MetroWest

METROWEST PHASE 1
OUTLINE BUSINESS CASE

Chapter 3 Management Case

December 2017

travelwest

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

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3.1 Introduction

This section sets out how the West of England authorities propose to deliver MetroWest Phase 1. It explains:

- The **capability and capacity** of the four authorities to deliver the scheme, drawing on evidence from other similar projects
- How plans for MetroWest Phase 1 take account of **dependencies** on other projects, decisions and deliverables
- Arrangements for project **governance**, including organisational structure and allocation of roles and decision-making powers
- The project **programme**, which has been carefully planned to ensure that it is realistic and deliverable
- The process being used to ensure that all the necessary **assurance and approvals** are obtained in a timely and efficient manner, and associated **reporting**
- The strategy for effective communication and **stakeholder management**
- The strategy and approach adopted to ensure effective **risk management**
- MetroWest is an exciting and ambitious project which will transform rail services across Bristol. The four authorities, as joint promoters of the scheme, are confident that they have the resource, capability and systems required to deliver this project successfully, to time and on budget.
- The authorities have a track record of delivering major transport schemes, and will draw on this experience for this project. They have already developed strong working relationships with external stakeholders, notably Network Rail, who can help make this project a success.

3.2 Outline Engineering Design AIP

The scheme requirements from GRIP 3 and outline Highways Design are set out below. The GRIP 3 Approval in Principle (AIP) engineering design details the outline design (option selection) for the scheme. The work undertaken at GRIP3 provides the technical information to support the option selection for re-opening the Portishead line for an hourly or hourly plus passenger service and for an enhanced (half hourly service) for the Severn Beach and Bath to Bristol lines. This has included network capability analysis (RAILSYS train path modelling) of the three lines which has informed the infrastructure requirements for the outline engineering design. The capability analysis has paid due cognisance to maintaining the existing freight path commercial rights.

Over 300 deliverables have been produced for GRIP 3 AIP by Network Rail and ARUP. This includes a GRIP 3 Option Selection Report, Construction Strategy, Ancillary Civils Drawings, Structures Assessments, Geo-Technical Assessment, Track Drainage Report, and Earthworks Reports. Attached in Appendix 3.1 is the full list of reports that had been produced. A number of engineering drawings have also been produced by CH2M showing highway and permanent compound designs. Interdisicplinary Review meetings took place throughout GRIP 3 both internally within Network Rail across their eight engineering disaplines and externally with CH2M to ensure technical interface between the Highways Design and Railway Design.

3.2.1 The Infrastructure required for the MetroWest Phase 1 Scheme

Table 3.1 Summary of Scheme Infrastructure Works

Description	Development Consent	Rail Corridor
5.45km of new permanent way and civil engineering works to the railway from Portishead to Pill, of which 4.7km is reconstruction of dis-used railway and 0.75km is new track through Pill village parallel to the operational railway and extinguishment of accommodation crossings	DCO	Portishead Line
Portishead station including platform, station building, forecourt, car parks and highway alterations	DCO	Portishead Line
A fully accessible footbridge linking to Trinity Primary School	DCO	Portishead Line
Three permanent maintenance compounds, various highway access points for the railway and temporary and permanent traffic regulation orders	DCO	Portishead Line
Minor alterations to the bridleway / National Cycle Network route 26 between Portbury and Pill including an extension north of the M5 underbridge to connect with Pill village	DCO	Portishead Line
Replacing the existing rail bridge over the Avon Road / Lodway Close pedestrian and cycle underpass in Pill with a wider bridge to support a new double track section of railway, and embankment works	DCO	Portishead Line
Pill station on the site of the existing disused southern platform, with new access ramp, passenger shelter, forecourt and car park located on Monmouth Road	DCO	Portishead Line
Double tracking works through Pill with a new railway Junction (Pill	DCO	Portishead

Junction) east of Pill Viaduct		Line
Temporary diversion of National Cycle Network Route 26 between Marsh Lane and Pill, and Route 41 between Pill and Avonmouth during construction	DCO	Portishead Line
Minor works within the Avon Gorge to upgrade the Portbury freight line for passenger services including	DCO	Portishead Line
Replacement of sections of track, sleepers, and ballast; minor works to bridges and structures; and minor	DCO	Portishead Line
Minor modifications to the vertical and horizontal alignment of the railway (Portbury freight line)	DCO	Portishead Line
New signalling and lineside equipment; and new telecommunications including a GSMR (radio communications) mast in Avon Gorge, with repeater aerials at Pill Tunnel and Portishead station	DCO	Portishead Line
Ashton Junction (Ashton Vale Road) highway level crossing will remain operational. The level crossing equipment may be replaced. No alterations will be undertaken to the level crossing itself. To reduce the highway impacts of increased use of the crossing, the left hand lane on Winterstoke Road will be extended, traffic signals optimised, and a ramp constructed to the north of the level crossing to connect pedestrians and cyclists from Ashton Vale Road to Ashton Road	DCO	Portishead Line
Ashton Containers (Barons Close) pedestrian crossing will be closed permanently, with the public right of way diverted north using a new path under construction by the MetroBus Project. This will connect to a new pedestrian and cycle ramp parallel to the railway linking Ashton Vale Road to Ashton Road	DCO	Portishead Line
Landscaping, fencing and environmental mitigation works.	DCO	Portishead Line
Liberty Lane Freight Depot – a buffer stop and trap points are required at the depot entrance	Permitted Development Rights	Portishead Line
Parson Street Junction – partial junction renewal and upgrade of some signalling equipment	Permitted Development Rights	Portishead Line
Parson Street Station – minor platform and drainage works are required to bring platform 3 back into use	Permitted Development Rights	Portishead Line
Bedminster Down Relief Line – works will include the construction of a new crossover (turnout), renewal of approximately 1 km of track on the Down Carriage Line and associated signalling to enable the regulation of freight trains before entering the branch line	Permitted Development Rights	Portishead Line

Avonmouth and Severn Beach signalling – minor signalling works are required to enable a longer layover period for passenger trains at Avonmouth and Severn Beach stations	Permitted Development Rights	Severn Beach Line
Bathampton Turnback – a new crossover between the existing Up line to London and the Down line to Bristol allowing trains terminating at Bath Spa (from Bristol) to reverse at Bathampton	Permitted Development Rights	Bath Spa to Bristol Line

Note: DCO – Development Consent Order

3.2.2 Accessibility

Both Portishead and Pill Station have been designed to the Design Standards for Accessible Railway Stations (March, 2015), which set out the standards Network Rail and train operating companies (TOCs) must comply with. Appendix 3.2 is a summary of sloped ramp / path measurements and features.

A draft Equality Impact Assement (EqIA) has been produced for the Scheme. As part of the Stage 2, Section 42 consultation EqIA organisations, those with protected characteristics e.g schools, the local councils equalities officers and the general public have been engaged / consulted with on the EqIA and scheme. Their feedback will feed into the final EqIA to be submitted with the Development Consent Order (DCO). The draft EqIA is appended at 3.3. A Network Rail Diversity Impact Assessment will be undertaken for Portishead Station, Pill Station, Trinity School Footbridge and the Ashton Vale Road ramp being constructed for the Scheme.

3.2.3 Conclusion

In conclusion the GRIP3 Approval in Principle (AIP) design and highways design has resulted in extensive deliverables that set out in detail what is required to construct and deliver the scheme. The GRIP 3 Option Selection Report sets out the technal options condsidered leading into the single option taken to AIP design. GRIP Stage 4 (Detailed Option Development) is due to begin in February 2018 and be completed by September 2018.

3.3 Evidence of Similar Projects

The West of England authorities, both individually and collectively, have a proven track record of delivering major transport infrastructure including:

- Weston Package
- Cycling City
- Greater Bristol Bus Network (GBBN)
- Local Sustainable Transport Fund (LSTF)
- Bath Package

These projects were complex and demanding and required new ways of working across the authorities and with stakeholders.

Through the Cycling City project, Bristol and South Gloucestershire Councils have delivered £11.4 million of government funding, along with £13.9 million of locally matched investment, on time and on budget. This delivery has included 102.5 miles of cycle paths and routes, either upgraded, improved or built from scratch as part of 35 different infrastructure projects.

GBBN was a £70 million project and included new bus priority measures, improved shelters, real-time information and new buses.

Weston Package was a £15million scheme to improve traffic flows around Weston-super-Mare and reduce congestion at junction 21 of the M5. As a 'package' it included, improvements to a motorway junction, duelling of a carriageway, new car park, new bus interchange and bus priority lanes. The package was delivered ahead of programme and under budget. A Ministerial launch took place in February 2014. Weston Package has provided benefits such as large reductions in congestion and queuing at Junction 21 of the M5 and across the town.

Worle Station Bus Interchange and Carpark

LSTF – WEST. The scheme included cycling and walking infrastructure improvements, public consultation, marketing of sustainable transport and engagement with businesses.

Bath Transportation Package – The scheme was completed in 2015 it included increasing Park and Ride capacity and improving waiting facilities at Bath's 3 Park and Ride sites, bus route improvements, improving transport flows and creating better pedestrian areas.

The West of England authorities are currently managing around £300 million worth of major schemes. Recent schemes relevant to the MetroWest Phase 1 scheme are:

MetroBus - South Bristol Link (SBL)- The scheme is 4.5km of new carriageway and bus infrastructure with parallel cycle and pedestrian infrastructure, including significant new roundabouts on the A370 and A38 and a new road bridge under a mainline railway. The total scheme cost was £43.3m with a

South Bristol Link

64% contribution from DfT (Major Schemes). The scheme has been delivered on time and on budget. A Ministerial opening took place in January 2017. SBL won at the CIHT Southwest Regional Awards 2017, Transport Project of the Year.

MetroBus -Ashton Vale to Temple Meads and North Fringe to Hengrove Package schemes. Both of these schemes are nearing the end of construction. The first MetroBus services will start operating in early 2018 from Long Ashton Park & Ride to Bristol Temple Meads and the city centre. A second phase of MetroBus services will launch later in 2018.

MetroBus Ashton Vale to Temple Meads

In summary, the West of England authorities have considerable experience of:

- Delivering major transport schemes on time and on budget
- Successfully obtaining consents for major infrastructure schemes
- Developing and maintaining good working relationship with key partners and stakeholders
- Internal resourcing and governance requirements for major schemes

The authorities have considerable internal knowledge, experience and capability of major transport schemes to bring the MetroWest Phase 1 project, combined with established working arrangements with its term transport consultant, CH2M Hill.

North Somerset Council is delivering the North/South Link Road, Locking Parklands – This link from the A371 to A370 West Wick Roundabout through Locking Parklands is a key part of the access strategy for the Weston Villages and will provide access to the development from either side. Planning work has progressed during 2017 and construction is expected to start in 2018/19 and is likely to last approximately 18 months

In particular North Somerset Council has a proven track record of successful major project delivery including South Bristol Link and Weston Package, which the authority lead the delivery of. Delivering projects on time and budget is core to North Somerset's success and ensuring that benefits are secured to it's communities as swiftly as possible; strong and robust governance and project / financial management; robust communication plans recognising the demands of the local communities whilst ensuring delivery is streamlined and managed effectively during construction.

3.4 Project Dependencies

MetroWest Phase 1 is dependent on three major rail schemes currently being progressed by Network Rail in control period 5 and into control period 6, see Table 3.2. The MetroWest Phase 1 scheme programme takes account of all these dependencies. Table 3.3 sets out a number of rail schemes which MetroWest Phase 1 has an interface with but in not dependent upon.

Table 3.2 Projects which MetroWest Phase 1 is dependent upon

Project	Timetable/key dates	Extent to which MetroWest Phase 1 is dependent on this project
Filton Bank four-tracking	Delivered by 2018 Q4	**Dependent** - Without four-tracking, there is insufficient capacity for the additional MetroWest Phase 1 trains.
Resignalling – Bristol Area Signalling Renewal and Enhancement (BASRE)	Delivered by 2019 Q3	**Dependent –** Signalling renewal provides the basis for the MetroWest signalling design and commissioning.
Bristol East Junction Enhanced renewal	Delivered by 2020 Q2	**Dependent –** This scheme is required in order to operate MetroWest Phase 1 services, subject to further Railsys modelling based on the final December 2018, which is expected to be available around Easter 2018.

In addition MetroWest Phase 1 has indirect interfaces with the projects set out in Table 3.3

Table 3.3 Projects which interface with MetroWest Phase 1

Project	Timetable/key dates	Extent to which MetroWest Phase 1 is dependent on this project
Electrification of Great Western main line and Intercity Express programme	Delivered by 2018 Q3	**Related** - Electric trains will be quicker to accelerate and have higher top speed, allowing shorter journey times and releasing some network capacity. (The Bath to Bristol Temple Meads element has been deferred.) Staged introduction.
Bristol Temple Meads platform 1 extension and station environment improvements	Deferred	**Related –** Platform capacity enhancements will help operational robustness and provide greater timetable flexibility
Additional platform at Bristol Parkway	Delivered by 2018 Q4	**Related** - Additional platform will help operational robustness
Great Western Franchise replacement	2019 to 2022	**Related** - MetroWest is identified as a third party scheme in the November 2017 DfT franchise consultation. The councils are making the case for MetroWest to be included in the franchise specification.

Other MetroWest Schemes

MetroWest Phase 2 - is not dependent on MetroWest Phase 1. The train services of the two schemes overlap for a short section of railway between Bristol Temple Meads station and Narrows Ways Junction (taking in Lawrence Hill and Stapleton Road stations) but nether scheme is proposing infrastructure works on this section of railway. Additional infrastructure is however being delivered by the Filton Bank Four Tracking scheme and consequently both MetroWest Phase 1 and Phase 2 are dependent upon the delivery of that scheme. It terms of programme, the MetroWest Phase 1 train service commences from December 2021, with the possibility of the Severn Beach Line & Bath Spa train service commencing at an earlier stage.

Portway Park & Ride Station - is currently dependant on Bristol East Junction Enhanced Renewal and possibly MetroWest Phase 1. Train pathing modelling (Railsys) indicates that there are significant train performance risks for accommodating an additional station call on the Severn Beach Line without the delivery of Bristol East Junction Enhanced Renewal. This will be clarified by further Railsys modelling based on the final December 2018, which is expected to be available around Easter 2018. Furthermore Great Western Railways have advised that with the delivery of multiple major enhancement and renewal schemes over a short period of time there would be considerable practical challenges for calling at Portway Park & Ride station, before the rollout of the half hourly MetroWest Phase 1 train service.

In addition to the changes to the rail network, the following committed schemes will deliver improvements to the local transport networks (highway, bus, cycle and pedestrian networks):

- MetroBus - Ashton Vale to Temple Meads, 2018
- MetroBus - South Bristol link scheme (Complete, 2017)
- MetroBus - North Fringe to Hengrove Package, 2018
- Temple Gate- Highway, Public Transport, Pedestrian/ Cycle and Public Realm improvements, 2018

3.5 Governance, Organisation Structure and Roles

MetroWest Phase 1 is one of a series of individual rail projects currently being developed as part of a broader programme of rail works by the West of England authorities. Therefore, governance arrangements are in place at both programme and project level.

3.5.1 Working With The Rail Industry

The success of the MetroWest Phase 1 scheme is dependent on successful relationships between the West of England authorities and the rail industry. The substantive current GRIP 3 workstream has involved high level technical interaction, particularly with Network Rail and the TOCs, advancing established relationships and broadening collective understanding and intelligence. Key relationships have and continue to be developed with:

- DfT Rail
- Various teams at Network Rail
- Train operating companies
- Freight operating companies

This experience has influenced the development of the project governance arrangements. Working relationships with the rail industry have been embedded into the governance arrangements, and are not simply a 'bolt on' to a local authority structure (further details are provided in Figure 3.1 and 3.2.)

The Authorities commissioned Network Rail to undertaken GRIP 3 & 4 via Development Services Agreement. For GRIP 5 -8 an Implementation Agreement will be required and early discussions on that agreement have already commenced. Furthermore the Authorities have commissioned technical support and advise from Great Western Railways (the incumbent train operator) via a Development Agreement. Further details about the commercial arrangements are set out in chapter 4 the Commercial Case.

The approach developed for the GRIP 3 workstream commenced with regular meetings, between the MetroWest Phase 1 Project Team and the NR Project Development Manager and Project Sponsor, during the scoping and authorisation process. As the GRIP 3 work stream was mobilised, the technical interface between the MetroWest project team (including the land, legal, environmental and highways consultants) and the Network Rail project team evolved, resulting in a genuinely collaborative Joint Project Team. Issues, problems, risks and constraints were shared and tackled through a combination of workshops, technical analysis and structured meetings. Such as the monthly Project Delivery Group meetings when the whole of the MetroWest Project team and Network Rail meet.

This joined up and integrated approach has not only resulted in better technical understanding for the scheme promoter, but has also advanced relationships and working processes between all parties. The positive working relations developed during GRIP 3 are reflected in the comprehensiveness of the GRIP 3 deliverables produced for the scheme.

3.5.2 Programme Level Governance

The West of England (WoE) Joint Committee brings together the Leaders/Mayors of Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire Councils and the West of England Combined Authority. The LEP Board chair is a participant at this committee. This Committee replaces the previous Joint Transport Board that functioned before the West of England Combined Authority (WECA) was formed.

The WoE Joint Committee decides on the allocation of all Local Growth Fund funding and oversees the delivery of prioritised schemes. It receives and considers high-level quarterly reports and exception reports, via the Rail Programme Board (RPB) and Programme Assurance Board (PAB). The WoE Joint Committee is the ultimate decision-making body for changes escalated through the governance structure. The WoE Infrastructure Advisory Board provides strategic guidance and advice to the WoE Joint Committee.

The Programme Assurance Board (PAB) provides high-level challenge and independent assessment. It receives high-level reports on all rail schemes across the West of England. The PAB has a particular emphasis of overseeing the programme budget. The PAB is responsible for:

- Ensuring programme priorities are met and cross-scheme actions are delivered
- Providing critical review, monitoring of progress and performance, and oversight of joint actions
- Overseeing the integrated programme plan and Benefits Realisation Plan
- Ensuring strategic programme-level risks are effectively managed
- Overseeing strategic relationships with the Local Enterprise Partnership (LEP) and other key stakeholders
- Reporting high-level progress to the LEP

A Programme Senior Responsible Owner (SRO) is responsible for ensuring that the Rail Programme's objectives are met. The Programme SRO, Colin Medus, represents the West of England and is accountable to the PAB and WoE Joint Committee.

The responsibilities of the Programme SRO include:

- Stakeholder engagement in the identification of the vision, objectives, options and policies for rail.
- Ensuring the appropriate programme and project management and governance structures and milestones are in place for each of the individual projects. The Programme SRO is accountable for overall programme management.
- Problem resolution and referral from the Rail Programme Board and Project SROs. The Programme SRO is empowered by the Rail Programme Board to make decisions and approve changes and to seek authorisation from the Rail Programme Board, PAB or the WoE Joint Committee., if required.
- Monitoring and evaluating project progress and final assessment of outcomes.
- Providing guidance and direction to the individual projects' managers.

The SRO is supported by the Rail Programme Co-Ordinator, James White. The Rail Programme Co-Ordinator will:

- Provide the West of England level overview for the Rail Programme
- Ensure coordination between projects
- Support the Programme SRO
- Report updates to the Rail Programme Board
- Set up and manage the high-level steering group
- Organise and support Rail Programme board meetings

- Manage communications and stakeholder involvement
- Manage programme correspondence
- Monitor budgets for the individual projects
- Manage the programme risk register
- Provide quality assurance for the individual projects
- Organise, support and chair Core Project Team meetings

The programme organogram is shown in Figure 3.1

3.5.3 Project Level Governance

The overall rail programme is made up of a number of projects including MetroWest Phase 1. A Rail Programme Board directs, steers and oversees the direction of each project. The Rail Programme Board authorises project plans to be delivered by the project managers and authorise strategic decisions, or seeks authority for key strategic decisions from the Rail Programme Board, Programme Assurance Board or WoE Joint Committee.

Rail Programme Board meetings are linked to key milestones (at least quarterly). The board considers highlight and exception reports, changes to the project risk log and other key deliverables as defined in the project plan. It consists of authority officers with responsibility for transport who are able to act for their organisation, within the thresholds defined in the project initiation document.

The Rail Programme Board nominates an SRO who acts as the lead for individual projects representing the authorities and the Rail Programme Board. The SRO for MetroWest Phase 1 is Colin Medus from North Somerset Council. His role is to:

- Report to and receive feedback from the Rail Programme Board
- Ensure the appropriate resources, project management and technical expertise are in place for the project.
- Liaise with nominated senior officers from neighbouring authorities
- Make decisions and approve changes within agreed tolerances or seek authorisation from the board, or the WoE Joint Committee., if required
- Monitor and evaluate project progress against milestones and assess outcomes
- Provide guidance, support and direction to the project manager and project team

The MetroWest Phase 1 Project Manager, James Willcock, is also employed by North Somerset Council. His role is to:

- Lead and coordinate the project team and its work-streams
- Procure consultants and contractors
- Prepare and report project budgets
- Manage project risks and issues
- Report to and receive feedback from the SRO
- Produce periodic progress reports for the, WoE Joint Committee., Scrutiny Committee, Audit Committee, directors, the Department for Transport (DfT) and the Local Enterprise Partnership

The project team (see Figure 3.2) includes nominated representatives from the authorities, West of England office, Network Rail, the train operating companies and technical advisors from the framework consultant (CH2M Hill).

The project team is the point of contact for information and liaison with colleagues within each particular organisation. Members are responsible for communications about the project within their organisations. It is also a source of experience and expertise and connection to expertise within their organisations.

The following organisations, consultants and contractors are assisting with delivery of the project:

- Network Rail (modelling and appraisal, GRIP, procurement, delivery)
- Arup (railway design)
- Incumbent operator First Great Western (operational advice)
- CH2M Hill (modelling and appraisal, environmental assessment, highways design, technical support.)
- Womble Bond Dickinson (legal advisors and Specialist Planning/Development Consent Order team)
- Ardent (land agents)
- Mott McDonald (independent cost reviewers)

Figure 3.1 MetroWest Programme Organogram

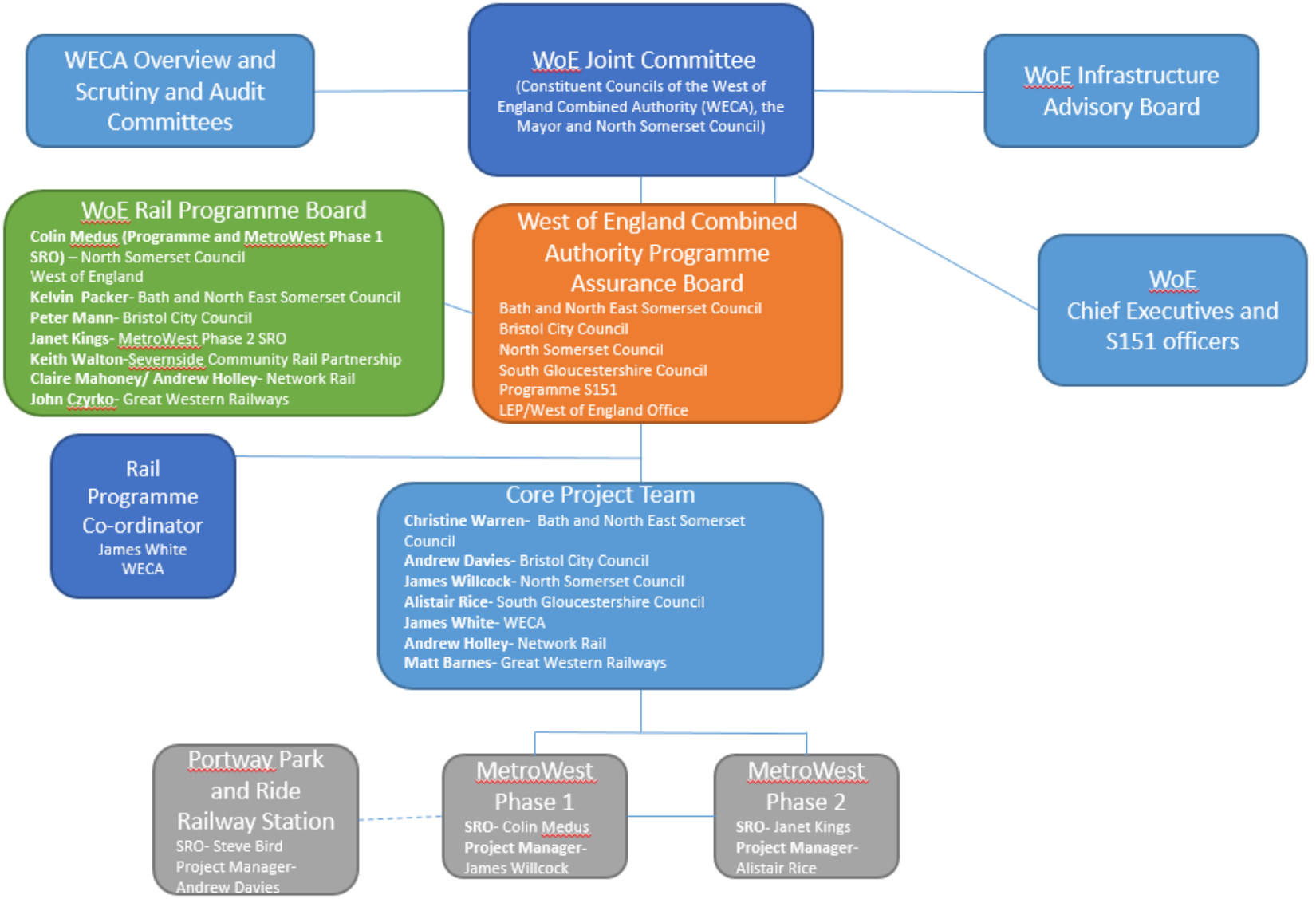
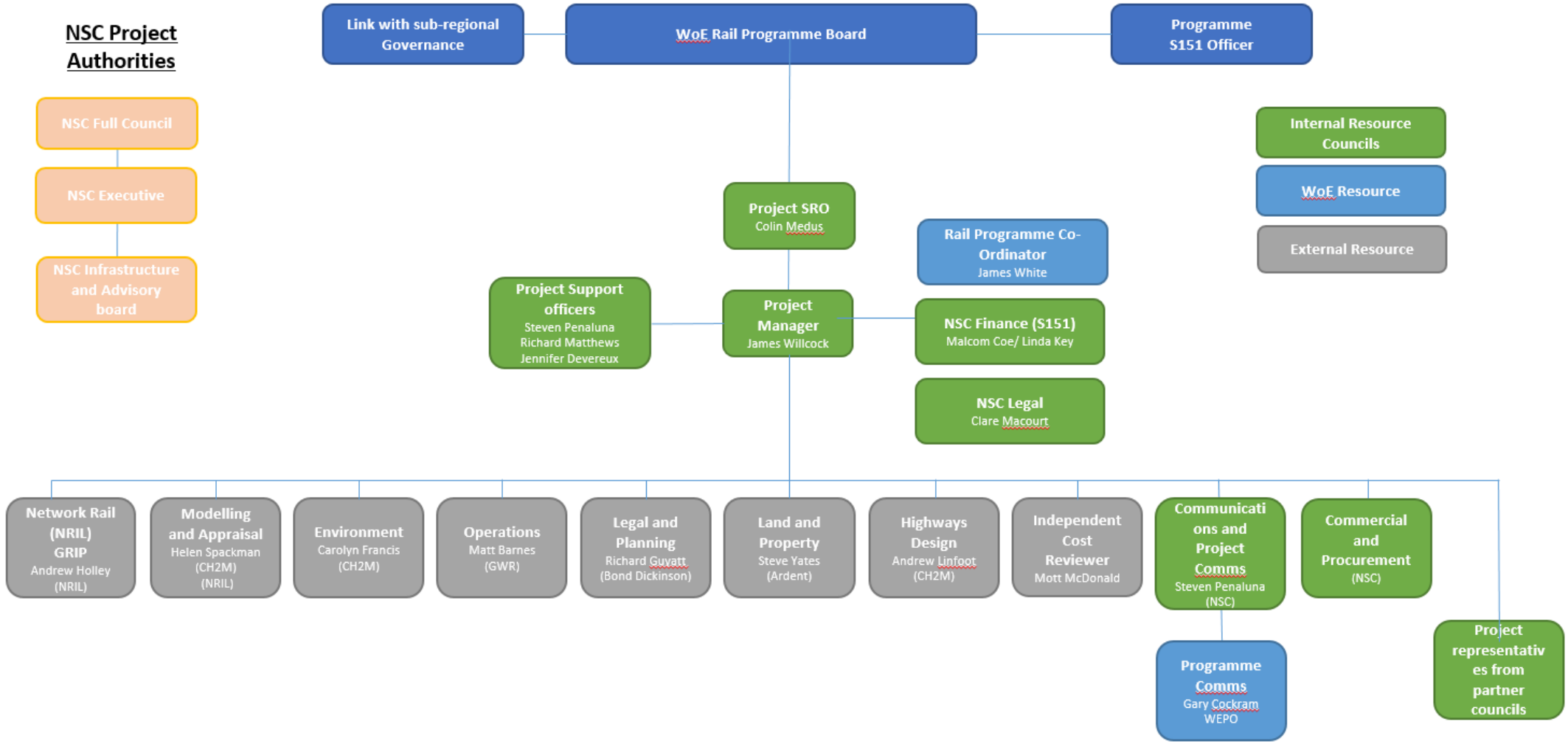


Figure 3.2 MetroWest Project Organogram



3.6 Programme/ Project Plan

Key to the organisation of the MetroWest Phase 1 project is the overarching programme/project plan. This shows activities, durations, deadlines and critical paths for all activities up to completion of works.

The key stages of the project are set out below, followed by a programme of the major milestones to be achieved. In Summary the project completed GRIP Stage 3 in December 2017. GRIP Stage 4 is due to begin in February 2018 and be completed by September 2018. GRIP Stage 5 will then begin in early 2019 and be completed in February 2020. GRIP Stage 6 will commence in May 2020 following DCO consent, Habitats Regulation Assessment approval and obtaining relevant environmental licences.

The construction phase for the works on the Severn Beach Line and the Bath Spa to Bristol line (which is permitted development) is approximately 6 to 9 months subject to confirmation of line possessions. Allowing sufficient timescale for signalling data validation, it may be feasible to commence the enhanced train service for the Severn Beach Line and the Bath Spa to Bristol line earlier than December 2021. The construction phase for the Portishead Line is 15 to 18 months, and allowing for commissioning and testing, gives an opening date of December 2021. GRIP stages 7 and 8 (Handback and Project Close out) are programmed to be completed by late 2022. A summary of the scheme stages and timescales is set out in Table 3.4.

Table 3.4 Project Timetable

Scheme Stage	Stage Description	Timescale
Stage 1	Feasibility (including GRIP 1-2)	Summer 2013 to Summer 2014
Stage 2	Option development, DCO pre application consultation, and outline business case (including GRIP 3) and DCO application submission	Autumn 2014 to Winter 2017/18 (December 2017)
Stage 3	Planning powers and procurement (including GRIP 4-5)	Spring 2018 to Winter 2019/20
Stage 4	Full business case, construction and opening (including GRIP 6-8)	Spring 2020 to Winter 2021/22 Train services commencing December 2021, with the possibility of the Severn Beach Line & Bath Spa train service commencing at an earlier stage

Table 3.5 Project Milestones

Major Milestone	**Timescale**
Complete Outline Business Case	Dec 2017
DfT announce funding allocations	April /May 2018*
Submit DCO application	June/July 2018
Complete GRIP4	Sept 2018
DCO examination start	Oct 2018
DCO examination finish	Mar/April 2019
DCO Decision by Secretary of State	Nov/Dec 2019
Habitats Regulation Assessment approval	Feb 2020
Complete GRIP 5 including construction final cost	Feb 2020
Full Business Case Approval	Feb/Mar 2020
Award of construction contract	April 2020
Discharge planning conditions (DCO Requirements)	May 2020
Start of construction works GRIP6 including highway works	May 2020
Complete all construction works	Oct 2021
Commissioning & Testing	Nov 2021
Start of Train Services	**Dec 2021**

* May/June 18 is effectively the deadline date for securing the residual capital funding for the scheme for completing the Funding Statement for DCO application which must be submitted by June/July 2018 in order to achieve the rest of the programme.

Key tasks on the critical path include:

- Submission of the DCO
- Completion of GRIP 4 design work
- DCO hearing
- Completion of key dependent projects
- GRIP 5 detailed design and procurement of rail contractor
- Completion of enabling works
- Completion of Full business case

The full scheme programme is shown in appendix 3.4.

3.6.1 Completed Project Stages

Stage1- Feasibility

Stage 1 essentially comprised of strategic deliverables, GRIP 1-2 deliverables, highway deliverables together with the Preliminary Business Case deliverables.

Stage 2 – Option Selection

This Outline Business Case confirms the conclusions of the scheme from stage 2 – Option Selection. Stage 2 essentially comprised of strategic deliverables, GRIP 3 deliverables, highway deliverables, the Preliminary Environmental Information Report, the DCO red line boundary together with the Outline Business Case deliverables.

The Railway deliverables include:

- Portishead Station Options Appraisal (Appendix 3.5)
- The GRIP 3- deliverables include (see Appendix 3.1 for full list)
    - GRIP 3 Option Selection Report
    - Earthworks Approval in Principle's (AIP's)
    - Ancillary Civils AIP's
    - Structure's AIP's
    - Station Design AIP's
    - Track Design AIP's
    - Signalling AIP
    - Construction Strategy
    - Qualitative Cost Risk Assessment
    - Capacity Analysis (Railsys) Report
    - Environmental Assessment

The Highway deliverables include (These can be found at **website** www.metrowestphase1.org)

- Engineering Design Drawings for Portishead station/ Quays Avenue, Pill Station, Winterstoke Road, Ashton Vale Road pedestrian ramp, Compound plans, works to NCN 26 under Royal Portbury Dock Road bridge, Marsh Lane bridge and the M5 railway underbridge, Extension of the Bridlway at the M5 Avonmouth Bridge and other scheme related highway works.

Other strategic deliverables for the whole scheme include (These can be found at **website** www.metrowestphase1.org.)

- The Preliminary Environmental Information Report (essentially the draft Environmental Statement)
- DCO Red Line Boundary and land plans
- Book of Reference
- Public Rights of Way diversion plans
- Draft permanent and temporary Traffic Regulation Order plans
- Formal Section 42 (DCO) documentation and plans

3.7 Assurance, Approvals Plan and Reporting

This project is working within a number of wider processes which have their own assurance and approvals processes, as summarised in Figure 3.3

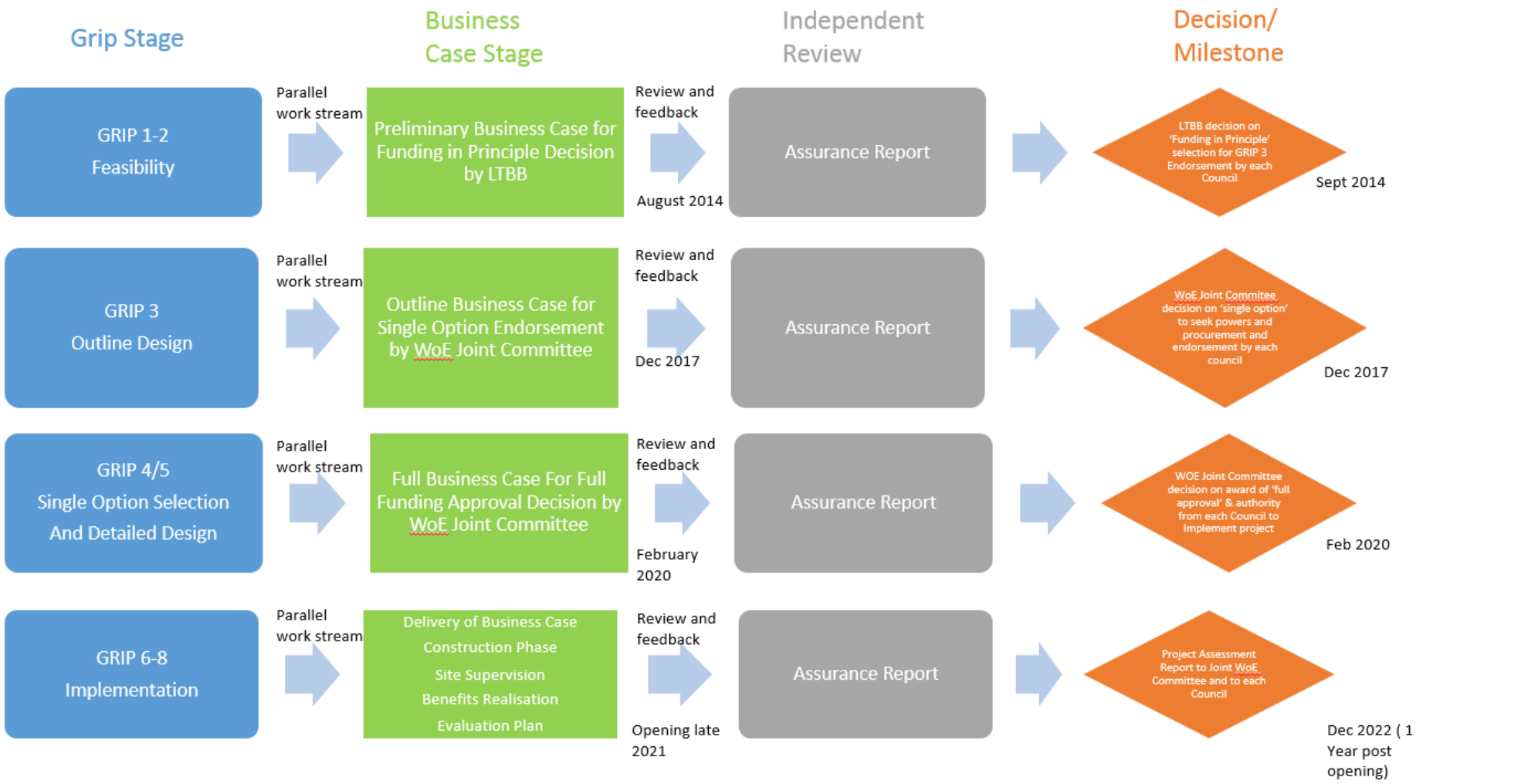
Internal and rail industry processes include:

- The West of England Joint Committee Assurance Framework - providing an independent review of the business case including the economic case and value for money
- Network Rail's GRIP process – providing technical rail operational and engineering assurance
- Project management assurance and approvals
- Independent cost reviewer- they will provide review and challenge of the scheme costs including engineering design, construction methodology, project management, industry fees and approaches to risk and inflation. Mott MacDonald were appointed based on their considerable experience undertaking similar work in the rail industry including major projects with Transport for London and Cambridgeshire County Council.

External statutory processes:

- The DCO process - providing planning consents and consultation assurance
- Other consents- Habitats Regulation Assessment, General Permitted Development prior approval, Environmental Consents including Environment Agency and Natural England Licences

Figure 3.3 Interfaces of assurance processes



3.7.1 WoE Joint Committee Assurance Framework/DfT Business Case Process

The four authorities are working in accordance with the principles of the LEP Assurance Framework (October 2017) which sets out how schemes funded through the Local Growth Fund are identified, developed and approved. This requires schemes to go through the following approvals' process:

- Initial priority status. MetroWest Phase 1 was approved by the Joint Transport Board (the forerunner of the WoE Joint Committee) as the priority scheme for the devolved funding allocation at its meeting on 14 June 2013.
- Preliminary Business Case – this was approved at the JTB in 2014.
- Outline business case sufficient to support statutory processes.
- Final approval to secure release of funds supported by a full business case.

This process incorporates as series of processes and procedures for quality assurance, approvals and reporting as shown in Figure 3.4.

Figure 3.4 DFT Business Case Process

In line with guidance for transport schemes <£5m, at each stage of the business case process, the WoE Joint committee will require an independent review of documentation. Business Cases will be developed in accordance with DfT's WebTAG.

3.7.2 The GRIP Process

The MetroWest Phase 1 project is being undertaken in accordance with Network Rail's Governance for Rail Investment Projects (GRIP) process with its built-in process of checking and assurance, including sign-offs and gateway reviews. The GRIP process is based on best practice within industries that undertake major infrastructure projects and practice recommended by the major professional bodies.

These include the Office of Government Commerce (OGC), the Association of Project Management (APM) and the Chartered Institute of Building (CIOB). GRIP divides a project into eight distinct stages. The overall approach is product rather than process driven and, within each stage, an agreed set of products are delivered:

GRIP 1. Output definition

GRIP 2. Feasibility

GRIP 3. Option selection

GRIP 4. Single option development

GRIP 5. Detailed design

GRIP 6. Construction test and commission

GRIP 7. Scheme hand back

GRIP 8. Project close-out

Formal stage gate reviews are held at varying points within the GRIP lifecycle. The stage gate review process examines a project at critical stages in its lifecycle to provide assurance that it can successfully progress to the next stage.

The various stages of the GRIP process are aligned with development of the business case, see Figure 3.3. This figure also shows key decision points, aligned with the WoE Joint committee process of review and approval.

GRIP 3 (Option Selection) has been completed with GRIP Stage 4 (Detailed Option Development) due to begin in February 2018 and be completed by September 2018.

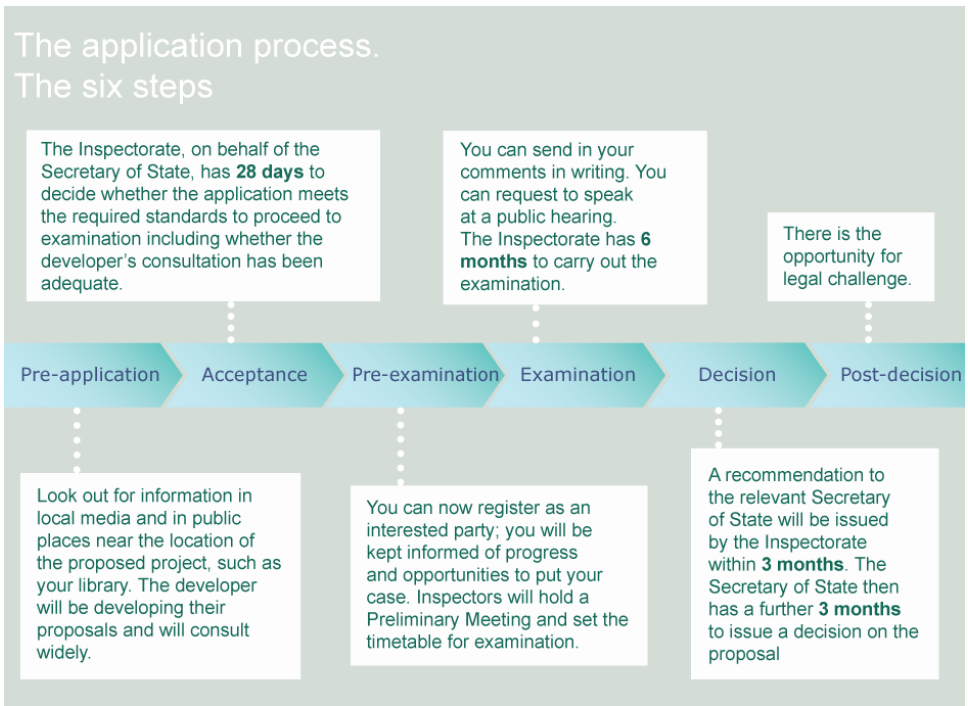
3.7.3 The Development Consent Order Process

Re-opening the Portishead Line is a Nationally Significant Infrastructure Project (NSIP), under the 2008 Planning Act and consequently requires a Development Consent Order for powers to build and operate (the 4.7km of dis-used railway). Any rail project that includes 2km or more continuous track outside the existing operational rail network, is deemed an NSIP under the 2008 Planning Act. The government has delegated responsibility for overseeing the DCO process to the Planning Inspectorate (PINS). The DCO process is a six-stage process entailing:

- Pre-application
- Acceptance
- Pre-examination
- Examination
- Decision
- Post-decision

An integral part of the process is the engagement of public and stakeholders throughout the process, as illustrated in Figure 3.5. More information undertaken on the consultation required for the DCO can be found in section 3.8.

Figure 3.5 DCO Application Process



3.7.4 The Habitats Regulations Assessment (HRA) Process

A HRA will be submitted with the DCO application to assess the likely impacts of the project on European Sites. The HRA process runs in parallel with the wider environmental assessment process to support the DCO process which requires an Environmental Statement. For this project, the timescales for the HRA process mirror the timescales for the DCO process. The HRA is process is determined by Natural England. It is anticipated that the Avon Gorge Woodlands SAC and the North Somerset and Mendip Bat SAC will require to go Stage 2 of the HRA process (Appropriate assessment). The HRA process is set out below in figure 3.6.

Figure 3.6 HRA Stages

Stage 1:	Screening	The process to identify the likely impacts of a project upon a European site, either alone or in combination with other plans and projects, and consider whether the impacts are likely to be significant.
Stage 2:	Appropriate assessment	The consideration of the impacts on the integrity of the European site[10], either alone on in combination with other plans and projects, with regard to the site's structure and function and its conservation objectives. Where there are adverse impacts, an assessment of mitigation options is carried out to determine adverse effect on the integrity of the site. If these mitigation options cannot avoid adverse effects then development consent can only be given if stages 3 and 4 are followed.
Stage 3:	Assessment of alternative solutions	Examining alternative ways of achieving the objectives of the project to establish whether there are solutions that would avoid or have a lesser effect on European sites.
Stage 4:	IROPI	This is the assessment where no alternative solution exists and where adverse impacts remain. The process to assess whether the development is necessary for IROPI and, if so, the potential compensatory measures needed to maintain the overall coherence of the site or integrity of the European site network.

3.7.5 Project/ Programme Level Approvals and Assurance

At the project level, quality assurance is the responsibility of the SRO. Quality assurance will be managed through the following processes:

- Peer group reviews and benchmarking - the purpose of the group is to provide an internal 'challenge' role to support the Rail Programme Board when considering highlight and exception reports from the project manager. The group will not undertake any audits or reviews at this level but rather raise formal issues via the nominated Rail Programme Board member if concerns are identified.
- Independent Cost Reviewer- Independent cost reviewer- they will provide review and challenge of the scheme costs including engineering design, construction methodology, project management, industry fees and approaches to risk and inflation. The findings will be reported to the Project Manager and SRO.
- External quality reviews, where appropriate - including those required by the GRIP process will be undertaken at the relevant points in the programme throughout its duration. The approval for such a review will include a detailed proposal for: the reasons (linked to issues/risks, peer review reports or change controls); scope; timescale; and budgetary

requirements for the review. All quality reviews will include the following minimum requirements:

- Establishing a review team
- Agreed scope and timescale
- Agreed list of documentation for the Programme SRO to provide in advance
- Formal report following conclusion of the review with, if necessary, an exception report for the Rail Programme Board to consider.

- At the programme level, quality assurance is the responsibility of the Programme Assurance Board. The PAB provide high level challenge and independent assessment to the Rail Programme Board and Project SROs, with particular emphasis of overseeing the programme budget. Notwithstanding the ultimate political decision making process provided by the WoE Joint Committee, the chair of the PAB will have overall accountability for the delivery of the programme.

3.7.6 Reporting

The process for reporting is closely aligned with the process for approvals and assurances.

The levels of reporting required are:

- Reporting to the Rail Programme Board and WoE Joint Committee , the business case deliverables including:
- Preliminary business case
- Outline business case
- Full business case
- Regular highlight reports

Each business case stage will report the relevant technical stage the project has reached in respect of project design, GRIP, powers and consents, and procurement.

Reporting to the Rail Programme Board and West of England Joint Committee progress and sign off of Network Rail, GRIP stages:

- GRIP 1-2 Output definition/feasibility
- GRIP 3 Option selection
- GRIP 4 Single option development
- GRIP 5 Detailed design
- GRIP products developed and reported through the process include:
  - Estimating management
  - Risk and value management

- Stakeholder management plan
- Stage gate checklist
- Consents and approvals
- Environmental management
- Project management plan
- Project requirements' specification
- Health and safety management
- Contracts and procurement
- Safety verification process
- Change management
- Delivering work within possessions

Reporting to the Rail Programme Board and WoE Joint Committee progress and status related to the DCO process including:

- Application form
- Plans/drawings/sections
- Draft development consent order
- Compulsory acquisition information (including 'statement of reasons', 'red line', 'funding statement' and 'book of reference')
- Consultation report
- Environmental impact assessment
- Transport assessment (and supporting modelling information)
- Flood risk assessment report
- Environmental protection information
- Details of other consents and licences
- Reporting to the Rail Programme Board and the WoE Joint Committee the overall management of the project/programme.
- Highlights reports
- Exception reporting
- Project risk register
- Issue log

3.8 Communications and Stakeholders

3.8.1 Engagement to Date

The MetroWest Phase 1 scheme has been included in sub-regional and local transport policy for many years. Therefore it has been subject to a series of strategic engagements and consultations including:

1. West of England Joint Transport Study (JTS) and Joint Spatial Plan (JSP) consultation
2. Local authority planning including Core Strategies; Local Plans; Sites and Policies Plans; Supplementary Planning documents; and Neighbourhood Development Plans
3. Joint Local Transport Plan 3 (JLTP3) consultation
4. Strategic Economic Plan (SEP) consultation
5. West of England Multi-Area Agreement, Local Economic Assessment, LEP Business Plan
6. MetroWest Stakeholder meetings (including engagement with rail interest groups)

Each of these have been reported to or approved through the appropriate governance channels, including:

- West of England Joint Committee
- West of England Combined Authority Board
- Local Authority Executive/Full Council meetings
- West of England Joint Transport Board comprising the Joint Transport Body Board and the Joint Transport Executive Committee
- Rail Programme Board
- Scrutiny Panels

Project specific consultations have also been undertaken, and have informed the design and technical development of the scheme. To date the following public consultations have taken place:

- Portishead station location consultation - June 2014
- Formal Stage 1 Scheme Consultation - June 2015
- Pill Station Consultation - February 2016
- Ashton Vale Road Consultation Round 1 - February 2016
- Ashton Vale Road Consultation Round 2 - November 2016
- Formal Stage 2 Scheme Consultation - October to December 2017

Further information about the Formal Stage 2 Scheme Consultation is set out in chapter 1 the Strategic Case. In parallel with the above, we are engaging with internal and external stakeholders including land/property owners, statutory bodies, government agencies, local interest groups, train and freight operating companies and wider stakeholders. This process of engagement and consultation has informed the evolution of the scheme which is managed as detailed below. This is set out in a communications strategy which is reported on and reviewed with the project and management teams on a regular basis.

3.8.2 Management of Internal Stakeholders

The Project Manager has overall responsibility for ensuring internal stakeholders are appropriately engaged and informed. This is managed through the team's reporting structure and primarily dealt with by the engagement lead from the project team reporting directly to the Project Manager. In accordance, formal, minuted meetings with set agenda and actions have been undertaken with all internal stakeholders.

3.8.3 Management of External Stakeholders

The Project Manager has overall responsibility for external engagement, however there are two specific engagement leads – land agents Ardent have been appointed to engage with land owners and utility companies; and an engagement lead from the project team is appointed to co-ordinate all other engagement. The Project Manager is kept informed through regular meetings and telephone conferences. The project's legal advisors Womble Bond Dickinson co-ordinate the list of statutory consultees and work closely with the project team's engagement lead.

The external stakeholders identified are summarised below:

- Unitary and Combined Authorities, Wards, Parishes and Neighbourhood Partnerships
- Political Stakeholders
- Statutory Stakeholders
- Representative organisations (businesses, local and national campaign/equalities groups, freight and train operating companies, motorists, public transport users)
- West of England transport stakeholder meetings
- Local interest forums including cycling and walking

3.8.4 Information Sharing, Co-ordination and Co-operation Arrangements

The majority of information is shared through the governance structure as important project decisions and commitments are discussed and agreed in public meetings. However we also actively ensure that relevant information is made available through stakeholder meetings, consultation events and online channels. These are well publicised through social and traditional media. As well as a project specific website (www.metrowestphase1.org) which hosts all project documentation published to date, we also have a programme specific website (www.travelwest.info/metrowest) which contains wider information for context.

Internal cloud-based file sharing is also an important tool and the project team host all material on a private server (SourceDocs) which requires individual login details to access. Logins have been provided to all partners including Network Rail, Womble Bond Dickinson, Ardent, CH2M and local authorities.

The West of England Councils have worked together under a number of different arrangements which have evolved from the first Joint Transport Executive Committee to the current Joint Committee. This streamlines decision making and ensures co-operation between all authorities. Memorandums of Understanding (MoU) with partners including Network Rail, train operators, and local authorities have also been signed to promote effective co-ordination and co-operation between the organisations. An action plan for the specific rail MoU was developed in 2010 to define a set of deliverables outcomes based on the short, medium and long term.

3.9 Risk management strategy

3.9.1 Programme-Level Risk

Risks and mitigation measures are dealt with at the Rail Programme Board level because of the close inter-relationship between the rail projects. Programme and project SROs and managers regularly review the risk register and report to the Rail Programme Board. The most significant risks are reviewed at each board meeting, via the highlight report. A risk owner is identified who will be the person best able to manage the risk.

The Rail Programme Co-Ordinator is responsible for tracking and monitoring programme level-risks. This will include both risks which are common across the rail programme and those which are scheme-specific but could have a significant impact on the whole programme. The Programme SRO is responsible for approving actions to mitigate risks at the programme level. The key project level and the programme risks are reviwed at each Rail Programme Board meeting.

The top three risks are reported to the quarterly meetings of the Rail Programme Board, PAB and WoE Joint Committee. This process enables these strategic risks to be considered appropriately through the corporate risk management processes of the authorities.

3.9.2 Project-Level Risk

A full Quantified Cost Risk Assessment (QCRA) was undertaken in March 2017 to assess risk exposure and inform the cost estimate, see appendix 3.6. As a third party scheme, the risks modelled were divided into the following categories:

1. NR Project Risks – risks associated with Network Rail's execution of the project
2. NR Integration Risks – risks on the integration (and timely completion) of other NR programmes
3. Client Risks – risks owned by the promoting authorities

The majority of risks that are programme level in nature, excluding the integration risks are held by the Authorities. The GRIP3 cost estimate was completed in March 2017 (based on the 2 trains per hour option) and this included the QCRA modelling with a P80 output of £24.8M combined total. The GRIP3 cost estimate including all client costs totalled £160M, which was considerably higher than the previous GRIP2 cost estimate. This presented major affordability issues for the Authorities and in discussion with the rail industry, the Authorities decided in March 2017 to proceed with a lower cost option for the Portishead Line (one train per hour instead of two trains per hour).

This resulted in a considerable amount of railway infrastructure being removed from the scheme, through value engineering informed by further train pathing modelling (Railsys), refer to the strategic Case chapter 1 for further details. The value engineering exercise was completed in June 2017 and included revisions to the QCRA, see appendix 5.1. Between June and December 17 revisions to the GRIP3 AIP design were undertaken based on the revised value engineering scope. The QCRA was further updated in December 2017 and resulted in a P80 output of £20.2M. The £20.2M risk provision equates to 28% of the total preparation and construction costs.

The top five risks are:

1. Design work results in additional infrastructure outside DCO red line boundary, resulting in redrawing red line boundary. Implication is to increase the scope of the EIA/ES and identification of additional s42 consultees, resulting in additional work and time
2. Unexpected findings on site including protected species, mines, archaeology, ground conditions, noxious weeds, utilities, asbestos etc.
3. GRIP 3-5 design work, Network Rails network change process identifies additional works items
4. Network Rail CP5 schemes that MetroWest Phase 1 is dependent on (incl. Filton Bank 4 Tracking, BASRE) must be constructed prior to ensure network capacity is adequate.
5. Railway construction programme over-run due to contractor performance issues, contractor dispute with NR or other rail industry players etc, causing a knock on delay to the rest of the construction programme and possible cost escalation.

Risks at the project level are reported to the Rail Programme Board. Risk review meetings take place every month with Network Rail and more regularly leading into major deliverables. Network Rail have recently increased the level of internal rigor and review for its approach to risk management, in light of cost escalation problems experienced on some of its major schemes, such as electrificartion of the Great Western Main Line. While cost escalation remains an issue for the industry, MetroWest Phase 1 is drawing on the collective experience of Network Rail and industry partners to ensure a robust approach is taken to the identification, assessment and management of risk.

Furthermore the cost estimate and QCRA has been subject to independent review via Mott MacDonald appointed by the Authorities as its Independent Cost Estimation Reviewer. Mott MacDonald have been appointed based on their considerable experience undertaking similar work in the rail industry including major projects with Transport for London and Cambridgeshire County Council. Their work has included examining scheme costs including engineering design, construction methodology, project management, industry fees and approaches to risk and inflation.

Further information about our approach to risk is set out in chapter 4 the Commercial Case.

3.10 Evaluation and Benefits Realisation Plan

MetroWest Phase 1's evaluation and benefits realisation plan will cover the monitoring of impacts and the approach to determining the projected benefits, impacts and objectives.

The evaluation and benefits realisation plan is appended at 3.7

3.11 Project Management

The West of England councils have a considerable wealth of experience in delivering major transport schemes, as set out in Section 3.3. Each major scheme brings specific technical and organisational challenges and requires honed and adaptable project management and leadership skills for successful delivery. MetroWest Phase 1 is being led by North Somerset Council on behalf of the West of England Authorities. North Somerset Council have a proven track record of scheme delivery and established and proven project management protocols which are aligned with PRINCE2 principles.

Project management is the process of planning, delegating, monitoring and controlling a project or scheme. At the heart of this process, project management entails the management of costs, timescales, quality, scope, risk and benefits. The following project management principals provide a framework for successful project management:

- Continue business justification
- Learn from experience
- Defined roles and responsibilities
- Manage by stages
- Manage by exception
- Focus on products
- Tailor to suit the project environment

In summary the councils have deployed proven project management principals and have the capability and capacity to successfully deliver MetroWest Phase 1.

The Authorities and Network Rail have recently agreed to set up a joint Programme Management Organisation (PMO), initially informally but possibly formally at a later stage. 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. 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. Further information about the PMO is set out in chapter 4 the Commercial Case.

3.12 Summary of Management Case

In summary:

- the GRIP3 Approval in Principle (AIP) design and highways design has resulted in extensive deliverables that set out in detail what is required to construct and deliver the scheme.
- the West of England authorities, both individually and collectively, have a proven track record of delivering major transport infrastructure
- North Somerset Council led the delivery of the MetroBus - South Bristol Link (SBL). A 4.5km highway scheme with a total scheme cost of £43.3m, delivered on specification, on time and on budget.
- the scheme depeancies are fully understood, which includes the delivery of three major Network Rail schemes. Two of the three schemes are currently in build, and the third scheme, Bristol East Junction Enhanced Renewal is in the later stage of design, with delivery to follow in late CP5 into early CP6.
- the Authorities have clear lines of reporting and Governance in place and wider Governance arrangements with industry partners.
- the shceme programme entails four clearly defined scheme stages, with satge one and two now complete. Detailed programming through to GRIP Stage 8 has been undertaken. Subject to the timely decision making on funding, a scheme opening date of December 2021 is achievable.
- extensive stakeholder engagement and consultation has been undertaken throughout the development of the scheme since 2013. Formal Stage 2 Development Consent Order consultation was completed in early December 2017.
- there is an unprecideted high level of support for the delivery of the scheme.
- a robust approach is taken to the identification, assessment and management of risk and an Independent Cost Estimation Reviewer has been appointed.
- the Authorities along with industry partners have the capability and capacity to deliver the MetroWest Phase 1 scheme.