remaining. This would inevitably lead to Ashford becoming uneconomic as an international station, with the subsequent removal of its remaining international services and all the economic disbenefits for Ashford and the wider East Kent region which would follow.
Option 2	Do Something – ETCS Level 1	ETCS Level 1 - part of the European Rail Traffic Management System (ERTMS) – would have the benefits of compatibility with all new European rolling-stock, and also the potential of EU funding without the need for any derogation from EU law. The disbenefit for Network Rail would be that this is an untried system in Great Britain, and that there is concern about the technical issues which may arise from overlaying this system on the existing AWS / TPWS system. At the Feasibility stage, this project was identified as technically more difficult as well as more costly than a KVB solution.
Option 3	Do Something - KVB	KVB is a tried and tested system used on HS1 on the approaches to St Pancras International, and also in France on LGV Nord on the approaches to Lille Europe and Paris Gare du Nord. The existing Eurostar trains are equipped with this system, and Network Rail knows that it would work compatibly with the existing AWS / TPWS system. However KVB would not be eligible for EU funding as it is not a standard EU system. KVB is as of June 2015 a recognized Class B system and DfT have confirmed to Network Rail that KVB is a useable solution for this project.
Option 4	Do Maximum	This very disruptive option, to re-build the international platforms alongside HS1, to the immediate north of Ashford Station, would have been prohibitively expensive. This option was not pursued.

Table 2 - Assessment of Options against Project Objectives

Project Objectives	Option 1	Option 2	Option 3	Option 4
Provide an equivalent level of protection to today's systems	X	✓	✓	✓
Future Proof	X	✓	✓	✓
Technically acceptable to project stakeholders	X	✓	✓	✓
Cost effective solution	X	X	✓	X
Deliverable as soon as practicable after the first new trains come into full service	X	X	✓	X

3.4.2 Preferred Option

The Technical Analysis was produced originally by ART Ltd in August 2013. This report provided the technical analysis for conversion of the Ashford Spurs to permit interoperability of existing and future international trains to and from Ashford International Railway Station. The ART report advocated either the ETCS Level 1 or the KVB solution, and these options were considered by all the partners to the project at a meeting in May 2014.

The partners to the project agreed at this meeting to support an ETCS Level 1 solution, as this would be eligible for EU funding and would provide the most up to date technological solution. At this stage KVB would also have required a derogation from EU law, as it was classified as a non-standard EU system. With the change in regulation, classifying KVB as a Class B system eligible to be overlaid on the Ashford Spurs, and with the Feasibility report by Network Rail identifying significant risk on costs and technical delivery for ETCS Level 1, it was decided in November 2015 to agree KVB as the most deliverable solution for the Ashford International Rail Connectivity Project.

In January 2016 Network Rail's south-east route investment panel approved the undertaking of the KVB feasibility study. A new team, Implementation Projects – Signalling South, was appointed to deliver the project, with the project sponsor for Network Rail representing the south-east route. Authority was granted to proceed with stages GRIP 1 to 3a as funding for these stages had already been approved. Development of the project beyond this stage will be dependent on funding being secured by the client and their partners for GRIP stages 3b to 8.

There are no powers or approvals required outside Network Rail's own procedures for the delivery of option 3. The project will be delivered within the boundary of the existing railway route and will not involve any large scale construction works. There are no environmental or heritage constraints as the site is located about 3 miles from the nearest AONB (near Wye), and about 12 miles from the nearest SSSI (Dungeness). Also, there is no requirement for planning permission as the project is within permitted development rights on the railway.

All safety considerations will be managed by Network Rail in accordance with their own strict safety procedures, and all works will be either off-site or within the boundary of the railway.

4. Economic Case

4.1 Transport Assessment

Category of impacts		Quantified/Qualitative impact (Large beneficial – Large Adverse)	
Economy	Business Users and Providers	<u>Benefits</u> Maintain and improve journey times and user experience of cross-border business journeys between Kent and mainland Europe Prevent modal shift to road and air transport with consequential increased local road congestion – particularly when Operation Stack is in effect - which adversely impacts East Kent business travel <u>Disbenefits</u> Passengers travelling from St Pancras or Ebbsfleet on the services that stop at Ashford International will have a slightly longer journey due to the time it takes to stop at the Station.	Largely beneficial
	Reliability	<u>Benefits</u> Maintain reliability of Ashford as an international station on the international rail network Prevent loss of emergency passenger station stop, Ashford being one of three international stations on the UK section of the route and the closest to the Channel Tunnel, and the only Station that provides a route to take trains off the HS1 tracks when there are disruptions to services. Retains an alternative Kent station stop, reducing reliance on Ebbsfleet International in the event of station engineering work or strong passenger flows exceeding the capacity of either station. This is particularly important as both areas continue to experience strong population and visitor growth, for example with the future opening of Paramount Park leisure resort near Ebbsfleet.	Beneficial
	Regeneration	<u>Benefits</u> Investment safeguards jobs and future economic growth of Ashford as a growth town	Largely beneficial
	Wider Impacts	<u>Benefits</u> Retaining Ashford as the international station for the wider East Kent region, supporting economic growth. This project supports the marketing of East Kent as an international gateway, for example with the University of Kent's branding as 'the UK's European university'	Largely beneficial

Environment	Noise	No change from existing	Neutral
	Air Quality	No change from existing	Neutral
	Greenhouse gas	Benefits Reducing air and road travel to mainland Europe through modal shift to rail	Beneficial
	Landscape	No change from existing	Neutral
	Townscape	Benefits Prevents closure of the international side of the station which would be a blight that would reduce the attractiveness of the station area and the town as a whole	Beneficial
	Heritage	No change from existing	Neutral
	Biodiversity	No change from existing	Neutral
	Water Environment	No change from existing	Neutral
Social	Commuting & Other users	Benefits Benefit cross-border leisure journeys between Kent and mainland Europe, and provide commuting service for existing daily commuters Disbenefits Commuters and other users from St Pancras and Ebbsfleet on the services that stop at Ashford International will have a slightly longer journey due to the time it takes to stop at the Station	Largely Beneficial
	Accidents	No change from existing level of absolute train protection	Neutral
	Physical Activity	No change from existing	Neutral

	Journey Quality	<u>Benefits</u> Enhancement in quality of journey to/from Ashford International through use of modern European rolling-stock Reduction of journey times due to introduction of modern rolling stock Reduces or eliminates the need to change to another mode of transport, depending on outward or onward journey. Ashford International is directly connected by rail to 10 of the 12 Kent districts, and to Brighton via East Sussex, whereas Ebbsfleet International is only connected to HS 1 and the eastern section of the North Kent line. Improves the journey quality for passengers who would otherwise need to travel by train or other means of transport to Ebbsfleet before their onward journey back through Ashford to their destination. <u>Disbenefits</u> Passengers travelling from St Pancras or Ebbsfleet on the services that stop at Ashford International will have a slightly longer journey due to the time it takes to stop at the Station.	Largely Beneficial
	Reliability Option and non-use values	No change from existing	Neutral
	Security	<u>Benefits</u> Retains Ashford as an emergency passenger station stop in the event of emergency situations in the Channel Tunnel or on HS1	Beneficial
	Access to Services	<u>Benefits</u> Retains international passenger services for East Kent to Europe which is accessible to the public without need to travel via Ebbsfleet or another mode of transport Provides infrastructure allowing services to an increased number of destinations in Europe through modern rolling stock Retains capacity for international services in Kent above that provided by Ebbsfleet International alone	Largely beneficial
	Affordability	<u>Benefits</u> Prevents increased cost of travelling to Ebbsfleet International for equivalent journeys to Europe	Beneficial
	Severance	No change from existing	Neutral

Public Accounts	The implications of the project for Government taxation would be neutral because: (i) VAT is not payable by Network Rail or by the contributing authorities, and so VAT receipts would neither rise nor fall; (ii) Indirect taxes are not affected by international rail services, as there are no "low tax" shopping facilities at either Ebbsfleet or Ashford stations; (iii) Direct taxes and National Insurance receipts would not be affected as the existing employment generated at Ashford would continue as at present. Network Rail will need to incorporate the ongoing maintenance costs of the signalling upgrade in its Control Period 6 (2019-2024) settlement with the Government. Eurostar, as a private Limited Company, would not have any adverse effect on public finances.	Neutral

4.2 Value for Money Statement based on Network Rail's Transport Business Case

The VfM Case has been developed using Department for Transport (DfT) appraisal criteria (WebTAG). The appraisal compares the capital costs of the scheme against the benefits in terms of value of time saved to passengers, who would otherwise need to access international train services elsewhere on the rail network and the disbenefit in terms of value of time to those passengers who do not require international rail services to stop at Ashford International. It is recognised that this narrow assessment of travel time savings does not take into account the strategic economic impact of international services from Ashford International for the wider East Kent area. The wider economic impacts are presented in sections 3.2 and 4.3 of this document.

Using this DfT WebTAG methodology, the Transport Business Case gives an appraisal of "High Value for Money" and a BCR score of 3.3

A comprehensive Discounted Cash Flow WebTAG appraisal is not possible for this scheme as the guidance does not align adequately with international transport schemes and due to a lack of access to the necessary data. As such, the appraisal has adopted a relatively 'light touch' to establish value for money, which understates the value of the proposed enhancement to passengers. At this stage of the project development this Transport Business Case gives a good assessment of the value for money of this scheme, but potential changes to the parameters, either in terms of project costs or service demand do provide challenges in creating certainty within the figures provided, and changes could see the BCR value either increase or decrease as the project is delivered.

Assumptions

- The current annual passenger numbers boarding and alighting international services at Ashford International is 196,560, with 6 trains per day stopping at Ashford in each direction. It is assumed that stopping patterns remain the same and no passenger growth occurs during the appraisal period.
- The asset life is 35 years, but future benefits are discounted to a base year (at 3.5% for the first 35 years, then 3.0% in line with WebTAG guidance).
- There is a 60/40 split between leisure and business users. The appraisal applies the value of time at £0.53 per minute for business users and £0.10 for leisure users, as per WebTAG (2010 prices)

- The appraisal assumes that the capital cost is the only cost to the public sector (i.e. no rail subsidy, and any additional operating costs are absorbed within existing industry processes).
- If services were to longer call at Ashford International this would give through passengers a journey time benefit of four minutes in both directions.

The appraisal does not account for non-user benefits (e.g. reduction in road congestion) or wider economic benefits in the Ashford and East Kent area.

Capital Costs

The BCR value has been calculated based on a Net Present Value (NPV) which includes GRIP 3 Optimum Bias. The current Anticipated Final Cost (AFC) to deliver the infrastructure required is £10,497,490 (2016 factor prices). There is however a shortfall of £4,800,000 between anticipated funding and AFC. After the AFC has been converted to 2010 prices, discounted and applied GRIP 3 optimism bias this gives a final capital cost of **£6,692,025**. This shortfall is highlighted in the risk section.

Benefits and Disbenefits

The current direct journey time between Ashford International and Paris averages at 2h22m including check-in (sourced from the Deutsche Bahn journey planner using 2016 timetables). The journey time travelling from Ashford International to Paris Nord via Ebbsfleet, including interchange and check-in time, averages at 3h31m. This means there is a 68m time penalty travelling via Ebbsfleet. In the reverse direction, journeys times average 2h29m direct and 3h27m via Ebbsfleet, equalling a 67m penalty.

This direct journey time saving applies to the 196,560 passengers who board or alight at Ashford International on a yearly basis, if the current service is maintained through the planned enhancement. When applying the WebTAG value of time assumptions to business and leisure users, and conservatively using the smaller 67 minute penalty figure, this equates to an annual monetised journey time benefit of **£3,601,425.**

Journey time disbenefits have been calculated for those passengers on international services who are not boarding or alighting at Ashford International and would otherwise receive a journey time saving of 4 minutes were the services no longer stopping there.

A high level analysis shows that approximately 25% of all the services (6 tpd in each direction) stop at Ashford International and therefore a quarter of the 10.4 million annual Eurostar passengers would be affected by a change in journey times, minus those who board and alight at Ashford. When applying the WebTAG value of time assumptions to business and leisure users, this equates to an annual monetised journey time disbenefit of **£2,762,891**.

Over the 35 year appraisal period, the net benefit is **£22,288,229** in 2010 prices.

Conclusion

The Ashford Spurs programme has an NPV of **£15,596,204** and a **BCR of 3.3** over a 35 year appraisal period. The option represents High Value for Money, in accordance with the DfT's VfM assessment guidance.

Table 3 - Value for Money Case as developed by Network Rail

	Present Values in 2010 prices and values £
PVB	**22,288,229**
PVC	**6,692,025**
NPV = PVB - PVC	**15,596,204**
Initial BCR = PVB/PVC	**3.3**
Adjusted BCR (+10% for wider impacts)	**3.6**
Qualitative Assessment	**Large beneficial**
VfM Category	**High value for money**

[Source: Ashford International rolling stock compatibility – Transport Business Case, Network Rail Infrastructure Ltd, April 2016]

4.3 Expected positive impact of the Project

The Strategic Economic Case (SEC), which was prepared by Kent County Council and Ashford Borough Council (ABC) to support the funding bids, suggested that Ashford International Rail Connectivity Project would safeguard 1,000 jobs and create a further 1,000 new jobs in Ashford and the surrounding area over the first 10 years of the life of the project. The SEC is appended to this report as **Appendix F.**

Existing employment profiles indicate that the project will enable the retention of international companies currently located in Ashford, and also maintain Ashford's international status supporting new commercial activity in the Borough.

There is clear evidence that Ashford has attracted investment from firms with business requirements for strong transport links with France and Belgium. The absence of Eurostar services would impose additional costs and delay to these businesses. It is possible that it would risk a loss of business to Ashford, if the additional costs outweighed the other advantages that Ashford presents; however, even if existing Eurostar customer businesses were to remain, the ability of Ashford to attract new investors with similar transport requirements would obviously be severely reduced.

Businesses with international rail requirements located in Ashford

- **SBE** (Société Boulonnaise d'Electronique), a French-based IT repair and servicing company, established its UK subsidiary at Ashford in 1996 because of its Eurostar services. It is now one of the town's largest employers, with over 1,000 people working at the Ashford site. SBE has indicated that it is interested in more international services.
- **Eclypsia**, a French-owned video games website business recently relocated to Ashford from France. It currently employs 50 employees at its base in Ashford Commercial Quarter
- **Givaudan**, a Swiss-based flavour and fragrance company runs a product development and production base at Ashford, linked with sister sites in Paris and production elsewhere in Europe
- **Olivier Cadic** moved a computer software company from Paris to Ashford in the 1990s, and now runs a number of electronic publishing and other businesses from Kent.
- **Coty Inc**, a beauty product manufacturer, runs its UK manufacturing operations from Ashford, with sister sites in Chartres

Initial estimates show that the retention of international Services in Ashford would safeguard approximately 1,000 local jobs and would enable a further 1,000 jobs through future development. These figures are considered to be conservative and do not take into account the true impact on the wider East Kent area.

5. Financial Case

5.1 Total Cost of the Project, Funding Sources and Cash Flow

Table 4 demonstrates the composite funding profile for the project and dependency on LGF funding.

Table 4 - Composite Funding Profile

ASHFORD SPURS - COMPOSITE FUNDING PROFILE						11.08.16
Project Costs	**2015/16**	**2016/17**	**2017/18**	**2018/19**		**Totals**
	£	**£**	**£**	**£**		**£**
COWD	132,192					132,192
COWD		372,434				372,434
Forecast GRIP 3a (P6, 7, 8)		195,374				195,374
Forecast GRIP 3b (P8, 9, 10) NR Costs		113,165				113,165
Forecast GRIP 4 (P9, 10, 11, 12, 13) NR Costs		239,572				239,572
Forecast GRIP 4 (P1, 2) NR Costs			61,654			61,654
GRIP 4 3rd Party Costs (Contractors/Consultants)		300,000	50,000			350,000
Forecast GRIP 5 (P1, 2, 3, 4, 5, 6, 7, 8) NR Costs			701,707			701,707
GRIP 5 3rd Party Costs (Contractors/Consultants)			930,000			930,000
Forecast GRIP 6 (P8, 9, 10, 11, 12, 13) NR Costs			959,358			959,358
GRIP 6 KVB System Materials		0	467,000			467,000
GRIP 6 Installation		200,000	450,000			650,000
GRIP 6 Track Diagrams			250,000			250,000
GRIP 6 MDU Training		75,000	75,000			150,000
GRIP 6 Welfare		50,000	50,000			100,000
Forecast GRIP 7 & 8				188,403		188,403
Cost Escalation			115,983	5,181		121,164
Estimating Uncertainty			1,243,818	48,396		1,292,214
Risk - KCC		531,630	1,229,120			1,760,750
Risk - NR			182,500			182,500
Risk - Eurostar		166,125	427,125			593,250
Risk Fund @ 2%	2,644	57,206	131,525	4,840		196,215
Fee Fund @ 5%	6,610	143,015	328,813	12,099		490,537
Total costs	**141,445**	**2,443,521**	**7,653,603**	**258,919**		**10,497,490**
Funding Sources	**2015/16**	**2016/17**	**2017/18**	**2018/19**		**Totals**
	£	**£**	**£**	**£**		**£**
LGF2	0	2,000,000	1,000,000	2,000,000		5,000,000
LGF3	0	0	0	4,800,000		4,800,000
Local contribution total	**0**	**2,000,000**	**1,000,000**	**6,800,000**		**9,800,000**
KCC & Partners	96,949	3,051	0	0		100,000
EU RoCK project	0	20,000	0	0		20,000
Network Rail (NRDF)	44,496	535,504	0	0		580,000
Total funding	**141,445**	**2,558,555**	**1,000,000**	**6,800,000**		**10,500,000**
Cash Flow	**2015/16**	**2016/17**	**2017/18**	**2018/19**		**Totals**
	£	**£**	**£**	**£**		**£**
Project Surplus / deficit	0	115,034	-6,653,603	6,541,081		2,510
Drawdown of LGF from other LEP funding	0	115,034	-6,653,603			-6,538,570
Repayment of LGF to other LEP funding				6,541,081		6,541,081
Net use of other LEP funding	0	115,034	-6,653,603	6,541,081		2,511
Project repayment to LEP						**2,511**

5.2 Funding Availability

Table 5 demonstrates the availability of funding to support delivery of the project.

Table 5 - Funding Availability

Type of Funding	Funding Source	Please identify how secure the funds are	When will the money be available?
Public	LGF 2	Dependent on agreement by SE LEP subject to satisfactory Business Case	September 2016
	LGF 3	Dependent on the announcement by Government on the allocation of LGF round 3 bids in the Autumn Statement	December 2016
	Borrowing		
	Income		
	Other		
	KCC & Partners	Secured	July 2015
	EU RoCK Project	Secured	March 2016
	Network Rail	Secured	January 2016
	Total Contribution	**£10,500,000**	
Private	Please list all developers		
	Private Developers Total	**Nil**	
	Other Funding	**Nil**	

6. Commercial Case

6.1 Procurement Route

Kent County Council (KCC) is the client for GRIP 1 to 3a (phase 2: planning & design) and as such entered a Basic Services Agreement (BSA) between KCC and Network Rail Infrastructure Ltd. This phase of the project can only be delivered by Network Rail, so KCC has agreed internally a 'Single Source Justification' to procure phase 2 of the project from Network Rail through the BSA.

The BSA protects KCC, limiting the Council's legal and financial obligation to £213,000 for phase 2 of the project. In practice, the partnership funding from all sources for phase 2 is capped at £120,000. The balance of the costs of phase 2 will be met by the Network Rail Development Fund at £580,000. There is no liability on the part of KCC for any other revenue costs associated with the project.

The procurement by KCC of this phase commenced in July 2015 and is now due to be completed by September 2016, and was approved by Network Rail's South-East Route Investment Panel in January 2016.

KCC and Network Rail are to enter a new Development Services Agreement (DSA) for the next phase of the project, which will cover detailed design and procurement (GRIP 3b - 5). A separate Implementation Agreement (IA) will be agreed between the same parties to cover delivery, testing, commissioning and close-out (GRIP 6 - 8).

6.2 Revenue Costs

The future maintenance costs of the signalling upgrade will need to be included in the determination of the funding settlement for Network Rail's Control Period 6 (CP6) (2019-2024). They will not be met by revenue grant from any of the funding parties to the project.

7. Managerial Case

7.1 Delivery

Following approval of the project by Network Rail's South-East Route Investment Panel, KCC and Network Rail entered a Basic Services Agreement (BSA) for phase 2 of the project. The BSA will protect KCC and limit the Council's financial liability to a maximum of £213,000, almost all of which will be financed from other stakeholders' grants and external match-funding.

The expected planned project delivery date is Spring 2018, subject to funding agreement prior to the planned start of project stages GRIP 3b to 5 in October 2016. KCC has obtained assurances from Eurostar that the operator intends to continue serving Ashford *[see Appendix A].* The delivery of the project is being overseen by a Project Board, comprising officers from Network Rail, Eurostar, High Speed 1, Southeastern, the Office of Rail and Road, Ashford Borough Council, Kent County Council and the Department for Transport. A Roles & Responsibility Plan details the workstreams overseen by the Project Board and who attends Project Board meetings to represent and update on each workstream.

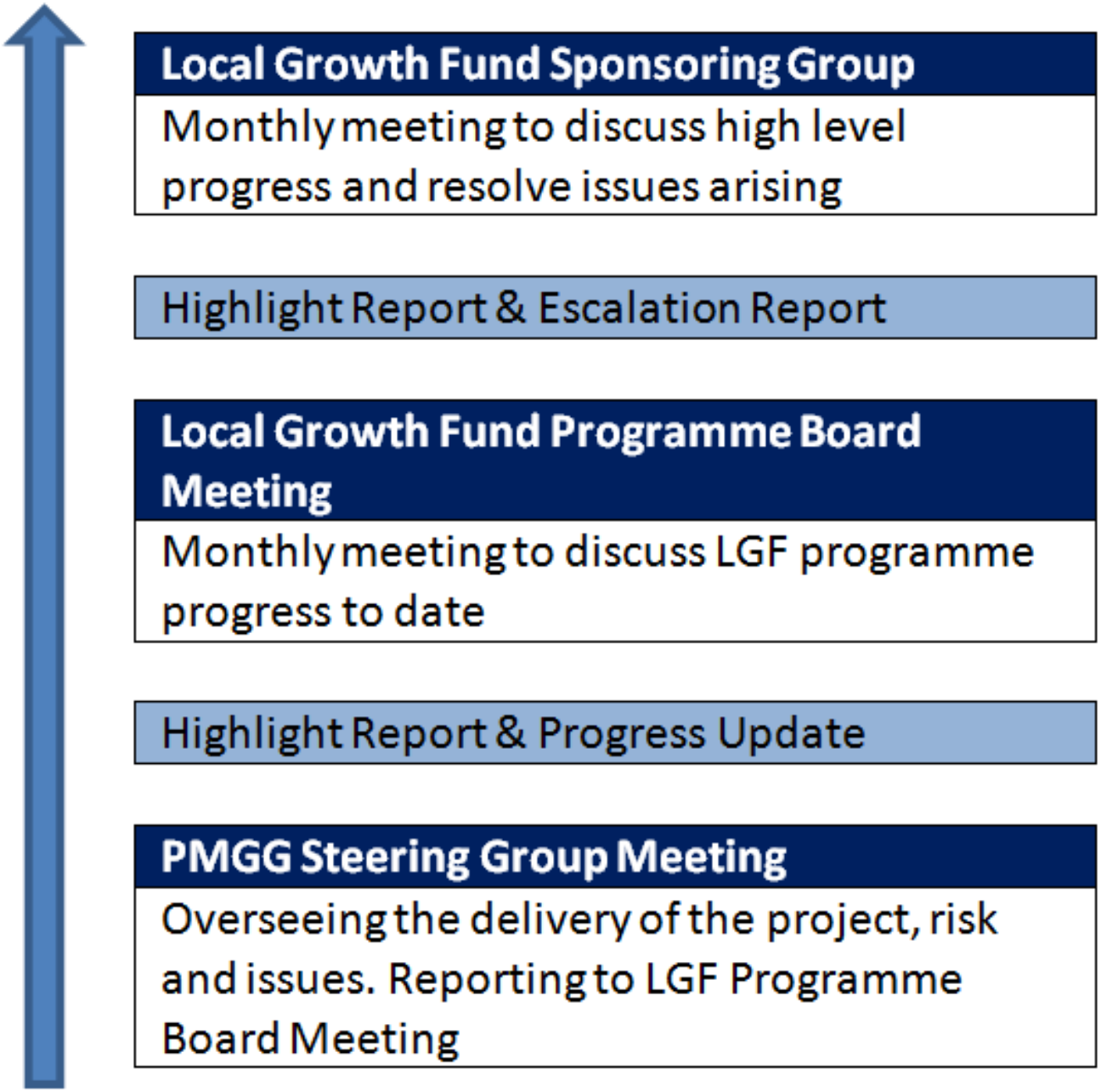
This Project Board will be responsible for ensuring that each phase of the project is delivered on time and on budget, and that each party to the project is committed to its delivery. The Project Board are also committed to keeping stakeholders up to date on developments on this project. The project has already been presented to the Kent Rail Summit on the 16 May 2016, to key rail stakeholder groups, local authorities and the press, to ensure visibility of the project within the local area and the rail industry. The project is also regularly reported to the Ashford Strategic Delivery Board which is made up of key public sector stakeholders including the local MP.

In addition to this the Kent Invicta Chamber of Commerce Ashford Economic Development Group also receives regular updates to keep businesses informed. A communications group has been set up with representatives of each of the partners, which meets regularly and is led by Network Rail. In addition to this stakeholder engagement, greater communication and discussion with the rail operators that use Ashford International will be undertaken as part of the development and delivery of the Programme Plan.

The delivery of projects through Kent County Council Local Growth Allocation is overseen by a robust management approach to ensure accountability, transparency and effective decision making. KCC's Project Governance Structure is shown in ***Figure 1.3*** below. The Kent County Council Project Manager provides detailed monthly reporting on project progress to the Council's LGF Programme Board, based on the Project Board's monitoring of the project. The LGF Programme Board meets as required to monitor individual scheme progress. This includes discussion of activities completed to date, activities to be completed during the next month, reporting of project risk and key project issues. This meeting is chaired by Kent County Council's Major Schemes Project Manager. Attendance at this meeting includes KCC's Bidding Team, KCC Project Managers and KCC's Framework Consultants, Amey.

The LGF Programme Board then provides reporting to LGF Sponsoring Group. KCC's LGF Sponsoring Group is attended by Senior Officers, including the Corporate Directorate. This meeting discusses high level programme progress to date, financial process and any key issues arising. Escalation reports are presented to this group to enable informed and effective decision making. The decisions of this group incorporate the recommendations of the Kent and Medway Economic Partnership.

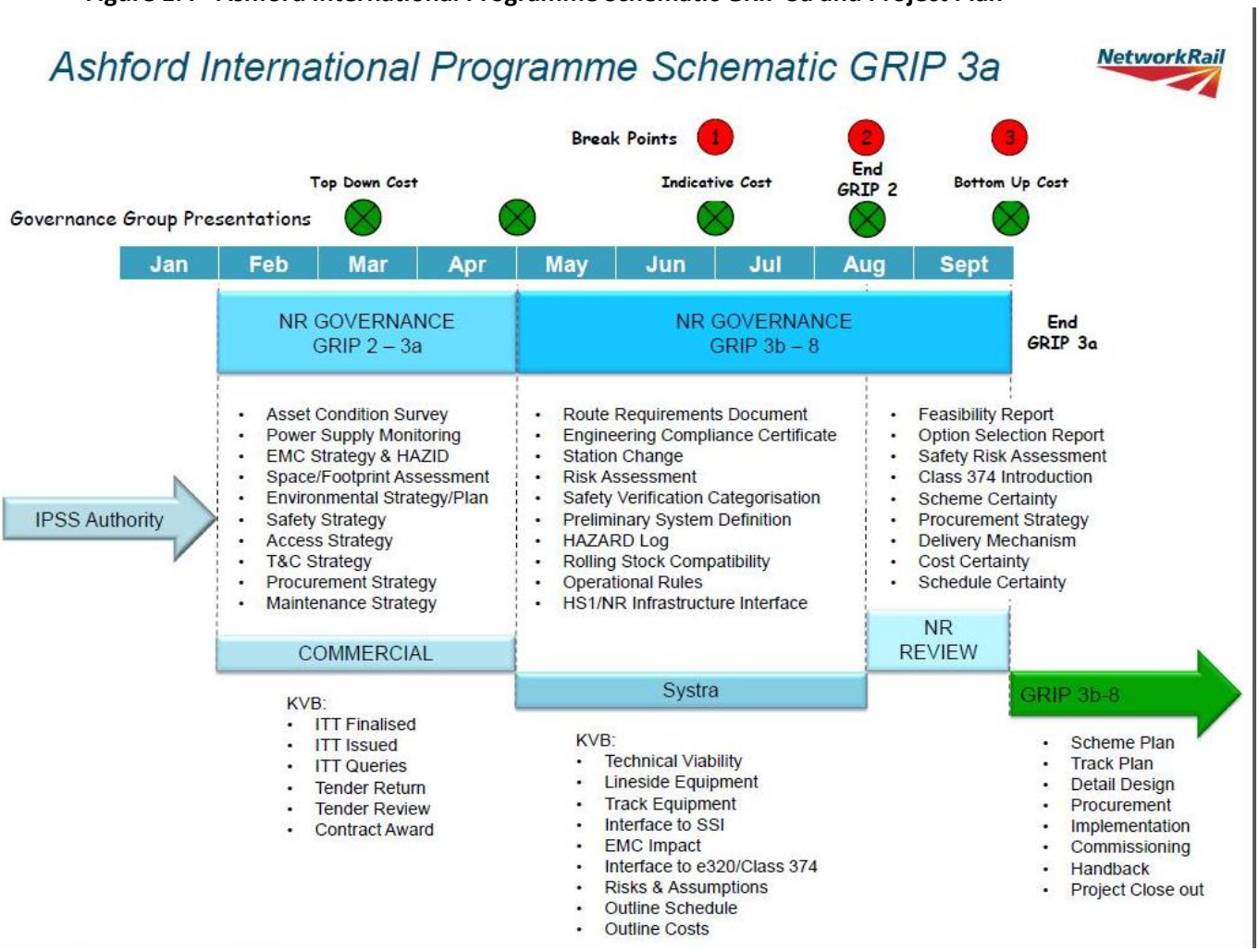
Figure 1.3 - KCC Project Governance Structure



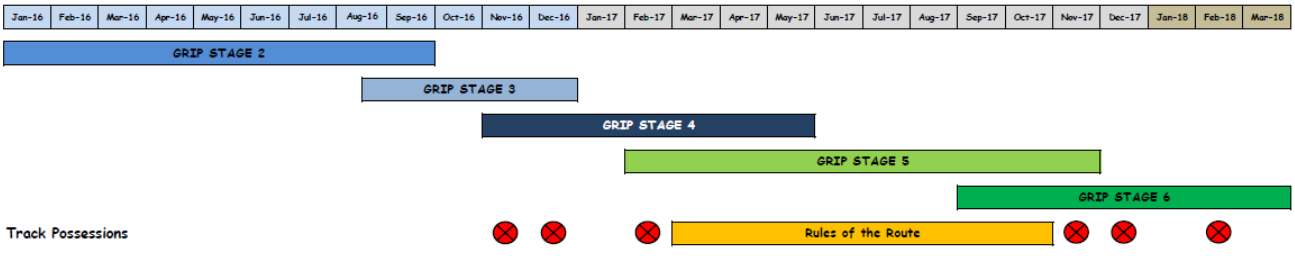
7.2 Programme Schematic and Project Plan (Preliminary Definition Executive Summary)

The following Programme Schematic and Project Plan (Preliminary Definition Executive Summary) have been prepared by Network Rail, and represent the present projected timescale for preparation, delivery, testing and commissioning of the Ashford International Rail Connectivity Project.

Figure 1.4 - Ashford International Programme Schematic GRIP 3a and Project Plan



OP # 148655
Project: Ashford Spurs International
Date: 08-Aug-16
Version: #3



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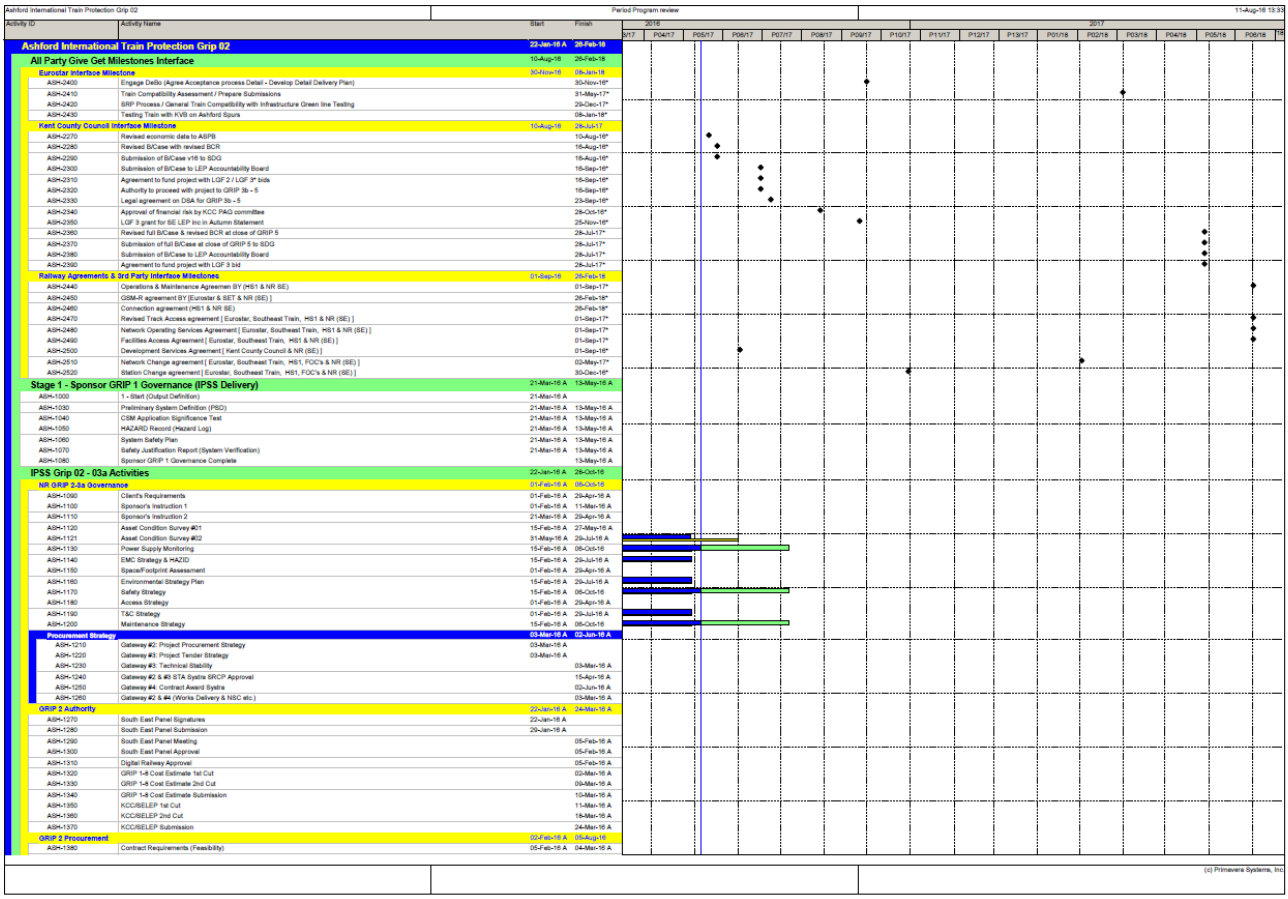
Dec-16 (NWR)	53:00hrs	23:00 Saturday 24-Dec-16 to 04:00 Tuesday 27-Dec-16
Feb-17	26:00hrs	02:15 Sunday 26-Feb-17 to 04:15 Monday 27-Feb-17
Nov-17	26:00hrs	02:15 Sunday 26-Nov-17 to 04:15 Monday 27-Nov-17
Dec-17 (CTRL/HS1)	27:40hrs	23:00 Sunday 24-Dec-17 to 02:40 Tuesday 26-Dec-17
Dec-17 (NWR)	53:00hrs	23:00 Sunday 24-Dec-16 to 04:00 Wednesday 27-Dec-17
Feb-18	26:00hrs	02:15 Sunday 25-Feb-18 to 04:15 Monday 26-Feb-18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Activity ID
Activity Name
Start
Finish
2016
2017
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All Party Give Get Milestones Interface 10-Aug-16 28-Feb-18
Eurostar Interface Milestone 30-Nov-16 08-Jan-18
ASH-2400 Engage DeSo (Agree Acceptance process Detail - Develop Detail Delivery Plan) 30-Nov-16*
ASH-2410 Train Compatibility Assessment / Prepare Submissions 31-May-17*
ASH-2420 SRP Process / General Train Compatibility with Infrastructure Green line Testing 29-Dec-17*
ASH-2430 Testing Train with KVB on Ashford Spurs 08-Jan-18*
Kent County Council Interface Milestone 10-Aug-16 28-Jul-17
ASH-2270 Revised economic data to ASPB 10-Aug-16*
ASH-2280 Revised BiCase with revised BCR 15-Aug-16*
ASH-2290 Submission of BiCase v16 to SDG 16-Aug-16*
ASH-2300 Submission of BiCase to LEP Accountability Board 16-Sep-16*
ASH-2310 Agreement to fund project with LGF 2 / LGF 3* bids 16-Sep-16*
ASH-2320 Authority to proceed with project to GRIP 3b - 5 16-Sep-16*
ASH-2330 Legal agreement on DSA for GRIP 3b - 5 23-Sep-16*
ASH-2340 Approval of financial risk by KCC PAG committee 28-Oct-16*
ASH-2350 LGF 3 grant for SE LEP Inc in Autumn Statement 25-Nov-16*
ASH-2360 Revised full BiCase & revised BCR at close of GRIP 5 28-Jul-17*
ASH-2370 Submission of full BiCase at close of GRIP 5 to SDG 28-Jul-17*
ASH-2380 Submission of BiCase to LEP Accountability Board 28-Jul-17*
ASH-2390 Agreement to fund project with LGF 3 bid 28-Jul-17*
Railway Agreements & 3rd Party Interface Milestones 01-Sep-16 28-Feb-18
ASH-2440 Operations & Maintenance Agreemen BY (HS1 & NR SE) 01-Sep-17*
ASH-2450 GSM-R agreement BY [Eurostar & SET & NR (SE)] 26-Feb-18*
ASH-2460 Connection agreement (HS1 & NR SE) 26-Feb-18*
ASH-2470 Revised Track Access agreement [Eurostar, Southeast Train, HS1 & NR (SE)] 01-Sep-17*
ASH-2480 Network Operating Services Agreement [Eurostar, Southeast Train, HS1 & NR (SE)] 01-Sep-17*
ASH-2490 Facilities Access Agreement [Eurostar, Southeast Train, HS1 & NR (SE)] 01-Sep-17*
ASH-2500 Development Services Agreement [Kent County Council & NR (SE)] 01-Sep-16*
ASH-2510 Network Change agreement [Eurostar, Southeast Train, HS1, FOC's & NR (SE)] 02-Mar-17*
ASH-2520 Station Change agreement [Eurostar, Southeast Train, HS1, FOC's & NR (SE)] 30-Dec-16*
Stage 1 - Sponsor GRIP 1 Governance (IPSS Delivery) 21-Mar-16 A 13-May-16 A
ASH-1000 1 - Start (Output Definition) 21-Mar-16 A
ASH-1030 Preliminary System Definition (PSD) 21-Mar-16 A 13-May-16 A
ASH-1040 CSM Application Significance Test 21-Mar-16 A 13-May-16 A
ASH-1050 HAZARD Record (Hazard Log) 21-Mar-16 A 13-May-16 A
ASH-1060 System Safety Plan 21-Mar-16 A 13-May-16 A
ASH-1070 Safety Justification Report (System Verification) 21-Mar-16 A 13-May-16 A
ASH-1080 Sponsor GRIP 1 Governance Complete 13-May-16 A
IPSS Grip 02 - 03a Activities 22-Jan-16 A 28-Oct-16
NR GRIP 3.0a Governance 01-Feb-16 A 06-Oct-16
ASH-1090 Client's Requirements 01-Feb-16 A 29-Apr-16 A
ASH-1100 Sponsor's Instruction 1 01-Feb-16 A 11-Mar-16 A
ASH-1110 Sponsor's Instruction 2 21-Mar-16 A 29-Apr-16 A
ASH-1120 Asset Condition Survey #01 15-Feb-16 A 27-May-16 A
ASH-1121 Asset Condition Survey #02 31-May-16 A 29-Jul-16 A
ASH-1130 Power Supply Monitoring 15-Feb-16 A 06-Oct-16
ASH-1140 EMC Strategy & HAZID 15-Feb-16 A 29-Jul-16 A
ASH-1150 Space/Footprint Assessment 01-Feb-16 A 29-Apr-16 A
ASH-1160 Environmental Strategy Plan 15-Feb-16 A 29-Jul-16 A
ASH-1170 Safety Strategy 15-Feb-16 A 06-Oct-16
ASH-1180 Access Strategy 01-Feb-16 A 29-Apr-16 A
ASH-1190 T&C Strategy 01-Feb-16 A 29-Jul-16 A
ASH-1200 Maintenance Strategy 15-Feb-16 A 06-Oct-16
Procurement Strategy 03-Mar-16 A 02-Jun-16 A
ASH-1210 Gateway #2: Project Procurement Strategy 03-Mar-16 A
ASH-1220 Gateway #3: Project Tender Strategy 03-Mar-16 A
ASH-1230 Gateway #3: Technical Stability 03-Mar-16 A
ASH-1240 Gateway #2 & #3 STA Systra SRCP Approval 15-Apr-16 A
ASH-1250 Gateway #4: Contract Award Systra 02-Jun-16 A
ASH-1260 Gateway #2 & #4 (Works Delivery & NSC etc.) 03-Mar-16 A
GRIP 3 Authority 22-Jan-16 A 24-Mar-16 A
ASH-1270 South East Panel Signatures 22-Jan-16 A
ASH-1280 South East Panel Submission 29-Jan-16 A
ASH-1290 South East Panel Meeting 05-Feb-16 A
ASH-1300 South East Panel Approval 05-Feb-16 A
ASH-1310 Digital Railway Approval 05-Feb-16 A
ASH-1320 GRIP 1-8 Cost Estimate 1st Cut 02-Mar-16 A
ASH-1330 GRIP 1-8 Cost Estimate 2nd Cut 09-Mar-16 A
ASH-1340 GRIP 1-8 Cost Estimate Submission 10-Mar-16 A
ASH-1350 KCC/SELEP 1st Cut 11-Mar-16 A
ASH-1360 KCC/SELEP 2nd Cut 18-Mar-16 A
ASH-1370 KCC/SELEP Submission 24-Mar-16 A
GRIP 3 Procurement 02-Feb-16 A 05-Aug-16
ASH-1380 Contract Requirements (Feasibility) 05-Feb-16 A 04-Mar-16 A
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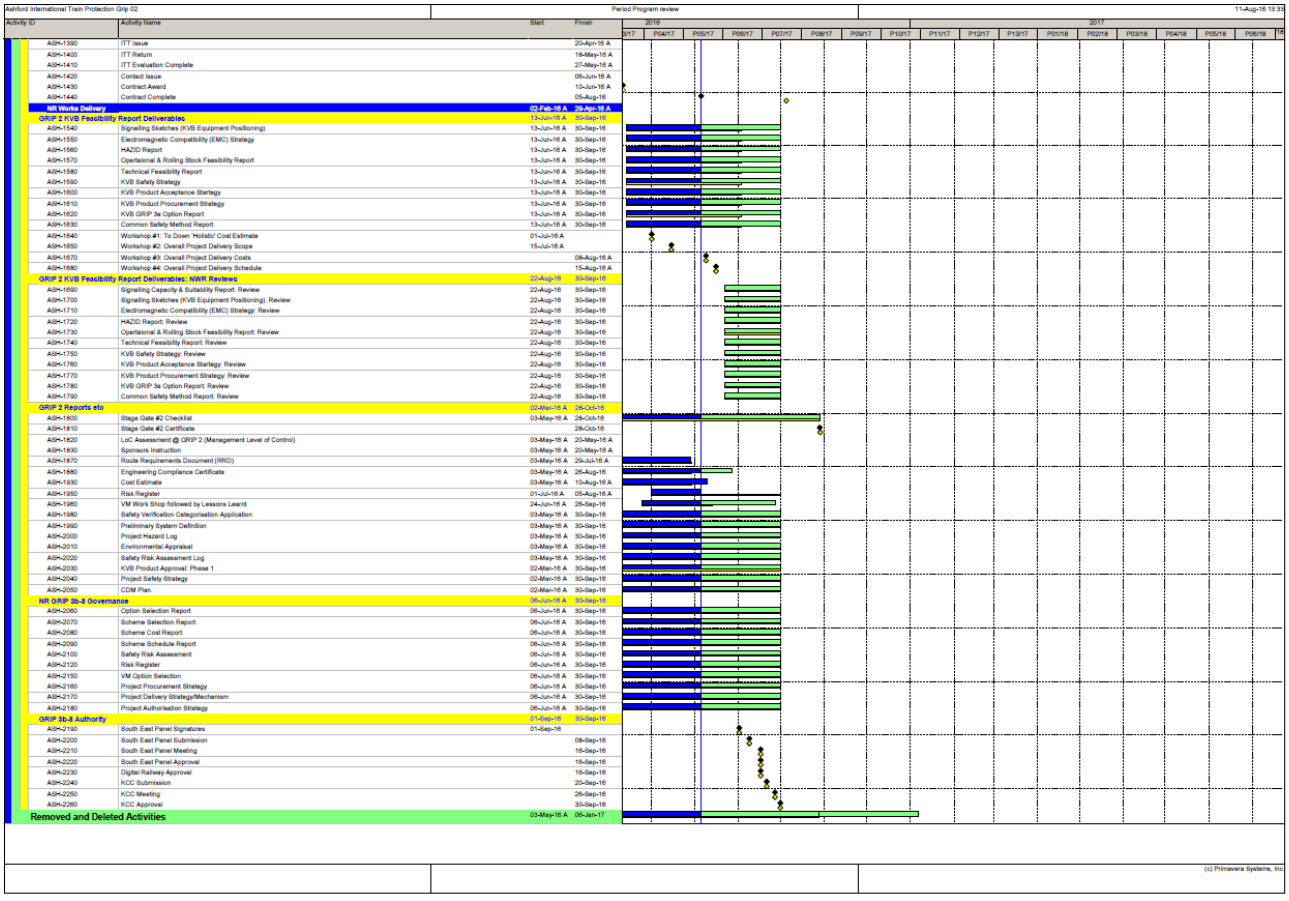
Ashford International Train Protection Grip 02
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Activity ID
Activity Name
Start
Finish
2016
2017
ASH-1390 ITT Issue 20-Apr-16 A
ASH-1400 ITT Return 18-May-16 A
ASH-1410 ITT Evaluation Complete 27-May-16 A
ASH-1420 Contact Issue 06-Jun-16 A
ASH-1430 Contract Award 15-Jun-16 A
ASH-1440 Contract Complete 05-Aug-16
NR Works Delivery 02-Feb-16 A 29-Apr-16 A
GRIP 2 KVB Feasibility Report Deliverables 13-Jun-16 A 03-Sep-16
ASH-1540 Signalling Sketches (KVB Equipment Positioning) 13-Jun-16 A 30-Sep-16
ASH-1550 Electromagnetic Compatibility (EMC) Strategy 13-Jun-16 A 30-Sep-16
ASH-1560 HAZID Report 13-Jun-16 A 30-Sep-16
ASH-1570 Operational & Rolling Stock Feasibility Report 13-Jun-16 A 30-Sep-16
ASH-1580 Technical Feasibility Report 13-Jun-16 A 30-Sep-16
ASH-1590 KVB Safety Strategy 13-Jun-16 A 30-Sep-16
ASH-1600 KVB Product Acceptance Startegy 13-Jun-16 A 30-Sep-16
ASH-1610 KVB Product Procurement Strategy 13-Jun-16 A 30-Sep-16
ASH-1620 KVB GRIP 3a Option Report 13-Jun-16 A 30-Sep-16
ASH-1630 Common Safety Method Report 13-Jun-16 A 30-Sep-16
ASH-1640 Workshop #1: To Down 'Holistic' Cost Estimate 01-Jul-16 A
ASH-1650 Workshop #2: Overall Project Delivery Scope 15-Jul-16 A
ASH-1670 Workshop #3: Overall Project Delivery Costs 08-Aug-16 A
ASH-1680 Workshop #4: Overall Project Delivery Schedule 15-Aug-16 A
GRIP 2 KVB Feasibility Report Deliverables: NWR Reviews 22-Aug-16 03-Sep-16
ASH-1690 Signalling Capacity & Suitability Report: Review 22-Aug-16 30-Sep-16
ASH-1700 Signalling Sketches (KVB Equipment Positioning): Review 22-Aug-16 30-Sep-16
ASH-1710 Electromagnetic Compatibility (EMC) Strategy: Review 22-Aug-16 30-Sep-16
ASH-1720 HAZID Report: Review 22-Aug-16 30-Sep-16
ASH-1730 Operational & Rolling Stock Feasibility Report: Review 22-Aug-16 30-Sep-16
ASH-1740 Technical Feasibility Report: Review 22-Aug-16 30-Sep-16
ASH-1750 KVB Safety Strategy: Review 22-Aug-16 30-Sep-16
ASH-1760 KVB Product Acceptance Startegy: Review 22-Aug-16 30-Sep-16
ASH-1770 KVB Product Procurement Strategy: Review 22-Aug-16 30-Sep-16
ASH-1780 KVB GRIP 3a Option Report: Review 22-Aug-16 30-Sep-16
ASH-1790 Common Safety Method Report: Review 22-Aug-16 30-Sep-16
GRIP 2 Reports etc 02-Mar-16 A 28-Oct-16
ASH-1800 Stage Gate #2 Checklist 03-May-16 A 28-Oct-16
ASH-1810 Stage Gate #2 Certificate 28-Oct-16
ASH-1820 LoC Assessment @ GRIP 2 (Management Level of Control) 03-May-16 A 20-May-16 A
ASH-1830 Sponsors Instruction 03-May-16 A 25-May-16 A
ASH-1870 Route Requirements Document (RRD) 03-May-16 A 29-Jul-16 A
ASH-1880 Engineering Compliance Certificate 03-May-16 A 26-Aug-16
ASH-1930 Cost Estimate 03-May-16 A 10-Aug-16 A
ASH-1950 Risk Register 01-Jul-16 A 05-Sep-16 A
ASH-1960 VM Work Shop followed by Lessons Learnt 24-Jun-16 A 26-Sep-16
ASH-1980 Safety Verification Categorisation Application 03-May-16 A 30-Sep-16
ASH-1990 Preliminary System Definition 03-May-16 A 30-Sep-16
ASH-2000 Project Hazard Log 03-May-16 A 30-Sep-16
ASH-2010 Environmental Appraisal 03-May-16 A 30-Sep-16
ASH-2020 Safety Risk Assessment Log 03-May-16 A 30-Sep-16
ASH-2030 KVB Product Approval: Phase 1 02-Mar-16 A 30-Sep-16
ASH-2040 Project Safety Strategy 02-Mar-16 A 30-Sep-16
ASH-2050 CDM Plan 02-Mar-16 A 30-Sep-16
NR GRIP 3b-8 Governance 06-Jun-16 A 03-Sep-16
ASH-2060 Option Selection Report 06-Jun-16 A 30-Sep-16
ASH-2070 Scheme Selection Report 06-Jun-16 A 30-Sep-16
ASH-2080 Scheme Cost Report 06-Jun-16 A 30-Sep-16
ASH-2090 Scheme Schedule Report 06-Jun-16 A 30-Sep-16
ASH-2100 Safety Risk Assessment 06-Jun-16 A 30-Sep-16
ASH-2120 Risk Register 06-Jun-16 A 30-Sep-16
ASH-2150 VM Option Selection 06-Jun-16 A 30-Sep-16
ASH-2160 Project Procurement Strategy 06-Jun-16 A 30-Sep-16
ASH-2170 Project Delivery Strategy/Mechanism 06-Jun-16 A 30-Sep-16
ASH-2180 Project Authorisation Strategy 06-Jun-16 A 30-Sep-16
GRIP 3b-8 Authority 01-Sep-16 03-Sep-16
ASH-2190 South East Panel Signatures 01-Sep-16
ASH-2200 South East Panel Submission 08-Sep-16
ASH-2210 South East Panel Meeting 16-Sep-16
ASH-2220 South East Panel Approval 16-Sep-16
ASH-2230 Digital Railway Approval 16-Sep-16
ASH-2240 KCC Submission 20-Sep-16
ASH-2250 KCC Meeting 26-Sep-16
ASH-2260 KCC Approval 30-Sep-16
Removed and Deleted Activities 03-May-16 A 05-Jan-17
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7.3 Benefit Realisation Plan and Monitoring

The Project Board will manage the project to ensure that it delivers the projected net benefit and High Value for Money demonstrated in the transport business case provided by Network Rail. The projected output in terms of houses and jobs will be monitored locally in the period following project delivery. Ashford Borough Council and Kent County Council analyse government employment statistics on an annual basis to determine growth in the economy of Ashford Borough and Kent. This, in addition to statistics provided by Locate in Kent, the inward investment agency for Kent, will be monitored on an annual basis, alongside figures provided by Eurostar for services from Ashford and passengers travelling through the station.

The use of Ashford International Station by Eurostar (and any other international operator) will be monitored by Kent County Council in the period following completion of the project. The expectation at present is that the level of service will be equivalent to that which is offered today, as Eurostar has given a written assurance that the Paris service will be re-instated on completion of the project and that the other services will continue as today. Eurostar are invited regularly to the Kent County Council and Ashford Borough Council Joint Transport Board, to present on developments within their services. This provides members of both councils with the opportunity to scrutinize service performance, benefit realisation and future proposed developments at Ashford International Station.

It is certainly hoped that once the new signalling upgrade has been installed and operating for a period, Eurostar – and possibly others – will consider an upgrade to their service at Ashford. There is no indication whatsoever of any plans to reduce, or remove, services from Ashford on a permanent basis.

Ashford Borough Council currently monitors commercial activity in the town and is aware of the international companies located there. This monitoring will be used to demonstrate that the existing level of international business is at least maintained, and that any uplift in business activity following completion of the project is reported as required. It is proposed that an evaluation of the impact of the project be carried out 10 years after the implementation of the new signalling by Ashford Borough Council and Kent County Council, through their roles in assessing the economic impact.

7.4 Risk Assessment

The following risk assessment identifies the principal risk issues, measures their likely impact on project delivery and describes the appropriate mitigation measure:

Identified risk	Impact (score 1-5)*	Likelihood (1-5)**	Mitigation	Risk owner	Risk Funder	RAG Status***
The Business Case not approved by SE LEP in September	5	1	Separate working group established to deliver the Business Case with meetings set up with SDG to understand the requirements and areas for improvement	Kent County Council and Ashford Borough Council	No other funding identified if unsuccessful. This would cause delay to the delivery of the project.	
Network Rail do not achieve internal authority to continue to delivery of Grip 3b to 5 at the September South East Route Investment Panel	5	1	Network Rail providing internal updates on progress and ensuring timely delivery of the reports and outcomes from GRIP 1 to 3a.	Network Rail	Network Rail	

Identified risk	Impact (score 1-5)*	Likelihood (1-5)**	Mitigation	Risk owner	Risk Funder	RAG Status***
Funding not identified to deliver the full project	5	2	Funding bid submitted for Round 3 LGF to cover outstanding GAP in funding.	Kent County Council and Ashford Borough Council	SE LEP funding allocation for Kent projects	
Clawback of funding for Grip stages 3b to 5 if project not progressed.	5	1	Feasibility stage underway with identification of costs and barriers. Risk Management plan for early identification of issues and proposed solutions. So project progresses beyond Grip 5	Kent County Council and Ashford Borough Council	Kent County Council	
Approval by DCLG and SE LEP to move forward with funding GRIP 3b to 5 prior to full project funding being in place.	5	1	Meeting undertaken with DfT and SE LEP to raise this risk and seek agreement for staged approval.	Kent County Council, Ashford Borough Council and Network Rail	No other funding identified if unsuccessful	
Authorisation given for funding for Grip 3b to 5, but funding agreements not in place before expenditure on this stage starts to be incurred.	3	2	Network Rail to seek agreement in advance to continue delivery based on approval of the funding.	Network Rail	Network Rail	
Clawback of funding for Grip stages 6 to 8.	5	1	Mitigated through the detailed design and planning, and Risk Management plan.	Kent County Council and Ashford Borough Council	Kent County Council	
Extended possession required due to delay in implementing the works, and therefore compensation payment to the rail operators	3	2	Strong project management and risk assessment	Network Rail	Network Rail	
Budget creep through new costs or escalation of existing costs	5	2	Scrutiny and robust analysis and challenge of project costs, risks and assumptions	Kent County Council, Ashford Borough Council, Eurostar and HS1	SE LEP funding allocation for Kent projects	
LGF Round 3 is not available until 2018/19.	1	5	SELEP and KCC have considered how this project could receive funding in earlier years through the re-programming of the full SELEP LGF and Kent allocations.	Kent County Council and SELEP	SE LEP funding allocation for Kent projects	
If a fixed price arrangement is agreed NRIL risk of any cost escalation above fixed price	3	2	Network Rail to consider risks as part of negotiation with KCC over funding contracts	Network Rail	Network Rail	

Identified risk	Impact (score 1-5)*	Likelihood (1-5)**	Mitigation	Risk owner	Risk Funder	RAG Status***
Design Risk and Risks as to the effectiveness of the System	5	1	Network Rail project management and quality assurance processes	Network Rail	Network Rail	
Cost of undertaking the Vehicle Change Process increases	5	2	Robust project planning and risk management of this process.	Eurostar	Eurostar	
Barriers identified that restrict Class 374 trains from accessing Ashford International	5	1	Early investigation of the access issues through the vehicle change process and mitigation solutions identified.	Eurostar	Eurostar	
Improvements required to the track, power supply, Station and trackside infrastructure (outside the signalling) increases the costs to the project.	5	2	Early identification of any additional costs outside of the scope of the existing project budget risk register.	Network Rail	Eurostar and HS1	
Eurostar do not continue services from Ashford International in the Medium to Long-term	5	2	Letter of commitment provided by Eurostar. Continued discussion and dialogue required to identify challenges and opportunities	KCC and ABC	Eurostar	
The ORR does not accept KVB as an acceptable product to overlay on the Ashford Spurs.	5	1	Early application and continued dialogue with ORR over the application requirements.	Network Rail		
There is a delay in obtaining product approval and acceptance by the ORR.	4	1	Early application and continued dialogue with ORR over the application requirements	Network Rail		
Any additional costs in maintenance are not budgeted for and accepted therefore creating a barrier to the implementation of the project.	5	2	Early discussion between HS1 / Network Rail and Eurostar on the funding of ongoing maintenance of the KVB system. This needs to be agreed as an additional maintenance cost for NR / HS1 from start of operation to 31.03.19. From 01.04.19 this needs to have been included in the new maintenance budget for Kent route / HS1 for Control Period 6.	Network Rail and HS1	Network Rail / HS1 / Eurostar	

Identified risk	Impact (score 1-5)*	Likelihood (1-5)**	Mitigation	Risk owner	Risk Funder	RAG Status***
Political and Reputational Risk of the suspension of some services from Ashford	5	3	Discussions with Eurostar over the extension of existing arrangements through to the implementation of the project	Kent County Council, Ashford Borough Council, Eurostar, Network Rail, HS1 and the Department for Transport	Eurostar	

**Likelihood Scale*

Likelihood	Score	Meaning
Very high	5	More than 1 chance in 10
High	4	More than 1 chance in 25
Medium	3	More than 1 chance in 50
Low	2	More than 1 chance in 100
Very Low	1	More than 1 chance in 1000

***Impact Scale*

Impact	Score	Meaning
Very high	5	Potential for many months delay
High	4	Potential for a many weeks delay
Medium	3	Potential for significant delay
Low	2	Potential for a few days delay
Very Low	1	Likely impact resolved within 2 days

****Red-Amber-Green (RAG) Status*

RAG Status	Meaning
Green	Risk currently being managed
Amber	Risk uncertainty, work ongoing to determine scale and resulting mitigation
Red	Risk requiring solution to be put in place to mitigate the risk

In addition to the risk assessment provided above, and to support good governance, project management and risk management, the Project Board have developed a series of documents that provide the process for key decisions to be made, the Roles and Responsibilities for each of the project partners, and a detailed risk register to support budgetary assumptions and the programme plan.

The risk register and programme plan are key items on the Project Board agenda at each meeting to ensure that these are kept up to date and reviewed on a regular basis alongside the development and delivery of the project.

Figure 1.5 Eurostar train in platform 4 at Ashford International at one of the 12 signals (AD 669) where this project will deliver KVB to upgrade the existing signalling system. This signal controls access to the eastern Ashford Spurs, which link Ashford International Station with High Speed 1 towards the Channel Tunnel and on to Paris and Brussels.