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Reading West Railway Station Upgrade Full Business Case

Full Business Case Report

On behalf of **Reading Borough Council**

Working better with you

Project Ref: 45835/002 | Rev: AA | Date: August 2019

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1 Introduction

1.1 Introduction

1.1.1 This document has been prepared in support of a bid for funding made to the Thames Valley Berkshire Local Enterprise Partnership (TVBLEP) for improvements at Reading West Station. This report provides the full business case for the scheme.

1.1.2 Reading West Station is a busy commuter station located about 1.6 kilometres to the west of Reading (main) Station. The main entrance to the station is located on Oxford Road, with a secondary access, via a footpath from Tilehurst Road. The location of Reading West Railway Station is shown in **Figure 1.1**.

1.1.3 Local commuter stations, such as this, are critical in providing access to major employment and commercial centres in Reading and beyond, including London. The most recent figures for Reading West Railway Station indicate an annual usage of 434,004 passengers in the year 2017/18[1]. This was a very slight fall on numbers for the previous year, which indicated a total of 434,612 passengers.

1.1.4 Through improvements in accessibility to such stations, these stations can support sustainable economic growth by helping to accommodate increasing travel demand, particularly when growth in private car use is constrained.

1.1.5 Reading West Railway Station suffers from generally poor-quality surroundings, with concealed entrances, limited waiting/ticket facilities, low natural surveillance, which can act as a barrier to accessing the rail network. The proposals will improve the quality of and security at the station, with the aim to attract new users to rail. The scheme provides opportunity to deliver more than transport benefits by activating the Oxford Road station frontage to discourage anti-social behaviour issues in the local area

1.1.6 The station is located on a key retail corridor outside of the town centre. The improvements will increase the attractiveness of accessing the shops and facilities by rail. A more attractive station will provide improved linkages, that will provide improved access for local residents to jobs and can be linked closely with other sustainable transport infrastructure schemes being proposed in Reading such as Green Park Station.

1.1.7 The scheme will continue to allow access to the station via Oxford Road and Tilehurst Road, although the current through route between Oxford Road and Tilehurst Road, will no longer be open to the public. It is not currently considered to be a route used by the public therefore it is not expected to have any significant impact on severance. Furthermore, a significant number of alternative walking routes between Oxford Road and Tilehurst Road are available.

1.1.8 Funding to the value of £3,100,000 has been allocated through the Growth Deal 3 re-prioritisation bid to assist with improvements at Reading West. With a further £940,000 of other public sector funds from Network Rail (NR) as well as £200,000 from Reading Borough Council (RBC) from committed S106 funds. This gives total funding of £4.24 million to develop passenger facility improvements.

1.1.9 An appraisal was carried out for this re-prioritisation bid. The work undertaken for this has been reviewed and updated using more up to date data and the latest Transport Appraisal Guidance (TAG).

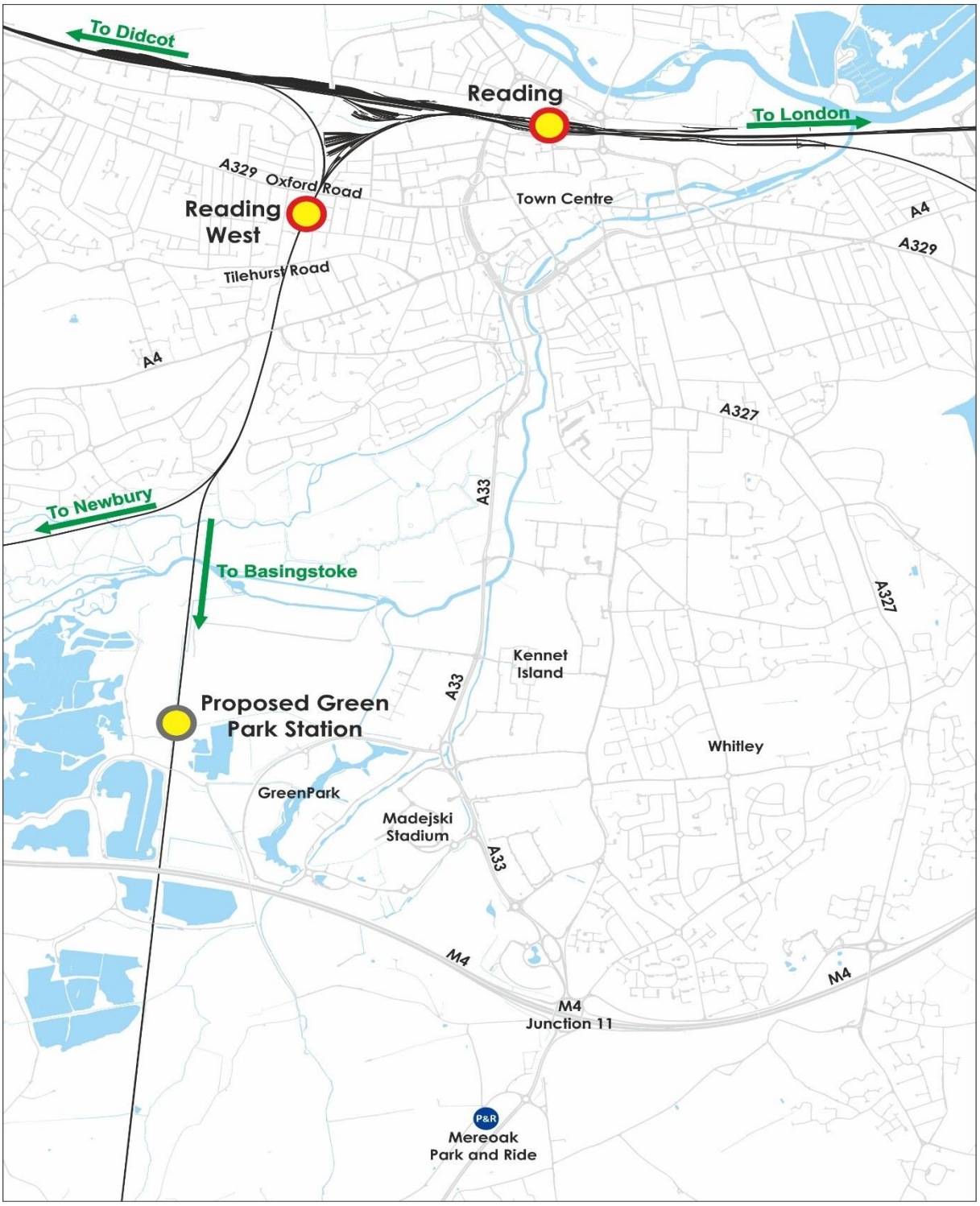
1.1.10 Network Rail (NR) have also now removed the existing pedestrian bridge which connected the platforms as part of electrification works. It is understood that the Department for Transport

[1] https://orr.gov.uk/statistics/published-stats/station-usage-estimates

(DfT) has given NR derogation not to have to replace the footbridge due to the cost of doing so.

1.1.11 RBC is now looking to submit a Full Business Case (FBC) for the Reading West Railway Station Upgrade with the improvements planned to commence by March 2021.

Figure 1.1: Site Location Plan



1.2 Purpose of this Report

1.2.1 This Full Business Case Report (FBC) is produced in support of a bid for funding being made to the Thames Valley Berkshire Local Enterprise Partnership (TVB LEP) for the proposed RWRSU scheme. In line with WebTAG guidance, a proportionate approach, consistent with the scale and hence costs of the scheme, has been adopted. The scheme costs at about £4.24 million are relatively modest. Therefore, the approach to the appraisal will be proportionate and reflect the scale of the scheme.

1.2.2 Decisions on transport investment are informed by evidence set out in a business case. The business case has been developed in line with Treasury's advice on evidence-based decision making set out in the Green Book and use its best practice five case model approach. This approach demonstrates whether schemes:

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

1.2.3 This document follows that set out in the DfT's Business Case Guidance, 'The Transport Business Cases', DfT, December 2013.

1.3 Report Structure

1.3.1 Following this introduction, this report is structured as follows:

- Section 2 provides a description of the scheme;
- Section 3 reports on the Strategic Case;
- Section 4 reports on the Economic Case;
- Section 5 reports on the Financial Case;
- Section 6 reports on the Commercial Case;
- Section 7 reports on Management Case.

2 Scheme Description

2.1 Introduction

2.1.1 This section describes in more detail the key improvements that are proposed at Reading West Station.

2.1.2 The station upgrade will provide a step change in passenger facilities at the station and wider interchange. This will create a visible presence on Oxford Road. The scheme will improve the perception of safety and security in the local area and act as a catalyst for the economic regeneration of the Oxford Road local centre. In addition, it will deliver decongestion benefits to the local highway network through enhancements to the Oxford Road.

2.2 Scheme Description

2.2.1 The main components of the refurbishments at Reading West Station include:

- New building and interchange facilities;
- Improvements to platform waiting facilities;
- Improvements at the Tilehurst Road entrance and
- Better safety and security across the station;
- The scheme also includes highway improvements on the A329 Oxford Road outside the station. These works will involve some realignment of Oxford Road and create space for the new station building footprint, cycle parking spaces and relocation of bus shelter.

2.2.2 The station upgrade will not include the installation of lifts at the station as the installation of lifts would require a full rebuild of the station platforms, which is not affordable. However, as part of the initial design work through the project, a design will be developed for 'passive provision' to enable future installation of lifts if funding materialises.

2.2.3 The key improvements proposed for Reading West Station are shown in scheme plans in **Appendix A**. The key proposed improvements are also summarised in **Table 2.1**.

2.2.4 The scheme will need a Full Business Case (FBC) for consideration by the BLTB board in November 2019. In order to demonstrate that the scheme is viable and offers value for money, the benefits of the scheme will be clearly presented and will include safety and security, air quality (AQ), health, increase in passenger numbers and associated fares revenue generated amongst other benefits.

2.3 Other Station Design Considerations

2.3.1 A suitable design solution will need to be sought for the installation of ticket barriers due to the access requirement from the Tilehurst Road entrance and absence of a footbridge to connect directly across to both platforms.

2.3.2 In addition, following negotiations with Rail Unions, there is a requirement for two members of staff to be present when ticket barriers are in use. In order to consider the impact of this, a sensitivity test without the barriers will also be undertaken. This would need to consider the impact on safety and security and potential fare evasion on the value for money, when considered against reduced cost of both the barriers and staff requirements.

Table 2.1: Proposed Station Improvements

Proposed Improvement Item Measure	Drawing No. in Appendix A
New Shelter	15141-OA-MP-SK11-P-00
New Ticket Office (new building)	15141-OA-MP-SK16-P-00
Retail Space (in new building)	15141-OA-MP-SK16-P-00
New Ticket Barriers (to access platforms)	15141-OA-MP-SK16-P-00
Gate for out of hours access (both platforms)	15141-OA-MP-SK16-P-00
New TVMs (Ticket Vending Machines)	15141-OA-MP-SK16-P-00
New CIS screens and information boards	15141-OA-MP-SK16-P-00
New ramp at 1:15 in place of existing ramp (Platform 1 & 2) (there is currently step free access to the Basingstoke/Newbury platform 1 via the Tilehurst Road Station entrance although feelings of insecurity/poor lighting etc. There is also step free access to platform 2 from the Oxford Road entrance by way of a ramp (approximately 1:9)	15141-OA-MP-SK16-P-00
New permanent steps to/from Platforms 1 (Existing footbridge removed and will no longer be replaced).This is funded by Network Rail and is referred to here as **'Network Rail Electrification works at Reading West'** which saw the removal of the pedestrian bridge across the railway line to enable electrification works.	15141-OA-MP-SK16-P-00
Proposed New Cycle Parking	15141-OA-MP-SK16-P-00
Existing Bus shelter relocated	15141-OA-MP-SK16-P-00
Oxford Road highways works to create space for station building footprint, cycle parking, relocated bus shelter	45835/5504/005 & 45835/5504/004&45835/5504/SK003

2.4 Potential Timetable Changes

2.4.1 GWR is currently consulting on their December 2019 timetable and this would see three (3) trains per hour between Reading and Basingstoke in the morning and evenings, up from the current service of two (2) trains per hour. These potential changes will be accounted for within the appraisal as necessary as a more frequent service would be expected to result in increased passenger numbers using the station.

3 Strategic Case

3.1 Introduction

3.1.1 This strategic case demonstrates how the proposed station development will support the local economy and facilitate growth. It demonstrates the rationale for the need for change and why the proposed scheme is required.

3.2 Business Strategy

3.2.1 The key purpose of stations is to provide access to the connectivity of the national rail network. Local commuter stations, such as Reading West, are critical in providing access to major employment and commercial centres. Given sufficient connectivity, stations can support sustainable economic growth by helping to accommodate increasing travel demand, particularly when growth in private car use is constrained. Stations are a key point of arrival and departure and the quality of the station environment forms part of peoples' overall perception of a town or city. A high-quality station can improve the image of the location it serves, making it a more attractive place to live, work and invest.

3.2.2 Station can act as a catalyst for wider development and regeneration. E.g. Oxford Road/Portman Road Employment Area (within 10-minute walk from Station).

3.2.3 For those with no or limited access to the private car, Reading West station is a barrier to accessing employment opportunities across the Thames Valley. Therefore, the scheme will provide access to employment and access to the labour supply for business across the region (including Green Park Business Park in conjunction with the forthcoming Green Park Station scheme).

3.2.4 Improved access – better integration with bus stops, provision of cycle parking, improved security, specific improvements designed to increase accessibility for persons with restricted mobility, hence opening up new opportunities for this group through the removal of barriers that impact on their use of rail (new job markets, access to services etc.). The proposed improvements are important to facilitate the area surrounding Reading West not only as an interchange but a place where people want to spend time. Encouraging passengers to use Reading West as an access to the centre will also relieve pressure on interchanges at Reading Central station. It is noted that the installation of lifts is not part of this scheme and the station will not become fully accessible through this project.

3.2.5 Investment in this area of Reading is limited. The Oxford Road is vibrant but suffers from congestion during the peak periods. The outputs calculated upon planned development may be achievable without the scheme, but additional outputs related to regeneration would be expected along with the environmental and social outcomes, which could not be achieved without its delivery.

3.2.6 A high proportion of the employment planned in borough is B1 office, any regeneration could offer a better a range of new jobs, i.e. B2, B8 land uses.

Social Value

3.2.7 The scheme will also maximise social value for Thames Valley Berkshire as follows:

- Personal Affordability - The scheme will provide improved accessibility for all users. It will not affect ticket prices.
- Physical activity – People switching to use the rail services will benefit from an increase in physical activity for their walk or cycle ride to the station.

- Road Accidents - The scheme is expected to have accident benefits as the scheme results in some car traffic switching to rail with a small but beneficial reduction in traffic flows with consequent accident benefits.

- Crime and Security – The scheme is expected to improve security and reduce crime incidents at the station, as barrier systems will only allow rail users with tickets into the station area. The station facilities are also relocated to a visible location on Oxford Road, therefore improving natural surveillance. Perceived or real issues around crime and security at the station are seen as a barrier to use, therefore this is a key element in promoting this scheme to assist in promoting sustainable travel in Reading and beyond and impacting positively on congestion, through mode shift to more sustainable travel.

- Access to a range of services - The station is located on a key retail corridor outside of Reading town centre. The improvements will increase the attractiveness of accessing the shops and facilities by rail. A more attractive station will provide improved linkages, that will provide improved access for local residents to jobs and can be linked closely with other sustainable transport infrastructure schemes being proposed in Reading such as Green Park Station.

- Community Severance - The scheme continues to allow access to the station via Oxford Road and Tilehurst Road, although the route will no longer be open to the public. It is not considered to be a route used by the public therefore it is not expected to have any significant impact on severance. A significant number of alternative walking routes between Oxford Road and Tilehurst Road are also available.

- Reliability impact on Commuting and Other users – The scheme is not expected to improve reliability of travel, as it will not alter the rail service arrangements.

- Journey quality - The improvements to station facilities, access and security will have a significant beneficial impact on the users' journey quality.

3.3 Problems Identified

3.3.1 Reading West has suffered from a lack of investment over a number of years. A pedestrian bridge between the two platforms has been removed, as part of electrification of the line by Network Rail (NR). It was originally the intention to replace the footbridge, but planning permission was not granted by RBC. A sum of £940,000 was provided by Network Rail (NR) on works to provide steps down to Oxford Road in place of the footbridge and is already committed.

3.3.2 There are still a number of challenges and issues regarding the station in its current form. These include but are not limited to:

- The access to the station is concealed and signage is poor. Therefore, its visibility from the roadside is limited and potential passengers can easily walk/cycle/drive/bus past the station without knowing it is there;(POOR ENVIRON);

- Natural surveillance and visibility on the ramps and on the platforms are poor; (SECURITY);

- Passengers can feel isolated when waiting for a train outside of the peak operating times;(SECURITY);

- The ramp from Oxford Road to the Reading bound platform is steep and has a number of steps, therefore making access to the platforms difficult or impossible for mobility impaired or those with children/buggies/heavy goods; (POOR ACCESS);

- To move from one platform to the other platform, is via the two ramps or stepped access to Platform 1 from Oxford Road, with the limitations noted above. (MOBILITY/ACCESS);
- There is a route to this platform from Tilehurst Road, but again, the route is isolated and natural surveillance is poor (SECURITY);
- There are currently no ticket barriers at the station, so it is not necessary to purchase a ticket to reach platforms (FARE EVASION);
- The platforms are narrow and when freight trains pass at speed, it is not comfortable environment (COMFORT); Platform widening is not included in the current scheme.
- Protection from the weather is very limited (COMFORT);
- The part time station guard only has a small sheltered space; (COMFORT/ENVIRON)
- The ticket office is small and not fit for purpose; having a visible station building on Oxford Road provides a gateway to the station and for onward journeys within Reading (VISIBILITY/ENVIRON/COMFORT);
- The A329 Oxford Road suffers with significant congestion, which affects the journey times and reliability of bus services using the route. A total of 17 buses per hour use the Oxford Road corridor, which is significantly affected by the congestion; (LOCAL CONGESTION);
- The corridor is over capacity and there is limited opportunity to provide additional highway capacity, constraining development. Therefore, planned development which uses the corridor is reliant on the delivery of public transport improvements such as Reading West. The Oxford Road area also suffers from deprivation. The general poor station environment means that house prices around Reading West will continue to lag behind other areas in Reading and land values in the area will continue to be depressed. The station can therefore act as a catalyst for wider development and regeneration, including of the Oxford Road itself and of the Portman Road Employment Area.

3.3.3 The primary objective of the proposed station upgrades is to address some of these challenges and issues, which will potentially lead to increases in rail use, thus also meeting the objective of modal shift from the private car. The scheme will create a presence on Oxford Road and dramatically change the nature of the area in terms of safety and security. Changes will be made to the road layout on Oxford Road to facilitate the station building, to provide a high-quality bus interchange facility and improved cycle parking. A new access will be provided from Oxford Road to the Basingstoke bound platform and the design will enable the future installation of lifts to both platforms from Oxford Road. Installation of lifts is not included in the station facilities for which funding for this bid is sought.

3.4 Impact of not changing

3.4.1 The station has very poor facilities and gives a poor perception and reality of safety and security. Without the improvements the station will become less attractive to existing users and fail to attract new users. The general station environment will continue to depress land values. Unattractive stations can reinforce a cycle of lower value economic activity, lack of investment and increased crime in the surrounding area.

3.4.2 The corridor is over capacity and there is limited opportunity to provide additional highway capacity. Any planned development, which uses this corridor is therefore reliant on the delivery of public transport improvements for its delivery. Without this investment, the corridor will continue to suffer from congestion on the local highway network.

3.4.3 Crime and Security – The scheme is expected to improve security and reduce crime incidents at the station, as barrier systems will only allow rail users with tickets into the station area. The station facilities are also relocated to a visible location on Oxford Road, therefore improving natural surveillance. Perceived or real issues around crime and security at the station are seen as a barrier to use, therefore this is a key element in promoting this scheme to assist in promoting sustainable travel in Reading and beyond and impacting positively on congestion, through mode shift to more sustainable travel. Therefore, without this investment, Reading West will continue to be perceived as an unattractive and unwelcoming station.

3.4.4 The current environs at Reading West station act as a barrier to accessing employment opportunities across the Thames Valley. The perception of safety and security at the station is poor and make travel late at night or in the winter months unattractive. By overcoming these barriers and creating a safe and pleasant environment, local residents will be confident to use the station to access employment opportunities across the Thames Valley and provide a labour supply to regional business. All these opportunities would be difficult to realise without the scheme.

3.4.5 Reading needs a functional and attractive public transport network to continue to grow. The recent development of Reading Station, the developing of Mass Rapid Transit (MRT) south of Reading and a proposed new station at Green Park and the solid foundation of a high-quality bus service contribute substantially to this. Reading West is the remaining poor quality public transport 'node' within the borough and therefore there is both a practical and perceptual need to invest in the station, hence doing nothing will see this part of Reading continue to lag behind.

3.4.6 The development of the station will also contribute significantly to improving commuting into London and regional journeys. This will increase the attractiveness of the Reading West area and attract a new labour supply to move into the Thames Valley, providing the engine for business growth. House prices in Reading West are cheaper than in other parts of Reading and therefore the area is more affordable to younger professionals who are seeking to relocate out of London. The quality of transport connectivity will be a fundamental factor in their deciding where to locate.

3.4.1 It is evident from the above discussion that Reading West requires this investment and doing nothing will continue to see this area of Reading continue to suffer from lack of opportunities, poor connectivity, very poor facilities giving a poor perception and reality of safety and security. The station will continue to be less attractive to use and fail to attract new users, and as previously noted, the general station environment will continue to depress land values. Unattractive stations can reinforce a cycle of lower value economic activity, lack of investment and increased crime in the surrounding area.

3.5 Objectives

3.5.1 The specific objectives of the scheme have been defined to address the issues and problems identified in Section 3.3. The primary objective of the proposed station upgrades is to address some of these challenges and issues which will potentially lead to increases in rail use. The scheme objectives are listed below and are aligned with measures/indicators for success in **Table 3.2**:

(i) Provide a high quality, safe, convenient and reliable alternative to the car and improve public perception of transport in Reading

(ii) Alleviate congestion on the Oxford Road corridor by encouraging mode shift to rail/public transport

(iii) Stimulate development, Increase in jobs and resident population in Reading West and the surrounding area;

(iv) Provide a safe station environment for existing and future users and improve accessibility to the rail network at Reading West

3.5.2 At a broader level, the scheme supports a number of the objectives in the Thames Valley Berkshire Strategic Economic Plan (SEP) as shown in **Table 3.1**.

3.5.3 The scheme will support the delivery of development as follows:

- Housing sites, including 211 dwellings on former Battle Hospital site, Portman Road;
- Employment sites in Reading town centre, including:

(i) Station Hill (4,000 jobs/80,500 square metres B1);

(ii) Land North of Reading Station (3,370 homes/70,000 square metres B1).

Table 3.1: Objective supported by the scheme

Section	SEP Objective supported by Scheme
Section 1	**This scheme supports a number of the objectives[2] in the SEP, in particular (see page 30):**
	3 Labour Supply: Address congestion; Bring forward planned housing **YES**, the scheme seeks to relieve congestion by attracting more travellers to use rail through improved facilities, access, security and cycle parking.
	6 Functioning Towns: Infrastructure within towns; Infrastructure between towns; Town centre investment **YES**, Reading West is a popular local stop on the railway line to Reading, where passengers can interchange to other rail services or to bus or cycle (hire scheme). The scheme will improve effectiveness of Reading to function as a real interchange 'hub' within and between other towns and improving access to the town centre to enable continued investment.
	AND/OR
Section 2	**directly links to the following connectivity issues named in the SEP Implementation Plan[3] section on Infrastructure (page 9):**
	Packages 1, 2 and 3: further phases or extensions of schemes funded in Growth Deal 1 **NO**
	Package 5: MRT schemes NO

[2] The objectives of the SEP are (see page 30 of http://thamesvalleyberkshire.co.uk/Portals/0/FileStore/StrategicEconomicPlan/TVB%20SEP%20-%20Strategy.pdf)
PEOPLE
1. Use better those who are already in the workforce
2. Inspire the next generation and build aspirations and ambition
3. Ensure that economic potential is not restricted by labour supply issues
IDEAS
4. Ensure that knowledge is effectively commercialised and grown within Thames Valley Berkshire
5. Strengthen networks and invest in the 'soft wiring' to use ideas better
6. Make Thames Valley Berkshire's towns genuine hubs in the ideas economy

[3] http://thamesvalleyberkshire.co.uk/Portals/0/FileStore/StrategicEconomicPlan/TVB%20SEP%20-%20Implementation%20Plan.pdf

	Package 6: Access to London Heathrow; Access to London via motorway and rail; Electrification beyond Newbury; Rail links to London Gatwick; Third Thames Crossing near Reading **YES**, the scheme provides improved access to the rail connection to the Crossrail, Western Rail Access to Heathrow (WRAtH), and HS2.
	AND/OR
Section 3	**Promotes local sustainable transport networks (see Strategy p 17)** **YES**, the scheme will deliver local sustainable transport networks and will promote active travel to the station, particularly by cycle. The proposals improve access for all, including for those whose mobility is impaired or travelling with children/buggies/heavy goods.

3.6 Measures for success

3.6.1 For each objective set out above, at least one 'indicator of success' has been established to determine what constitutes successful delivery of any transport-related improvements. Indicators and related targets are outlined in **Table 3.2**.

Table 3.2: Success Indicators

Indicator	Target
(1) Provide a high quality, safe, convenient and reliable alternative to the car and improve public perception of transport in Reading	Increase public transport modal split Increase public transport capacity Improve public transport reliability Improve public transport journey times Improve personal security Reduce casualty frequency and severity
(2) Alleviate the congestion on the Oxford Road corridor by Encouraging mode shift to rail/public transport	Mode shift to rail
(3) Stimulate development, Increase in jobs and resident population in Reading West and the surrounding area	Number new jobs created Number homes built
(4) Provide a safe station environment for existing and future users and improve accessibility to the rail network at Reading West	Reduce or eliminate perceived or actual Anti-Social behaviour Improve personal security

3.7 Scope

3.7.1 The scheme will deliver improved passenger experience and multi-modal interchange through a new station building, highway improvements on Oxford Road and improvements to platform facilities and the Tilehurst Road entrance. The scheme will not deliver lifts at this time, although lifts maybe delivered in a future phase.

3.8 Constraints

3.8.1 The highway improvements will be delivered within highway land or land owned by RBC, therefore there is limited constraint to delivery of the scheme. The station facility upgrades will also be delivered within the station area that GWR lease from NR.

3.8.2 The works are subject to planning consent being granted. Early pre-application discussions with the Planning Authorities are ongoing.

3.8.3 Works within the station lease area is assumed to be within the permitted development rights of the Train Operating Company (TOC)/Network Rail. Consideration will be given to any works to take place within proximity to the Overhead Line Equipment (OLE), the main construction work will be taking place in a 'high street environment' on the Oxford Road to construct the new station building. All works will be covered through a Basic Asset Protection Agreement (BAPA) with Network Rail and design developed in line with Network Rail standards.

3.9 Inter-dependencies

3.9.1 The delivery of the scheme is dependent on a successful bid for funding from the TVB LEP. The funding contribution from the LEP through the Local Growth Fund will comprise 73% of the funding requirement, with NR and RBC contributing 22% and 5% of the funding required respectively. The scheme is not dependent on any other Network Rail schemes.

3.10 Stakeholders

3.10.1 The scheme is being promoted by Reading Borough Council as Lead Partner, with Great Western Railway as joint promoter. The scheme thus has the support of both the Train Operating Company (TOC), in GWR and of Network Rail who lease the station to GWR.

3.10.2 Reading Borough Council, Network Rail and Great Western Railways have been working together to determine the solution which offers significant improvement and value for money.

3.10.3 The **Local Enterprise Partnership (LEP)** is responsible for deciding which of the bid schemes receive funding and are therefore fundamental to the successful delivery of the scheme.

3.10.4 Oxford Road is a busy bus corridor, therefore, bus operators and the general public are important stakeholders of the scheme.

3.10.5 The scheme has significant support from stakeholders. Letters of support from bus operators and Network Rail are attached in **Appendix M**. Network Rail's (NR) commitment to the scheme is also demonstrated by NR contributing £940,000 to the station upgrades.

3.11 Options

3.11.1 A range of options have been developed with Network Rail (NR) and Great Western Railway (GWR) considering various ramp options, lift arrangements and ticket facilities. NR has confirmed that the station cannot be made fully accessible until the platforms are widened at a cost of around £13M and so this has been made a future phase of the project. A number of highway configurations on Oxford Road were also considered to get the best possible space including that for cycle parking.

3.11.2 The improvements at Reading West will be delivered in three phases. This FBC includes Phases 1 and 2 while Phase3 is not included as part of the current proposals.

- Phase 1: Network Rail delivering a new stepped access between Oxford Road and the Basingstoke bound platform as part of the Network Rail Electrification works at Reading West;
- Phase 2: GWR/RBC delivering the new station building, changes to the Oxford Road and improvements to platform facilities and the Tilehurst Road entrance; and
- Phase 3: Network Rail delivering lift access to platforms and changes to station platforms to facilitate this.

3.12 Fit with Policy

3.12.1 While Reading West Railway Station is not directly mentioned in some policy documents, the need to provide sustainable modes of travel and improve nodes such as Reading West, is a theme that is recurrent in the following current and previous policies and plans:

- National Planning Policy Framework (2019)
- Great Western Route Utilisation Strategy – March 2010
- Berkshire Local Investment Plan 2011 – 2014 (September 2010)
- South East Plan, Transport Strategy – May 2009
- Reading Borough Councils' Core Strategy – January 2008
- Reading Borough Councils' Local Transport Plan 3, 2011 – 2026 (April 2011)
- Wokingham Borough Councils' Core Strategy – January 2010
- West Berkshire Councils' Core Strategy – July 2012 (Submission Draft February 2010)
- Thames Valley Berkshire LEP Strategic Economic Plan 2015/16-20/21

National Planning Policy Framework

3.12.2 The upgrade of Reading West station accords with the Government's National Planning Policy Framework (NPPF), in that it promotes and supports sustainable development. The proposal also supports many of the main objectives of NPPF, for example in relation to promoting sustainable transport. The station improvements would provide 'opportunities to promote walking, cycling and public transport.

Thames Valley Berkshire LEP Strategic Priorities

3.12.3 The LEP seek to *"ensure we have transport infrastructure for the 21st century. We have focused particularly on rail infrastructure to ensure an efficient alternative to road usage."*

3.12.4 Thus, one of the LEP's objectives *is "to secure investment for Thames Valley Berkshire Strategic infrastructure from public or private sources that will cause barriers to growth in the four areas":*

- "Housing and regeneration
- Transport
- Telecommunications

- Utilities"

3.12.5 The delivery of Reading West Railway Station facility improvements will help to achieve these aspirations and objectives.

South East Plan

3.12.6 The revoked South East Plan set out the long-term spatial planning framework for the region over the years 2006-2026. The Plan was produced to help achieve more sustainable development, protect the environment and combat climate change.

3.12.7 Section 9 (Transport) was adopted much earlier and the principles of the 'hubs and spokes' transport strategy remain relevant and provides evidence that the proposed railway station has regional importance.

Reading Borough Council Core Strategy

3.12.8 The adopted Reading Borough Council (RBC) Core Strategy recognises the importance of sustainable travel. Paragraph 7.11 notes that "*The role of the LDF will be implementing the transport strategy for Reading by ensuring that development is accessible ; reducing the need to travel especially by car; promoting travel plans and connections from a development via sustainable transport modes; and ensuring that development contributes towards infrastructure provision that helps to promote safe, sustainable transport choices, and enables the transport system to deal with the additional trips arising from that development.*"

Reading Borough Council Local Transport Plan

3.12.9 Reading Borough Council's Local Transport Plan (2011 – 2026) provides the following detail with regards to their Transport Vision for Connecting Reading: *"Transport in Reading will better connect people to the places that they want to go: easily, swiftly, safely, sustainably and in comfort. We will meet the challenges of a dynamic, low-carbon future to promote prosperity for Reading. Whichever way you choose to travel, by foot or bicycle, motorcycle, bus, rail, car or boat whether to work or education, to leisure or the services you need, our transport system will help you get there."*

3.12.10 The Western Local Action Plan of the LTP notes that the principal transport network for the western area of Reading includes the A329 Oxford Road and Reading West and Tilehurst rail stations, which accommodate rail journeys locally and regionally. Paragraph 4.207 further states that the stations provide an excellent opportunity for sustainable travel for commuters and local residents. However, a number of issues were identified with these stations including limited cycle parking, no step free access between platforms and poor car park access and quality (Tilehurst). The limited access to facilities may reduce attractiveness for local residents to use the station for leisure and commuter trips, further increasing reliance on the private car.

Emerging RBC Local Plan to 2036

3.12.11 Reading West Station Upgrade is identified as one of the Core Transport Infrastructure projects central to the Council's long-term vision. It is listed as one of the Major Transport Projects that will be prioritised. Reading West is also, included in the Reading Infrastructure delivery Plan (March 2018).

3.12.12 Priority will be given to the implementation of the major transport projects identified in the Local Transport Plan (or any successor document) and other identified major transport projects. Land required for these projects will be safeguarded. These will include:

- Mass Rapid Transit

- Park and Ride sites
- Green Park station and interchange
- Reading West station upgrade
- Cow Lane bridges
- Crossing of the River Thames
- National Cycle Network Route 422
- Development of high-quality bus services

4 Economic Case

4.1 Introduction

4.1.1 The Economic Case assesses options, to identify their impacts and the resulting value for money (VfM) to fulfil Treasury's requirements for appraisal. The Economic Case demonstrates value for money in the use of taxpayer's money.

4.1.2 This section reports on how the value for money of the proposed scheme has been assessed. More details on the approach undertaken can be found in the Economic Appraisal Report (EAR) included as **Appendix B** of this Full Business Case (FBC) Report.

4.1.3 A proportionate approach has been undertaken, reflecting the overall value of the scheme, which is under £5 million. The scheme costs at about £4.24 million are relatively modest and the proportionate approach to the appraisal reflect the scale of the scheme. The approach was set in the Appraisal Summary Report (ASR) which was reviewed by the Independent Transport Evaluator (Hatch Generis). The ITE was agreeable to the overall approach.

4.2 Options appraised

4.2.1 A range of options have been developed with Network Rail and Great Western Railway considering various ramp options, lift arrangements and ticket facilities. The options have been considered over a considerable period of time and demonstrate the efforts that have gone into identifying a preferred option for the Reading West Station upgrade. A Reading West Masterplan, provides indicative designs that have been considered and is included as **Appendix C** of this report. The options considered are listed below. The drawing numbers refer to plans in **Appendix C**.

- Do Nothing;
- North Option 1.1 – Lifts: Option comprising ramp improvements/provision and lifts – Drawing 15141 -OA-MP-SK05-P-00 of the Masterplan;
- North Option 1.2 - Lifts: A variation of 1.2 above as per Drawing 15141 -OA-MP-SK13-P-00 of the Masterplan;
- North Option 1.3 - Lifts: Another variation of ramp and lift provision as per Drawing 15141 -OA-MP-SK15-P-00 of the Masterplan;
- North Option 2 – New Ramps as per Drawing 15141 -OA-MP-SK06-P-00 of the Masterplan;
- North Option 3 – New Ticket Office option as per Drawing 15141 -OA-MP-SK07-P-00 of the Masterplan;
- North Option 4.1 – Alternative New Ticket Office option as per Drawing 15141 -OA-MP-SK08-P-00 of the Masterplan;
- North Option 4.2 – Alternative New Ticket Office option as per Drawing 15141 -OA-MP-SK14-P-00 of the Masterplan;
- North Option 4.3 – Alternative New Ticket Office option as per Drawing 15141 -OA-MP-SK16-P-00 of the Masterplan. The preferred option has been designed around this option;

- North Option 4.4 – Alternative New Ticket Office option as per Drawing 15141 -OA-MP-SK17-P-00 of the Masterplan. The preferred option has been designed around this option; and

- Footbridge Options as per Drawing 15141 -OA-MP-SK10-P-00.

4.2.2 It is evident from the above list that an extensive and exhaustive consideration of options have been considered in light of the various constraints around the existing site.

4.2.3 Reading Borough Council, Network Rail and Great Western Railway (GWR) have been working together over time to determine the solution which offers significant improvement while offering good value for money. The preferred option was deemed to align best with the scheme objectives and potential to address the problems and issues identified at Reading West Railway Station. While a proportionate approach has been taken in summarising the optioneering process, considerable effort has gone into the option development process.

4.2.4 Initially options were considered as to how space could be provided to improvement the station facilities. This included the following highway option considerations on Oxford Road:

- Option 1 – Online Bus Stops

- Option 2 – Half Bus Laybys

- Option 3 – Half Bus Layby West Bound

4.2.5 Drawings are enclosed in **Appendix D** for these options. Option 3 was selected to minimise impact on utilities and diversion costs.

4.2.6 In relation to the station improvement options outlined in paragraph 4.2.1, **Table 4.1** provides a simplified summary of the option appraisal process showing the facilities that each station improvement option includes. This assists in understanding the choice of the preferred option.

4.2.7 The table only contains those options for which it was considered worthwhile to cost and take forward for further consideration. An early sifting process of the list of options excluded Options 1.3, 2 and 4.4 for example, with these options not costed or taken forward.

4.2.8 Option 1.3 (similar to Options 1.1. and 1.2) relies on lifts being provided as the main means of access to station platforms. Option 1.3 was considered the least performing of these lift based options. Option 2 wholly relied on the provision of steel ramps to access the platforms. Long ramps with steps where required and the option was considered infeasible in practice. Option 4.4 would provide a new station building with 3 floors. Variations of the option relied on different configurations of footbridge design to move between Platforms 1 and 2. The option does not offer much else to enhance the station environment and in most cases retains a feel of the existing station.

4.2.9 Evidently, all options were ‘designed’ to fit around the constraints imposed by land constraints at Reading West and resolving as many of the identified problems within this limited space was key.

4.2.10 **Table 4.1** shows that the options taken forward can broadly be split into those that incorporate a new station building (Options 4.1, 4.2, 4.3) and less significant enhancements at Reading West Station (Options 1.1, 1.2 and 3).

4.2.11 There is relatively little variation in estimated project cost between Options 4.1 to 4.3 and hence the choice of Option 4.3 is easily justifiable on the basis that it offers more in terms of facility improvements for a relatively small extra cost and therefore provides the best value for money.

4.2.12 The options which do not invest in a new building were relatively cheaper, but would not achieve the required step change in station environment, safety and security that would be offered by a new station building. These enhancements were considered not to make a tangible difference to the station facilities nor dispel current poor perceptions about the station. The opportunity would thus be missed to make the station a visible and welcoming public transport interchange which would have the potential to attract development and support the local community.

Table 4.1: Consideration of Station Facilities options against various attributes

Parameter/Attribute	Option 1.1	Option 1.2	Option 3	Option 4.1	Option 4.2	Option 4.3 (Preferred Option)
Estimated Overall Project Cost (£)[4]	1,020,000	990,000	1,580,000	1,850,000	1,710,000	1,710,000
New Station Building	X	X	X	√ (Visible building -with minor Oxford Rd kerb realignment)	√ (small improvised building - No Oxford Rd kerb realignment)	√ (Visible building - Oxford Rd kerb realignment and bus shelter relocation
Ramp Provision on one or both platforms	√	√	√	√	√	√
Lift Provision	All the options allowed for Lift although lifts are not included in the Business Case bid.					
Stairs Provision on one or both platforms	√	√	√	√	X	√
Ticket Office & New equipment provision (e.g. TVMs, barriers, CIS screens etc)	X	X	X	√	√	√
Retail Space	X	X	X	√	X	√
Oxford Road Works	X	X	X	√	X	√
Cycle Space Provision	X	X	X	X	X	√
Improved Station Environment & Presence	X	X	X	√	X	√

[4] Costs are relative and are as was considered at time of option development

4.3 Assumptions

4.3.1 The general approach to the economic appraisal has followed DfT Transport Appraisal Guidance (TAG) particularly from the following documents:

- TAG Unit A5.3 – Rail Appraisal;
- TAG Unit A1.1 – Cost Benefit Analysis;
- TAG Unit A1.2 – Scheme Costs;
- TAG Unit A5.4 – Marginal External Costs;
- TAG Unit A5.1 – Active Mode Appraisal;
- TAG Unit A4.1 – Social Impact Appraisal;
- TAG Unit A4.2 – Distributional Impact Appraisal;
- TAG Unit M4 – Forecasting and Uncertainty; and
- Value for Money Framework, DfT 2017.

4.3.2 A purpose-built spreadsheet modelling tool has been used to undertake the economic appraisal following TAG and standard industry practice.

4.4 Economic Assessment Parameters

4.4.1 The economic appraisal follows the standard practice of assuming a 60-year appraisal period from the Opening Year, assumed to be 2021. This means that the horizon year of the appraisal will be 2021 + 59 years or 2080.

4.4.2 A discount rate of 3.5% has been assumed for the first 30 years of appraisal beginning 2019, which is assumed as the year of appraisal. The discount rate of 3.5% will therefore apply for the period 2019 to 2049. Thereafter, a discount rate of 3% will be assumed.

4.4.3 Assumptions on inflation impact, including retail price index (RPI), Gross Domestic Product (GDP) deflator and growth in earnings were assumed from the latest TAG databook, currently May 2019 v1.12. **Table 4.2** summarises the key economic assumptions that have been used in the economic appraisal.

Table 4.2: Summary of Economic Appraisal Assumptions

Parameter	Assumption	Information Source
Discount Rate	3.5% for 30-year period 2019 to 2049 and 3.0% thereafter	HMT's Green Book
Price Base Year	2010	DfT Price Base Year, all prices will be in 2010 values
Opening Year	2021	Scheme Programme
Horizon Year	2080	DfT 60-year Appraisal Period guidance
Rail Demand Cap	20 years for rail users	WebTAG A5.3
Rail Revenue growth	RPI + 1% post 2021	WebTAG
Values of Time by Trip Purpose (Business, Commute, Other)	Informed by TAG Databook	Databook May 2019 v1.12
Inflation Assumptions, RPI/GDP Deflator	Informed by TAG Databook	Databook May 2019 v1.12
Optimism Bias (OB)	9%	Project Programme (Table 3 in TAG Unit A5.3) at Level 4 and 18% sensitivity test at Level 3) OB also on basis that detailed design will be complete, topographical survey undertaken and trial pits carried out to understand location and depth of utilities
Rail user (passenger growth) assumptions	7.1% - 2019 to 2020 8.0% - 2020 to 2021 2% p.a. thereafter for 20 years	GWR's forecast growth (using MOIRA) for station usage resulting from Great Western electrification, wider improvements to the rail network (including Crossrail from Reading and Western Rail Access to Heathrow) and housing growth in Reading. (growth from the proposed Green Park Station has not been explicitly included, hence growth assumptions are conservative)

4.5 Data Collation and Collection

Existing Data

4.5.1 This section discusses the data that has been used to inform the station demand. Available data is relatively limited and includes station entry and exit counts collected by RBC in 2017. GWR normally has detailed information on station usage and revenue, based on analysis of ticket sales at a particular station. however, in the case of Reading West Station, there is very limited data because many tickets purchased are to or from 'Reading Stations' and do not therefore distinguish between Reading West and Reading (main) stations and it will be difficult to get meaningful data from ticketing information.

4.5.2 Other existing data sources include Office for Road and Rail annual passenger numbers and station count data from 2017.

New Data Collection

4.5.3 In order to help understand passenger demand and usage at Reading West, passenger interview surveys and station entry and exit counts were undertaken in a representative neutral 'week' in May 2019 in the week commencing Monday 13th May 2019. The surveys were used to better understand the current usage of the station and assist in developing a robust case for funding required to improve the station.

4.5.4 The following surveys were commissioned:

(1) A survey of origin – destination of users of Reading West Station. These surveys were undertaken on Platforms 1 and 2. The interview surveys were undertaken on Wednesday 15th May 2019 and took the form of face to face interviews for people waiting to board trains. They were undertaken in the morning on a single weekday for the five-hour period 0600 to 1100;

(2) Station Entry and Exit Counts of users of the station using each of the two accesses to the station, namely Oxford Road (2 entry points) and Tilehurst Road (1 entry point). These counts were undertaken over two mid-weekdays for the period 0500 to 2200 where most of the station demand is concentrated. The surveys were undertaken on Wednesday 15th and Thursday 16th May 2019, with the Wednesday coinciding with the face to face boarding interview surveys. Entry and exit counts were also undertaken on Saturday 18th May 2019 also for the period 0500 to 1100. The counts were undertaken using video cameras.

4.6 Face to Face Interviews

Interview Survey Data

4.6.1 As noted, survey interviews were undertaken on Wednesday 15th May 2019 in the morning period between 0600 and 1100. They involved face to face interviews of people waiting to board the train on both platforms 1 (westbound platform) and platform 2 (eastbound platform). A specialist survey company (Transport Survey Partners – TSP) was commissioned to undertake the surveys. PBA liaised with GWR to arrange permissions for access to Reading West Station platforms for the surveys to be undertaken. Four surveyors were used to undertake the surveys, with two stationed at each platform throughout the survey period.

4.6.2 It was the intention to complement the face to face interviews with pre-paid postcard surveys that respondents could mail back. These postcards were to be handed out to boarders not willing to partake in the face to face interviews but were willing to provide responses via the postcards.

4.6.3 Furthermore, it was intended that the surveyors also hand out pre-paid mail back 'Alighting' postcards to people alighting from trains as part of the surveys. The intention was to only survey alighting passengers using the postcards without any face to face interviews.

Issues Encountered

4.6.4 On the day of the surveys, the survey company reported that there was generally good uptake of face to face to face interviews. However, those declining to partake in the face to face interviews also generally declined to partake in the postcard surveys and consequently efforts were concentrated on maximising the face to face interviews. There was a similar reluctance by those alighting to partake in the postcard interviews. Therefore, the face to face interviews provided was the basis of understanding trip making patterns of users.

4.7 Commentary on Interview Survey Sample Size

4.7.1 A combined total of 226 interview responses were achieved over the five-hour survey period 0600 to 1100. Of these, 79 interviews were on Platform 1 (the southbound/Basingstoke direction) and 147 were on Platform 2 (the northbound direction towards Reading). These sample sizes were compared to the weekday station counts to understand indicative sample sizes. When considering the 79 interviews achieved on Platform 1 against the average of the two weekday entry counts over the interview survey period, the sample size is 17% of the entry counts. On Platform 2 the sample size is 27%, when similarly compared to the average entry counts of the two mid-weekdays. When the total 226 interviews are considered against the sum of the entry counts on Platform 1 and Platform 2 for the weekdays, the interview sample is 22%. It is considered that the sample size is reasonable and robust. More detailed data analysis of the collected data is given in Section 4 of the EAR.

4.8 Estimation of Base Year Demand

4.8.1 The base year has been assumed to be 2019, the year in which the appraisal has been undertaken and data collection undertaken. As previously noted, while ORR data is available for Reading West Station, the latest being 2017/2018 data, it was considered that the data was not as robust as it might be given that ticket sales do not distinguish between Reading (Main) and Reading West Station. This data has nevertheless been used to sense check the demands estimated from entry and exit counts surveys.

4.8.2 Entry and Exit counts collected in May 2019 have provided a more robust estimation of base demands. This coupled with the survey interview data provided a more robust estimation of weekday demands, while the entry and exit counts undertaken on Saturday 18th May 2019, provided an estimate of base year demands for the weekend. The base year daily demands are summarised in **Tables 4.3** and **4.4** for an average weekday and Saturday weekend respectively. These base year demands have formed the basis upon which Opening Year 2021 forecasts demands have been based. The demands are shown classified in pedestrians (Ped) and Pedal cyclists (Pcy).

4.8.3 In order to convert from daily demand to annual demand, the weekday daily demands were factored by 253 days while the Saturday demands were factored by 60 days. The annual figures are summarised in **Table 4.7**.

Table 4.3: Summary of Average Weekday demands (Base Year 2019) by access road and time period

Period	Start Time	End Time	In Ped	In Pcy	Out Ped	Out Pcy	Total In	Total Out	Total	As % of Total
Tilehurst Road										
AM Off Peak	05:00	07:00	18	2	19	2	**20**	**21**	**41**	**4%**
AM Peak	07:00	10:00	131	8	164	10	**139**	**174**	**313**	**28%**
Interpeak	10:00	16:00	159	12	166	16	**171**	**182**	**353**	**31%**
PM Peak	16:00	19:00	129	13	133	11	**142**	**144**	**286**	**25%**
PM Off Peak	19:00	22:00	66	9	61	5	**75**	**66**	**141**	**12%**
All Periods	**05:00**	**22:00**	**502**	**43**	**543**	**44**	**545**	**587**	**1132**	**100%**
As % of Total	**05:00**	**22:00**	**44%**	**4%**	**48%**	**4%**	**48%**	**52%**	**100%**	
Period	**Start Time**	**End Time**	**In Ped**	**In Pcy**	**Out Ped**	**Out Pcy**	**Total In**	**Total Out**	**Total**	**As % of Total**
Oxford Road										
AM Off Peak	05:00	07:00	121	2	22	1	**123**	**23**	**146**	**9%**
AM Peak	07:00	10:00	414	10	115	2	**424**	**118**	**542**	**34%**
Interpeak	10:00	16:00	170	7	124	9	**176**	**133**	**310**	**20%**
PM Peak	16:00	19:00	99	4	330	9	**103**	**339**	**442**	**28%**
PM Off Peak	19:00	22:00	47	4	93	4	**50**	**97**	**148**	**9%**
All Periods	**05:00**	**22:00**	**850**	**27**	**685**	**25**	**877**	**710**	**1587**	**100%**
As % of Total	**05:00**	**22:00**	**54%**	**2%**	**43%**	**2%**	**55%**	**45%**	**100%**	
Period	**Start Time**	**End Time**	**In Ped**	**In Pcy**	**Out Ped**	**Out Pcy**	**Total In**	**Total Out**	**Total**	**As % of Total**
Combined (Tilehurst Road and Oxford Road)										
AM Off Peak	05:00	07:00	138	4	41	3	**142**	**44**	**187**	**7%**
AM Peak	07:00	10:00	545	17	279	12	**563**	**292**	**854**	**31%**
Interpeak	10:00	16:00	328	19	290	25	**347**	**315**	**662**	**24%**
PM Peak	16:00	19:00	228	17	463	20	**245**	**483**	**727**	**27%**
PM Off Peak	19:00	22:00	113	12	154	9	**125**	**163**	**288**	**11%**
All Periods	**05:00**	**22:00**	**1352**	**70**	**1228**	**69**	**1422**	**1297**	**2719**	**100%**
As % of Total	**05:00**	**22:00**	**50%**	**3%**	**45%**	**3%**	**52%**	**48%**	**100%**	

Table 4.4: Summary of Average Weekend Saturday demands (Base Year 2019) by access road and time period

Period	Start Time	End Time	In Ped	In Pcy	Out Ped	Out Pcy	Total In	Total Out	Total	As % of Total
Tilehurst Road										
AM Off Peak	05:00	07:00	8	0	13	0	8	13	21	3%
AM Peak	07:00	10:00	38	2	59	3	40	62	102	14%
Interpeak	10:00	16:00	136	5	173	9	141	182	323	45%
PM Peak	16:00	19:00	63	9	66	4	72	70	142	20%
PM Off Peak	19:00	22:00	60	2	57	4	62	61	123	17%
All Periods	05:00	22:00	305	18	368	20	323	388	711	100%
As % of Total	05:00	22:00	43%	3%	52%	3%	45%	55%	100%	
Period	**Start Time**	**End Time**	**In Ped**	**In Pcy**	**Out Ped**	**Out Pcy**	**Total In**	**Total Out**	**Total**	**As % of Total**
Oxford Road										
AM Off Peak	05:00	07:00	18	1	3	0	20	3	23	3%
AM Peak	07:00	10:00	100	1	34	1	101	35	136	15%
Interpeak	10:00	16:00	206	5	165	8	211	173	383	43%
PM Peak	16:00	19:00	107	5	103	3	112	105	218	24%
PM Off Peak	19:00	22:00	54	5	73	5	60	77	137	15%
All Periods	05:00	22:00	485	18	377	16	503	393	896	100%
As % of Total	05:00	22:00	54%	2%	42%	2%	56%	44%	100%	
Period	**Start Time**	**End Time**	**In Ped**	**In Pcy**	**Out Ped**	**Out Pcy**	**Total In**	**Total Out**	**Total**	**As % of Total**
Combined (Tilehurst Road and Oxford Road)										
AM Off Peak	05:00	07:00	26	1	16	0	28	16	44	3%
AM Peak	07:00	10:00	138	3	93	4	141	97	238	15%
Interpeak	10:00	16:00	342	10	338	17	352	355	706	44%
PM Peak	16:00	19:00	170	14	169	7	184	175	360	22%
PM Off Peak	19:00	22:00	114	7	130	9	122	138	260	16%
All Periods	05:00	22:00	790	36	745	36	826	781	1607	100%
As % of Total	05:00	22:00	49%	2%	46%	2%	51%	49%	100%	

4.9 Estimation of 2021 Opening Year Reference Case Forecast Demand

4.9.1 2021 Opening year Reference demand was obtained by applying an 7.1% uplift to the observed 2019 base year demand to 2020 and then applying a further 8% uplift to the 2020 demand to create the 2021 reference case demands. The same growth factors were applied to weekday and weekend demands. These growth factors were shown in **Table 4.2**.

4.10 Do Minimum/Committed Scheme Assumptions

4.10.1 The Do Minimum scenario assumes timetabling changes are in place which increase train services from 2 trains per hour (a train every 30 minutes) to 3 trains per hour (a train every 20 minutes) between Reading and Basingstoke and vice versa. There are two trains per hour per direction between Reading and Newbury and these services will be retained. The effect of the timetable changes is represented by an uplift in future year demands from 2021. No other committed schemes have been assumed in the Do Minimum and the station facilities mirror the existing ones or the Do Nothing. The estimation of the timetable uplift is discussed in Section 4.11.

4.10.2 It is worth noting that a new station is proposed at Green Park and the journey opportunities this will offer in the corridor. Station enhancements are also proposed at Theale. These enhancements to other local stations in the area including a brand new station at Green Park highlight further the need to provide enhancements at Reading West. These schemes have not been explicitly taken into account and there may be a slight underestimate of benefits as Green Park has not been considered in passenger demand numbers at Reading West

4.11 Potential Timetable Changes and 2021 Do Minimum Scenario

4.11.1 GWR is currently consulting on their December 2019 timetable and this would see three (3) trains per hour between Reading and Basingstoke in the morning and evenings, up from the current service of two (2) trains per hour. These potential changes have been accounted for as an endogenous uplift up and above the background exogenous growth within the appraisal as a more frequent service between Reading West and Basingstoke would be expected to result in increased passenger numbers using the station for the route. This scenario has formed the 2021 Without Scheme or Do Minimum scenario upon which further endogenous uplifts in demand as a result of the proposed Reading West Railway Station facility improvements have been estimated to create the With Scheme forecast demands.

4.11.2 This approach is consistent with the TAG forecasting approach in TAG Unit M4 Section 8.3. Uplifts for this timetable change have been estimated using PDFH Tables B4.10 and B4.5 from Chapter B4 (Journey Time, Frequency and Interchange). The station to station journey time between Reading West and Basingstoke has been derived from the timetable as 24 minutes. This has been assumed to remain unchanged with and without the timetable changes. The service frequency will improve from 2 trains per hour (a service every 30 minutes) to 3 trains per hour or a service every 20 minutes. From Table B4.10, this gives a reduction of service frequency penalty from 26 minutes to 19 minutes assuming 'Full and Seasonal' tickets with no fare reduction. No interchanges have been assumed. The change in Generalised Journey Time (GJT) before and after the timetable change is shown in **Table 4.5**.

Table 4.5: Timetable changes in Generalised Journey Time (GJT) (minutes)

Parameter	2021Reference Case		2021DM (with Timetable change)	
	Service	GJT Units	Service	GJT Units
Journey Time (minutes)	24	24	24	24
Headway (minutes	30	26	20	19
Interchange	0	0	0	0
Total GJT		**50**		**43**

4.11.3 Applying a generalised journey time elasticity of -1.10 from PDFH Table B4.5 (Non-London), resulted in a demand uplift of 18% as a result of the timetable improvements. This is based on Basingstoke being with 20 miles of Reading West. The passenger surveys indicated that

Basingstoke constitutes 14% of demand at Reading West. For simplicity, a 2.5% uplift (18%*14%) uplift was applied to the total demand before timetable changes, to create the 2021DM scenario with timetable changes. Following this, further uplifts due to the station facilities have been applied as explained in Section 4.12.

4.12 Application of Station Facility Upgrade Demand Uplift – With Scheme Scenario

4.12.1 Paragraphs 8.3.34 to 8.3.37 of WebTAG Unit M4 provides guidance on the application of demand uplifts for station facilities in light of PDFH approach. The guidance notes that PDFH recommends direct demand uplifts from improvements to a range of station facilities but advises that care should be taken when determining the appropriate base demand to which uplifts should be applied.

4.12.2 In the case of the station uplift at Reading West, the improvements will open to the public in 2021 having taken into account the uplift from timetable changes. Therefore, the station facility demand uplifts have been applied to the 2021 Do Minimum future years. (Beyond 2021 the uplifts have been capped at 2%).

4.12.3 **Table 4.6** shows the uplift assumptions from PDFH Table B8.1 that have been applied for Reading West Station. It has been assumed that uplift values for Urban London & South East' are more appropriate for Reading West Railway Station and have therefore been adopted for the demand uplift calculations. An uplift of combined 11.5% was estimated for Business/Leisure trips while an uplift of 8% was estimated for commute trips. This gave an overall demand uplift of 8.88%.

4.12.4 It is considered that the station improvements will have the most significant impact on passenger demand uplift in the early years of the scheme being implemented or opened. For simplicity, it has been assumed that the full uplift of 11.5% for business/leisure trips and the 8.5% for commuters will be realised in the Opening year. Therefore, the uplift growth will be realised in the short term and is a one-off application. Thereafter, our assumption is 2% growth per annum. This ongoing growth is expected to be realised regardless of the station improvements to the extent that over the long term, growth will be of this lower order of magnitude.

4.12.5 PDFH has been applied using an additive/ cumulative approach to the uplifts, which follows the PDFH Example 1 in 'PDFH Chapter B8 Station Facilities'.

4.12.6 As for the magnitude of the total uplifts of 11.5% and 8% respectively, we consider these to be on the conservative side given the current conditions at Reading West Station. The station currently has very limited facilities, poor security (no barriers), poor natural surveillance, poor access arrangements and poor prominence. It is our view that there is a case to argue that the uplifts might be higher than those that have been assumed.

4.12.7 'PDFH Chapter C8: Station Facilities: Evidence' covers the evidence that forms the basis of the station quality recommendations contained in 'Chapter B8: Station Facilities'. Some studies contributing to this PDFH evidence indicate that at smaller stations, station enhancements could uplift origin traffic by 7%, while for larger stations an enhancement of around 8% for both origin and destination traffic was recorded. It is further stated that recall information collected at refurbished stations (rather than the construction of new facilities) indicate an average increase in demand of around 8%, but with 20 – 30% of this demand abstracted from other stations. Our current assumptions of an overall uplift of 8.88% is consistent with this order of uplift in PDFH and appears reasonable if not somewhat understated given the current conditions at Reading West station and the plans to construct a new station entrance and waiting facility.

Table 4.6: Assumed Demand Uplift (%) for proposed Reading West station facilities (PDFH Table B8.1)

Station quality attributes	Station Facility	Business/ Leisure	Commute	Comment
Retail facilities	Kiosk (No shop or vending machine >to> Small shop)	1.50%	0.50%	
Waiting facilities	Poor condition seats >to> Good condition seat provided, but no waiting room	1.70%	1.00%	Conservative - There will be a waiting area within the new station entrance and screens allowing passengers to walk up to the platforms when before their train arrives
Cleanliness	Some litter >to> no litter	0.90%	0.50%	
Ticket purchase	On trains only >to> On trains & TVMs	2.1	2.4	Conservative values of 'On train only to On train & TVMs based on Urban Regional & Intercity
CCTV (Security)	CCTV in station only >to> in station and surrounding area	2.80	1.90	Conservative, as barriers will prevent the station being used as a 'through' route, particularly for illegal activities.
Ticket barriers	No ticket barriers/staff >to> operating ticket barriers with staff	2.5%	1.7%	Station known to be used for ticket avoidance.
Info screens	No information screens >to> Information screens	Not claimed	Not claimed	Conservative, as more screens will be provided in the new entrance facility
Platform staff (Security)	No rail staff on platform >to> Rail staff on platform	Not claimed	Not claimed	Conservative as staff will be on the barriers in the new entrance facility.
Help points (Security)	No Help point on platform >to> Help point on platform	Not claimed	Not claimed	Conservative, as although there is a help point on the platform there will be an additional help point within the entrance facility
	Total uplift	**11.50%**	**8.00%**	

4.12.1 **Table 4.7** provides a summary of the estimated annual demands from Base Year 2019 to Opening Year 2021DM and With scheme or 2021DS scenario demands following the station facilities uplift.

Table 4.7: Summary of Reference Year 2021 Opening Year 2021 Forecast Demands (Annual)

Scenario	Entries	Exits	Total	Uplift (%)
2019 Base	423,726	396,241	819,967	n/a
2021 Reference (no timetable changes)	490,115	458,324	948,439	+15.6%
2021DM (with timetable changes)	499,918	467,491	967,408	+2.00%
2021DS (with station facilities uplift	544,285	508,980	1,053,266	+8.88%
Total 2021DS uplift from 2019 Base Year	**n/a**	**n/a**	**n/a**	**+28.5%**

4.13 Scheme Costs

4.13.1 The scheme costs considered for the scheme include the following:

- Capital Costs
- Station Operating Costs (for day to day operation)
- Renewal/maintenance costs (renewal of assets)

4.14 Capital Costs

4.14.1 The scheme costs have been considered in accordance with TAG Unit A1.2 and include the application of appropriate risk and optimism bias factors consistent with the recommended values for rail in TAG Unit A5.3 (and TAG Unit A1.2.). Costs have considered inflation or real price increases to time of spend. The scheme costs were estimated by a professional estimator and are in 2016 prices. The costs are summarised in **Table 4.8**. **Appendix E** provides more details on the composition of the Scheme Costs.

4.14.2 **Table 4.8** provides details on the split in costs between the highways scheme costs on Oxford Road and the Station facilities improvements. It is considered that the levels of preparation and supervision costs are consistent with the scale of the scheme and it is of relatively short construction duration.

4.14.3 A major risk was the requirements for utility diversions. Trial holes have already been undertaken to identify utilities and their depth. Engagement with the relevant statutory undertakers has also already been undertaken and therefore extent that the costs of utility diversions are accurate. It is therefore considered the level of quantified risk contingency is reasonable at about £386,915 in total. A further contingency of £237,674 is also provided, giving a total sum of £624,589 or about 18% of the Scheme costs of £3,543,580 exclusive of real cost increases or about 15% of the Total outturn costs of about £4,260,940. It is considered that this is proportionate to the scale of the scheme.

4.14.4 There is confidence that the scheme costs are robust. The highway costs have been reviewed and further detailed. Trial holes, topographical surveys and utility enquiries and diversion costs have informed the scheme costs, and this has contributed to a better understanding of risks. The station facilities costs have been prepared by an experienced and specialist cost consultant, with oversight from GWR, hence there is also confidence that the costs are robust. Furthermore, contingency has been built into the scheme costs.

Table 4.8: Summary of Scheme Costs (£) in 2016 prices.

Cost Element	Amount in £	Amount in £	Amount in £
	Highways	Station Facilities	Total
Preliminaries	39,123	165,881	205,004
Scheme Costs (excluding contingency & optimism bias)	130,410	1,173,874	1,304,284
Contingency (25% of Scheme costs + Preliminaries)	42,383	195,290	237,674
Utilities Costs (Based on C3 estimates)	500,000		500,000
Construction Works- Electrification Works		940,000	940,000
Total Construction Costs	**712,875**	**2,475,045**	**3,186,962**
Land	n/a	n/a	n/a
Preparation Costs	27,800	153,505	181,305
Supervision Costs	20,850	153,505	174,355
Sub Total excluding real cost increases	**761,525**	**2,782,055**	**3,543,580**
Add Inflation from 2016 to point of expenditure	78,303	252,142	330,445
Add Risk (Quantified)	37,183	349,733	386,915
Sub Total with Inflation and Risk (Outturn)	**877,011**	**3,383,930**	**4,260,940**
Total Cost including Optimism Bias of 9%	**955,942**	**3,688,483**	**4,644,425**

4.15 Understanding of Key Risks

4.15.1 In order to better inform the quantified risk in relation to utility diversion, trail holes were undertaken on the Oxford Road. The results of the trial holes showed that there are a large number of utility services in the highway and also that these are quite shallow, so will require diversion. There is no scope to amend or re-engineer the scheme to divert away and approximate costs were sought from the utility companies for diversion. The largest cost estimated is by Vodafone. However, Thames Water have confirmed there is no requirement to move any of their services. This informed knowledge of risks and stage of the scheme have confirmed that an Optimism Bias of 9% is appropriate. **Table 4.9** shows the estimated quantified costs of utility diversion. The topographical surveys have also been undertaken and have informed the highway detailed design.

Table 4.9: Utility Diversion estimated costs (£) (2019 prices).

Statutory Undertaker	Amount in £
SSE	7,098.30
City Fibre	3,159.00
Century Link	27,144.99
Vodafone	228,513.00
BT	96,679.92
Virgin Media	71,957.36
Thames Water	n/a
Total	434,552.57

4.16 Operation Costs

4.16.1 In addition to capital costs, the appraisal has considered annual Operating Costs of the station as well renewal costs of assets. **Table 4.10** shows estimates provided by GWR or obtained from similar past business cases. These estimates have been assumed in the appraisal.

Table 4.10: Operation Costs (£) in 2019 prices.

Cost Element	Annual Costs in £
Annual Staff Costs	[redacted]
Station maintenance costs	
Network Rail costs associated with station improvements: This will be determined once TOC have a Basic Asset Protection Agreement (BAPA) in place. However, based on comparable projects and the scale of work (isolation for **Overhead Line Equipment** and potential bridge related works) TOC estimate a range [redacted]	
Ticket vending machines, Customer Information Screen operation costs for day to day use (TOC charged just circa [redacted] per year for the operation of the CIS at each station by Worldline)	
Renewal Costs	
Renewal/maintenance programme and costs for barriers and other equipment such as ticket vending machines, CIS screens and information boards - (**Station Information and Security Systems** will transfer to NR, and the TOC would pay an annual charge per annum to cover the cost of replacement of hardware (10 year period assumption).	
There will also be an uplift to the maintenance contract to maintain the SISS assets.	
Ticket gateline maintenance costs would be dependent on the number of gates, but an assumed figure would be [redacted]	
Total equivalent Annual Costs	

4.17 Risk Register/Quantified Risk Assessment

4.17.1 A quantified Risk proportionate to the scale of the scheme and costs has been used to inform the scheme costs.

4.18 Optimism Bias

4.18.1 An optimism bias of 9% which is consistent with the stage of the scheme and an understanding of the quantified risk has been assumed.

4.19 Scheme Benefits

4.19.1 The following scheme benefits have been estimated for the Reading West Station upgrade:

(i) Rail Fare Revenue increase as a result of demand increase from station facilities upgrade;

(ii) Retail Revenue from kiosk;

(iii) Active Mode Appraisal Impacts/Health Benefits – these arise from increase in number of cyclists accessing the station as a result of cycle parking improvements and other station facilities plus an increase in pedestrians from the demand uplift due to station facilities improvements;

(iv) Station environment improvement- Journey quality benefits accruing to existing and new users who now enjoy an improved station environment. These are based on willingness to pay (WTP) approach;

(v) Marginal External Cost (MEC) benefits accrued by non-users as a result of some car drivers shifting mode to rail leading to decongestion and other related benefits estimated through the MEC approach in TAG Unit 5.4.

4.19.2 These benefits are now considered in in the sections that follow. Benefits have been estimated over a 60 year appraisal period and are reported in 2010 prices discounted to 2010.

4.20 Rail Fare Revenue

Demand Uplift Estimation

4.20.1 Improvements to the station facilities at Reading West station are expected to result in increased demand at the station leading to an increase in rail fare revenue. The number of new users due to improvements of the station facilities, was determined using demand uplift values from PDFH (Chapter B8 Station Facilities, May 2018). Table B8.1[5] in PDFH, tabulates the recommended demand uplift values for a given facility improvement by whether the trip is a Business/Leisure trip or a Commute trip. The interview surveys undertaken at Reading West Station indicated that the proportion of Commute trips is 82% and that of business/leisure trips as 18%. The PDFH recommended demand uplifts also differentiate according to the following regions:

- Urban London & South East;
- Urban Regional & Intercity;
- Rural Region

[5] Table B8.1 Recommended Demand Uplifts for Station Quality Improvements (PDFH May 2018)

4.20.2 It is considered that uplift values for 'Urban London & South East' are more appropriate for Reading West Railway Station and were used in the appraisal.

4.20.3 Rail fare income has been derived from the demand forecasting for peak, off-peak and weekend trips and converted to revenue by using June 2019 fares with a yield application applied. The yield factor is based on ticket types used at Reading West Station and is applied to the full return fare, which takes account of the different ticket types available such as season, weekly, concessionary, advance, etc. In estimating fare revenues, it has been assumed that commute trips are made during the peak periods and hence incur peak fares, while business/leisure trips have been assumed to travel off peak.

4.20.4 Income comprises three sources; users new to the rail network, users who have switched from a nearby station or abstracted trips, and users who no longer travel. The net generated revenue, i.e. new users' income less lost users' income is used for the appraisal. The PDFH guidance notes that 20% of demand uplift is estimated to be due to abstracted trips and this revenue is therefore not considered new revenue and is excluded from the rail fare revenue estimates. In the absence of local levels of abstracted trips at Reading West Station, the Core Scenario appraisal has assumed a value of 20%.

4.20.5 Real fare increases over time have been applied based on the assumption that fares would increase at RPI plus 1%. RPI figures have been obtained from the TAG May 2019 Databook V1.12 Table A5.3.1. Fare increases have been adjusted using the GDP Deflator. These fare increases have only been applied for the first 20 years of the scheme, as per the guidance for Rail Appraisal.

4.20.6 In rail appraisal, the increased revenue from new passengers is offset against the operation costs to provide private sector business benefits. The rail fare revenue over the appraisal period is shown in **Table 4.11** in 2010 prices discounted to 2010.

Table 4.11: Rail Fare Revenue over appraisal period (2010) prices

Rail Fare Revenue	Amount in £000's
Fare Revenue Accrued	21,927

Fares Evasion assumptions

4.20.7 The station upgrade is expected to reduce fare evasion due to the installation of barriers. For the purposes of this appraisal, it is assumed that the full fare revenues generated will be captured with none lost to fare evasion; - a benefit attributed to the barriers. A sensitivity test has been run which assumes no barriers and a consequent loss in fare revenue of 13%.

4.21 Franchising and Treatment of Revenue

Revenue Transfer

4.21.1 It is currently anticipated that the next Great Western franchise could commence from March 2022 after a franchise competition. Therefore, given the scheme timescales, as a percentage of total forecast incremental revenue in the appraisal period, over 95% is accrued after March 2022 and the reletting of the new franchise. It has therefore been assumed that 95% of the fare revenue will transfer to central government with 5% treated as a benefit to the TOC. The results are reported in **Table 7.9** under the economic appraisal summary.

4.22 Consideration of Crowding

Rail capacity

4.22.1 The already planned and committed improvements will deliver sufficient future rail capacity to accommodate the demand generated from the Reading West area which the station improvements plan to cater for.

4.22.2 Additional passengers will not induce any additional rail operating costs: No additional rail operating costs are anticipated in connection with the project. Any additional demand generated through the project will be met by enhanced rail services introduced between London to the West of England in 2019 and are already fully committed.

4.22.3 Additional passengers will not require additional rail capacity: As part of the Great Western modernisation programme, the line between Reading and Newbury has been electrified. As a result, GWR will be able to operate new electric trains as far as Newbury (Electrostar).

Kiosk Income

4.22.4 The TOC will earn an annual income by leasing out the retail floor space. This income has been estimated from comparable stations and is modest in magnitude and equates to [redacted] over the appraisal period in 2010 prices as shown in **Table 4.12**.

Table 4.12: Kiosk income over appraisal period (£ in 2010 prices).

Kiosk Income	Amount in £000's
Kiosk Income	[redacted]

4.23 Active Mode Appraisal Impacts/Health Benefits

Active Mode Appraisal Impacts/Health Benefits

4.23.1 It is anticipated that health benefits will accrue as a result of some people walking and cycling to access the station. The station improvements include provision for cycle parking currently estimated to be 24 to 48 spaces.

4.23.2 TAG guidance in TAG Unit A5.1 pertaining to Active Mode Appraisal was used to estimate these benefits. These benefits will comprise:

- Physical Activity Impacts – these are based on monetising the change in mortality resulting from a change in cyclists i.e. the benefits from gaining life years following the principles of the Health Economic Assessment Tool (HEAT) by the World Health Organisation (WHO);

- Absenteeism Impacts in relation to commuting trips- these arise from improved health due to physical activity such as from cycling leading to reductions in short term absence from work.

4.23.3 The station passenger interview surveys showed that 59% of the respondents stated that they originated from areas around Reading West, with a further 17% and 4% originating from the relatively local postcode of RG30 and from the vicinity of Oxford Road respectively. This means that 80% of the respondents originated from the Reading West station locality indicating the importance of the station to the local area. Fundamentally, this means that the station is within walking and cycling distance as is also indicated by the mode share results of access/egress to the station from the passenger interview surveys.

4.23.4 The entry and exit count surveys indicated that in general, 3-6% of the passengers used cycle as the access mode, generally equating to 174 users (entries and exits combined) on an average weekday and 96 users on a Saturday in 2019. This is generally consistent with the passenger survey interviews which indicated that the mode share of cycle was 6% albeit only undertaken in the morning period 0600 to 1100. The interview survey also indicated that pedestrians comprised 72% of the mode share.

4.23.5 Assuming that these observations are maintained into the future, it can be seen that a significant proportion of the new demand using the station as a result of the station facility improvements will access and egress the station as pedestrians or as cyclists leading to health benefits associated with active mode use.

4.23.6 The DfT Active Mode Toolkit (May 2019) was used to estimate the pedestrian and cycle user benefits. This takes as inputs, the number of daily pedestrians and cyclists plus the distance travelled. The tool kit was designed to estimate benefits of improvements to cycle and pedestrian facilities but equally can be used to estimate benefits from increased active mode use. For this appraisal no changes to facilities (ped or cycle) has been assumed, just the increase in numbers of users as a result of station improvements. It was estimated that in the opening year with the scheme in place, an uplift or 205 new pedestrians and 17 new cyclists per average weekday would use the station from a total 285 new users per day predicted in the opening year 2021.

4.23.7 The toolkit assumes an average cycling distance of 5.6 km and walking distance of 1.18 km. The walking distance assumption was retained for this appraisal. For cyclists, the appraisal assumed a cycling distance of 3 km given the local nature of the demand composition suggested by the passenger interview surveys. The 3km value was assumed from Section 3 of the cycle-rail tool kit[6] publication which noted that surveys elsewhere have indicated average cycling distance of 3km to rail stations. The study noted that while a small number of cyclists may regularly travel greater distances, anything greater than 5km maybe unrepresentative of the primary objective for cycle-rail. For this reason, a 3km cycle distance was assumed. A 20-year appraisal period was assumed as per the DfT toolkit which considers that the active mode benefits are expected to decay with time. The resultant active mode benefits are shown in **Table 4.13**.

Table 4.13: MEC over 60-year appraisal period (£m in 2010 prices).

Parameter	Benefits in £000's 3 km cycle length
Physical Activity Impacts Benefits/Reduced risk of premature death	618
Absenteeism Impacts Benefits	196
Total Benefits (Active Mode)	**814**

4.24 Non-User Benefits (Marginal External Costs)

4.24.1 The improved station facilities will result in some car drivers changing mode to use the train. In doing so, this transfer form car to rail will result in fewer car trips and a consequent reduction in car vehicle kilometres travelled leading to secondary non-user benefits for those who continue to drive. These benefits are calculated under the banner of marginal external costs (MEC) as per guidance in WebTAG Unit 5.4. The MEC are discussed below.

[6] Cycle-Rail Toolkit 2, April 2016, Rail Delivery Group, Cycle Rail Working Group

Marginal External Costs

4.24.2 Marginal external costs are benefits accruing to non-users as a result of modal shift from car to rail as a result of station improvements. These comprise the following benefits as per guidance in TAG Unit A5.4:

- Congestion (decongestion benefits);
- Infrastructure benefits;
- Accident benefits;
- Local Air Quality benefits;
- Noise benefits;
- Greenhouse Gases (GHG);
- Indirect Taxation.

4.24.3 Guidance from TAG Unit A5.4 together with that from TAG Unit A5.3 was used to estimate these benefits. Values of external costs will be taken from TAG Databook Tables A5.4.2 and A5,4.4. A weighted value for congestion is proposed taken from the proportion of car kilometres in the South East. The Databook provides monetary values of marginal costs for the years 2015, 2020, 2025, 2030, and 2035. Therefore, estimates of marginal external cost benefits were calculated for each of these years and then interpolated between them. The results are summarised in **Table 4.14**. in 2010 prices discounted to 2010.

4.24.4 The table shows that the scheme, by reducing car travel and hence car vehicle kilometres, results in a loss of revenue to the chancellor as shown by the negative indirect taxation value of -£114,600. This can be considered an additional cost of the scheme to Central government with net MEC benefits of -£34,800. The rest of the MEC benefits are positive at £80,000 indicating that the scheme has a positive impact on congestion (reduces congestion), infrastructure, accidents, noise and greenhouse gases.

Table 4.14: MEC over appraisal period 2010 prices).

Parameter	Benefits in £000's
Congestion (decongestion benefits)	16.2
Infrastructure benefits	2.0
Accident benefits	38.9
Local Air Quality benefits	1.3
Noise benefits;	2.2
Greenhouse Gases (GHG)	19.2
Indirect Taxation	-114.6
Total MEC benefits	**-34.8**
Total MEC benefits (exc Indirect taxation)	**80**

4.25 Valuation of Station Environment Improvement Benefits

4.25.1 The enhanced station environment will result in benefits being experienced by station users who will benefit from the improved station environment. In the case of Reading West Station, a key objective of the scheme is to improve the station environment and security in particular. As previously noted, access to the station is concealed, signage is poor and the station's visibility from the roadside is limited. Natural surveillance at the station is also poor and passengers can feel isolated when waiting for a train especially outside the peak periods. The station is also known to suffer from incidents of anti-social behaviour. **Appendix F** includes correspondence from the British Transport Police (BTP) highlighting some of these issues. The station improvements will greatly provide for a much more pleasant and secure environment that will be enjoyed by both existing and new users.

4.25.2 In order to estimate these benefits, an approach based on (Transport for London) TfL's BCDM (Business Case Demand Manual) values, has been used to capture the benefits from an enhanced station environment, safety, and security for existing and new users. As noted in PDFH6 May 2018 Chapter C8 (Station Facilities: Evidence), the supporting evidence for TfL BCDM approach was based on a study objective to estimate willingness to pay (WTP) for a large number of service and infrastructure attributes for Underground, bus rail, tram, walking and cycling using a computer based Stated Preference (SP) questionnaire.

4.25.3 The WTP BCDM values are tabulated in PDFH Chapter C8. PDFH Table C8.4 shows the WTP values in pence/journey for a range of rail packages such as ticket hall, platform facilities, station environment, security, train security and information and train environment improvements. Table C8.5 further shows the individual valuations of each attribute from the study and has been used to select attributes relevant in this appraisal. The attributes used for the Reading West appraisal are shown in **Table 4.15**. These benefits have been estimated at £2.731m over the 60-year appraisal period as also shown in **Table 4.15**.

Table 4.15: Station improvement willingness to pay assumptions and benefits over appraisal period (2010 prices)

Package	Attribute	WTP(p/journey)	Benefits £000's (60 years)
Station environment	Condition of station exterior: Poor State of repair to good/reasonable state of repair	4.2	814
Station Security	Station surveillance: No surveillance to cameras in station and monitored some time	9.6	1,862
Total claimed	**Station environment and security**	**13.8**	**2,676**

4.26 Consideration of Environmental and Other Impacts

4.26.1 Given the scale of the scheme, it is not considered that the scheme will have significant impacts on the following Environmental and Social elements. A proportionate approach has been adopted either qualitatively or quantitatively as appropriate. It is considered that a qualitative approach in line with relevant WebTAG guidance will be adequate although a quantitative approach will be adopted wherever possible:

Environmental Impacts

- Noise - This has been estimated quantitatively using the MEC approach as already reported. The scheme will have slight beneficial impacts on Noise arising from a reduction in car trips due to mode change to rail.
- Air Quality - This has been estimated quantitatively using the MEC approach as already reported. The scheme will have slight beneficial impacts on Air Quality arising from a reduction in car trips due to mode change to rail.
- Greenhouse Gases – This has been estimated using the MEC approach and the scheme will have Slight beneficial impacts arising from some car drivers changing mode to rail with consequent reduction in greenhouse gases.
- Landscape – The scheme is expected to have a Neutral impact on the Landscape
- Townscape – The scheme will improve the station environment providing a presence to Reading West Station. The scheme will be Slightly beneficial to the Townscape
- Heritage and Historic resources – The scheme is considered neutral on this aspect
- Biodiversity – The scheme is not expected to have an impact on biodiversity and is considered neutral
- Water Environment - The scheme is considered neutral on the water environment

Social Impacts

- Physical Activity -has been proportionately considered under active mode appraisal. Surveys indicated that Reading West Railway Station is predominantly accessed by active modes – walking and cycling and hence health benefits will accrue as a result of physical activity
- Journey Quality- The scheme will improve the station environment for existing and new passengers resulting in a positive environment experience for users
- Accidents – The MEC approach has been used to estimate accident benefits
- Security – The scheme will improve security at the station for passengers and also discourage anti-social behaviour. Access to Services- The scheme is expected to encourage more people in the local area to travel by train and will a beneficial impact on access to services
- Affordability- The scheme has been considered neutral on affordability
- Severance – The scheme has been considered neutral on severance
- Option Values – These have not been assessed and it is considered that the scheme will have a neutral impact

4.27 Economic Appraisal Results

4.27.1 **Table 4.16** summarises the results of the Value for Money assessment for the appraised scheme based on the ‘Core’ or Central scenario. All figures are in £000’s Present Value for the full 60-year appraisal period. The indirect taxation is also shown in the table and was derived from the total MEC non-user benefits calculations.

4.27.2 The results show that the rail fare revenue outweighs capital and operating costs and the scheme is Financially Positive in VfM terms. This means that revenue or costs savings to the Broad Transport Budget exceed any cost outlays when compared to the case without the proposed scheme as per the guidance in paragraph 5.9 of the DfT Value for Money Framework, 2017. As noted previously, 95% of the rail revenue has been assumed to appear as a cost reduction to the scheme costs as under the franchising terms, this revenue transfers to Central government. The other 5% which is assumed to be earned in the two years prior to the end of the current franchise accrues as benefits to the TOC.

Table 4.16: Core Scenario Value for Money results (2010 prices)

Core Demand - Economic Appraisal Summary Table	£000's PV
Costs	
Station Capital Costs (Inc. 9% OB and contingency)	4,524
Station Operating Costs	14,819
Developer Contributions	n/a
Total Rail Revenue	21,927
Rail Revenue transferred to Central government (95%)	-20,830
Total Costs (PVC)	**-1,487**
Benefits	
Rail Revenue accrued by TOC (5%)	1,096
Kiosk Income	[redacted]
Total TOC Revenue	**1,737**
User Benefits	
BCDM Station environment quality/Amenity/security benefits (WTP)	2,676
Active Mode Benefits	814
Non-user Benefits	
Congestion	16.2
Infrastructure	2.0
Accident	38.9
Local Air Quality	1.3
Noise	2.2
Greenhouse Gases	19.2
Indirect Taxation (MEC)	-114.6
Total Benefits (PVB)	5,193
Net Present Public Value (NPPV)	6,880
Benefit Cost Ratio (BCR)	n/a

4.27.3 The results show that the total cost or Present Value of Costs (PVC) of the scheme is negative. This is because the rail fare revenues transferred to Central Government outweigh the scheme capital and operating costs. The scheme is seen to have a positive Present Value of Benefits comprising of user and non-user benefits as well as revenues (kiosk income + the 5% of rail fare revenues) accrued to the TOC. The scheme also has a positive Net Present Public Value (NPPV) which means that the scheme benefits exceed the scheme costs.

4.27.4 Given that the scheme costs are negative, the Benefit to Cost Ratio (BCR) calculated as the ratio of the PVB to the PVC will be infinitely high, due to 'effectively zero costs'. The BCR therefore has no meaningful interpretation towards the Value for Money (VfM) category of the scheme. Instead the scheme has been demonstrated to be Financially Positive in VfM terms. This means that revenue or costs savings to the Broad Transport Budget exceed any cost outlays when compared to the case without the proposed scheme as per guidance in paragraph 5.9 of the DfT Value for Money Framework, 2017.

4.28 Sensitivity and Risk Profile

4.28.1 This section reports on the following sensitivity tests that have been undertaken to test the robustness of the scheme's VfM to a number of uncertainties. Seven (7) sensitivity tests have been undertaken as follows to cover a range of assumptions:

(i) Sensitivity Test 1 – A test without the proposed station barriers;

(ii) Sensitivity Test 2 – 25% abstracted demand assumed compared to the assumed value of 20% in the Core scenario;

(iii) Sensitivity Test 3 – Low growth demand assumptions;

(iv) Sensitivity Test 4 – High growth demand assumptions;

(v) Sensitivity Test 5 – As Core scenario but with 18% optimism bias applied to the scheme costs;

(vi) Sensitivity Test 6 – As Core scenario, but with a much lower 6.5% demand uplift and 20% abstraction applied equally to business/leisure trips and commute trips;

(vii) Sensitivity Test 7 – 7% demand uplift applied equally to business/leisure trips and commute trips and assuming a more pessimistic assumption of 30% abstraction.

4.29 Non-Installation of Ticket Barriers Sensitivity Test 1

4.29.1 It is noted that that due to the limited space available, it is possible that GWR will not want to install ticket barriers at Reading West Station. [redacted] In order to consider the impact of this, a sensitivity test without the barriers has been undertaken. The following key changes have been made in this test:

- The demand uplift attributed to ticket barriers in the Core scenario has been removed 2.5% for Business/Leisure and 1.7% for Commute;
- The capital cost of the barriers has been excluded – based on estimated number of gate-lines and contingency, this would equate to [redacted] in 2016 prices;
- [redacted]

- The cost of maintaining/renewal of the barriers has been removed- assumed as £30,000 per year;
- It has been assumed following advice from GWR, that 13% of rail fares would be lost to fare evasion without the barriers; this is based current information on 'ticketless' travel at Reading West.
- Discounting has been applied at 3.5% per annum for the 30 year period 2019 to 2049 and 3.00% thereafter as per WebTAG guidance. The appraisal monetary values for benefits, costs and operational costs are all discounted and presented in 2010 prices in reporting the Value for Money results.

4.30 Sensitivity Test 2 around level of Abstracted Trips

4.30.1 PDFH notes that studies have indicated that station facilities upgrade can result in demand uplifts leading to rail fare revenue increases. The guidance notes that 20% to 30% of the demand uplift is estimated to be due to abstracted trips and this revenue is therefore not considered new revenue and is excluded from the rail fare revenue estimates. For robustness, and in the absence of local levels of abstracted trips at Reading West Station, the Core Scenario appraisal has assumed a value of 20% as abstracted trips. This sensitivity further makes the pessimistic scenario assuming 25% abstraction.

4.31 Low and High Growth Sensitivity Tests 3 and 4 and other Sensitivity Tests

4.31.1 The forecast assumptions of a high and low growth scenario were based on WebTAG guidance, where a proportion of base year demand is subtracted or added from the core or main scenario base demand. The base year demand from which the future year years pivot from is 2019. In accordance with WebTAG guidance, the parameter p has been stated to be 2.5% of base year demand. From 1 and 36 years after the base year, the proportion of base year demand should rise from p to 6*p in proportion of the square route of the years. The proportion of the base year to be subtracted/added from the core scenarios year is shown in **Table 4.17** for Opening Year 2021.

Table 4.17: Proportion of Base Year Demand subtracted (Low Growth) or added (High Growth) in 2021 Opening Year

Future Year	% of Base Demand
2021	± 3.5

4.31.2 Sensitivity Tests 5 to 7 have also been undertaken to check the robustness of the scheme to a variety of assumptions as follows:

- Sensitivity Test 5 - as Core scenario, but with 18% optimism bias applied to the scheme costs;
- Sensitivity Test 6 - as Core scenario, but with a much lower 6.5% demand uplift applied equally to business/leisure trips and commute trips and 20% abstraction assumed.
- Sensitivity Test 7 - 7% demand uplift applied equally to business/leisure trips and commute trips and assuming a more pessimistic assumption of 30% abstraction. The sensitivity with 7% uplift and 30% abstraction was requested by the ITE and is discussed further.

4.32 Sensitivity Test Results

4.32.1 **Table 4.18** summarises the results of the sensitivity tests.

Table 4.18: Summary of Appraisal Results with Sensitivity Tests (2010 prices in £000's)

Parameter	Core	Sens Test1) (No barriers-13% evasion)	Sens Test2 (25% Abstraction)	Sens Test3 (Low growth)	Sens Test 4 (High growth)	Sens Test 5 18% OB)	Sens Test 6 (6.5% demand uplift-20% Abstraction)	Sens Test 7 (7% demand uplift-30% Abstraction)
Costs								
Station Capital Costs (Inc. 9% OB and contingency)	4,524	4,124	4,524	4,524	4,524	4,898	4,524	4,524
Station Operating Costs	14,819	12,836	14,819	14,819	14,819	14,819	14,819	14,819
Developer Contributions	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Rail Revenue	21,927	17,855	20,729	21,347	22,506	21,927	18,334	17,435
Rail Revenue transferred to Central government (95%)	-20,830	-14,757	-19,693	-20,279	-21,381	-20,830	-17,417	-16,564
Total Costs (PVC)	**-1,487**	**2,203**	**-350**	**-936**	**-2,038**	**-1,113**	**1,926**	**2,779**
Benefits								
Rail Revenue accrued by TOC (5%)	1,096	777	1,036	1,067	1,125	1,096	917	872
Kiosk Income	[redacted]							
Total TOC Revenue	**1,737**	**1,418**	**1,677**	**1,708**	**1,766**	**1,737**	**1,558**	**1,513**
User Benefits								
BCDM Station environment quality/Amenity/security benefits (WTP)	2,676	2,629	2,676	2,595	2,757	2,676	2,618	2,630
Active Mode Benefits	814	640	814	789	839	814	596	641
Non-user Benefits								
Congestion	16.2	12.7	16.2	15.7	16.7	16.2	11.9	12.8
Infrastructure	2.0	1.6	2.0	2.0	2.1	2.0	1.5	1.6
Accident	38.9	30.6	38.9	37.8	40.1	38.9	28.5	30.7
Local Air Quality	1.3	1.1	1.3	1.3	1.4	1.3	1.0	1.1
Noise	2.2	1.8	2.2	2.2	2.3	2.2	1.6	1.8
Greenhouse Gases	19.2	15.1	19.2	18.6	19.7	19.2	14.0	15.1
Indirect Taxation (MEC)	-114.6	-90.6	-114.6	-111.1	-118.0	-114.6	-83.9	-90.3
Total Benefits (PVB)	5,193	4,660	5,133	5,059	5,509	5,193	4,746	4,758
Net Present Public Value (NPPV)	6,880	2,457	5,483	5,995	7,547	6,306	2,820	1,979
Benefit Cost Ratio (BCR)	**n/a**	**2.12**	**n/a**	**n/a**	**n/a**	**n/a**	**2.46**	**1.71**

4.32.2 The results indicate that the VfM case is robust across the various sensitivity tests and demonstrates that the scheme is Financially Positive in all but three of the sensitivity tests, namely the barrier sensitivity test 1, and the lower demand uplift sensitivity tests 6 and 7.

4.32.3 It is worth noting that the overall 8.88% uplift in the core scenario is the resultant uplift of applying 11.5% demand uplift to Business/Leisure trips and 8% to Commute trips as per **Table 4.6.** Within the modelling, the 11.5% and 8% uplifts are applied separately to Business/Leisure trips and Commute trips respectively. The modelling assumes that commute trips are made during the peak period with peak fares therefore applied, whereas business/leisure trips are assumed to be made off-peak.

4.32.4 In the sensitivity test 6 for example, the 6.5% demand uplift (and 20% abstraction), has been applied equally to Business/Leisure trips and Commute trips, without any differential in demand uplift. Therefore, the revenues accrued do not necessarily follow a linear relationship, with peak fares from commute trips contributing proportionately higher revenues than off peak fares from business/leisure trips.

4.32.5 As expected from the results in **Table 4.18**, the High growth scenario shows the highest rail fare revenues. Sensitivity test 1 with no barriers and sensitivity test 7 with high abstraction level and low demand uplift are seen to accrue the least rail fare revenues. This is due to reduced demand uplift in the absence of the barriers and loss of fare revenue to fare evasion. Sensitivity 7 has pessimistic assumptions in terms of demand uplift and high levels of abstraction which explains its low revenues. The VfM category is, however, retained across the sensitivity tests at a Very High (and Financially Positive) category or High Value for Money category except for sensitivity test 7. Sensitivity tests 1 and 6 showing High Value for money at BCR values of 2.12 and 2.46 respectively. It is therefore concluded that the VfM case for the Reading West Railway Station facilities upgrade is in the main, robust and viable.

4.32.6 The results of sensitivity test 7 show a BCR of 1.71. Therefore, this sensitivity test suggests that based on these pessimistic assumptions, the Value for Money category would fall into the Medium value for money category. It is considered that this is a very pessimistic sensitivity test given the current poor condition of Reading West Railway Station. Although falling in the Medium VfM category in this sensitivity test, it goes without saying that a sustainable Public Transport scheme such as this one, would be preferable to say highway improvements, which although likely to give High Value for money from a Cost Benefit Analysis perspective, would not be in keeping with promoting sustainable means of travel.

4.32.7 It is considered that the need for the scheme as made in the Strategic Case is proven beyond the benefits that have been possible to monetise, and aligns extremely well to the draft Transport Strategy for South East which relies on growth in rail and bus use alongside demand management to reduce car use – to enable economic growth at the same time, as protecting the environment and dealing with the climate change emergency. The future commitment to demand management has not been considered in this business case, which would help to encourage the use of this station, if the conditions are improved. Societal benefits that would accrue such as station users feeling safe and not isolated (e.g. at night or early morning hours) are vital but difficult to quantify, although such improvements would go a long way into making the station an attractive one to use.

4.32.8 The Switching Ratio required to move this sensitivity test from Medium to High Value for money is relatively small at about £800,000 as can also be noted from the BCR which is at the higher end of the Medium Value for money category. These additional benefits may emanate from development that could be unlocked by upgrades to the station. Improvements to public transport facilities and making them more attractive to users will assist in providing an overall transport system with the ability to move more people through mode shift. Unlocking this development would be associated with Planning Gain that may be expected to provide the additional benefits to switch from Medium to High Value for Money.

4.32.9 It is therefore concluded that the VfM case for the Reading West Railway Station facilities upgrade is robust and viable across various assumptions.

4.33 Appraisal Summary Table

4.33.1 The appraisal summary table is included as **Appendix J** and demonstrates the scheme's benefits in quantitative and qualitative terms as appropriate.

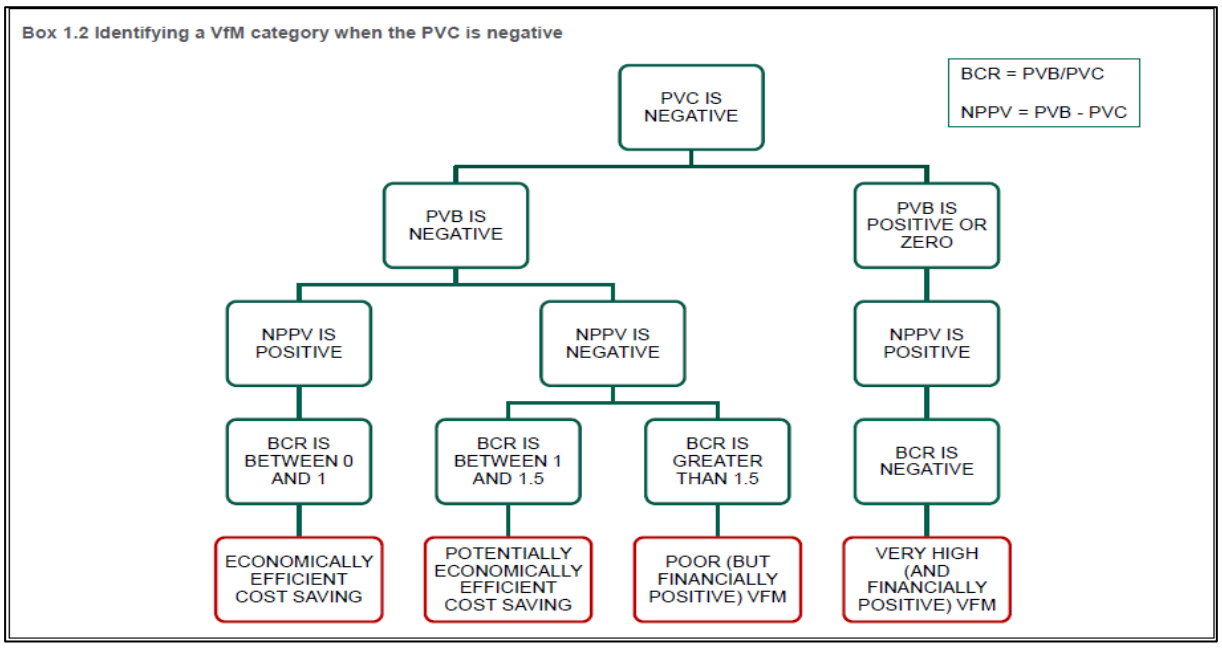
4.34 Value for Money Statement

4.34.1 Box 1.2 of the DfT Value for Money Supplementary Guidance on Categories (Moving Britain Ahead) has been used to determine the scheme 's VfM category. This is the scenario which applies when the PVC is negative. Box 1.2 is reproduced here as **Figure 4.1**. As can be seen, the appraisal for the Core Scenario for Reading West Railway Station Upgrade is characterised by the following:

- PVB is Positive
- NPPV is Positive
- BCR is Negative

4.34.2 From the guidance, this means that the scheme has a Very High (and Financially Positive) VfM which makes investing in the Reading West Station Upgrade viable and in the Very High VfM category.

Figure 4.1: Identifying the Value for Money Category



4.34.3 To complete the scheme appraisal reporting, the standard DfT appraisal reporting worksheets for the Core scenario are provided as Appendices as follows:

- Transport Economic Efficiency table (TEE) – Appendix G;
- Public Accounts table (PA) Appendix H;
- Analysis of Monetised Costs and Benefits table (AMCB) – Appendix I;
- Appraisal Summary Table (AST) – Appendix J.

5 Financial Case

5.1 Introduction

5.1.1 The Reading West Railway Station Upgrade proposed in this business case is considered affordable, financially sustainable and deliverable by RBC.

5.1.2 The costs, resulting spend profiles and all other financial aspects of the case are controlled through a financial model, similar to that used for rail funding bid previous submissions to DfT rail.

5.2 Costs

5.2.1 A capital cost estimate for the scheme is shown in **Table 5.1**. All costs are given in 2016 prices. The scheme costs have been considered in accordance with TAG Unit A1.2 and include the application of appropriate risk and optimism bias factors consistent with the recommended values for rail in TAG Unit A5.3 (and TAG Unit A1.2.) (as explained in **Table 4.1**). Costs will consider inflation or real price increases to time of spend. The station upgrade scheme cost breakdown is shown in the table below. The scheme costs were estimated by a professional quantity surveyor and are in 2016 prices. The costs are summarised in **Table 5.1**. **Appendix E** provides more details on the composition of the Scheme Costs.

Table 5.1: Summary of Scheme Costs (£) in 2016 prices.

Cost Element	Amount in £	Amount in £	Amount in £
	Highways	Station Facilities	Total
Preliminaries	39,123	165,881	205,004
Scheme Costs (excluding contingency & optimism bias)	130,410	1,173,874	1,304,284
Contingency (25% of Scheme costs + Preliminaries)	42,383	195,290	237,674
Utilities Costs (Based on C3 estimates)	500,000		500,000
Construction Works- Electrification Works		940,000	940,000
Total Construction Costs	**712,875**	**2,475,045**	**3,186,962**
Land	n/a	n/a	n/a
Preparation Costs	27,800	153,505	181,305
Supervision Costs	20,850	153,505	174,355
Sub Total excluding real cost increases	**761,525**	**2,782,055**	**3,543,580**
Add Inflation from 2016 to point of expenditure	78,303	252,142	330,445
Add Risk (Quantified)	37,183	349,733	386,915
Sub Total with Inflation and Risk (Outturn)	**877,011**	**3,383,930**	**4,260,940**

5.3 Budgets/Funding cover

5.3.1 Funding to the value of £3,100,000 has been allocated through the Growth Deal 3 re-prioritisation bid to assist with improvements at Reading West. With a further £940,000 of other public sector funds from Network Rail (NR) as well as £200,000 from Reading Borough Council (RBC) from committed S106 funds. This gives total funding of £4.24 million to develop passenger facility improvements. It is expected that the RBC and NR contributions will go towards funding of the early stages of the scheme as is shown in **Table 5.2**.

5.3.2 The funding breakdown thus comprises 73% Local Growth Funding (LGF), 22% Network Rail and 5% Reading Borough Council/local contribution. The scheme has the support of the Train Operating Company (TOC), Great Western Railway (GWR). **Table 5.2** sets out the funding for the scheme on the basis of the indicative funding profile.

Table 5:2: Scheme Funding (£000's)

Source	Year	2018/19	2019/20	2020/21	Total
Government Grant	Capital			3,100,000	3,100,000
	Revenue				
Other public sector					
1	Network Rail	940,000			940,000
2	RBC		200,00		200,000
3					
Private sector					
1	GWR				
2					
3					
Total		940,000	200,000		4,240,000

5.3.3 It is noted that the costings have been informed by significant design work, topographical survey, trial holes to confirm the real location of the utilities, liaison with utility companies to determine diversion costs and railway station prepared by specialist cost consultant with oversight from GWR.

5.3.4 The highway works will be delivered by RBC, as highway authority and the internal delivery team have been engaged in the development costings from the start. The station works will be delivered by GWR and both RBC and GWR are experienced in delivering their elements of the scheme. Furthermore, RBC and GWR will be entering into a Funding Agreement which will outline the division of funding allocated from the LEP and both the responsibilities and liabilities placed on each in relation to their elements of the scheme. Officers from RBC and GWR are currently working on this Funding Agreement and liaising with colleagues at neighbouring West Berkshire Council where a similar funding agreement has been put in place for Newbury Station.

5.4 Accounting implications

5.4.1 Accounting and budgeting will be in accordance with RBC's financial regulations and standing orders.

6 Commercial Case

6.1 Introduction

6.1.1 The purpose of the commercial case is to provide evidence on the commercial viability of the proposed scheme and to also set out the procurement strategy that will be used to engage the market. This chapter sets out these elements for the Reading West Railway Station Upgrade proposals and will set out the financial implications of the proposed procurement strategy. It also presents evidence on risk allocation and transfer of risk, contract timescales and implementation timescales as well as details of the capability and skills of the team delivering the project and any personnel implications arising from the proposal.

6.1.2 The proposed improvements/upgrade schemes will be delivered by RBC and GWR with the former delivering the highway works outside the station on Oxford Road and the later delivering the station improvements themselves. Close cooperation between GWR, RBC and NR is key to this process and regular meetings have been held between the parties to ensure a successful procurement strategy and commercial case. The commercial case has also drawn and benefited from GWR's experience in the Newbury Business Case and that commercial and procurement model will basically underpin the Reading West business case. RBC have an established procurement processes and given the experience of both organisations, the following sections provide further details.

6.2 Output based specification

6.2.1 The commercial case is based on strategic outcomes and outputs, against which alternative procurement options are assessed. The outcomes which the procurement strategy must deliver are to:

i. Achieve reasonable surety that the scheme can be delivered within the available funding constraints;

ii. Minimising preparation costs through ensuring best value, and appropriate quality in relation to scheme design elements;

iii. Utilise contractor experience and input to the construction programme to enable the preparation of a robust and achievable implementation programme; and

iv. Obtain contractor input to risk management, including mitigation measures, to capitalise at an early stage on opportunities to reduce construction risk.

6.2.2 The outputs which the preferred procurement strategy must deliver in relation to the scheme itself include:

i. Deliver highway improvements on Oxford Road including necessary realignment to create space for the station building footprint;

ii. Relocation of the bus stop and kerb realignment preferably to accommodate double door buses in future

iii. Provide new cycle parking

iv. Deliver new building and interchange facilities and improve the entrances to the station at both at Tilehurst Road and Oxford Road;

v. Deliver better safety and security across the station including improved visibility and layout, passenger information and surveillance

6.2.3 As noted, RBC and GWR will be managing their elements of the overall scheme according to their own internal processes and rules or protocols. The procurement processes for each of these two organisations are discussed accordingly. A project Team will be set up that will always have an overview of the whole process as discussed in the Management Case.

6.3 Commercial Case - Reading Borough Council

Procurement strategy

6.3.1 RBC will be responsible for delivering the highway improvements around the station on Oxford Road. The procurement strategy for these works will be in accordance with RBC's Contract Rules of Procedure in order to provide a structure within which the procurement decisions are made and implemented. This will ensure that the Council furthers its corporate objectives in an efficient manner leading to procurement of quality supplies, services and works.

6.3.2 The scheme and associated works would be delivered through the Council's in-house team, by agreement of the Project Steering Group (SG). The relevant technical specifications and risk allocation approaches would be agreed by the SG. Reading Borough Council's Direct Labour Organisation (DLO) has extensive experience in delivering highway improvement schemes, such as the measures proposed as part of this funding bid. Given the service is in-house, RBC is able to engage and mobilise the team in a swift and efficient manner and deliver works within agreed timescales, subject to relevant consents being in place. The DLO is already engaged in the Reading West Station project having undertaken trial holes and advised on anticipated cost of delivering works.

Sourcing options

6.3.3 RBC has a range of experienced resources to procure and deliver the highways elements of the proposed station improvements to programme. This includes officers, legal advisors and supporting partner organisations such as framework consultants. The established resource pool is sufficient in terms of size and experience to effectively deliver the Reading West Railway Station Upgrade programme.

Payment mechanisms

6.3.4 This section sets out the most likely payment mechanisms that will be negotiated with the providers/contractors. RBC has a wealth of experience of delivering infrastructure projects. Over the years the borough has negotiated payment mechanisms that are linked to performance.

6.3.5 Where practicable, payment mechanisms will be chosen to reflect the opportunities offered by integrated team working. Wherever possible steps will be taken to discourage the potential abuse of retentions within the supply chain such as;

- A tendered fixed price contract will be awarded based on the NEC 3 contract model, which allows for penalty clauses, specifically relating to over running.
- Payments to the contractor will be made in arrears to the value of 60% of the project subject to an independent clerk of works (appointed by the Council) agreeing with the submission made by the contractor.
- Payments made to the contractor will be subject to a further cross checking against the programme to ensure that the absolute minimum over run occurs, if any and if a penalty is due to be applied work with the contractor to rectify/remedy this.
- The final 40% will be paid in stages upon receiving invoices for completed elements of the work.

Pricing framework and charging mechanisms

6.3.6 This section outlines likely incentives, deductions and performance targets. The delivery agent will have ultimate control of work on site.

6.3.7 Under NEC3, payment options are listed below and it is likely that one of these options will be taken forward.

- Priced contract with activity schedule
- Priced contract with bill of quantities
- Target contract with activity schedule
- Target contract with bill of quantities

Risk allocation and transfer

6.3.8 Solutions and services will be procured from contractors who are well placed to own the risks that are close to their businesses. The project sponsor will accept the ownership of those risks which it:

i. has good experience in managing,

ii. is best placed to mitigate the risk, and

iii. is the only entity capable of managing a particular issue?

6.3.9 This balance of risk allocation and transfer between Client and Contracting party will be achieved through selecting the right procurement routes and forms of contract and robustly setting out the intended risk allocation strategy as part of any tendering process. Where appropriate this would include the establishment of risk sharing agreements and/or Employers and Contractors risk registers.

Contract length

6.3.10 24-month contracts would be proposed to allow adequate time for detail design and construction. This includes potential for float within the contractor programme. Scheme construction is scheduled from end of May 2020 to end of September 2021 with the scheme opening in October 2021.

Contract management

6.3.11 The design and delivery of the scheme will be managed by RBC's Strategic Transport Projects Team. The council has access to a number of specialist consultants to provide additional engineering and transport planning support, if required. Developing the capacity to actively manage continuous improvement, and to delivery efficiency savings will be a key element of contract management.

6.4 Commercial Case - Great Western Railway

Procurement strategy

6.4.1 The procurement strategy for the station improvement elements, within the GWR station lease area, will be undertaken in accordance with the SMS-1350-00 Procurement and Supplier Management Procedure and its objectives, ensuring that all procurement is legal, accountable and auditable.

6.4.2 In addition, GWR will seek to engage with suppliers who subscribe to and operate on similar principles to GWR. All suppliers undertaking work on the station improvement works will be registered as an Approved Supplier through the GWR's supplier assurance system and conform to the standards as set out in the Supplier Code of Conduct.

6.4.3 Consultants will be sourced through the Property Consultants Framework. This follows a similar process to SMS – 1350-11 whereby a tender or mini-competition is issued to each of the property consultants within the Framework. Requirements for property consultants will be discussed with the relevant representative from GWR Procurement before engaging any suppliers or committing expenditure.

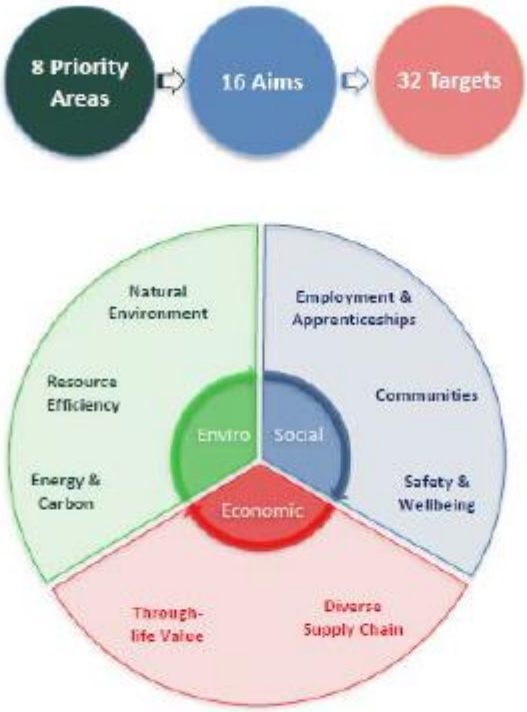
6.4.4 Procurement activity shall be undertaken to achieve the best value for money in every instance subject to satisfying the other constraints and objectives as detailed in the Procedure with a primary focus on being legal, accountable and auditable. To achieve best value for money, GWR will:

- Establish a specification or scope of key requirements;
- Identify potential suppliers from the list of GWR Approved Suppliers, wherever possible;
- Set pre-defined evaluation criteria and communicate this to suppliers;
- Ensure that all bids can be evaluated fairly and on an equal bias;
- Cascade GWR's preferred terms and conditions for the requirement whether standard purchase order (PO) terms and conditions or a bespoke agreement approved by GWR Procurement;
- Evaluation against total expected through-life costs of the goods or services and whether all potential cost factors have been adequately considered in the Procurement (e.g. design, acquisition/construction, operation, maintenance, disposal etc);
- Consider Sustainability factors as detailed in the SPS including environmental and social impacts.

Great Western Railway: Sustainable Procurement Strategy (SPS)

6.4.5 GWR's Sustainable Procurement Mission is "To be the preferred partner for the communities we serve through the delivery of innovative, sustainable and best through-life value for money procurement solutions". GWR has 8 priorities within its Sustainable Procurement Route map as shown in **Figure 6.1**.

Figure 6.1: GWR's Sustainable Procurement Route Map



Great Western Railway: Legal, Accountable and Auditable

6.4.6 Procurement activities will fully respect and comply with:

- All applicable UK (England & Wales and Scotland) laws and regulations;
- All applicable European Union Laws, directives and regulations especially those governing Procurement (for example Utilities Contract Regulations and Public Contract Regulations);
- All relevant laws, regulations, treaties and agreements to which the UK is party.

Contract management

6.4.7 GWR will be responsible for all works within the station lease area and will be governed by the Governance for Railway Investment Projects (GRIP) process. Input from Network Rail will be required and relevant specialist support can be called on via a Basic Asset Protection Agreement (BAPA).

6.4.8 With regards to the GWR delivery elements, after the selection or appointment of a supplier to deliver the station improvements, or the raising of a purchase order for a particular requirement, it is important that the supplier delivers the agreed services to the agreed service level, specification and standard as stated during the Procurement or in the contract. This involves supplier or contract management.

6.4.9 GWR will implement a Contract Management strategy which will include a regular report to track progress against criteria and joint performance review meetings to monitor and review progress.

Commercial and Reputational Risk

6.4.10 GWR has experience dealing with procurement and construction contracts and will work towards minimising risk through the contract process. Assessment of the following key risks has been undertaken:

- Supplier risks: arising from the nature of the work undertaken by the supplier, any legal actions or proceedings that may have been taken against them and/or any conflict with the supplier's policies and those of GWR;
- Financial risks: arising from potential financial demise of the supplier or in the level of risk imparted from the proportion of our business in relation to their total annual turnover;
- Process risks: arising from the Procurement Process followed or failure to adhere to legal requirements, regulatory requirements or industry standards as part of the delivery of the goods or services;
- Supply chain risks: arising from the ability of the supplier to supply the required goods or services on time and to the required specification including the management of obsolescent goods and/or services;
- Control risks: arising from the ability to impart adequate controls on the ordering or replenishment of the goods or services;
- Environmental risks: arising from the potential ecological or environmental impact of the goods or services;
- Social risks: arising from the potential social risks of the goods or services including consideration of equal opportunities, diversity, human rights and Modern Slavery Act.

6.5 Risk Management Plan

6.5.1 A Risk Management Plan will be developed for the whole project and followed throughout the life of the scheme delivery. Risks will be allocated to those parties best able to manage them at the point of delivery.

6.5.2 The Risk Management Plan will set out the full risk management process and responsibilities for undertaking risk management to deliver the scheme. Implementation of a structured, forward looking and continuous risk and opportunity management process is intended to increase the certainty of cost-effective scheme delivery and operational success. The Risk Management Plan will be owned by the joint RBC and GWR Project Team.

6.5.3 Further risk identification will be carried out in numerous ways, as follows, giving the opportunity to identify and manage as wide a scope of risks as necessary.

- Workshops;
- Reviews;
- Meetings; and
- Day to day operation.

- When a risk is identified, the data will be added to the Risk Register. Other organisations will be encouraged to inform the risk register so that risks they are better equipped to identify are captured.

7 Management Case

7.1 Introduction

7.1.1 Established governance protocols for project delivery exist within RBC and operate effectively between the Berkshire Unitary Authorities and business partners through the Berkshire Strategic Transport Forum and TVBLEP Sections below reflect the basis of a live project management framework and plan as the project moves into its next stage of development. It should be noted that the arrangements proposed reflect tried and tested governance protocols used in the successful delivery of schemes.

7.1.2 RBC is the project sponsor with a number of parties involved in the design, delivery and operation, including:

- Project Sponsor, Highway and Planning Authority - RBC
- The Station Owner – NR, also contributing funding to the scheme
- Train Operating Company (TOC) and Station Facilities Operator –GWR. GWR will also be responsible for managing and delivering the station upgrade improvements.
- LEP/BLTB - funding
- Selected designers and contractors – Station and highways improvements

7.2 Evidence of Similar Schemes

7.2.1 RBC and its partners have experience of delivering a diverse range of public transport schemes from inception to delivery. As local Highway Authority, RBC has a considerable experience in highway design and delivery across the authority area. A proven delivery track record therefore exists.

7.2.2 RBC was a joint Client for the delivery of the £1bn Reading Station Rail Capacity and Performance upgrade constructed by Network Rail alongside DfT Rail. With Network Rail, DfT Rail and the train operator, RBC sat on the Project Delivery Group, providing strategic direction and oversight to the delivery of this nationally significant project.

7.2.3 RBC has also completed the £68m M4 Junction 11 and Mereoak improvement scheme delivered on time and to budget (in partnership with Wokingham Borough Council). The £13.2m Reading Station interchange scheme is also complete and RBC has also delivered the £35m Reading Urban Area Local Sustainable Transport Fund programme (with ten partner organisations including neighbouring authorities) and a number of Local Authority Pinch Point Schemes. RBC has also successfully delivered Phases 1 and 2 of the South Reading Mass Rapid Transit (SRMRT) in the A33 corridor.

7.2.4 GWR has overseen projects to upgrade and improve a number of stations on its operating network. These include similar enhancement projects to stations at Gloucester, Exeter St. David's, Dorking Deepdene and Bristol Parkway. All these stations have involved part Local Growth Deal funding via their respective Local Enterprise Partnerships (LEPs). Recently and locally, GWR have been joint partner for the Newbury Railway Improvement and Interchange Enhancement Scheme of which the delivery of Reading West Railway Station improvements are of a similar nature. GWR also has demonstrable experience at delivering improvements at many other stations via a range of funding mechanisms.

7.2.5 GWR, as the local Train Operating Company (TOC), has considerable experience in developing and delivering schemes in accordance with Network Rail's Governance for Railway Investment Projects (GRIP).

7.3 Programme Project/Project Dependencies

7.3.1 It will be necessary to first deliver the highway improvements on Oxford Road. This will then be followed by the station facility upgrade works.

7.4 Governance, Organisational Structure and Roles

7.4.1 RBC will be the lead for the design and construction of the highway elements of the scheme on Oxford Road. This will include the traffic management and any reconfiguration works on Oxford Road to the south of the station. RBC will also oversee overall management for the project with responsibility for providing updates on progress to TVB LEP and BLTB when required.

7.4.2 GWR will lead on the station area design and delivery of the station facility improvements themselves. The governance model for the project reflect this joint promotion of the scheme by RBC, and GWR as well as NR. As joint scheme promoters, a Project Manager will be nominated from both RBC and GWR. They will lead and manage the project teams on a day to day basis and will be responsible for liaising with the relevant delivery teams for their respective elements of the project. The nominated Project Manager will be:

- RBC – Transport Policy Team Leader
- GWR – Property Projects Manager

7.4.3 Both RBC and GWR Project Managers will report progress to their respective senior Project Boards. These boards will provide oversight, security and guidance, and will also authorise expenditure in line with the agreed funding profile.

7.4.4 The day to day running of the project will be overseen by the Project Team, comprising both Project Managers plus other officers from RBC and GWR. Network Rail (NR) is also a member of this group in their role as the station landowner. The Project Team will liaise with other stakeholders as required throughout the duration of the project.

7.5 Programme/project plan

7.5.1 A detailed project programme will be developed for the scheme and a project management manual will be produced and used as a live document by the team as one management tool. A high level project delivery programme is attached in **Appendix K**. The project plan envisages start of construction in May/June 2020, with completion in September 2021, and the scheme opening in October 2021.

7.6 Assurance and Approvals Plan

7.6.1 Any funding awarded to this project from the Local Growth Fund (LGF) process will be managed by the LTB. The LTB operates a DFT- approved Assurance Framework which governs the release of project funds.

7.6.2 Within RBC, Project assurance would be achieved through the various established protocols of Steering Group (SG) organisations and appropriate responsibilities assigned to delivery organisations via procurement processes.

Cabinet

7.6.3 Reading Borough Council's Cabinet, which meets monthly, is also a senior level decision-making body to which key decisions are referred, if required. Significant spend approvals are examples of such decisions.

Great Western Railway

7.6.4 All GWR projects are delivered in accordance with the GWR Project Charter, and in accordance with its project lifecycle which covers the five key project stages:

- Initiation
- Choose Option
- Design
- Build
- Close

7.6.5 GWR deploys a five-stage project life cycle which can be mapped onto the Governance for Railway Investment Projects (GRIP) utilised extensively by Network Rail. Formal stage gate reviews are held at varying points within the lifecycle to examine a project, to provide assurance that it can successfully progress to the next stage. Regular project monitoring and formal reporting takes place on the following areas:

- Project Progress – Periodical Project Scorecard/RAG Report
- Cost Management Plan
- Risk Management – Risks and Issues Register
- Change Management
- Contractual Disputes/Clarifications

7.7 Communications and stakeholder management

7.7.1 It will be necessary to communicate to all stakeholders what this scheme and wider masterplan will deliver given the importance of the scheme to the local area and to the wider provision of railway services in the Reading area as a whole. Communicating key messages and engaging with passengers, residents and workers will be an important part of the success of the scheme. The key objectives of the scheme's stakeholder management will include:

- Keep stakeholders aware of the scheme's development and progress;
- Meet statutory requirements such as S278/S38/other consents;
- Increase public and stakeholder awareness of the scheme through local publicity;
- Provide information and support to those affected by the scheme during construction.

7.7.2 An appropriate stakeholder management plan will be developed and agreed through the project Steering Group. This will identify Stakeholder requirements, communication arrangements and key project and programme interfaces. Where appropriate, Stakeholder communications will be aligned with other projects and established forums. Contract documentation will carry forward any relevant Contractor interfaces into the implementation stage. A summary of Stakeholders, influences and interests is presented below:

i. Statutory Undertakers: Work will be undertaken in proximity to services and diversions of some services will be required. Project planning and working methods will require agreement through the New Roads and Street Works Act process coordinated with RBC's street works manager.

ii. RBC: Key partners in design development, planning and technical approvals will be required.

iii. Transport Operators: Bus and taxi operator interfaces will be through existing forums for other projects.

iv. Members / Public: Relevant Council Member interfaces will be important to project development and public communication and expectation management during construction. Through a number of communication interfaces, including relevant community and transport user forums advertising the works will be essential in managing related construction risks.

v. Emergency Services: Interests similar to transport operators.

vi. Business local to works: Interests similar to Members / Public.

7.8 Programme/project reporting

7.8.1 Governance protocols will include appropriate progress reports to Local Authority Councillors and the appropriate LEP meetings.

7.8.2 Responsibility for accurate, timely and appropriate communications within the Project Team rests with the nominated Project Managers from RBC and GWR. They will be responsible for ensuring that their respective Project Boards are kept up to date.

7.8.3 Both Project Managers will be responsible for ensuring that their Project Board is provided with sufficient information and awareness of progress towards achieving the project objectives. This will assist the Project Board in providing the necessary senior management guidance on programme decisions. The Project Managers are also responsible for dealing with their relevant delivery teams to ensure that delivery takes place according to the programme.

7.9 Implementation of work streams

7.9.1 The key workstreams for implementing the project are:

- Approval of Business Case
- LEP and BLTB progress reporting by RBC

Implementation of Highways works on Oxford Road – RBC

- Detailed design prepared by RBC and its design consultant;
- Procurement of works by RBC;
- Utility works;
- Construction of highway works through appointed contractor;
- Site supervision;
- Monitoring and evaluation.

Implementation of Station facility improvements – GWR Lead

- Detailed design - led by GWR Project Team, undertaken by appointed Design consultant;

- Undertaking of necessary approvals - led by GWR Project Team in consultation with NR and RBC;
- Procurement exercise - led by GWR Project Team;
- Construction works to implement station improvement works – carried out by appointed contractor, overseen by GWR Project Team;
- Site supervision – GWR Project Team, undertaken by appointed contractor;
- Monitoring and evaluation – GWR Project Team.

7.10 Key issues for implementation

7.10.1 Successful implementation of the project will require continued cooperation and coordination between the various responsible bodies including RBC, GWR and NR. It will be necessary to achieve the necessary permissions and consents in a timely manner.

7.10.2 It will be necessary to continue to provide a good service and appropriate facilities to passengers throughout the delivery of the scheme. Careful management of the scheme works and good communication will be a key part of successful implementation of the scheme.

7.11 Contract management

7.11.1 A standard contract form, such as NEC 3, will be used to ensure that the contractual and commercial arrangements are well defined. This form of contract is well understood throughout the supply chain and uses a pre-defined risk register to allocate and manage anticipated risk. During contract negotiations, risk will be allocated to the party best able to manage it the most effective way. The project risk register will be made available to the Steering Group for review with key related issues and actions flagged.

7.11.2 For the GWR led works, a standard contract form such as JCT contracts, will be used to ensure that the contractual and commercial arrangements are well defined. This form of contract is well understood throughout the supply chain and uses pre-defined risk register to allocate and manage anticipated risk. During contract negotiations, risk will be allocated to the party best able to manage it the most cost effective way.

7.12 Risk management strategy

7.12.1 An initial risk register has been prepared for the works and is provided as **Appendix L**. The risk register will be updated on a regular basis throughout the life of the project. Risk owners will be appointed as appropriate to the type of risk and stage of scheme delivery at which risk could be realised.

7.13 Benefits realisation plan

7.13.1 It will be necessary to track the scheme benefits in order to understand the successes of the project and to ensure that the scheme objectives are realised. The approach to capturing these benefits will be set out in the ‘monitoring and evaluation’ plan as outlined in Section 8.14.

7.13.2 RBC and GWR Project Boards or Steering Group, will be responsible for tracking the benefits realised for their respective elements of the scheme. The relevant Project Board will appoint someone with sufficient expertise to oversee remedial actions to bring benefits in line with expectations in the event that monitoring indicated that these were not being realised.

7.14 Monitoring and Evaluation

7.14.1 The purpose of the Monitoring and Evaluation Plan is to identify how scheme delivery, including wider scheme impacts, construction and budget management, are to be evaluated.

7.14.2 The Monitoring and Evaluation Plan will include a Post – Implementation Review approximately one year after scheme opening and further assessment 5-years after opening.

7.14.3 Assessment of value for money of the project will be undertaken utilising the outcome information to inform an economic appraisal spreadsheet framed around the scheme appraisal undertaken for the business case submission. Key elements will include the following;

- Capital Costs – outcome from procurement of the scheme;
- Operating Costs – outcome from commercial agreement on the services;
- Demand / Revenue – derived from ticket sales data and surveys;
- Growth in Station Users including increased level of cycling to the station

7.14.4 The analysis will compare the outcomes with the business case assumptions to determine where the outcomes differ from expectations and the resultant impact on the value for money of the scheme.

7.14.5 Data requirements would include;

- Rail Patronage – to gauge passenger numbers against predictions – through entry and exit counts;
- Pedestrian and cycle trips – to be recorded through video surveys at the entrances and at cycle parking. The outturn demand will be compared to the economic case forecasts;
- Station Interview surveys – to gauge level of mode shift and passenger satisfaction with station facilities;
- Traffic flows on local highway network to gauge whether any change as a result of scheme – ATC on Oxford Road

7.15 Contingency plan

7.15.1 A programme and financial details are provided as part of this business case. This includes current funding arrangements. If the scheme implementation was to be delayed, the funding profile would need to be revised which may need updates to the business case submission. Any changes to the scheme programme and funding profile will be reported as soon as it is identified.

7.15.2 At this early stage, risks to contingency are works to utilities apparatus and unforeseen works to the proposed highway structures.

7.15.3 Subjective, but informed provision in contingency has been made to include utilities diversion/protection works, unforeseen works to highway structures and/or higher costs construction methods.

7.15.4 In order to better inform the quantified risk in relation to utility diversion, trail holes were undertaken on the Oxford Road. The results of the trial holes showed that there are a large number of utility services in the highway and also that these are quite shallow, so will require diversion. There is no scope to amend or re-engineer the scheme to divert away and approximate costs were sought from the utility companies for diversion. The largest cost

estimated is by BT. However, Thames Water have confirmed there is no requirement to move any of their services. **Table 7.1** shows the estimated quantified costs of utility diversion. The topographical surveys have also been undertaken and have informed detailed design for the highway works.

Table 7.1: Utility Diversion estimated costs (£).

Statutory Undertaker	Amount in £
SSE	7,098.30
City Fibre	3,159.00
Century Link	27,144.99
Vodafone	228,513.00
BT	96,679.92
Virgin Media	71,957.36
Thames Water	n/a
Total	434,552.57

7.16 Options

7.16.1 The scheme is currently being project managed by the Council's Strategy Team who are leading on the delivery of the business case and the options appraisal. As the project develops to final approval, contract management will be the responsibility to the delivery team, with continued overall project management remaining with the Strategy Team for continuity.

7.16.1 GWR are leading on the station upgrade facilities with support from a lead consultant and sub-consultant input as required. NR's role will be to review designs and provide consents for the works to take place in accordance with railway standards, through an asset protection arrangement.

Appendix A Scheme Plans

1:200 @ A1
1:400 @ A3

0 8m

North

OXFORD ROAD

41.1m

Red hatch indicates extension to Platform 1 (platform to be minimum 3m)

Red hatch indicates extension to Platform 2 (platform to be minimum 3m)

New canopy to Platform 1

Existing ticket office to be removed

New shelter

New canopy to Platform 2

Footbridge now removed and will not be replaced. New lifts not committed

Rev	Date	Revision
B	03.02.16	Existing ticket office building removed, canopy to Platform 2 eextended, new shelter on Platform 2 added.
A	28.11.15	Platform 1 extend revised.

Partner	Drawn	Date
CW	AW	SEP 2015

Scale
1:200 @ A1 & 1:400 @ A3

Project
Reading West Master Plan

Title
Proposed site plan- NORTH Platform extension + canopies

Drawing No
15141-OA-MP-SK11-P-00

Status	Revision
FEASIBILITY	B

OXFORDARCHITECTS
Bagley Croft, Hinksey Hill, Oxford, OX1 5BS
T 01865 329100 F01865 326822 W oxford-architects.com

0 6m

1:200 @ A3

North

OXFORD ROAD

New CIS screens and information boards

New TVM

New ticket barriers

New TVM

Existing kerb line to be moved

Moved kerb line

Existing bus shelter relocated

New cladding to the bridge with signage Welcome to Reading West

New ticket barriers

New CIS screens and information boards

Gate for out of hours access

entrance

NEW TICKET OFFICE

Retail space

Gate for out of hours access

New ramp at 1:15 in place of existing ramp

SL

Footbridge now removed and will not be replaced. New lifts not committed

Footbridge now removed and will not be replaced. New lifts not committed

Proposed new cycle parking

283

279

New footbridge to Platform 2
Existing vegetation to be removed

New footbridge to Platform 1
Existing vegetation to be removed

signal T2802

signal T2800

gate

stone retaining wall

tarmac

paving slabs

metal palisade fence ht 1.40

rails surveyed reflectorless

telephone

sign

Rev	Date	Revision
C	03.02.16	Cycle parking added, note added.
B	15.01.16	Internal layout revised. Gate line provision increased. Eastern out of hours area reduced.
A	26.11.15	Kerb line revised as per drawing received from Peter Brett Associates and new station building amended accordingly.

Partner	Drawn	Date
CW	AW	NOV 2015

Scale
1:200 @ A3

Project
Reading West Master Plan

Title
Proposed site plan
- NORTH OPTION 4.3
- NEW TICKET OFFICE

Drawing No
15141-OA-MP-SK16-P-00

Status	Revision
FEASIBILITY	B

OXFORDARCHITECTS
Bagley Croft, Hinksey Hill, Oxford, OX1 5BS
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1:500 @ A0
0
20m
REFER TO DWG. NO. 1541-OA-MP-SK16-P-00 FOR DETAILS
REFER TO DWG. NO. 1541-OA-MP-SK11-P-00 FOR DETAILS
REFER TO DWG. NO. 1541-OA-MP-SK12-P-00 FOR DETAILS
Footbridge now removed and will not be replaced. New lifts not committed
New cladding to the bridge with signage Welcome to Reading West
Existing bus shelter relocated
New ticket barriers
Moved kerb line
Gate for out of hours access
Existing kerb line to be moved
New CIS screens and information boards
New ticket barriers
New TVM
Gate for out of hours access
New lift to Platform 2 Existing vegetation and part of retaining wall to be removed
New footbridge to Platform 2 Existing vegetation to be removed
New ramp at 1:15 in place of existing ramp
Proposed new cycle parking
New CIS screens and information boards
New lift to Platform 1 Existing vegetation and part of retaining wall to be removed
New footbridge to Platform 1 Existing vegetation to be removed
Red hatch indicates extension to Platform 1 (platform to be minimum 3m)
New canopy to Platform 1
New canopy to Platform 2
Existing ticket office to be removed
New shelter
Red hatch indicates extension to Platform 2 (platform to be minimum 3m)
OXFORD ROAD
ORMSBY STREET
BRUNSWICK HILL
WOOD GREEN CLOSE
Reading West Station
Bellevue
New accoustic fence with art (subject to confirmation) and upgraded lighting along ramp from Tilehurst Road to Platform 1
New improved surface to existing ramp
Existing fence to be cleaned and painted
Vegetation to be cut back and replaced by other species as part of electrification works
Part of existing brick wall to be removed and made good in order to widen access
New ticket barriers with canopy. Existing access to be wider; deck on stilts (ref. to image 3)
New gate for out of hours access
New TVM
Area for new CIS screens and information boards
New improved surface
Footbridge to be cleaned and painted

Rev	Date	Revision

Partner	Drawn	Date
CW	AW	FEB 2016

Scale
1:500 @ A0

Project
Redaing West Master Plan

Title
Proposed site plan - combined

Drawing No
15141-OA-MP-SK26-P-00

Status	Revision
PRELIMINARY	

OXFORDARCHITECTS

Bagley Croft, Hinksey Hill, Oxford, OX1 5BS
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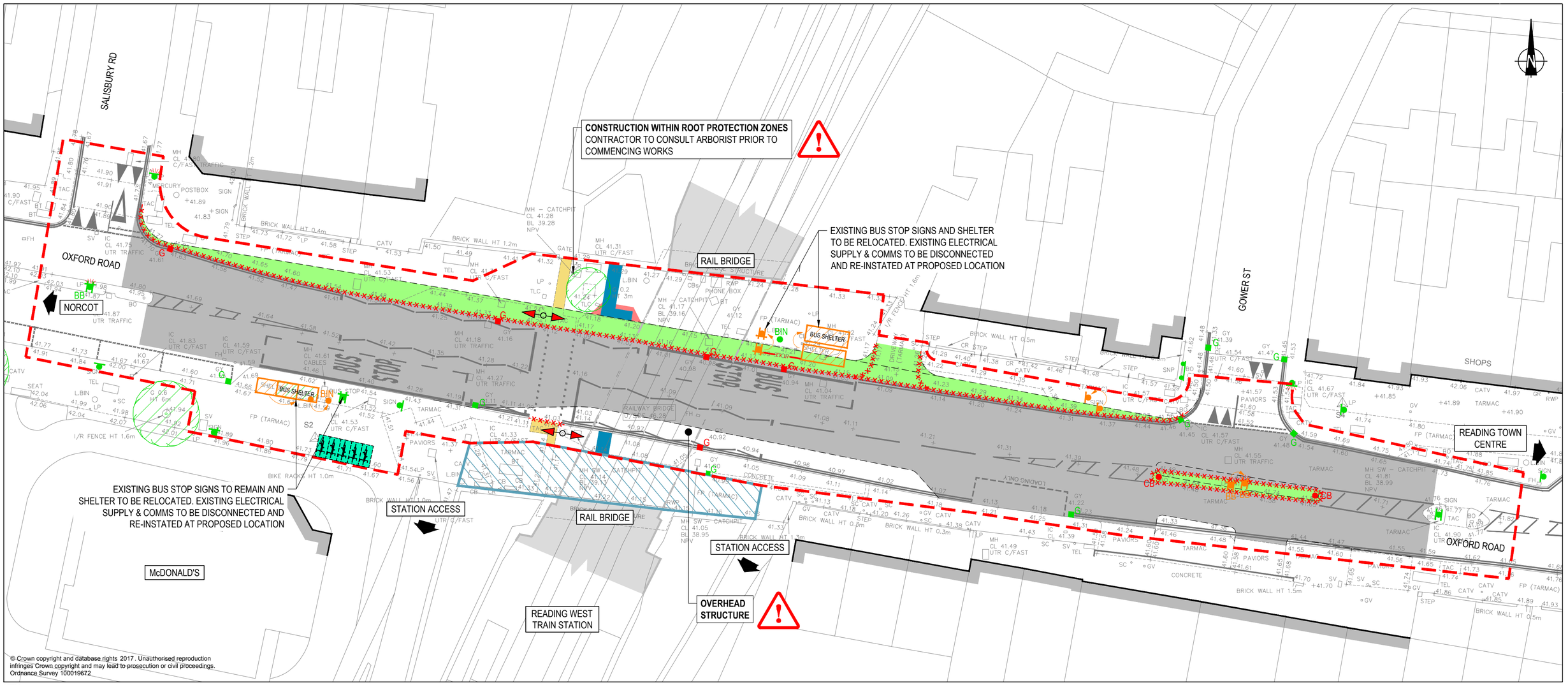

KEY

GENERAL

- SITE BOUNDARY
- PROPOSED STATION BIULDING FOOTPRINT
- EXISTING BUILDING TO REMAIN
- PROPOSED SCHEME ALIGNMENT

SITE CLEARANCE

- EXISTING FOOTWAY TO BE BROKEN OUT (INCLUDING TYPE 1 GRANULAR MATERIAL) AND EXCAVATED TO ACCOMMODATE PROPOSED FULL DEPTH CARRIAGEWAY CONSTRUCTION
- PLANE OUT **ALL** OF THE EXISTING CARRIAGEWAY SURFACING (TYPICALLY 45mm) THROUGHOUT THE EXTENTS OF THE SURFACING WORK AND REMOVED OFF-SITE TO CONTRACTOR'S TIP
- EXISTING FOOTWAY TO BE EXCAVATED TO ACCOMMODATE PROPOSED DROPPED KERB AT PEDESTRIAN CROSSING
- EXISTING FOOTWAY TO BE EXCAVATED TO ACCOMMODATE PROPOSED TACTILE PAVING AT PEDESTRIAN CROSSING (100mm APPROX.)
- EXISTING TACTILE PAVING TO BE REMOVED OFF-SITE TO CONTRACTOR'S TIP
- EXISTING BIKE STANDS TO REMAIN

- EXISTING TREE TO BE PROTECTED DURING WORKS
- G — EXISTING GULLY TO REMAIN
- G — EXISTING GULLY TO BE REMOVED
- EXISTING BUS SHELTER AND ASSOCIATED FEEDER PILLARS TO BE RELOCATED
- EXISTING SIGN TO REMAIN
- EXISTING SIGN (ILLUMINATED) TO REMAIN
- EXISTING SIGN TO BE RELOCATED
- BB — EXISTING BELISHA BEACON TO REMAIN
- BB BB — EXISTING BELISHA BEACON TO BE RELOCATED
- EXISTING TRAFFIC SIGNAL TO BE REMOVED
- CB — EXISTING COLLAPSIBLE BOLLARD TO BE REMOVED
- BIN — EXISTING BIN TO REMAIN
- BIN — EXISTING BIN TO BE RELOCATED
- -x-x-x-x-x-x- EXISTING KERB TO BE REMOVED OFF SITE TO CONTRACTOR'S TIP

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND DOCUMENTS.
2. ALL WORK TO BE IN ACCORDANCE WITH THE HIGHWAY AGENCY SPECIFICATION FOR HIGHWAY WORKS VOLUME 1
3. TOPOGRAPHICAL SURVEYS UNDERTAKEN BY MK SURVEYS IN 2019. CONTRACTOR TO VERIFY SURVEYS PRIOR TO COMMENCING WORKS
4. CONTRACTOR TO OBTAIN SURFACE WATER DRAINAGE CCTV SURVEY TO CHECK CONDITION AND LOCATIONS
5. REFER TO DRAWING NUMBER 45835/5504/005 FOR PROPOSED CONSTRUCTION
6. REFER TO DRAWING NUMBER 45835/5504/002 FOR EXISTING UTILITIES

Mark	Revision	Date	Drawn	Chkd	Appd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

FOR COMMENT

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
SITE CLEARANCE

Client

Reading Borough Council
Working better with you

Date of 1st Issue	Designed	Drawn
26.07.19	SF	SF
A2 Scale	Checked	Approved
1:250	GR	-
Drawing Number		Revision
45835/5504/004		-

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peterbrett.com

READING
Tel: 01189 500 761

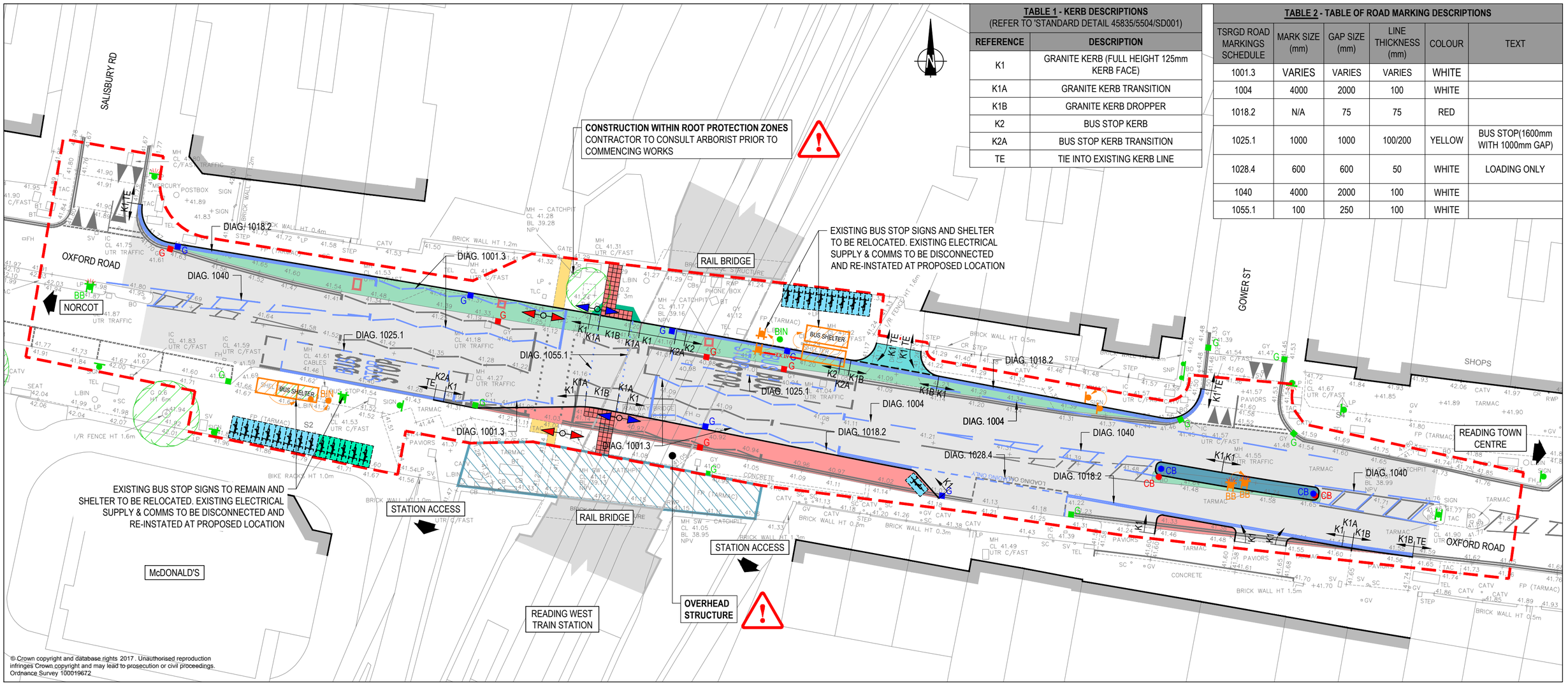

TABLE 1 - KERB DESCRIPTIONS
(REFER TO 'STANDARD DETAIL 45835/5504/SD001)

REFERENCE	DESCRIPTION
K1	GRANITE KERB (FULL HEIGHT 125mm KERB FACE)
K1A	GRANITE KERB TRANSITION
K1B	GRANITE KERB DROPPER
K2	BUS STOP KERB
K2A	BUS STOP KERB TRANSITION
TE	TIE INTO EXISTING KERB LINE

TABLE 2 - TABLE OF ROAD MARKING DESCRIPTIONS

TSRGD ROAD MARKINGS SCHEDULE	MARK SIZE (mm)	GAP SIZE (mm)	LINE THICKNESS (mm)	COLOUR	TEXT
1001.3	VARIES	VARIES	VARIES	WHITE	
1004	4000	2000	100	WHITE	
1018.2	N/A	75	75	RED	
1025.1	1000	1000	100/200	YELLOW	BUS STOP(1600mm WITH 1000mm GAP)
1028.4	600	600	50	WHITE	LOADING ONLY
1040	4000	2000	100	WHITE	
1055.1	100	250	100	WHITE	

KEY

GENERAL

- SITE BOUNDARY
- PROPOSED STATION BUILDING FOOTPRINT
- EXISTING BUILDING TO REMAIN

PROPOSED CONSTRUCTION

- PROPOSED CARRIAGEWAY RESURFACING. REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED CARRIAGEWAY FULL DEPTH CONSTRUCTION . REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED FOOTWAY RESURFACING. REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED FOOTWAY OVERLAY ON EXISTING CARRIAGEWAY. REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED DRIVEWAY CONSTRUCTION. REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED TRAFFIC ISLAND. REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- PROPOSED FULL DEPTH FOOTWAY CONSTRUCTION AT PEDESTRIAN CROSSING.

- K1 — PROPOSED KERB AND TYPE (SEE TABLE 1)
- PROPOSED TACTILE PAVING (RED). REFER TO STANDARD DETAIL 45835/5504/SD001 FOR DETAILS
- EXISTING BIKE STANDS TO REMAIN
- PROPOSED BIKE STANDS. REFER TO STANDARD DETAIL 45835/5504/SD004 FOR DETAILS
- PROPOSED ROAD MARKINGS (SEE TABLE 2)
- EXISTING TREE TO BE PROTECTED DURING WORKS
- G — EXISTING GULLY TO REMAIN
- G — EXISTING GULLY TO BE REMOVED
- G — PROPOSED GULLY REFER TO STANDARD DETAIL 45835/5504/SD002 FOR DETAILS
- EXISTING BUS SHELTER AND ASSOCIATED FEEDER PILLARS TO BE RELOCATED
- EXISTING SIGN TO REMAIN
- EXISTING SIGN (ILLUMINATED) TO REMAIN
- EXISTING SIGN TO BE RELOCATED
- BB — EXISTING BELISHA BEACON TO REMAIN
- BB BB — EXISTING BELISHA BEACON TO BE RELOCATED

- EXISTING TRAFFIC SIGNAL TO BE REMOVED
- PROPOSED TRAFFIC SIGNAL
- CB — EXISTING COLLAPSIBLE BOLLARD TO BE REMOVED
- CB — PROPOSED BOLLARD. REFER TO STANDARD DETAIL 45835/5504/SD003 FOR DETAILS
- BIN — EXISTING BIN TO REMAIN
- BIN — EXISTING BIN TO BE RELOCATED
- EXISTING CHAMBER TO BE LOWERED

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND DOCUMENTS.
2. ALL WORK TO BE IN ACCORDANCE WITH THE HIGHWAY AGENCY SPECIFICATION FOR HIGHWAY WORKS VOLUME 1
3. TOPOGRAPHICAL SURVEYS UNDERTAKEN BY MK SURVEYS IN 2019. CONTRACTOR TO VERIFY SURVEYS PRIOR TO COMMENCING WORKS
4. TACTILE PAVING SHOWN ON THIS DRAWING IS INDICATIVE. TACTILE PAVING TO BE LAID IN ACCORDANCE WITH DfT'S GUIDANCE ON TACTILE PAVING
5. ROAD MARKINGS AND SIGNS TO BE IN ACCORDANCE WITH TSRGD 2016
6. REFER TO DRAWING NUMBER 45835/5504/002 FOR EXISTING UTILITIES
7. REFER TO DRAWING NUMBER 45835/5504/004 FOR SITE CLEARANCE

Mark	Revision	Date	Drawn	Chkd	Appd
A	LAYOUT AMENDED AT SOUTHERN BUS STOP	10.10.19	SF	GR	-

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
FOR COMMENT

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
PROPOSED CONSTRUCTION

Client
Reading Borough Council
Working better with you

Date of 1st Issue	Designed	Drawn
26.07.19	SF	SF
A2 Scale	Checked	Approved
1:250	GR	-
Drawing Number		Revision
45835/5504/005		A

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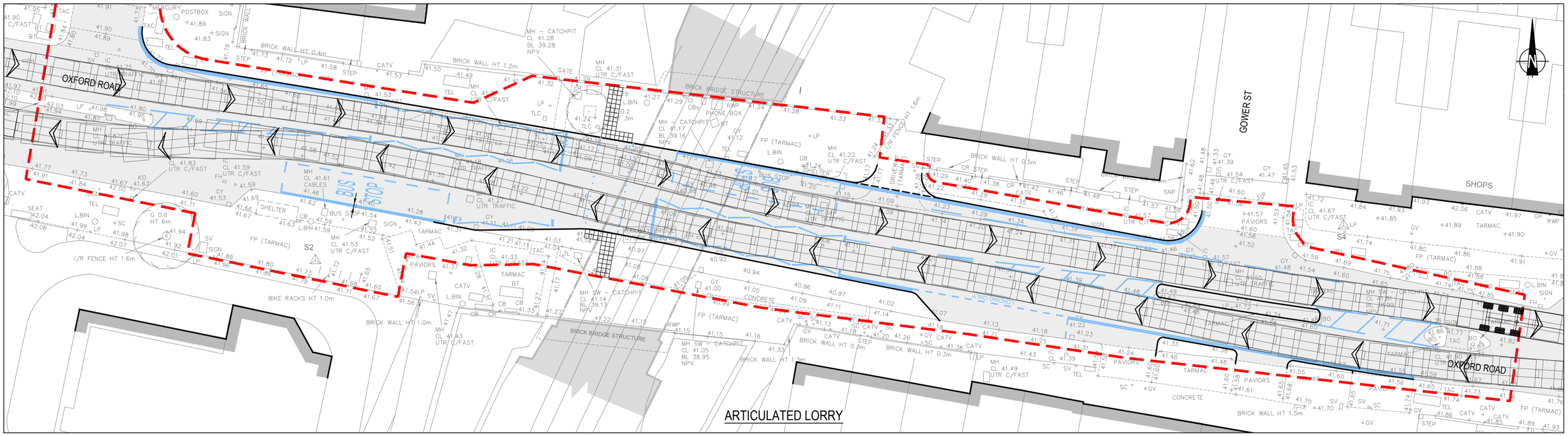
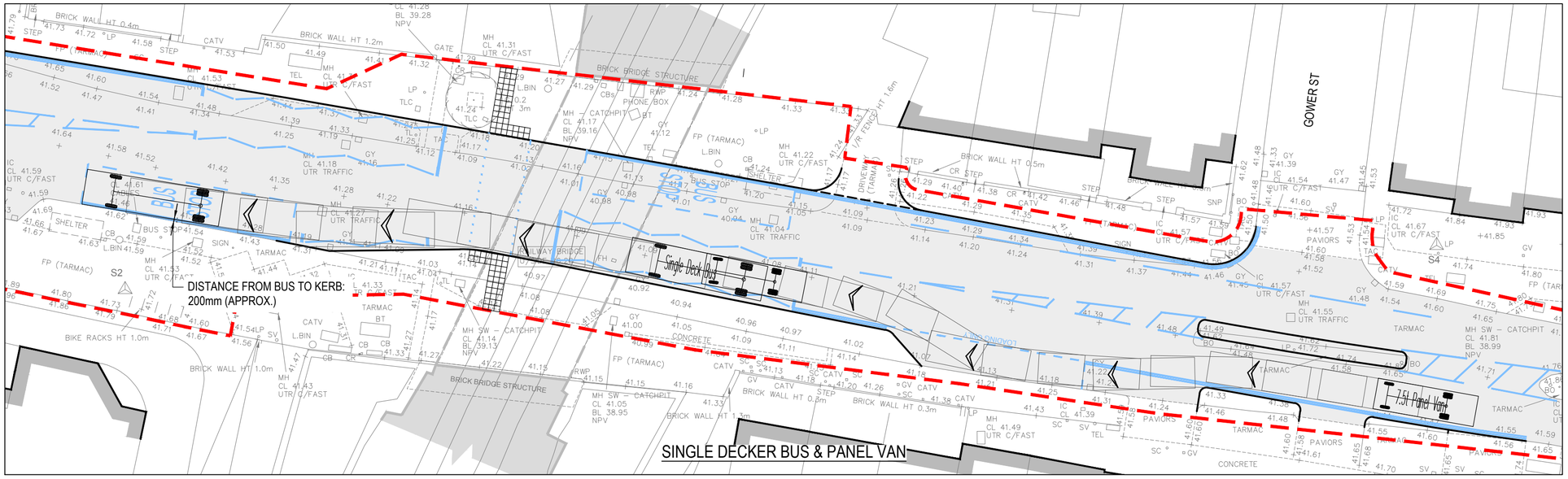
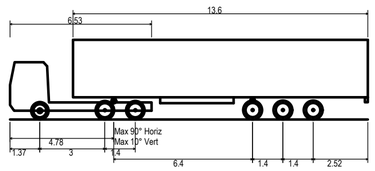
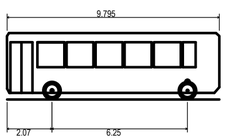


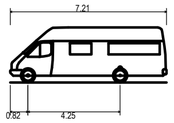




Max Legal Length (UK) Articulated Vehicle (16.5m)	
Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m



Single Deck Bus	
Overall Length	9.795m
Overall Width	2.500m
Overall Body Height	3.070m
Min Body Ground Clearance	0.306m
Track Width	2.322m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.111m



7.5t Panel Van	
Overall Length	7.210m
Overall Width	2.192m
Overall Body Height	2.544m
Min Body Ground Clearance	0.316m
Track Width	1.865m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

Mark	Revision	Date	Drawn	Chkd	Appd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

FOR INFORMATION

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
VEHICLE SWEPT PATHS

Client

Reading Borough Council
Working better with you

Date of 1st Issue	Designed	Drawn
10.10.19	SF	SF
A2 Scale	Checked	Approved
1:250	GR	-

Drawing Number: 28791/5504/SK003

Revision: -

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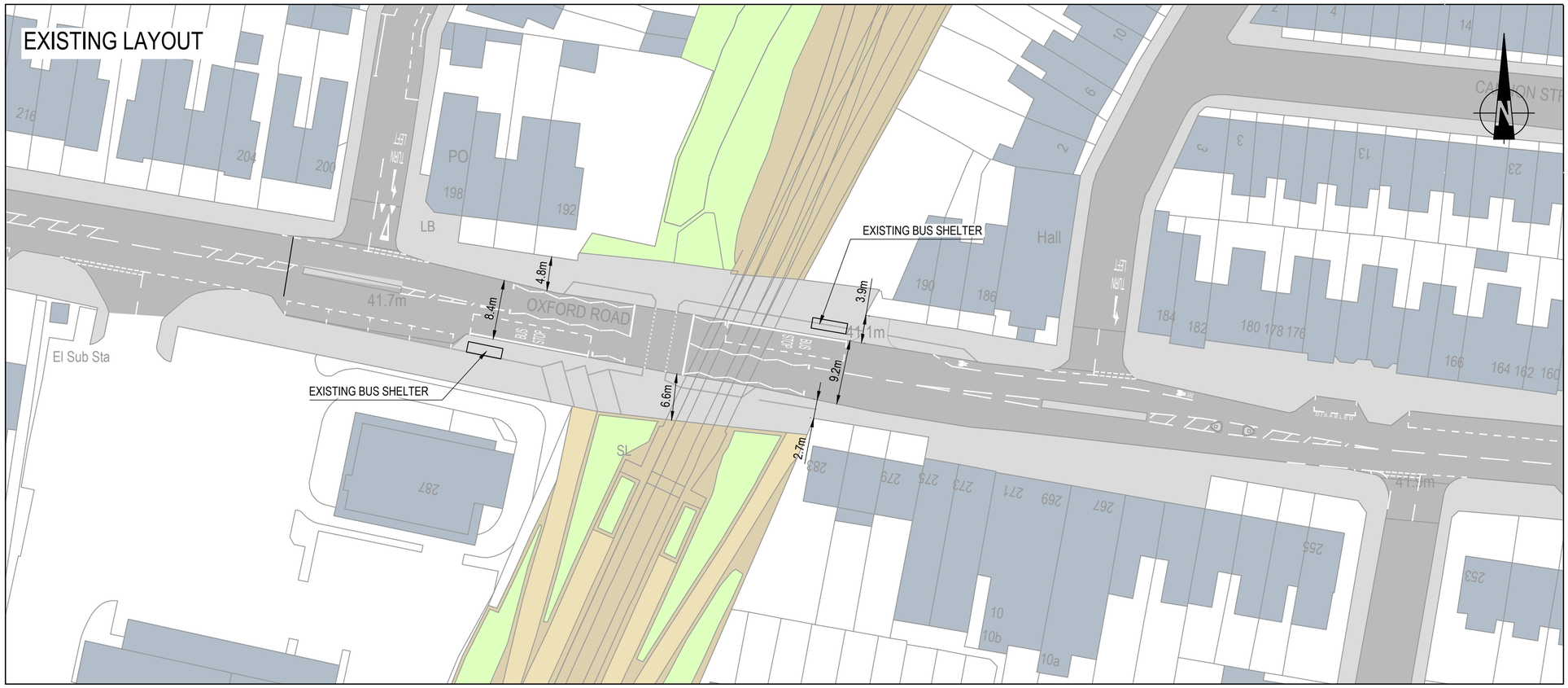
Appendix B EAR

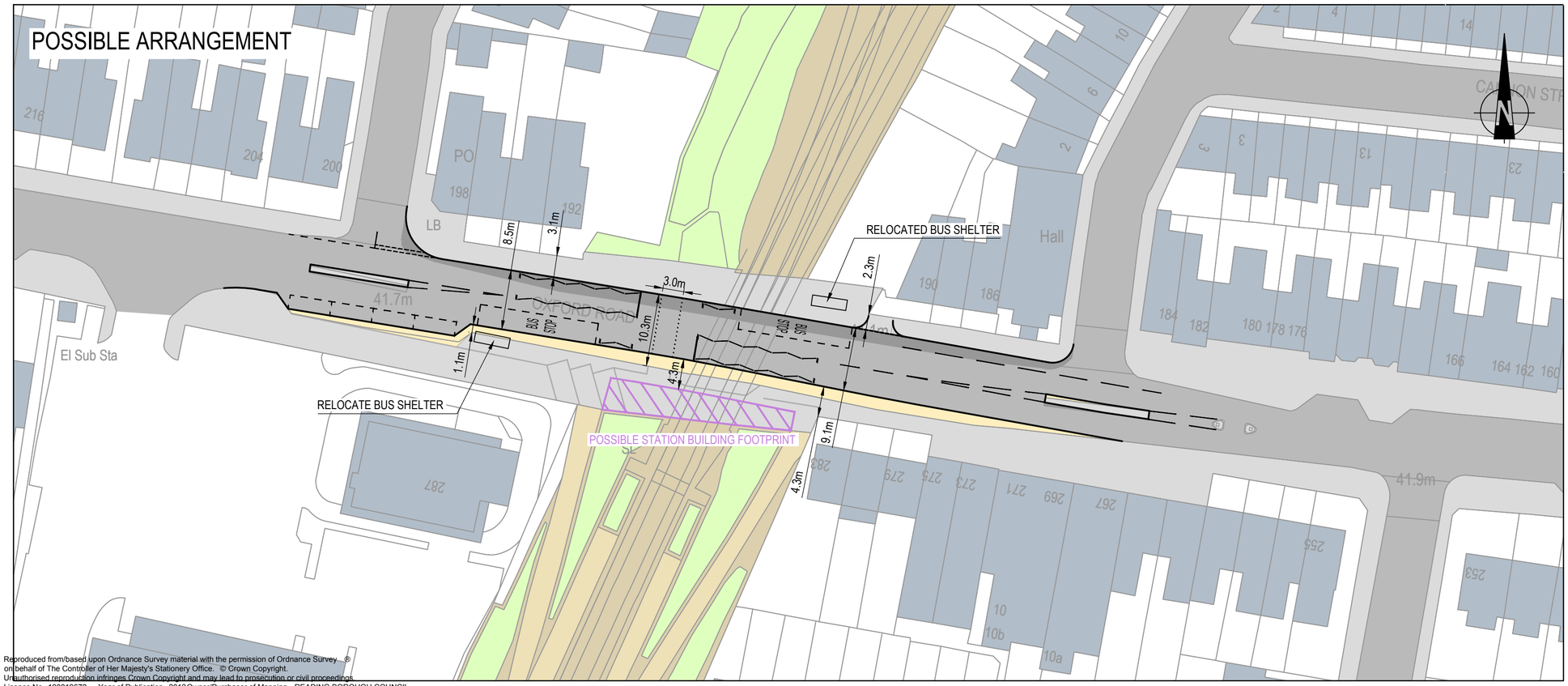
Appendix C Masterplan Options

Appendix D Highway Options

EXISTING LAYOUT



POSSIBLE ARRANGEMENT



Mark	Revision	Drawn	Date	Chkd

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Drawing Issue Status

DRAFT FOR COMMENT

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
POSSIBLE CARRIAGEWAY ALTERATIONS
OPTION 1 - ONLINE BUS STOPS

Client

Reading Borough Council
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Date of 1st Issue: 23.10.2015	Drawn by: GS
A2 Scale: 1:500	Checked by: SCM
Drawing Number: 28791/5506/001	Revision: -

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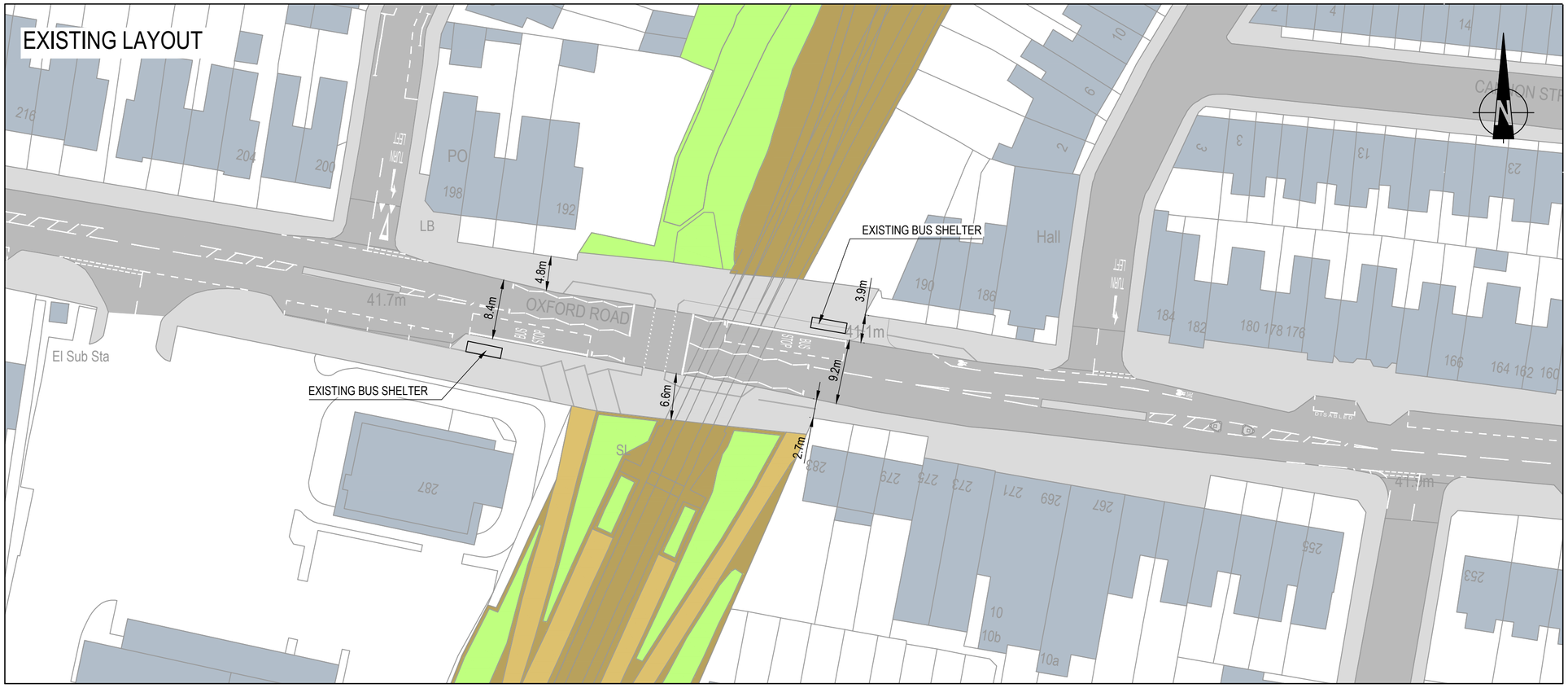
Tel: 0118 950 0761

File Location: j:\28791 rbc bltb la scheme\07 west reading - reading west station\transport\drawings, gis, photos and video\cad\dwgs\28791-5506-001.dwg

EXISTING LAYOUT



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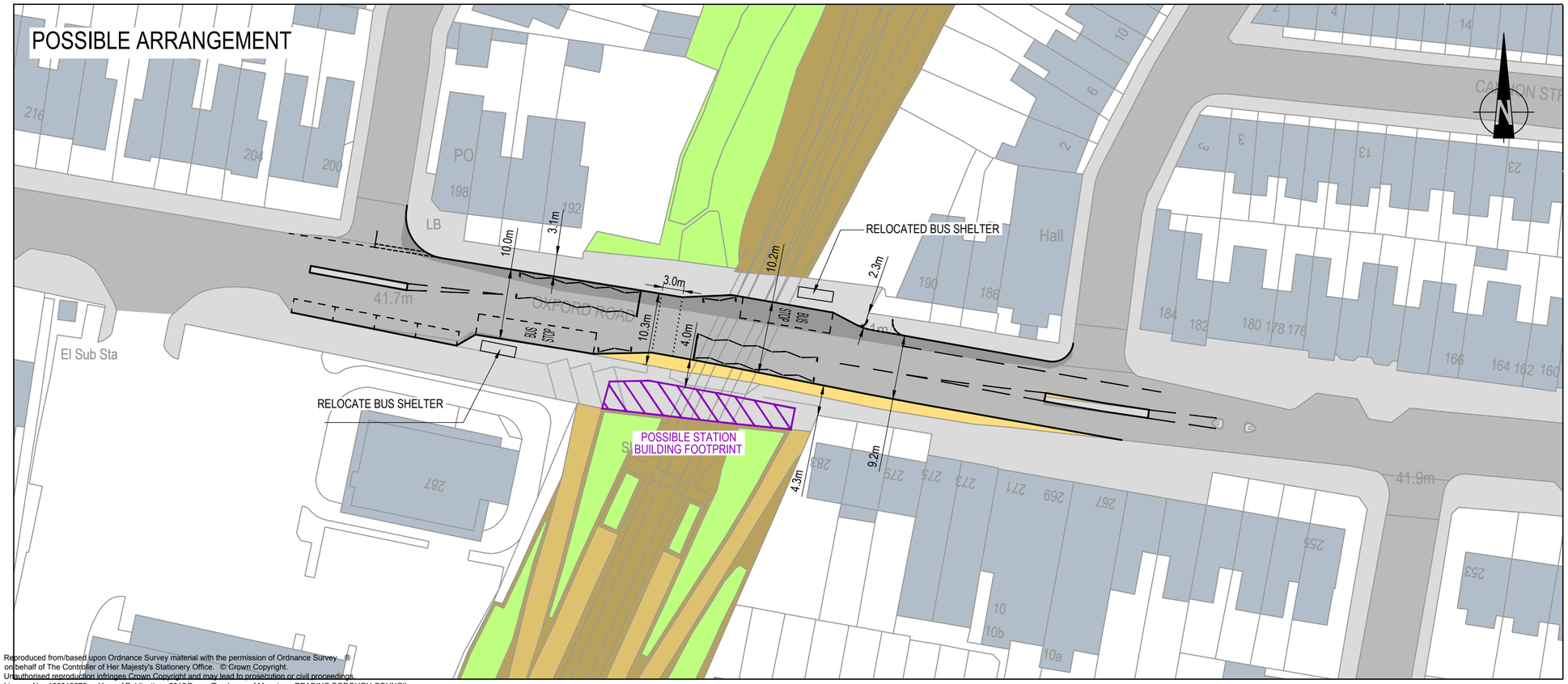

Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status
DRAFT FOR COMMENT

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
POSSIBLE CARRIAGEWAY ALTERATIONS
OPTION 2 - HALF BUS LAYBYS

Client
Reading Borough Council
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Date of 1st Issue: 23.10.2015	Drawn by: GS
A2 Scale: 1:500	Checked by: SCM
Drawing Number: 28791/5506/002	Revision: -

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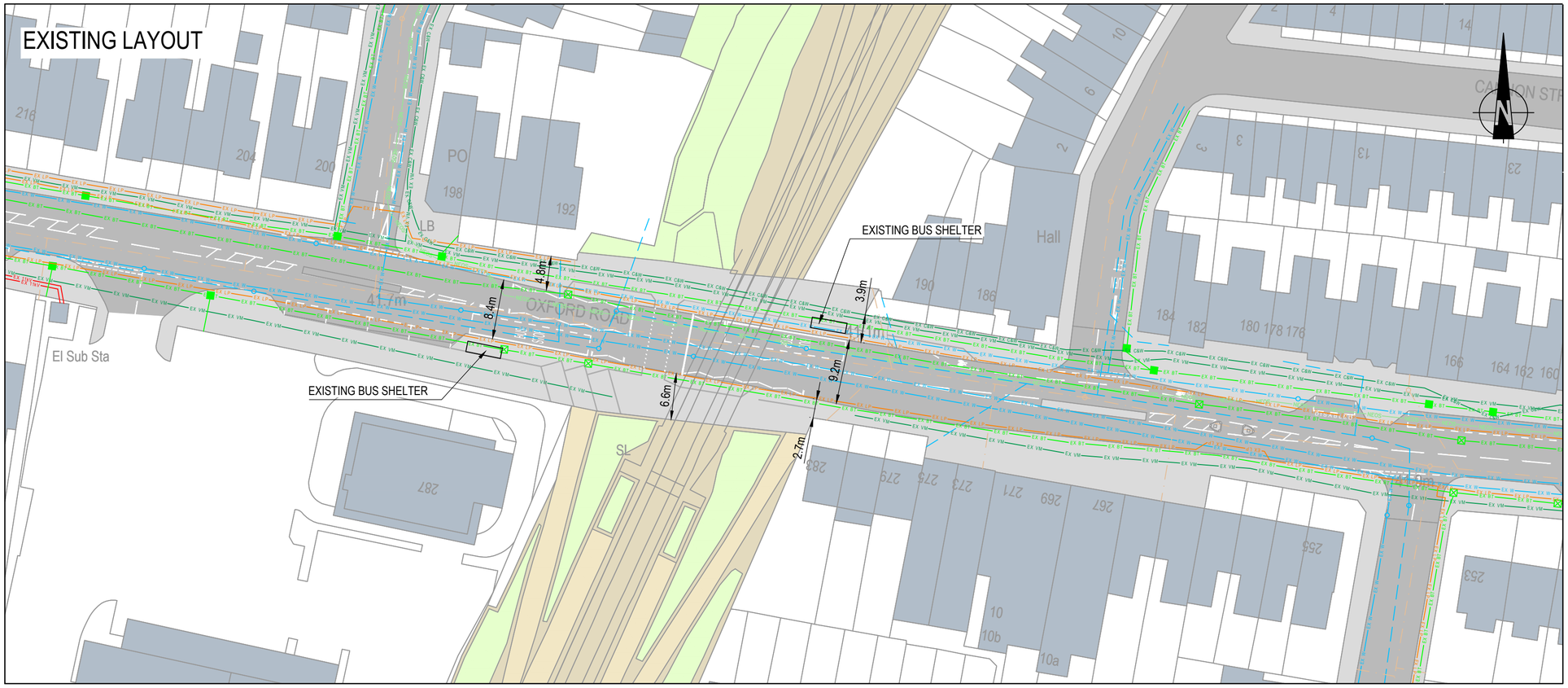
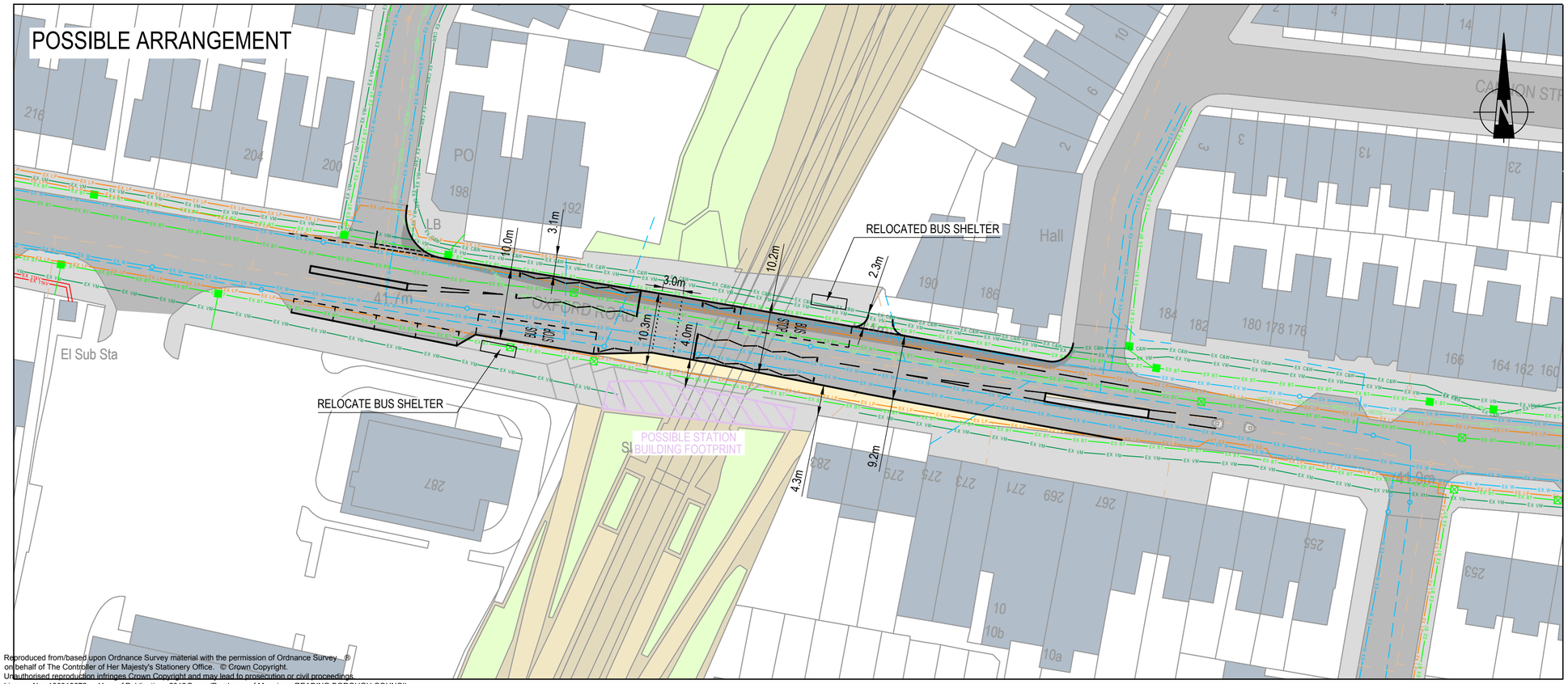
EXISTING LAYOUT



POSSIBLE ARRANGEMENT



Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status
DRAFT FOR COMMENT

READING WEST STATION IMPROVEMENTS
OXFORD ROAD
POSSIBLE CARRIAGEWAY ALTERATIONS
OPTION 3 - HALF BUS LAYBY WESTBOUND

Client
Reading Borough Council
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Date of 1st Issue: 19.11.2015	Drawn by: GS
A2 Scale: 1:500	Checked by: SCM
Drawing Number: 28791/5506/003	Revision: -

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Tel: 0118 950 0761

Appendix E Scheme Costs

APPENDIX B Scheme Costs -STATION FACILITIES

From Page 3 of Feasibility Estimate -2016Q1 Prices

Section 1 - Headline Costs in £

	Element	Option 4.3 (Included in Full Business Case)
	FACILITATING WORKS	
	Toxic/hazardous material removal	£20,000
	Major Demolition Works	£45,000
	Sub Total Facilitating Works	£65,000
	EXTERNAL WORKS	
	Site preparation works	£14,556
	Roads, paths and pavings	£197,000
	Planting	£20,000
	Fencing, railings and walls	£20,000
	Site/street furniture and equipment comprising of:	
	Automated Gateline Barriers -Wide Aisle - 2 Number	£90,000
	Automated Gateline Barriers -Wide Aisle - 3 Number	£105,000
	Ticket Vending Machines - 2 Number	£60,000
	Customer Information Screens (CIS) - 2 Number	£20,000
	CCTV Cameras - 5 Number	£17,500
	New cycle parking; cycle hoops only	£3,000
	Passenger Lifts (Not included in current scheme) - 2 Number	
	Minor building works and ancillary buildings comprising:	
	Glazed wall to to create ticket office	£84,600
	Ticket office internal including partitions, wall, ceiling and floor finishes	£17,824
	Roof over ticket office	£10,694
	Ticket windows	£19,000
	Glazed barriers	£16,700
	Relocate existing bus shelter	£5,000
	Sub Total Minor building works and ancillary buildings	£153,818
	Sub Total External Works	£700,874
	Sub Total Building Works (Facilitating Works + External Works)	£765,874
9	Main contractor's Preliminaries	£165,881
	Sub Total : Building Works (including Main contractor's preliminaries	£931,755
10	Main contractor's overhead's and profit (10%)	£127,176
11	**Project/Design Fees/Preparation Costs**	£153,505
12	**Other development /project costs/Supervision Costs**	£153,505
	Base Cost Estimate	**£1,365,940**
13	**Risk Allowance (25% of Base Cost Estimate)**	£349,733
	TOTAL CONSTRUCTION COST (excluding inflation)	**£1,715,672**
14	**Inflation (0.75%) previously + 2016 to point of Expenditure**	£252,142
	TOTAL CONSTRUCTION COST (including inflation)	**£1,967,815**
	ADDITIONAL WORKS - (see Page 3 of 52 of Turner & Townsend Masterplan Costs)	
3.1	**New Canopy (Platform 1)**	£44,000
3.2	**New Canopy (Platform 2)**	£136,000
3.3	**Platform Extension (Platform 1)**	£86,000
3.4	**Platform Extension (Platform 2)**	£136,000
3.5	**Remove existing ticket office, make good (Platform 2)**	£6,000
	SUB TOTAL ADDITIONAL WORKS	£408,000
	Contruction Costs - Electricification works	£940,000
	CONTINGENCY	£68,115
	Total Excl Risk & Inflation	**£2,782,055**
	Total Inc Inflation and Risk (Outturn Costs)	**£3,383,930**

APPROXIMATE CONSTRUCTION COST ESTIMATE					Oct-19
Reading West Station Improvements **Oxford Road - Carriageway Alterations** **Drawing Numbers: 45835/5504/004 & 45835/5504/005** **Compiled by: G Roseff**	**Quantity**	**Unit**	***Rate***	**Total**	
SUMMARY					
SERIES 200 - SITE CLEARANCE				£24,255	
SERIES 500 - DRAINAGE AND SERVICE DUCTS				£9,300	
SERIES 700 - PAVEMENTS				£31,935	
SERIES 1100 - KERBS, FOOTWAYS AND PAVED AREAS				£12,960	
SERIES 1200 - TRAFFIC SIGNS AND ROAD MARKINGS				£31,960	
SERIES 1400 - ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS				£4,500	
SERIES 2600 - MISCELLANEOUS - STREET FURNITURE				£16,500	
Total (Excluding Contingency and Optimum Bias)			***Sub total***	***£131,410***	
Preliminaries (Site accomodation, Traffic Management, Pedestrian Management etc.)	30%			£39,423	
Contingency (25% of total)	25%			£42,708	
			Total	***£213,541***	
Utilities cost estimate (Based on C3 estimates)				***£500,000***	
				Construction Cost Total	**£715,000**
Allowance for trial holes/site investigation				**£5,000**	
Detailed Design costs				**£25,000**	
Site Support estimate (excluding contract admin)				**£15,000**	
				Total Cost	**£760,000**
ASSUMPTIONS / ADDITIONAL NOTES:					
1. THE DEVELOPMENT OF COSTS FOR INFRASTRUCTURE COMPONENTS HAS BEEN BASED UPON AN ASSESSMENT OF CURRENT TENDERED RATES FOR SIMILAR REGIONAL SCHEMES.					
2. COSTS ARE BASED ON DRAWING NUMBERS 45835/5504/004 & 45835/5504/005 SCHEME LAYOUT.					
3. ASSUME NO ECOLOGY/ENVIRONMENTAL MITIGATION MEASURES (NOISE, ECOLOGY, FLOODING MEASURES, ETC).					
4. ASSUMED THAT ANY PROPOSED DRAINAGE CONNECTIONS CAN BE MADE DIRECTLY INTO THE EXISTING DRAINAGE SYSTEM. COST ASSUMES EXISTING DRAINAGE SYSTEM IS IN GOOD CONDITION					
5. PRELIMS AT 30% DUE TO TM AND PEDESTRIAN MANAGEMENT ARRANGEMENTS REQUIRED TO COMPLETE WORKS BASED ON RECENT TENDER RETURNS					
6. EXISTING PAVEMENT HAS BEEN ASSUMED TO BE FIT FOR PURPOSE					
7. ASSUME NEW PEDESTRIAN CROSSING EQUIPMENT IS REQUIRED (PELICAN) AND EXISTING EQUIPMENT REMOVED TO TIP.					
8. ASSUME CONSTRUCTION WORKS ARE COMPLETED BY RBC's DLO AND NO CONTRACT ADMINSTRATION ROLE IS REQUIRED.					
EXCLUSIONS					
1. EXCLUDES SITE SURVEYS INCLUDING TRIAL HOLES AND TOPOGRAPHICAL SURVEY					
2. NO LAND COSTS / LEGAL FEES ARE INCLUDED.					
3. COSTS EXCLUDE VAT.					
4. NO COST HAS BEEN INCLUDED FOR THE PROPOSED STATION BUILDING (INCLUDING PROVISON OF UTILITIES)					
5. NO ALLOWANCE HAS BEEN MADE FOR THE REMOVAL OF CONTAMINATED MATERIAL.					

APPROXIMATE CONSTRUCTION COST ESTIMATE					Oct-19
Reading West Station Improvements **Oxford Road - Carriageway Alterations** **Drawing Numbers: 45835/5504/004 & 45835/5504/005** **Compiled by: G Roseff**	**Quantity**	**Unit**	***Rate***	**Total**	
SERIES 200: SITE CLEARANCE					
Take up or down precast concrete kerbs including foundation below and remove to tip.	110	m	*£15.00*	£1,650.00	
Plane off 40mm of existing carriagway and remove to tip	940	m²	*£10.00*	£9,400.00	
Break out existing footway and remove to tip	160	m²	*£30.00*	£4,800.00	
Excavate for full depth construction and remove to tip	160	m²	*£40.00*	£6,400.00	
Take up or down to store existing belisha beacon	1	Nr	*£60.00*	£60.00	
Take up or down to store existing general signage (mounted on other apparatus, no post)	3	Nr	*£20.00*	£60.00	
Break out existing tactile pavings and remove to tip	15	m²	*£30.00*	£450.00	
Take up or down and remove to tip gullies	6	Nr	*£75.00*	£450.00	
Take up and remove to store existing bin	1	Nr	*£65.00*	£65.00	
Take up and remove to store existing bus shelter	2	Nr	*£150.00*	£300.00	
Take up and remove to store existing bus stop sign	2	Nr	*£100.00*	£200.00	
Take up or down and remove to store existing island signage (bollards)	2	Nr	*£60.00*	£120.00	
Take up and remove to tip existing traffic lights	2	Nr	*£150.00*	£300.00	
Total Carried to Summary					**£24,255.00**
SERIES 500: DRAINAGE AND SERVICE DUCTS					
Backfilling of disused gullies with ST4 concrete	6	Nr	*£230.00*	£1,380.00	
New trapped Precast Concrete gully (assumed)	7	Nr	*£450.00*	£3,150.00	
Connection of new gully 150mm diameter pipe (to existing drainage network - to be confirmed via a drainage survey)	7	Nr	*£630.00*	£4,410.00	
Renewal, Raising or Lowering of Access Chambers	4	Nr	£ 90.00	£360.00	
Total Carried to Summary					**£9,300.00**
SERIES 700: PAVEMENTS					
Bond Coat	1135	m²	*£1.00*	£1,135.00	
Full depth construction (excluding sc)	140	m²	*£100.00*	£14,000.00	
HRA 55/14 Surface 40/60 surface course 45mm depth	1100	m²	*£15.00*	£16,500.00	
_driveway	10	m²	*£30.00*	£300.00	
Total Carried to Summary					**£31,935.00**
SERIES 1100: KERBS, FOOTWAYS AND PAVED AREAS					
Granite kerb (K1)	160	m	*£25.00*	£4,000.00	
Granite dropper kerb (K1a)	5	m	*£40.00*	£200.00	
Granite transition kerb (K1b)	50	m	*£40.00*	£2,000.00	
Bus stop kerb (K2)	14	m	*£160.00*	£2,240.00	
Bus stop transition kerb (K2A)	1	m	*£160.00*	£160.00	
AC20 Binder Course 100/150 binder course 100mm depth	120	m²	*£20.00*	£2,400.00	
AC6 Surface Course 100/150 surface course 20mm depth	105	m²	*£10.00*	£1,050.00	
Tactile paving	13	m²	*£70.00*	£910.00	
Total Carried to Summary					**£12,960.00**
SERIES 1200: TRAFFIC SIGNS AND ROAD MARKINGS					
Remove from store and reinstate bus stop signs	2	Nr	*£100.00*	£200.00	
Remove from store and reinstate general signs	3	Nr	*£20.00*	£60.00	
Road Markings (1 day)	1	day	*£1,400.00*	£1,400.00	
Supply and install Bollards	2	Nr	*£150.00*	£300.00	
Supply and install traffic signals	1	Nr	*£30,000.00*	£30,000.00	
Total Carried to Summary					**£31,960.00**
SERIES 1400: ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS					

APPROXIMATE CONSTRUCTION COST ESTIMATE					Oct-19
Reading West Station Improvements **Oxford Road - Carriageway Alterations** **Drawing Numbers: 45835/5504/004 & 45835/5504/005** **Compiled by: G Roseff**	**Quantity**	**Unit**	***Rate***	**Total**	
SSE Disconnections / Connections	1	Item	*£4,000.00*	£4,000.00	
Cabling (for traffic signals)	10	m	*£50.00*	£500.00	
Total Carried to Summary					
					£4,500.00
SERIES 2600: MISCELLANEOUS - STREET FURNITURE					
Remove from store and reinstate Bus/Taxi shelter (including foundation)	2	No.	*£5,500.00*	£11,000.00	
RTPI removal and reinstatement (r2p / Nimbus)	2	No.	*£1,000.00*	£2,000.00	
Remove from store and reinstate bin	1	No.	*£100.00*	£100.00	
Installation of bike stands	17	No.	*£200.00*	£3,400.00	
Total Carried to Summary					**£16,500.00**

Appendix F British Transport Police Correspondence (anti-social behaviour issues)

From: Nicola Scott <Nicola.Scott@GWR.com>
Sent: 27 June 2019 14:03
To: Moyo, Norbert <norbert.moyo@stantec.com>; Matthews, Sarah <sarah.matthews@stantec.com>
Subject: FW: Reading West

Hi Norbert, Sarah,

As discussed yesterday, please see below email correspondence regarding drug usage at Reading West.

Kind regards,
Nicola

Nicola Scott | Assistant Regional Development Manager East | Great Western Railway
Heritage Building | Reading Station | Station Approach | Reading | RG1 1LZ
E: nicola.scott@GWR.com | M: 07976 295504

Sir,

Good morning. Could I introduce myself. I am Scott Hargreave and at present I am the Inspector with the British Transport Police at Reading. I have had sight of the e-mail regarding drug use and abuse between Reading West and Newbury and thought I could give you a bit more of an update around this.

On Tuesday 4th June I met with Sergeant Paul Morgan from Thames Valley Police at Newbury about this very issue and to look at joint ways of working to tackle this issue. It is an issue that affects both the travelling public, rail staff and local communities alike.

Paul and I are developing this information and looking at ways to tackle this problem. I am working closely with Network Rail, GWR and Revenue Teams to address not only this issue but the anti-social behaviour aspect that goes hand in hand with drug use and drug abuse.

We (BTP) have started to do a mixture of hi-visibility and plain clothes patrols on the line between Newbury and Reading West as well as conducting Revenue Operations to start to disrupt and deter this type of behaviour.

Only last week as a result of this increased activity we arrested 2 males at Reading West for a Possession with Intent to supply Class A offence and possession of an offensive weapon. We will continue targeting this area along with Thames Valley Police and partners.

This is work in progress that we will continue and I will advise you of any further action we take in an attempt to reduce or alleviate this problem.

Scott Hargreave
T/Inspector 9120

Reading OIC
British Transport Police, Brunel Arcade, Station Hill, Reading, Berkshire, RG1 1LT
Office : 01189 064000
Mob : 07443 294 095
Mob : 07557347240

Email: scott.hargreave@btp.pnn.police.uk
www.btp.police.uk

Appendix G TEE Table

Economic Efficiency of the Transport System (TEE) in £000'S **Core Scenario**

Non-business: Commuting	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
User benefits	**TOTAL**		**Private Cars and LGVs**	**Passengers**	**Passengers**	
Travel time	16		16			
Vehicle operating costs						
User charges						
During Construction & Maintenance						
NET NON-BUSINESS BENEFITS: COMMUTING	16	*(1a)*				

Non-business: Other	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
User benefits	**TOTAL**		**Private Cars and LGVs**	**Passengers**	**Passengers**	
Travel time	2		2			
Vehicle operating costs						
User charges						
During Construction & Maintenance						
NET NON-BUSINESS BENEFITS: OTHER	2	*(1b)*				

Business							
User benefits			**Goods Vehicles**	**Business Cars & LGVs**	**Passengers**	**Freight**	**Passengers**
Travel time							
Vehicle operating costs							
User charges							
During Construction & Maintenance							
Subtotal	0	*(2)*					
Private sector provider impacts						**Freight**	**Passengers**
Revenue	1,737						
Operating costs	-14,819						
Investment costs							
Grant/subsidy							
Subtotal	-13,082	*(3)*					
Other business impacts							
Developer contributions	0	*(4)*					
NET BUSINESS IMPACT	-13,082	*(5) = (2) + (3) + (4)*					

TOTAL		
Present Value of Transport Economic Efficiency Benefits (TEE)	-13,064	*(6) = (1a) + (1b) + (5)*

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Appendix H PA Table

Public Accounts (PA) Table **in £000's Core Scenario**

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	TOTAL		INFRASTRUCTURE			
Revenue						
Operating Costs						
Investment Costs						
Developer and Other Contributions						
Grant/Subsidy Payments						
NET IMPACT	0	*(7)*				
Central Government Funding: Transport						
Revenue	-20,830					
Operating costs	14,819					
Investment Costs	4,524					
Developer and Other Contributions						
Grant/Subsidy Payments						
NET IMPACT	-1,487	*(8)*				
Central Government Funding: Non-Transport						
Indirect Tax Revenues	115	*(9)*				
TOTALS						
Broad Transport Budget	-1487	*(10) = (7) + (8)*				
Wider Public Finances	115	*(11) = (9)*				

Notes: Costs appear as positive numbers, w hile revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Appendix I AMCB

Analysis of Monetised Costs and Benefits (£000's) - Core Scenario

Noise	2.2	*(12)*
Local Air Quality	1.3	*(13)*
Greenhouse Gases	19.2	*(14)*
Journey Quality	2,676	*(15)*
Physical Activity	814	*(16)*
Accidents	39	*(17)*
Economic Efficiency: Consumer Users (Commuting)	16	*(1a)*
Economic Efficiency: Consumer Users (Other)	2	*(1b)*
Economic Efficiency: Business Users and Providers	1,737	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-115	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	5,193	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	-1,487	*(10)*
Present Value of Costs (see notes) (PVC)	-1,487	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	6,680	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	N/A	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Appendix J AST

Appraisal Summary Table

Date produced:	18/10/2019

Contact:	
Name	Chris Maddocks
Organisation	Reading Borough Council
Role	Promoter/Official

Name of scheme:	Reading West Railway Station Upgrade
Description of scheme:	Proposals to upgrade station facilities at Reading West Railway Station

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	No journey time or Generalised Journey Time (GJT) benefits arise to rail users from the scheme. Slight beneficial decongestion benefits arise to non-users. The TOC accrues 5% of the rail fares revenue under the franchise agreement	Value of journey time changes(£): n/a Net journey time changes (£): 0 to 2min: N/A; 2 to 5min: N/A; > 5min: N/A	£1,737,312	N/A	Not assessed
	Reliability impact on Business users	Not assessed	Not assessed	Neutral	N/A	
	Regeneration	The station upgrades will benefits the local area around Reading West, potentially unlocking housing development in the locality	Not assessed	Sligth beneficial	N/A	
	Wider Impacts	The station upgrades will benefits the local area around Reading West, potentially unlocking housing development in the locality	Not assessed	Slight beneficial	N/A	
Environmental	Noise	The scheme will result in some mode change from car to rail with slight beneficial impacts on noise	£2,247	Slight beneficial	2,247	Not assessed
	Air Quality	The scheme will have slight beneficial impacts on Air Quality arising from a reduction in car trips due to mode change to rail.	£1,342		1,342	Not assessed
	Greenhouse gases	The scheme will have slight beneficial impacts on greenhouse gases arising from a reduction in car trips due to mode change to rail.	Change in non-traded carbon over 60y (CO2e): Change in traded carbon over 60y (CO2e):	Slight beneficial	19,157	
	Landscape	The scheme is expected to have Neutral impacts on the landscape	Not assessed	Neutral	N/A	
	Townscape	The scheme will improve the station environment in and around the Reading West Station surroundings. The scheme will be Slightly beneficial to the townscape	Not assessed	Slight beneficial	N/A	
	Historic Environment	The scheme is to have a Neutral impact on the historic environment	Not assessed	Neutral	N/A	
	Biodiversity	The scheme is expected to have Neutral impacts on Biodiversity	Not assessed	Neutral	N/A	
	Water Environment	The scheme is expected to have Neutral impacts on Water Environment	Not assessed	Neutral	N/A	
Social	Commuting and Other users	No journey time or Generalised Journey Time (GJT) benefits arise to rail users from the scheme. Slight beneficial decongestion benefits arise to non-users	Value of journey time changes(£): Net journey time changes (£): 0 to 2min: n/a; 2 to 5min: n/a; > 5min: n/a	Slight beneficial	16,186	Not assessed
	Reliability impact on Commuting and Other users	Not assessed	N/A	N/A	N/A	
	Physical activity	Reading West Station is predominantly accessed on foot and cycle and the scheme will result future increases in pedestrians and cyclists who will accrue health benefits/active mode benefits	£1,021,000	Slight beneficial	813,985	
	Journey quality	The scheme will result in improvements to the station environment, including security. The benefits have been determined following TfL BCDM approach	£2,731,000	Beneficial	2,676,155	
	Accidents	The scheme will result in some mode change from car to rail with slight beneficial impacts on accidents	£648,000	Slight beneficial	38,935	Not assessed

	Security	The scheme will result in improvements to security of users of the station through various measures including improved CCTV, station barriers, lighting and general improved station environment	Assessed as part of improvements to station environment	Beneficial	N/A	Not assessed
	Access to services	Improvements to the station environment may encourage use of rail and improve access to services	Not assessed	Beneficial	N/A	Not assessed
	Affordability	The scheme is considered neutral on affordability	Not assessed	Slight beneficial	N/A	Not assessed
	Severance	The scheme is considered neutral on severance	Not assessed		N/A	Not assessed
	Option and non-use values	Not assessed	Not assessed	Neutral	N/A	
Public Accounts	Cost to Broad Transport Budget	Investment costs have been estimated at £4,524,000 in 2010 prices discounted to 2010. Operational costs have been estimated at £14,819,000 in 2010 prices over the appraisal period discounted to 2010. Taking into account rail fare revenue of -£20,830,000 transferred to Government under franchising mechanism, results in a broad transport budget of -£1,487,000 and the scheme is High Value for Money and Financially Positive	Broad Transport Budget is -£8,762,000	Large Beneficial	-£1,486,791	
	Indirect Tax Revenues	These have been assessed using the Marginal External Cost (MEC) approach arising from reduction in car trips and car vehicle kilometre reduction due to mode change to rail. Indirect tax revenues of £114,560 were estimated	Indirect Tax Revenue are estimated at £1,686,000	Slight Adverse	-114,560	

Appraisal Summary Table		Date produced:	18/10/2019			Contact:	
Name of scheme:	Reading West Railway Station Upgrade					Name	Chris Maddocks
Description of scheme:	Proposals to upgrade station facilities at Reading West Railway Station					Organisation	Reading Borough Council
						Role	Promoter/Official

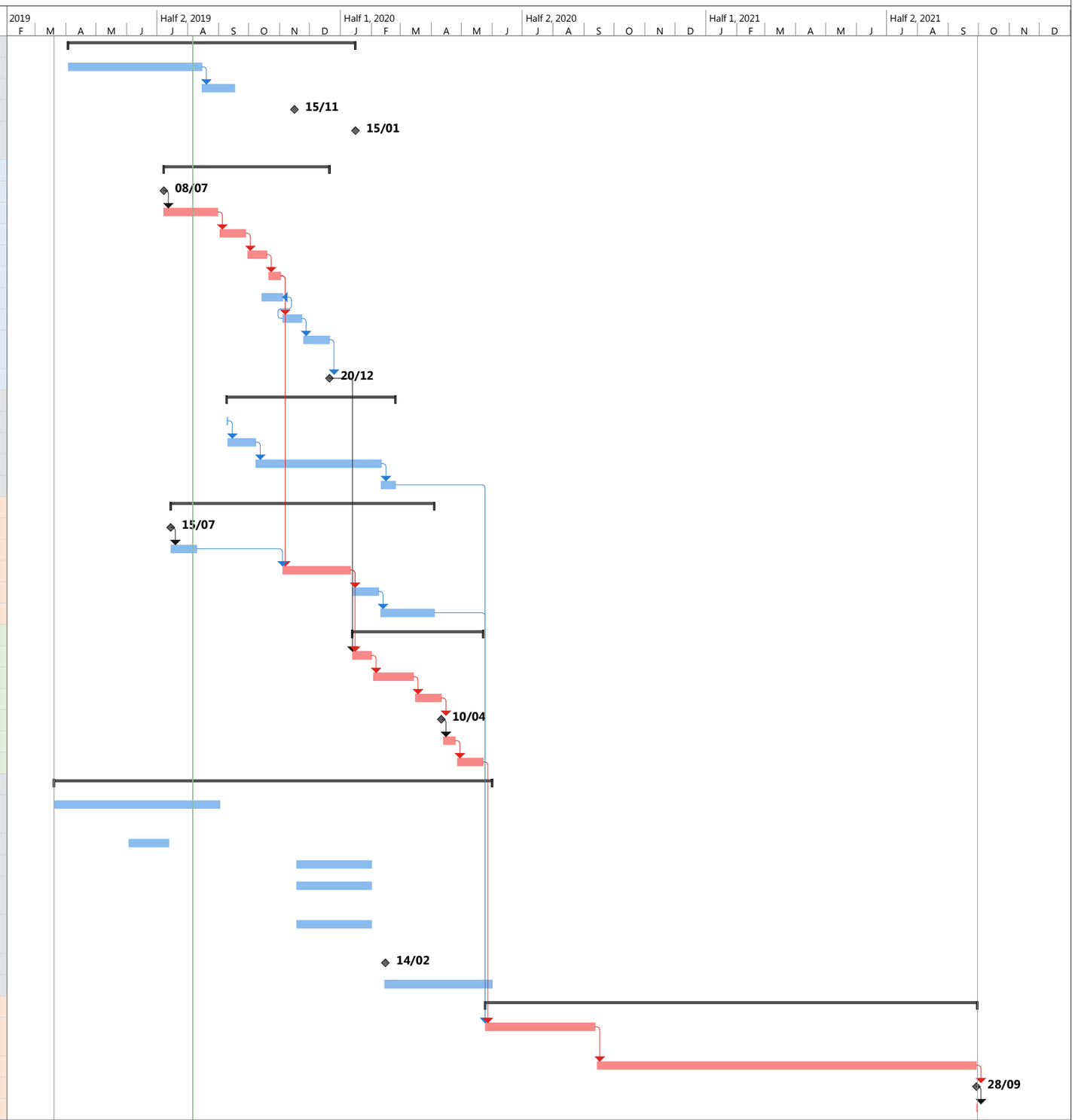
Impacts		Summary of key impacts	Assessment					
			Quantitative				Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	No journey time or Generalised Journey Time (GJT) benefits arise to rail users from the scheme. Slight beneficial decongestion benefits arise to non-users. The TOC accrues 5% of the rail fares revenue under the franchise agreement	Value of journey time changes(£)	n/a			£1,737,312	N/A	Not assessed
			Net journey time changes (£)						
			0 to 2min	2 to 5min	> 5min				
			N/A	N/A	N/A				
	Reliability impact on Business users	Not assessed	Not assessed				Neutral	N/A	
	Regeneration	The station upgrades will benefits the local area around Reading West, potentially unlocking housing development in the locality	Not assessed				Sligth beneficial	N/A	
	Wider Impacts	The station upgrades will benefits the local area around Reading West, potentially unlocking housing development in the locality	Not assessed				Slight beneficial	N/A	
Environmental	Noise	The scheme will result in some mode change from car to rail with slight beneficial impacts on noise	£2,247				Slight beneficial	2,247	Not assessed
	Air Quality	The scheme will have slight beneficial impacts on Air Quality arising from a reduction in car trips due to mode change to rail.	£1,342					1,342	Not assessed
	Greenhouse gases	The scheme will have slight beneficial impacts on greenhouse gases arising from a reduction in car trips due to mode change to rail.	Change in non-traded carbon over 60y (CO2e)				Slight beneficial	19,157	
			Change in traded carbon over 60y (CO2e)						
	Landscape	The scheme is expected to have Neutral impacts on the landscape	Not assessed				Neutral	N/A	
	Townscape	The scheme will improve the station environment in and around the Reading West Station surroundings. The scheme will be Slightly beneficial to the townscape	Not assessed				Slight beneficial	N/A	
	Historic Environment	The scheme is to have a Neutral impact on the historic environment	Not assessed				Neutral	N/A	
	Biodiversity	The scheme is expected to have Neutral impacts on Biodiversity	Not assessed				Neutral	N/A	
	Water Environment	The scheme is expected to have Neutral impacts on Water Environment	Not assessed				Neutral	N/A	
Social	Commuting and Other users	No journey time or Generalised Journey Time (GJT) benefits arise to rail users from the scheme. Slight beneficial decongestion benefits arise to non-users	Value of journey time changes(£)				Slight beneficial	16,186	Not assessed
			Net journey time changes (£)						
			0 to 2min	2 to 5min	> 5min				
			n/a	n/a	n/a				
	Reliability impact on Commuting and Other users	Not assessed	N/A				N/A	N/A	
	Physical activity	Reading West Station is predominantly accessed on foot and cycle and the scheme will result future increases in pedestrians and cyclists who will accrue health benefits/active mode benefits	£1,021,000				Slight beneficial	813,985	
	Journey quality	The scheme will result in improvements to the station environment , including security. The benefits have been determined following TfL BCDM approach	£2,731,000				Beneficial	2,676,155	
	Accidents	The scheme will result in some mode change from car to rail with slight beneficial impacts on accidents	£648,000				Slight beneficial	38,935	Not assessed
	Security	The scheme will result in improvements to security of users of the station through various measures including improved CCTV, station barriers, lighting and general improved station environment	Assessed as part of improvements to station environment				Beneficial	N/A	Not assessed
	Access to services	Improvements to the station environment may encourage use of rail and improve access to services	Not assessed				Beneficial	N/A	Not assessed
	Affordability	The scheme is considered neutral on affordability	Not assessed				Slight beneficial	N/A	Not assessed
	Severance	The scheme is considered neutral on severance	Not assessed					N/A	Not assessed
	Option and non-use values	Not assessed	Not assessed				Neutral	N/A	
Public Accounts	Cost to Broad Transport Budget	Investment costs have been estimated at £4,524,000 in 2010 prices discounted to 2010. Operational costs have been estimated at £14,819,000 in 2010 prices over the appraisal period discounted to 2010. Taking into account rail fare revenue of -£20,830,000 transferred to Government under franchising mechanism, results in a broad transport budget of -£1,487,000 and the scheme is High Value for Money and Financially Positive	Broad Transport Budget is -£8,762,000				Large Beneficial	-£1,486,791	
	Indirect Tax Revenues	These have been assessed using the Marginal External Cost (MEC) approach arising from reduction in car trips and car vehicle kilometre reduction due to mode change to rail. Indirect tax revenues of £114,560 were estimated	Indirect Tax Revenue are estimated at £1,686,000				Slight Adverse	-114,560	

Appendix K Programme

Project Number: 45835
Client: Reading Borough Council

Reading West Station Improvement Works - Oxford Road

ID	Task Mode	Task Name	Duration	Start	Finish
1		**Business Case**	**196 days**	**Wed 03/04/19**	**Wed 15/01/20**
2		Prepare Full Business Case	96 days	Wed 03/04/19	Wed 14/08/19
3		Independent review of Full Business Case	23 days	Thu 15/08/19	Mon 16/09/19
4		BLTB Board - Financial Approval	0 days	Fri 15/11/19	Fri 15/11/19
5		Policy Committee - Scheme and Spend Approval (for the highway and interchange scheme)	0 days	Wed 15/01/20	Wed 15/01/20
6		**Highway Works Detailed Design (PBA)**	**120 days**	**Mon 08/07/19**	**Fri 20/12/19**
7		Receipt of Topographical survey from survey company	0 days	Mon 08/07/19	Mon 08/07/19
8		Detailed Design (PBA)	8 wks	Mon 08/07/19	Fri 30/08/19
9		Review of Design (RBC)	4 wks	Mon 02/09/19	Fri 27/09/19
10		Incorporate Comments	3 wks	Mon 30/09/19	Fri 18/10/19
11		Approval of Design (RBC)	2 wks	Mon 21/10/19	Fri 01/11/19
12		Prepare RSA brief	3 wks	Mon 14/10/19	Mon 04/11/19
13		RSA Stage 1 / 2	3 wks	Mon 04/11/19	Fri 22/11/19
14		Designers Response and Incorporate comments into design	4 wks	Mon 25/11/19	Fri 20/12/19
15		Detailed design complete	0 days	Fri 20/12/19	Fri 20/12/19
16		**BAPA (Network Rail) - Highway Works**	**111 days**	**Mon 09/09/19**	**Mon 24/02/20**
17		Meet with Network Rail to discuss BAPA	1 day	Mon 09/09/19	Mon 09/09/19
18		Apply for BAPA	4 wks	Tue 10/09/19	Mon 07/10/19
19		Network Rail to progress BAPA	4 mons	Tue 08/10/19	Mon 10/02/20
20		BAPA signed	2 wks	Tue 11/02/20	Mon 24/02/20
21		**Utilities - Highway Works**	**180 days**	**Mon 15/07/19**	**Fri 03/04/20**
22		Obtained C3s budget cost (PBA)	0 days	Mon 15/07/19	Mon 15/07/19
23		Review C3 responses	1 mon	Mon 15/07/19	Fri 09/08/19
24		C4 estimates	2 mons	Mon 04/11/19	Fri 10/01/20
25		Place utility orders	4 wks	Mon 13/01/20	Fri 07/02/20
26		Lead in Period (estimate)	2 mons	Mon 10/02/20	Fri 03/04/20
27		**Tender (RBC) Highway Works**	**95 days**	**Mon 13/01/20**	**Fri 22/05/20**
28		Prepare Tender Documents	3 wks	Mon 13/01/20	Fri 31/01/20
29		Tender	6 wks	Mon 03/02/20	Fri 13/03/20
30		Assess Tenders	4 wks	Mon 16/03/20	Fri 10/04/20
31		Appoint Contractor	0 days	Fri 10/04/20	Fri 10/04/20
32		Stand Still Period (10 days)	10 days	Mon 13/04/20	Fri 24/04/20
33		Lead in Period	4 wks	Mon 27/04/20	Fri 22/05/20
34		**Station**	**303 days**	**Wed 20/03/19**	**Sun 31/05/20**
35		Finalise contract arrangements between RBC, GWR and LEP	118 days	Wed 20/03/19	Sun 01/09/19
36		GWR - Procure station designer and cost consultant	30 days	Mon 03/06/19	Fri 12/07/19
37		GWR - Prepare Planning Application	45 days	Mon 18/11/19	Fri 31/01/20
38		GWR - Network Rail liaison re Asset Management / Landlords Consent	45 days	Mon 18/11/19	Fri 31/01/20
39		Land transfer agreement for station building between RBC and Network Rail	45 days	Mon 18/11/19	Fri 31/01/20
40		GWR - Planning Applications Committee	0 days	Fri 14/02/20	Fri 14/02/20
41		GWR - Station detailed design	76 days	Fri 14/02/20	Sun 31/05/20
42		**Construction**	**353 days**	**Mon 25/05/20**	**Wed 29/09/21**
43		Construction Works (Oxford Road highway improvement works)	4 mons	Mon 25/05/20	Fri 11/09/20
44		Construction Works (Station works) - Estimate	13.6 mons	Mon 14/09/20	Tue 28/09/21
45		Scheme Opening	0 days	Tue 28/09/21	Tue 28/09/21
46		Scheme Monitoring commences (on going 5 years)	1 day	Wed 29/09/21	Wed 29/09/21



Project: 45835 Reading West St
Date: Tue 06/08/19

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

Appendix L Risk Register

Project Risk Register - Design Stage

Project: 45835
Reading West Station Improvement Works - Oxford Road

Doc Ref: 45835 QRA REV 1

RBC: Reading Borough Council

Original document preparation:	
Prepared by:	SF
Checked by:	GR
Approved by:	
Date	02/08/2019
This Review Date:	: 1/09/2019

Risk Identification			Impact	Risk Rating (Pre Mitigation)			Risk Management		Risk Rating (After Mitigation)			Contingency (After Mitigation)		
Ref	Risk Category	Risk Description	Time [T], Cost [C], Quality [Q]	likelihood [1-5]	Impact [1-5]	Overall Risk Rating	Proposed Mitigating Actions	Mitigation Risk Owner	likelihood [1-5]	Impact [1-5]	Overall Risk Rating	Total Risk Estimate (£)	Probability of Occurrence (%)	Total Risk Allowance (£)
1.3	Stakeholder	Restrictions on access and working areas may restrict Contractor's working operations	T, C	4	2	8	Confirm working hours; any access requirements with RBC and include in contract documents	RBC	1	2	2	4,000	15%	£ 600
1.0	Stakeholder	If there is a failure to obtain necessary permissions/ approvals fom stakeholders (NR, GWR) then the project will be delayed	T, C	2	3	6	1. Early discussions with stakeholders regarding requirements to confirm assumption. Stakeholder consultation exercise will seek to inform and manage any objections. 2. Show access within Constraints Plan	PBA	1	3	3	5,000	15%	£ 750
1.1	Stakeholder	If there is a failure to obtain a BAPA from Network Rail the programme may be delayed.	T, C	2	3	6	1 Apply early on in programme once the preliminary layout is agreed 2. Liaise with NR to confirm BAPA requirements.	PBA/ RBC	1	3	3	5,000	15%	£ 750
1.2	Stakeholder	If there are complaints from local residents during works phases then the project will suffer, poor publicity and council reputational damage.	T, C	2	3	6	Ensure local residents aware of scheme progress and early liaison is undertaken.	RBC/ Contractor	1	3	3	5,000	15%	£ 750
1.4	Stakeholder	If stakeholders input to design conflicts, then design may not suit all stakeholders.	T, C, Q	3	3	9	Engage with Stakeholders and sign off design with RBC.	PBA	1	3	3	5,000	15%	£ 750
3.0	Design	Delay, cost escalation and change of scheme scope due to unknown ground conditions and geo-environmental considerations.	T, C, Q	2	4	8	1. Allow for contingency to cover any increase in cost 2. Include for site visits by the designer during construction	RBC/ PBA	2	4	8	10,000	30%	£ 3,000
3.1	Design	Discrepancies with level / survey information to accurately determine proposed geometry leading to incorrect assumptions	T, C	3	3	9	Contractor to confirm topographical survey on site prior to commencing works.	PBA / RBC	1	3	3	5,000	15%	£ 750
3.3	Design	If there are shallow existing utilities they may conflict with the pavement design.	T, C, Q	5	3	15	1. Complete trial holes and GPR survey if necessary. 2. Complete necessary utility diversions ahead of works or incorporate within works programme 3. Allow for contingency to cover any increase in cost	PBA	2	3	6	8,500	30%	£ 2,550
4.0	Construction	Existing unknown utilities may be found onsite.	T, C	4	4	16	1. Complete trial holes and GPR survey if necessary 2. Allow for contingency to cover any increase in cost 3. Include utility information with Tender	PBA / Contractor	2	4	8	10,000	30%	£ 3,000
4.1	Construction	Large number of existing utilities may slow down construction work; or make it difficult to find a suitable location for the proposed ducting and chambers.	T, C	4	4	16	1. Complete trial holes and GPR survey if necessary. 2. Complete necessary utility diversions ahead of works or incorporate within works programme 3. Allow for contingency to cover any increase in cost 4. Include utility information with Tender	PBA / Contractor	1	4	4	8,000	15%	£ 1,200
4.3	Construction	Lead-in times for materials/workers delays project	T, C	1	3	3	Inclusion of preliminaries and contingency within project budget total. Seek to address, if not alternative materials and methods will be considered to minimise budgetary increase.	PBA	1	3	3	5,000	15%	£ 750
4.5	Construction	Poor weather conditions delay work	T, C, Q	3	3	9	Weather dependent items can be programmed for more clement weather periods, if possible. Robust Programming.	Contractor / RBC	1	3	3	5,000	15%	£ 750
4.6	Construction	Noise Impact on local residents and businesses - during works	T, C, Q	3	3	9	Contractor to follow working hours/guidelines stated within Contract Documents. Liaise with local residents prior to noisy works	Contractor / RBC	1	3	3	5,000	15%	£ 750
4.7	Construction	Air Quality - Dust, etc during works	T, C, Q	3	3	9	Prevention measures to be used during works.	Contractor	1	3	3	5,000	15%	£ 750
4.0	Construction	If the existing drainage is be blocked or in poor state of repair, it may require remediation/betterment works	T, C	3	3	9	1. Obtain CCTV survey of existing infrastructure. 2. Allow for contingency to cover any increase in cost	PBA	2	3	6	8,500	30%	£ 2,550
4.6	Construction	If access is restricted for residents or to the station for rail users, this may cause disruption to users and poor publicity.	T, C, Q	3	3	9	1. Access requirements to be agreed with council and communicated to contractor within constraints plan 2. Contractor to publicise works and access restrictions	Contractor	1	3	3	5,000	15%	£ 750
	Construction	Existing pavement construction is in poor condition / requires maintenance which may result in the requirement to repair to binder or base course	T, C, Q	4	3	12	1. Complete cores of existing pavement prior to works commencing 2. Make allowance in programme 3. Include binder/base replacement scenario within Tender.	PBA	4	3	12	16,000	85%	£ 13,600
	Construction	Public access out of hours and disruption to TM	T, C, Q	3	3	9	1. Store equipment securely or elsewhere 2. Ensure site is secure when left at night. 3. Temporary traffic signals with 24 hour TM on call	Contractor	2	3	6	8,500	30%	£ 2,550
5.0	Archaeological/Heritage	Heritage/Archaeology impacted as a result of the scheme leading to possible delays - Currently archaeological requirements are unknown.	T, C	2	2	4	Trial holes have confirmed generally made ground	RBC	1	2	2	4,000	15%	£ 600
													Total	£ 37,150

1.0 Stakeholders
2.0 Logistics
3.0 Design
4.0 Construction
5.0 Archaeological

Appendix M Letters of Support

Reading Buses
Great Knollys Street
Reading RG1 7HH

phone 0118 959 4000
fax 0118 957 5379
email info@reading-buses.co.uk

Our Ref: CM/RBC-bids/2019-10-10 let

James Turner
Transport Planner
Directorate of Environment and Neighbourhood Services
Reading Borough Council
Civic Offices, Bridge Street,
READING
RG1 2LU

10 October 2019

Dear James

Reading Borough Council bid to implement enhancements at Reading West Station

I write on behalf of Reading Buses to express our strong support for Reading Borough Council's proposed bid to secure funding, to deliver improvements to access and facilities at Reading West Station.

Reading West is an important local station and we are keen to encourage initiatives to enable easier interchange between public transport, and to and from other sustainable modes.

We are delighted to lend our support to this bid.

Yours sincerely

Clive Tombs
Commercial Manager

Cllr Jason Brock
Leader of Reading Borough Council
Civic Offices
Bridge Street
Reading
RG1 2LU

St Patrick's House
Penarth Road
Cardiff
CF10 5ZA

24 hour National Helpline
03457 11 41 41

10th October 2019

Dear Councillor Brock,

Reading West Phase 2 support

I am writing to confirm my support for Phase 2 of development works at Reading West station; this will continue the programme of works to upgrade the station, specifically the improvement of the station buildings and passenger facilities.

I know how important this station is to the local community. Since 1997 the number of passengers travelling from Reading West has increased from 39,136 to 434,000; this shows how the station has become an essential hub for those living around it.

We recently completed the phase one upgrade works at the station which bought various improvements for passengers; this included new steps up to the station leading up from the Oxford Road, new LED lights around the station and enhanced CCTV for improved passenger safety.

We are already working with GWR and Reading Borough Council regarding their aspirations for Reading West; and are willing to work alongside both organisations to see further improvements made at the station as part of the second phase of the station upgrade.

Yours sincerely,

Mark Langman

Mark Langman FRICS
Wales and Western Managing Director