MetroWest

METROWEST PHASE 1

OUTLINE BUSINESS CASE

Chapter 4 Commercial Case

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Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

December 2017

Chapter 4: Commercial Case

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CHAPTER 4

Commercial Case

4.1 Introduction

MetroWest Phase 1 is a third party local rail scheme promoted by the West of England Authorities, led by North Somerset Council. The scheme estimated capital out-turn cost is £106M. The scheme forms part of the MetroWest Programme which currently comprises:

- the MetroWest Phase 1 scheme,
- the MetroWest Phase 2 scheme,
- the Portway Park & Ride station scheme,
- a range of new station/re-opening schemes, subject to separate business cases and smaller scale localised enhancement schemes

MetroWest Phase 1 will deliver a strategic enhancement to the West of England local rail network. The scheme will increase the UK passenger rail network by 14 kilometres, deliver two new stations and enhance the service frequency for 16 existing stations, across three local lines. The scope of MetroWest Phase 1 includes the delivery of infrastructure and passenger train operations to provide:

- a half hourly service for the Severn Beach Line (hourly for St. Andrews Road station and Severn Beach station);
- a half hourly service for Keynsham and Oldfield Park stations on the Bath Spa to Bristol Line; and
- an hourly service (or an hourly service plus) for a reopened Portishead Line with new stations at Portishead and Pill.

The current MetroWest Programme is planned to be delivered by 2021, with an estimated total capital cost of over £150M, for delivery during the early stages of Control Period 6 (2019-2024). Further projects are expected to be added to the MetroWest programme in due course, potentially establishing a medium term investment programme.

The scope of MetroWest Phase 1 has been managed carefully by the Authorities and while the original scope included two trains per hour across the three rail corridors, due to cost increases for the works to the Portishead Line, the scope has been revised to deliver one train per hour for the Portishead Line. Passive provision has been allowed for to add in additional stations at a later stage, eg Ashton Gate station subject to a separate business case and funding approval. Train path modelling has confirmed that three additional train sets are required to operate the MetroWest Phase 1 train service. A Rail Demand Model has produced forecast passenger demand (see chapter 2 Economic Case) output and this has informed the scheme operational revenue profile (see chapter 5 Finance Case). The revenue performance of the scheme is very positive, with a forecast revenue surplus from year 6, increasing year on year. The timescales for delivering the scheme are set out in chapter 3 Management Case.

The wider context informing the scheme Commercial Case is the experience and lessons from the delivery of current Network Rail schemes across the Western Route, in Control Period 5. The Western Route has seen the largest investment to modernise the route since it was built 175 years ago. There have been many delivery successes with schemes delivered on time, on specification and on budget. There has also been challenges with particular schemes, most notably the electrification of the Great Western Main Line in respect of cost escalation. Cost escalation has become a wider issue in the rail

industry and this is something that MetroWest Phase 1 needs to address in this Commercial Strategy / Case as a third party rail scheme.

Therefore the primary driver of this Commercial Strategy / Case is to achieve cost certainty, within the affordability envelope of the Authorities. In other words cost certainty is very important to the Authorities but achieving certainty should not be at the expense of increasing the total cost of the scheme. For example one way of achieving greater cost certainty would be to load up the risk budget above the QCRA P80 output, however clearly such an approach would be a departure from first principles and would invite inherent inefficiency in the delivery of the scheme. It would also raise value for money issues for the Authorities. Therefore the focus of the Authorities in achieving cost certainty is to examine opportunities for organisational and delivery efficiency and to identify the most appropriate mechanisms for contractualising these delivery arrangements.

The Hansford Review which reported in July 2017, recognised a need for Network Rail to change its approach to working with third party promoters to fully achieve an 'open for business' mind-set and facilitate more third party investment in the network. It makes a number of recommendations with the most relevant relating to appropriate risk sharing. The Network Rail response to the Hansford Report States: *"One of the deterrents to investment in the railway is the degree of risk that can be realistically borne by a third party. We will clarify what risks can be excluded by a third party and assess where Network Rail alone is in a position to bear certain risks. We also expect certain risks can in future be transferred to the insurance markets rather than being ultimately borne by Network Rail or the third party and already have products in place to support this."*

MetroWest Phase 1 has just completed GRIP 3 AIP with GRIP 4 programmed to be completed by summer 2018. The GRIP 5 invitation to tender is programmed to be issued in autumn 2018 with the GRIP 5 contractor appointed in spring 2019. This Commercial Case sets out two principle options for packaging the construction works and sub-options for contractualising these packages. In parallel with this discussions are taking place at director level between the Authorities and Network Rail regarding the potential to achieve better integration between the two organisations in the context of delivering the current MetroWest Programme and potentially moving to a rolling medium term investment programme. These discussions include agreement to set up a joint Programme Management Organisation (PMO), initially informally but possibly formally at a later stage. This forms part of a strategy to capture wider opportunities and benefits through an alliancing approach for contractualising the delivery arrangements for GRIP 4, GRIP 5 and the construction phase at GRIP6 to scheme completion.

4.2 Procurement / Contractual Strategy

The scheme procurement essentially comprises of three main elements:

a) Procurement / delivery of professional services pre-construction
b) Procurement / delivery of the Train Operator and service
c) Procurement / delivery of construction works

4.2.1 Procurement / Delivery of Professional Services Pre-construction

The arrangements for the procurement / delivery of professional services pre-construction comprise of a mixture of specific competitively tendered OJEU contracts, the use of competitively tendered OJEU framework contracts and the direct commissioning of Network Rail for GRIP 1-4 as the system operator. Commissioning of Network Rail has been undertake via an exemption from Council Contract Standing Orders, on the basis that Network Rail are the system operator and need to have oversight of the work and furthermore that Network Rail are subject to competitive tendering as a publically owned and operated organisation.

As set out in 4.1 above, the Authorities and Network Rail have agreed to set up a joint Programme Management Organisation (PMO), initially informally but possibly formally at a later stage. This forms part of a strategy to capture wider opportunities and benefits through an alliancing approach for contractualising the delivery arrangements for GRIP 4, GRIP 5 and the construction phase at GRIP 6 to scheme completion.

4.2.2 Procurement / Delivery of the Train Operator and Service

The arrangements for the procurement / delivery of the train operator & service are set out in chapter 5 Financial Case. The DfT Rail Executive has set out the key priorities for the Great Western Franchise in the Great Western Rail Franchise - Public Consultation, Nov 2017 document. In chapter 4, para 4.4 states:

"MetroWest: A scheme being promoted by the West of England, to provide half hourly services at most stations in the Bristol area, as well as restoring passenger services to Portishead and opening other new stations. Subject to the local promoters deciding to proceed with this scheme, we will work with them to deliver the planned service enhancements. We are also examining the potential for the new MetroWest service to be extended beyond their currently planned termini, to serve Gloucester and Westbury. We will request proposals from the current franchisee to source the additional rolling stock that such extensions would require."

The MetroWest Phase 1 train service is forecast to generate significant revenue surpluses, refer to section 5.1.3 of the Financial Case. The forecast revenue surplus generated by the scheme's train service demonstrates that should the service be included in the Great Western Franchise it would result in a net positive financial impact for the franchise. However, this net positive financial impact only arises from the delivery of the scheme infrastructure which is being delivered by the Authorities who are taking all the delivery risk as a third party promoter. Therefore the authorities wish to explore further with the DfT Rail Executive the most appropriate delivery arrangement for the procurement and contractualisation of the train service.

4.2.3 Procurement / Delivery of Construction Works

The arrangements for the procurement / delivery of construction works form the main focus of this Commercial Case. Before considering the commercial and contractual delivery options, the scheme context firstly needs to be understood. The scheme essentially comprises of three main elements of works (three self-defined packages):

- the highway works
- the dis-used rail line (civil engineering works)
- the operational railway (across the three rail corridors)

4.2.3.1 The Highway Works

The highway works are relatively modest works and are the type of works that the Authorities deliver across the local highway network on a routine basis. Some of the highway works will need to be delivered early in the construction phase, such as the realignment of Quays Avenue in Portishead, as this provides essential access for installation of Trinity School footbridge and construction of Portishead rail station. This key programme interface is a key consideration for the commercial and contractual approach for delivering these highway works. The highway works also include construction of the station car parks, comprising of two car parks for Portishead station and one car park for Pill station.

4.2.3.2 The Dis-used Railway (civil engineering works)

The works to dis-used railway are predominately civil engineering works, followed by a relatively small amount of specific railway infrastructure/systems works, in order to re-open the line. The civil engineering works in summary entails:

- creation of construction compounds/permanent maintenance compounds and construction haul route
- removing the 4.7km of old track formation
- digging out the railway ditches and old ballast
- replacing culverts
- repairs to road overbridges and other structures
- works to pedestrian & cycle paths and bridleways
- installation of a footbridge
- construction of a rail station platform and building
- minor utility diversion and drainage works
- installing geo-tech material and laying 4.7 km of new ballast
- environmental mitigation works

The dis-used line has good highway access and because it's disused there are no line possession access constraints. Network Rail have advised that these works would lend themselves to be undertaken by tier three contractors and could in fact be undertaken by non-railway civil engineering contractors (the works are effectively a high street contractor environment). These civil engineering works would deliver a re-built 4.7 km railway alignment up to top ballast level along with a new Portishead rail station, comprising platform and building. These works would be inspected by and then handed over to Network Rail, who would take responsibility to deliver:

- 4.7km of new track formation (sleepers and track) via use of a High Output Train (HOT)
- Install the GSMR communications and electrical equipment at Portishead rail station

Note there is no signalling equipment or systems to be installed on the 4.7km alignment to Portishead, the nearest signalling interface is at Pill station and Pill Junction on the existing operational railway.

4.2.3.3 The Operational Railway (across the three rail corridors)

The works to the operational railway entail a combination of civil engineering and railway infrastructure and systems in the context of an operational railway. The vast majority of the works are works to the existing Portbury Freight Line (which forms part of the Portishead Line), with minor works at Parson Street Junction, Parson Street station, Bedminster, Avonmouth/Severn Beach and Bathhampton.

Access to the Portbury Freight Line is constrained by the current freight train operations, and the relatively poor highway access. There are also significant environmental constraints where the line passes through Avon Gorge. Network Rail have advised that the works to the operational railway will need to be undertaken by tier two (or tier one) rail contractors, and managed by them (Network Rail).

4.3 Procurement Options/ Packages

4.3.1 Design & Construction Delivery Route

The Preliminary Business Case, identified the high level design and construction delivery route as follows:

- Scheme feasibility (GRIP 1 & 2) through direct procurement of Network Rail via a Basic Services Agreement with the Authorities
- Approval in Principle (AIP) design (GRIP 3 & 4) through direct procurement of Network Rail via a Development Services Agreement with the Authorities
- Design & Build contract (GRIP 5 - 8) split into two parts, to be tendered and awarded by Network Rail, via an Implementation Agreement with the Authorities:
    - Part A) Detail Design GRIP5 only with an option to extend to GRIP 6 - 8
    - Part B) Construction, Testing Commissioning, Scheme Handback, Project Close GRIP 6 -8 (award of Part B is subject receipt of powers to build and operate and Full Business Case approval)

The Implementation Agreement will be either a 'Fixed Price' or an 'Emerging Cost' agreement. Early discussion on the Implementation Agreement have commenced with Network Rail. A key aspect of this is agreement on the balance of risk between the promoter (the Authorities) and Network Rail. While a 'Fixed Price' agreement, entails a premium above an 'Emerging Cost' agreement, the Authorities preference is to achieve cost certainty and this suggested opting for the 'Fixed Price'.

Design & build is usually packaged as either GRIP 5 to 8, or GRIP 4 to 8, and remains standard practice in the rail industry. The main advantage is that this approach brings a construction contractor on-board with the scheme at an early enough stage to have some influence on the Detailed Design and drive construction efficiencies. A construction contractor, will often be able to identify alternative construction methodologies and also where appropriate challenge Network Rail standards, to aid the efficient delivery of the scheme. This approach also has the advantage of the contractor taking the contractual responsibility for the Detailed Design.

4.3.2 Contract Packages

The Preliminary Business Case set out two main options for the Design & Build approach either one single contract for the entire scheme or two contracts; one for the operational railway procurement and managed by Network Rail and one contract for the dis-used railway procured and managed by the Authorities. These two options and sub-options are considered further in this Commercial Case.

As set out in section 4.2 the scheme essentially comprises of three main elements of works (three self-defined packages):

- the highway works
- the dis-used railway (civil engineering works)
- the operational railway (across the three rail corridors)

The organisation of these three packages and the contracting / commercial arrangements give rise to two main procurement options which are shown in Figure 4.1.

4.3.3 Procurement Opportunities & Options

Figure 4.1 - Main Procurement Options

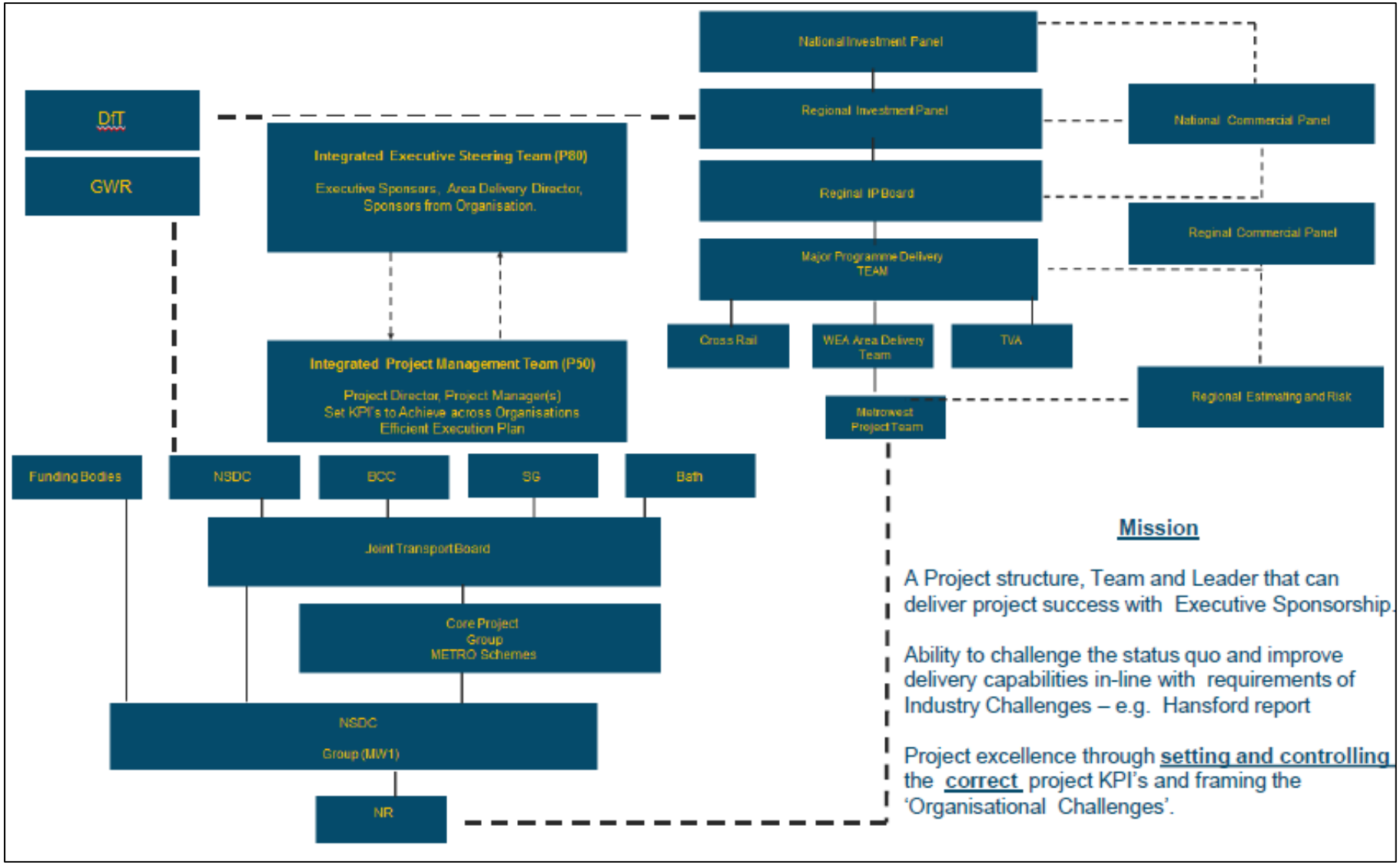
[1] Except delivering the new track formation and install the GSMR communications and electrical equipment at Portishead rail station

[2] Including delivering the new track formation and install the GSMR communications and electrical equipment at Portishead rail station

4.3.4 Programme Management Organisation (PMO)

As set out in 4.1, the Authorities and Network Rail have agreed to set up a joint Programme Management Organisation (PMO), initially informally but possibly formally at a later stage. The PMO is being set up irrespective of which of the two procurement options is taken forward. The driving purpose of the PMO is to achieve cost reduction, achieve cost certainty for the scheme and establish a better balance of risk between the client (the Authorities) and Network Rail. A PMO charter is being scoped and will set out the critical success factors along with a range of specific targets focused on cost reduction. The PMO when in place in early 2018 will report to an Integrated Executive Steering Team comprising Executive sponsors and Executive representatives from the partner organisations. Figure 4.1 shows how the PMO will fit into the existing governance structure, improving influence and efficiency. The establishment of the PMO also forms part of a strategy to capture wider opportunities and benefits through a wider alliancing approach for contractualising the delivery arrangements for GRIP 4, GRIP5 and the construction phase at GRIP6 to scheme completion.

Figure 4.2 - Proposed PMO Governance Structure



4.3.5 Alliancing

Alliancing has been successful in reducing delivery hurdles and costs within the rail industry most notably between Network Rail and the TfGM MetroLink and the TfL enhancements to the London Overground network, to deliver infrastructure enhancements. Network Rail has also entered into various successful alliances with train operators where the focus has been to bring the operation of the trains and the track closer together to yield service performance and other benefits for the end users, rail customers. Network Rail's policy statement on alliancing is attached in appendix 4.1.

Alliancing is most effective where the parties to it have a medium to long term relationship, whereby they are motivated to effect internal change in return for a medium to long term gain. While MetroWest Phase 1 is not a medium term investment on its own, the MetroWest Programme together with additional MetroWest schemes that will emerge in response to the West of England housing and employment growth agenda, will create a medium term investment based relationship. This medium term investment together with the wider devolution agenda, will increase the focus on alliancing based delivery models.

Procurement option 2 set out in Figure 4.1 represents a first step towards an alliancing based approach. A more radical option that has been considered would be to set up a horizontal and vertical alliancing delivery model including close working between the Authorities, Network Rail and a contractor/s, in the context of delivering a third party scheme. This approach may be feasible in the future as experience of alliancing is gained by the industry, however it would not be suitable for MetroWest Phase 1 because there isn't sufficient time available within the scheme programme, furthermore the untested nature of this approach would potentially increase risk in the short term.

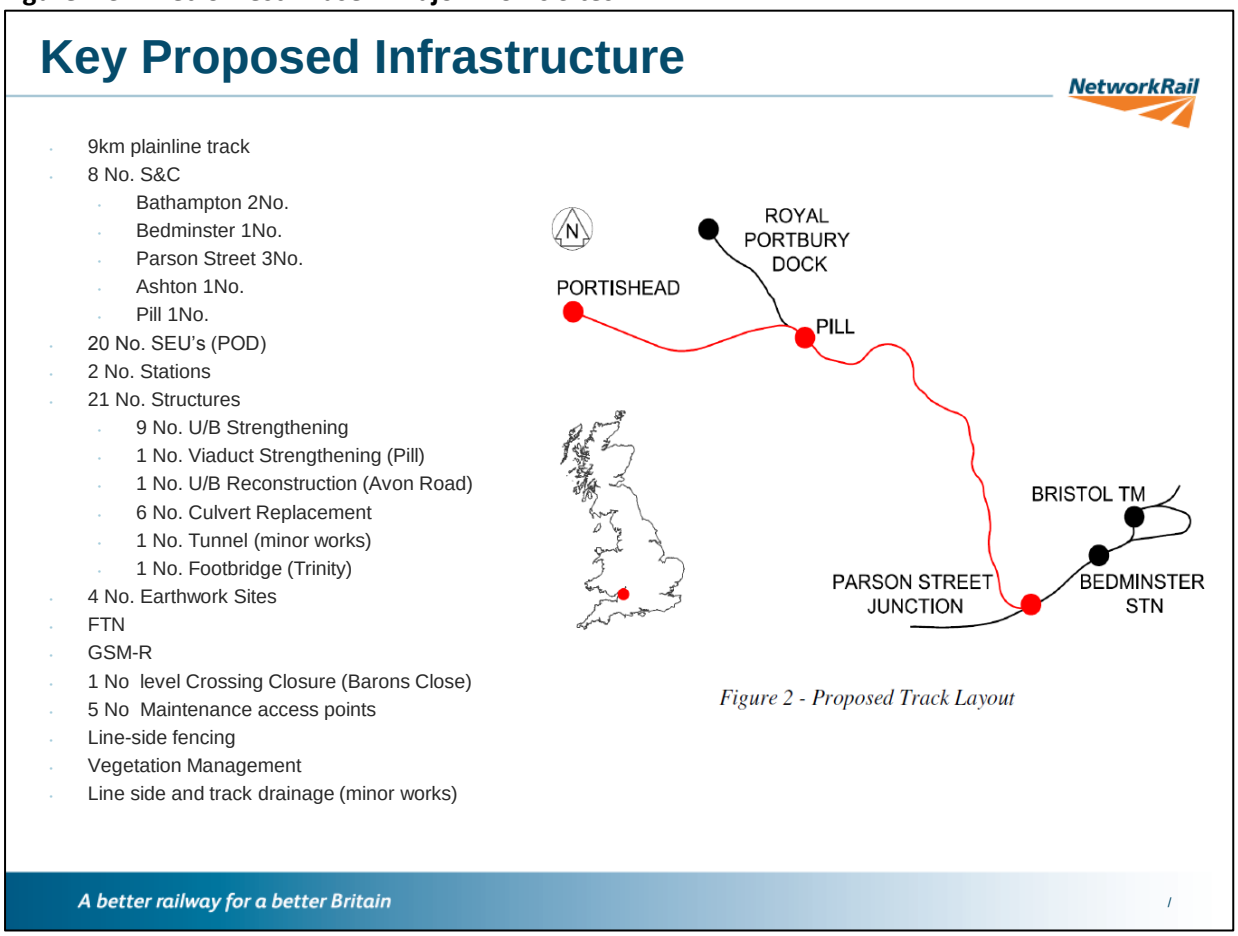
4.3.6 Hub & Spoke Contracting Option

Network Rail are increasingly utilising the hub and spoke contractual option in favour of a using a principle contractor. The principle contractor route can create management issues for Network Rail where the principle contractor sub-contracts multiple parts of the works. In the context of a busy operational railway this can create issues for Network Rail such that it effectively has to step in and manage the sub-contractors but without having a direct contractual relationship. In this situation it is also not cost efficient as the main contractor's overheads and profit margin add to costs that otherwise would not be incurred.

The hub and spoke approach separates the works into smaller packages that are typically more attractive to tier three contractors and this in turn stimulates competition in the market and leads to more competitive contract prices. It can also result in a wider pool of smaller contractors, effectively increasing contractor capacity by enabling multiple work sites concurrently where this is needed. While it requires management of multiple contractors by Network Rail this has not generally been an issue because as the system operator Network Rail has to manage multiple contractors on a daily basis.

For the operational railway package of works, a further consideration is the scheme major works sites comprise of a number of separate sites several kilometres apart which reduces contractor to contractor interface issues and provides more opportunity to award smaller contracts geographically. For the dis-used line package of works a hub and spoke contracting approach may not be the best approach because the works are essentially 4.7km of continuous works which doesn't lend itself to being separated into sub-packages very easily, while also creating some contractor to contractor interfaces issues. The scheme proposed infrastructure is shown in Figure 4.3 below. Note for simplicity Bathampton turnback and Avonmouth/Severn Beach signalling is not shown on the plan but the infrastructure is included in the list on the left of the plan.

Figure 4.3 - MetroWest Phase 1 Major Works Sites



4.3.7 Procurement / Contract Options for the Dis-used Railway Works & Operational Railway Works

The main procurement and contract options are set out in the Table 4.1.

Table 4.1 - Main Procurement & Contract Options for the Dis-used Railway & Operational Railway

Agreement	Client	Delivery Organisation	Contracting Organisation
Asset Protection Agreement	Local Authority remains overall scheme client and delivery client for works it tenders: • dis-used railway only	LA supported by the PMO	OJEU Procured Contractors - principle contractor
			Local Authority Framework Contractors – principle contractor
Implementation Agreement either 'Fixed Price' or 'Emerging Cost'	Network Rail Western Route becomes delivery client for works it tenders: • operational railway only or • dis-used railway and operational railway	Network Rail Infrastructure Projects (NRIP) – Hub and Spoke Delivery	Network Rail Framework Contractors – Hub and Spoke Model
			OJEU Procured Contractors – Hub and Spoke Model
		OJEU Procured Alliance (Network Rail / Contractor vertical alliance)	

4.3.8 Procurement Decision Making

MetroWest Phase 1 has just completed GRIP 3 AIP with GRIP 4 programmed to be completed by summer 2018. The GRIP 5 invitation to tender is programmed to be issued in autumn 2018 with the GRIP 5 contractor appointed in spring 2019. A decision on which of the two main procurement options is to be taken forward, will need to be made by spring 2018. This timescale aligns with both the GRIP process and also the Development Consent Order application (for powers to build and operate the scheme). While taking a decision now (December 2017) would be premature, the Authorities recognise that they will need conclude their position and make a decision in the coming months, no later than spring 2018. Table 4.2 sets out the main advantages and dis-advantages of the two procurement options.

Table 4.2 – Advantages and Dis-advantages of the Procurement Options

Procurement Approach	Advantages	Dis-advantages
Option 1 Single combined GRIP 5-8 design & build contract procured by Network Rail, via an Implementation Agreement with the Authorities and a separate minor build only contract for the Highway Works, procured by NSC	Integrated approach, providing a simplified programme management interface. Greater certainty that the as built assets will be accepted by Network Rail into the national rail network. Low delivery risk with procurement and construction led by Network Rail, which is their core business as the system operator Simplified arrangements for dis-charging planning conditions Simplified interfaces for contractor insurance arrangements, Health & Safety / CDM	Possibility of Network Rail over specifying the engineering design and construction requirements, leading to higher costs, driven by desire to minimise future infrastructure maintenance cost. However, this issue will need to be managed regardless of the procurement approach because Network Rail technical approval is required for GRIP 5 to 8 sign off. The Authorities have very little control over the final cost of the scheme, but all the risk lies with the Authorities. The Network Rail Industry & Fee Fund will apply to the whole scheme, increasing the cost of the scheme by £M's
Option 2 Two separate GRIP 5-8 design & build contracts: i) the dis-used railway and highway works, and ii) the operational railway where i) is procured directly by the Authorities (supported by the PMO) and ii) is procured by Network Rail via an Implementation Agreement with the Authorities	Potential to use lower cost tier three contractors for the civil engineering works for the dis-used line and potentially more competitive tender prices. Potential for reduced construction cost through contactor innovation, due to direct engagement between the Authorities and the contractor for the dis-used line works. Potential to reduce the total sum paid to the Network Rail Industry & Fee Fund. Potential for better cost control and risk management for the Authorities, as they would be managing contractors directly for the works to the dis-used line.	Use of multiple contractors could increase programme risks. More complex contractor management arrangements required. Greater potential for accountability issues and contractual dis-agreement. Potential for additional costs to be imposed on the Authorities at GRIP stage 7 Handback, if there are issues with the acceptance of assets by Network Rail i.e. quality of the contractor workmanship.

4.4 Summary of Commercial Case

In summary:

- the scope of the scheme works are clearly defined based on a GRIP3 Approval in Principle design
- the scheme procurement requirements are properly understood and have been clearly defined comprising of three key procurement elements
- a joint programme management organisation is being set up by the Authorities and Network Rail
- there is a genuine desire for more collaborative working between the partner organisations, learning lessons from other schemes, utilising best industry practices and making use of new opportunities such as taking an alliancing approach to delivery
- the arrangements for procurement of professional services for the pre-construction phase are sound
- the options for the procurement of the train operator/service are being considered by the DfT Rail Executive in light of the significant forecast revenue surpluses generated by the scheme.
- the procurement of the construction works entail three self-selecting packages; highway works, dis-used railway works and operational railway works
- there are two main procurement options for the organisation and contratualisation of these packages
- the advantages and dis-advantages of the two options are currently being considered in detail, and
- a clear path for procurement decision making has been identified