



Schedule 1:

The Project & Services

Title:

Bristol Temple Meads Station Enhancement

OP No. 105181

GRIP Stage 2

Development Manager

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1.1 Project Title

Bristol Temple Meads Station Enhancements - OP No. 105181

1.2 Key Personnel

The Network Rail main contact will be:

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1.3 Introduction to Fast Track Development for GRIP stages 1 – 3

There are a number of initiatives and changes occurring within the Enhancement directorate of Network Rail. The GRIP (Guide to Railway Investment Projects) manuals and documents are also undergoing some radical changes. This is not only to improve on current practices, but to tailor the process to the needs of Enhancement projects. These changes also aid timescale reductions.

One such change is to develop projects through the early GRIP stages (stages 1 – 3) as quick as possible. Terms such as Accelerated and Fast Track Development are used.

Whether projects are developed through accelerated or fast track methods, in essence conclude with a single option report containing the engineering/technical solutions backed up with drawings/sketches, project schedule, cost estimate, risks/uncertainties and assumptions.

The concept of the development initiatives offers a further substantial time reduction during GRIP stages 1 - 3 by focusing and arriving at decision points earlier to 'kill off' unsuitable options without committing to significant expense or long timescales.

The focus in GRIP stages 2 to 3 is to initially consider as many options as possible in order to derive at a value for money solution. Once the options have been captured and assessed, the single option to which the project is to progress will be shared and agreed with the key stakeholders.

During GRIP stages 2 to 3, investigations to define a single option will be undertaken as necessary. This may involve:

- site visits,
- workshops,
- dialogue with Network Rail Engineers, Operations and Maintenance to

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capitalise on current proposals and thinking,

The process is to get early buy-in from the key stakeholders.

1.4 Engineering resources

The key to the success of either Accelerated or Fast Track development is for Network Rail to manage and deliver GRIP stages 1 – 3. By utilising in-house architectural and engineering expertise as opposed to going out to a supplier reduces the time it currently takes in preparing tender document, tendering and contract award. Reductions are also made due to avoidance of rework that normally takes place to bring GRIP stages 2 to 3 to a successful conclusion.

Establishing a process for producing the engineering outputs, whilst being able to control the decision making process and reviewing the outputs is key to this initiative. For this process to work most efficiently it requires engineers to work closely, in fact be integrated, with the Network Rail Project Development team.

Following the concept of Accelerated Development for enhancements, the Western Territory Enhancement team are looking to employ expert architectural and engineering services from the supplier arena. This is required as there are insufficient engineers available within Network Rail at this time.

1.5 Background to Project

The project is funded by Network Rail.

Bristol Temple Meads Station is one of the busiest non-terminus railway stations within the UK. It is situated on the Great Western Main Line with around 35,000 passenger journeys taking place at the Station per day (c7.5m pa). It provides an interchange for train services from Birmingham, South Wales, Wiltshire, Dorset and London, serving destinations in the West Country. It also serves commuting passengers travelling to London from local residential areas and a contra-flow of passengers commuting to the commercial, employment and retail centres in Bristol.

During the past 10 years, the area outside the station has been substantially developed and existing proposals for future development of the immediate area surrounding the station are substantial. There has never been a better opportunity therefore to create a world class gateway to Bristol City Centre and an environment befitting of a proposed World Heritage Site.

Bristol Temple Meads Station has been identified by Network Rail as the 6th most congested Station on the network and has serious passenger congestion pinch points within the existing ticket hall, concourse, and access stairs to the subway underneath the platforms. Furthermore passenger volumes at Bristol are forecast to grow by up to 30% in the next 10 years, reflecting the growth of Bristol as a regional hub. One of the principal drivers for enhancing the station layout therefore is to improve the way in which passengers pass through the station so that congestion is reduced and overall access from the Station to the immediate environs surrounding the Station is improved.

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The original Station, which is located between the operating station and Templegate, was designed by Isambard Kingdom Brunel and now houses the British Empire & Commonwealth Museum (which is to close in Autumn 2008 and relocate to London). Adjoining this structure is the impressive Digby Wyatt Shed designed by Matthew Digby Wyatt. This area has been utilised for many years as a station car park which is inappropriate and degrading from an architectural perspective. One of the key objectives of the project for Network Rail is to consider relocation of car parking provision from the Digby Wyatt shed and utilise this architectural space for additional station facilities and retail.

This brief is split into four key sections at this stage and it is anticipated that each of these will be developed into more detailed functional specifications as the overall design progresses through the development stages. The sections are:

1. Key station design objectives
2. Passenger demand and capacity
3. Station planning and design standards
4. Station facility and accommodation requirements

1.6 Project Objective

1. Key Station Design Objectives

The high level objective of the proposal is to:

- Create a world class gateway to Bristol City centre and the wider Bristol area
- Blend the grade 1 listed Bristol Temple Meads station with the new Temple Quay development area and provide an enhanced environment befitting of a World Heritage Site.
- Design, develop and implement a scheme that will reduce station congestion, improve access and egress to the station and improve station facilities.
- Consider opportunities for alternative station access / egress to both the East and West side of the station
- Design, develop and implement a scheme to provide for enhanced passenger facilities and commercial / retail uses within the Digby Wyatt Shed and vacant space adjacent to the station forecourt & Digby Wyatt Shed
- Open up pedestrian links across the rail corridor connecting the residential areas to the east to the retail and commercial centre to the west, possibly utilising the former Post Office conveyor bridge at the London end of the station, and/or the various subways and archways beneath the station
- Improve the operational performance of the station
- Improve overall transport interchange facilities at Bristol including the station approach.
- Clearly state benefits from proposed 'Plot 6' development new car parking facilities therein and opportunities for change vehicle dynamics to the front of the station.

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2. Passenger Demand and Capacity

The feasibility proposal for the station must take into account the re-developments which are taking place outside the station area. This will undoubtedly lead to increased numbers of people accessing the station but is also likely to produce a re-orientation of how passengers wish to approach the station. Clearly these increasing numbers will also result in greater commercial opportunity for increased footfall in the future.

The re-developments include:

- a) The former Bath Road Locomotive Depot to the east of the station where there is currently no access
- b) The Media office site ie the former Post Office/Parcel Force Mail Sorting Office also to the east of the station. This may include in the future a conversion of the Post Office Conveyor which passes over Bristol Temple Meads Station for pedestrian use and also a potential boardwalk along the Floating Harbour which will link the site with Temple Quay 1. These projects, if completed, will impact on the passenger flows within the area adjacent to the station.
- c) The re-development of the area outside the station to the west. This is known as the Ballymore site and is currently occupied by Collett House, Herbert House and Bristol & Exeter house. Current plans will develop this area into mixed office and retail accommodation of around 300,000 ft².
- d) The re-development of land fronting the Floating Harbour next to Temple Quays and currently owned by South West Regional Development Agency (SWRDA).
- e) The Western Commercial Property team are progressing a Joint Venture with the South West Regional Development Agency (SWRDA) to dispose of the existing surface car park that lies immediately north of Bristol Temple Meads station. This will provide 522 replacement railway passenger and railway staff car parking spaces within a mixed use development comprising 177,500 sq ft office space, 67,000 sq ft Residential and 30,200 sq ft Retail. This is known as the "Plot 6" Property development.

The feasibility proposal must also take into account the following:

a) Passenger Flow Outside the Station

It is proposed that all private cars in future will access the station off Temple Gate/The Friary rather than from the front of the station. The project will need to identify ways to reduce congestion on the forecourt and reduce conflicts between vehicular movements to and from the car park and pedestrian traffic walking to and from the front of the station. This should include improvement of access/egress to and from the station using existing subways and passageways.

b) Passenger Flow Inside the Station

The passenger flow inside the station is particularly congested with arriving

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passengers being funnelled through a relatively narrow entrance way to access platforms past the ticket office and travel centre and towards those watching Customer Information Screens. This situation is exacerbated by the fact that platform access is not immediately apparent on arrival at the station, due to impaired visibility resulting from the structural stone columns between the entrance and platforms.

The situation is further compounded by the need to control access to the platforms by automatic ticket gates at the main entrance onto the platforms and the fact that passengers wishing to access the platforms do so via an underground walkway.

There is an existing Pedflow Study available which considered the constraints pertaining to the current method of station operation. A further Pedflow Study should be carried out to consider the existing and proposed flows external to the station demise.

c) The Digby Wyatt Shed

Originally added to Brunel's original terminus, is presently utilised as a station car park which is inappropriate and degrading from an architectural perspective. The feasibility proposal should include the 4,000 sq ft of the shed for the re-location of station facilities, retail and commercial use and/or for improvements to the existing ticket office and booking hall.

d) Dis-used offices

Various dis-used offices exist adjacent to the south side of the Digby Wyatt Shed (to the left on approach to the main station frontage). These offices remain within Network Rail ownership and offer an opportunity for various uses.

3. Station Planning and Design Standards

The railway agenda for the design of the station is as follows:

- a) The review and enhancement of passenger facilities within the station to provide facilities that are befitting of a World Class Station environment are key. Usage of the Digby Wyatt Shed for such purposes would greatly improve the ambience of the station, linking Temple Quay and The Friary to the main station buildings.
- b) A new station entrance to the west side of the station serving the former Arena site into the existing subway should be considered, but should be considered in tandem with proposals to open up alternative routes across the station to improve sufficient capacity for proposed passenger volumes exiting the station.
- c) The Avenue (area adjacent to the Panel Box, Digby Wyatt Shed and Platform 1) has potential to form a wider and better disposed entrance and exit route from the station towards the Digby Wyatt Shed and Temple quay. The width would lend itself to better access through the automatic ticket gates than the existing location and configuration which leads to

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poor circulation conditions for passenger flows. The study will also need to take into consideration the opportunities to alter the concourse adjacent to Platform 3 in order to facilitate escalator and better stair access to the subway.

- d) The station is one of the iconic railway stations nationally and is well known for the Gothic detailing of its exterior by Matthew Digby Wyatt. As a result of this legacy there are many opportunities and proposals to preserve, restore and enhance the heritage environment of the station through a Conservation Management Plan.
- e) The Panel Box is a significant operational building which is impacted by, and also impacts on, the opportunities for change within the station footprint. Whilst its style is at odds with the finer detailing of the rest of the station, it has to be considered for the long term and “future proofed” to ensure that all opportunities remain open for development in the future.

Whilst acknowledging the raft of technical standards that apply to new design, there are three industry documents that should be referred to early in the station developments process. These are:

- HMRI Railway Safety Principles and Guidance Part 2 Section B – Guidance on Stations
- Railway Group Standard GI/RT7014 –Infrastructure Requirements at Stations
- SRA Code of Practice – Train and Station Services for the Disabled (backed up by BS 8300)

Other standards are referred to in the Strategic Station Design Brief.

4. Station Facility and Accommodation Requirements

First Great Western have plans to refurbish the existing ticket office/travel centre within the current location in April 2009. If possible the ticket office should be incorporated into the feasibility proposals in its present location rather than being re-located.

The facilities provided at the station for the use of train crew are now inadequate with the number of train crew being around 400. There are currently locker room and mess facilities on Platforms 5 and 7 and also a similar facility on Platform 4 which is used by Virgin Trains staff. First Great Western would like to have double the amount of facilities which they currently have and provision for this should be included within the feasibility proposals.

Dependencies

The feasibility study will be working under the assumption that a Commercial Property Scheme (‘plot 6’) will be carried out prior to the station enhancements.

The results of Commercial Property scheme will change the usage of the current car park to the east of the station (not including the Digby Wyatt Shed) to office/retail use and the provision of a multi-storey car park. Alternative car parking may be provided elsewhere for Network Rail and Train Operating Company staff and some alterations

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will need to be made to the existing signal box to accommodate the multi-storey car park. Although this project is not within the scope of the station enhancement scheme, the feasibility study must take the dependencies into account.

Availability of Previous Studies

It is key to note that there have been several studies undertaken to consider a variety of station enhancements at Bristol and these include the following:

- SWRDA Temple Meads Area Development Framework
- Harrison Fraser “Station Retail Strategy” report commissioned by FGW
- Railtrack plc Masterplan Report
- Gillespies Development Feasibility Study for South West of England Regional Development Agency
- BTM Pedestrian and Cyclist Permeability Study
- Conservation Strategy – Feb 2 04 (CGMS Consulting)
- Babbie “Temple Meads Transport Study” May 2001
- British Empire and Commonwealth Museum Phase II Masterplan

These will need to be used as background information for the feasibility study, and are available for inspection at Temple Point, Bristol during the tender period to assist with understanding the level of new input required.

Notes of a site visit by Network Rail’s Senior Project Engineer are area attachment ‘A’ to this Scope document, and are provided to give some indication of possible solutions in some respects of this brief.

1.7 Stage Scope

The scope of GRIP Stage 2 is to produce a feasibility study following an initial assessment of available pre-feasibility information.

Using this information a GRIP Stage 2 Feasibility Study should be produced which will provide feasible options of delivering the objectives of the project as stated within this document.

The design team will be required to develop and produce outputs which equate with RIBA Stage B (Feasibility Proposals).

1.8 Stage Deliverables

The following deliverables should be produced as part of the study:

- Description of each outline option
- Outline plans, elevations and general sections at suitable scales for the content being conveyed of station options that show relationship and size for main station elements and how they integrate with the main infrastructure, public space planning and surrounding areas.
- Outline schedule of accommodation for all public, staff and commercial elements of the station.

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- Identification any key engineering requirements and/or restraints and assess impact, if any on design options
- Information for GRIP Stage 2 estimates
- Additional PedFlow Report for all the areas affected included in this study

The following outcomes are desired from this project:

- a) Option 1 – what can be achieved as a base case for £3m
- b) Option 2 – what can be achieved for £6m
- c) Option 3 – what can be achieved for £6 - £20m

The deliverables for this stage are known as ‘products’ and these have been identified under the Network Rail Investment Lifecycle GRIP (Guide to Railway Investment Projects)

There are three main products for this stage (GRIP stage 2) and include the following:

- Option Development Report
- Preliminary Design

High Level Option Assessment Report:

The High Level Option Assessment Report will be edited by the Network Rail Project Development Manager, who will draw on contributions from a number of Network Rail personnel, and the Supplier. The report will contain a number of GRIP products that may be produced separately but in this case have been included as appendices and summarised in the body of the report.

The Supplier will provide contributions to aid the successful completion of the Option Selection Report addressing the following key items:

- Input to risk assessments
- Input to safety considerations
- Input to environmental issues
- Input to the Delivery/possession strategy
- Input into constructability and railway possession requirements
- Input to the project plan
- Input into cost estimates
- Topographical survey as described in section 1.9, item 4 below

Preliminary Design:

- Develop Outline massing diagrams, CAD fly-through, plans, elevations and general sections at suitable scales for the content being conveyed of Station Options that shows relationship and size for main station elements and how they integrate with the main infrastructure, public space planning and surrounding areas.
- Outline Schedule of accommodation for all public, staff and commercial

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elements of the station options.

- Tracking diagrams to demonstrate the feasibility of required pedestrian and vehicle movements within the reconfigured forecourts,
- Assess the suitability of the design options to cater safely for forecast passenger demand, and thus pedestrian flows through the buildings, and to and from the platforms, (Network Rail will supply information on anticipated passenger numbers at no cost to the Supplier)

1.9 Supplementary Information

1. The supplier will be working under the direction of a Network Rail Project Development Manager and be considered as part of the project team to provide the required engineering inputs to the stage.
2. Day to day liaison with Network Rail by the supplier will be through a role termed as the 'Lead Engineer'. As this is an architecturally led project, the primary named person from the Supplier will be an Architect.
3. The Lead Engineer will need to draw upon additional resources as necessary in order to complete the outputs outlined in section 1. 8.
4. The Supplier shall endeavour to minimise effects on the signalling system. Signalling considerations shall be reported on, particularly effects on signal sighting, and the Supplier shall provide necessary documentation to describe signalling alterations (if needed), such as Scheme Sketches indicating the necessary additional, recovery of existing, and alterations to signalling equipment, such as signals, train detection equipment, cable routes etc.
5. A materials assessment shall be made to create a high quality public realm using materials acceptable to the rail industry and local design code and strategies
6. The Supplier is required to have an imaginative approach to the project, and must consider, in liaison with Network Rail, the full range of possible improvements to passenger circulation, including exploitation of entrances, stairways and passageways little used at present. The use of escalators for access to/from the subway is to be considered, including the necessary structural alterations.
7. Site visits are envisaged and safety arrangements will be managed and conducted by Network Rail. Network Rail will provide necessary site safety personnel, such as COSS and Lookouts, at no cost to the Supplier.
8. Network Rail will collate as much data as possible and will pass this information onto the supplier at contract award free of charge to the Supplier.
9. The Network Rail Project Development Manager will be responsible to produce the High Level Option Assessment Report. However the supplier will be expected to assist in a number of activities associated with completing this report as outlined in section 1.8.
10. The Supplier will be expected to complete the deliverables associated with the Preliminary Designs.

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11. Key stakeholders must be consulted to ensure the appropriate options have been derived. A list of stakeholders will be presented at the start up meeting.
12. Any proposed non-compliance with Railway Group or Network Rail Company Standards shall be discussed with the Network Rail.
13. The Supplier shall provide all necessary technical expertise to undertake the work described in this Scope, including all supporting roles such as Computer Aided Design (CAD) resources for production of drawings, and the Supplier's price must include for all such provision.
14. The Supplier shall base his plan drawings on Ordnance Survey data which Network Rail will provide at no cost to the Supplier.

1.10 Timescales

The High Level Option Assessment Report must be completed within the timescales detailed in the Appendix to NR3 contained in the Contract Arrangements.

The following **provisional** timescales apply:

Dates	Supplier Activity	Activity by Others
September 9 th	Start up meeting. Site visit preparation	Start up meeting. Site visit preparation
September 10 th to October 14 th	Data gathering, and working up initial plans of the options based on Ordnance Survey mapping data. Site Visit(s)	Network Rail liaison with Supplier as necessary
October 15 th	Workshop	Workshop
October 16 th to November 13 th	Revisions to initial option plans and massing diagrams taking account of comments by stakeholders at the workshop, utilising topographical survey data	Network Rail liaison with Supplier as necessary
November 14 th to 28 th	Supplier input to Report	Network Rail liaison with Supplier as necessary
December 1 st to 5 th	Responses to technical queries	Network Rail input to Report
December 8 th to 12 th .	Responses to technical queries	Network Rail to review, amend, and sign-off report

During the periods indicated above under 'Supplier Activity – responses to technical queries', it is anticipated that the Supplier will not be undertaking any design work, but the Supplier must be available to answer and clarify questions raised in relation to his design.

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1.11 Safety

Work undertaken on Network Rail land in connection with this project, including site visits, will be subjected to all the relevant Railway Group and Network Rail standards.

1.12 Changes to the work scope

Any changes made to this work scope will have its full impact assessed. Any time and cost implications will be mutually agreed between Network Rail and the supplier.

1.13 Completion and handover

A full presentation set of rendered plans, sections, elevations and visuals is to be provided for promotional purposes along with a PowerPoint presentation of the same and the CAD fly through for use in consultation and promotion of the project in the public domain.

Details of all project completion handover material and the necessary formats will be forwarded during the term of the project. It is to be expected that a formal handover of all material prepared including research undertaken, CAD models prepared, calculations, photographs, surveys etc will be made at the end of the project. All drawings shall be supplied in both hard copy, and electronic form, both pdf format, and original CAD format.

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Attachment A

BRISTOL TEMPLE MEADS FEASIBILITY WALK

Crowd Flow

Exit at existing locked arch 3.5m west of platform 2 side starts from subway. Would allow crowd segregation on stairs with up people directed to West stairs (hardly used at present) and down people using existing East stairs. Would double capacity on stairs, by using presently wasted space and allowing laminar flow. Difficulty is FGW need extra barrier staff, lack of retail opportunity! People would probably need to come up stairs turn left and then go into barriers from platform to avoid crushes at top of stairs but loads of space for barriers on platform if some bikes moved west. Alternatively could get 2 auto and one gate in arch. Plenty of room outside and deposits people close to Airport bus and taxis (not so good for service buses). OK for walk to main road not so good for Temple Quay.

Could do escalators by going up in the area North of the main subway (opposite the ladies toilets) and up parallel to the track, emerging between the coffee shop and the barrier. Would need to look very carefully at civil engineering difficulties – with cutting through the platform floor – subway roof. Cannot do up main steps because also bottom set of steps, so no good at 90° to subway (without demolishing/relocating both toilets and being a crowd point at the bottom. Could do straight up from floor level, through RailAir lounge but very disruptive (6 months) and wrong place for down people.

Could do third set steps by losing store room off both toilets (plus also losing part of toilets), but still not a solution, as no wider for bottom part of stairs (plus less landing), very disruptive.

Bikes, if platform would ease passage through gates (or separate gate for them?). Where else though? Covered car park?

Take corner of queuing system for TO, so people can get round left side of pillar easier to reach timetables, screens and gates.

Could put people through bricked up arch by RailAir, but no advantage.

Could put people through bricked up arch by Smiths, but no advantage, doesn't segregate stairs and loss of retail.

Temple Quay Access

Best answer is new screen in place of lower portion of screen between Merchantman and TO with wide access into platform and new ticket windows in lack of TO. (Don't know room layout inside so probably accommodate to relocate). Possibly no extra staff and still windows in secure area. Fenceline long between Merchantman and TO would allow customers to use existing barrier line slightly extended east. Signage on screen visible for Temple Quay plus proper architectural statement by high standard screen.

Could replace existing chopped off arch on end if Digby Wyatt shed and put signage here, but probably no benefit.

Appears there were ticket windows behind phones in narrow bit of existing by through way from TO to Temple Quay. Disadvantages are narrow space, extra staff, no secure area and phones relocation

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(but could easily go into Digby Wyatt with clear signage).

Could easily double opening door width on this passage by putting sliding doors just past arch (into high level car park) rather than losing 50% arch width for door opening.

Need to more fire exit stairs from top floor. Check if necessary now under Fire Regulations?

Retail Fish Dock

I didn't see easy opportunities to direct crowds into this area.

Walking route off end of Platform 2 (would this need new Operating instructions for P2 and Motors/Dock) or would it need white lights (expensive).

Can x cars get on this area? 30 cars?

Lighting needs re fitting

Temp or perm? Could be perm

Multi Storey Car Park

Didn't understand footprint

If high level siding to be slewed north, this blocks track access and train route. South needs reserved area (fenced) to be used (who is this for?) and track on major (?) UTX pit.