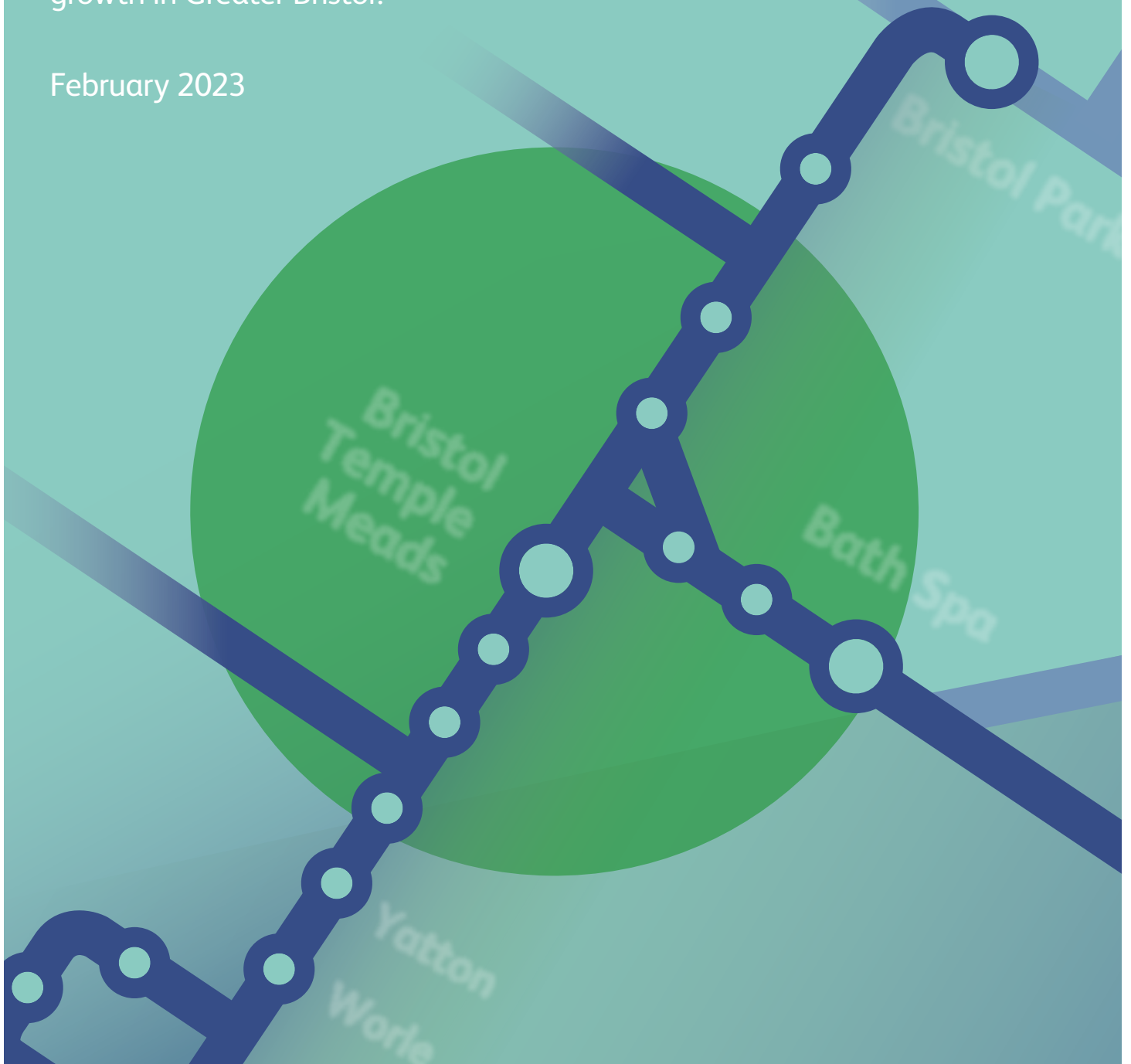


Greater Bristol rail network strategic study

How can rail best support
sustainable economic and housing
growth in Greater Bristol?

February 2023



Foreword

It's a great pleasure to publish the Greater Bristol Strategic Study.

This joint vision for a better railway is developed in close collaboration with our valued partners. It describes how the railway can continue to make people's lives better, benefit communities and support growth across the region, and play a major role in meeting some of the social and environmental challenges we face.

We've seen a hugely encouraging return to our railway since COVID-19, with our communities across the region re-embracing the railway and its unparalleled ability to connect people with one another, with special places, and with jobs and businesses.

And we know that the railway has a pivotal role in dealing with our regional, national, and global climate emergencies, and that this alone requires major improvement to the offer for passenger and for freight customers.

We have adopted the strategic objectives for the whole rail industry set out by the UK Government and shared our recommendations with Great British Railways Transition Team (GBRTT) to ensure they are firmly established as the strategic plan for our region.

This study sets out recommendations for improvements from those that require little or no investment to those that represent significant transformation, and our vision is a long term, sustainable one that can be delivered incrementally.

I believe that the future of the railway in the region is exciting and that the vision set out in this strategy can play a major role in helping make rail a viable option for everyone, for more journeys, to enable increased productivity and support growth.

It's more important than ever that we work with partners to set out a clear vision for development of the rail system to give our communities greater opportunities and help deliver a greener transport system on a railway that is always safe and reliable.



Francis McGarry
Investment Director, Wales & Western



Within our respective strategies we recognise the need to improve rail connectivity and make rail an appealing and feasible option for journeys. We welcome and support the enhanced service proposals set out in this Greater Bristol Strategic Study, which will boost connectivity between people, businesses and places, and help reduce carbon emissions.

This study reflects our region's vision, objectives, priorities and desired outcomes. We believe it to be an excellent piece of collaborative working that demonstrates a strategic alignment between the sub-national transport bodies, local authorities and Network Rail.

We are grateful to Network Rail for supporting our strategic priorities and look forward to working together to take forward the recommendations in this important long-term strategic study.



Cllr Mike Greene
Chair of the Western Gateway STB



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Introduction

How can rail best support sustainable economic and housing growth in Greater Bristol?

Bristol is a key transport hub for the West of England. It's a crossroads for services from the Midlands, London, the South Coast, West Country and Wales. And it's an important economic area in its own right, with a large, growing population and economy.

The West of England has a population of 1.1 million and an economy worth over £35bn a year. The region aims to deliver over 100,000 new homes and create over 80,000 more jobs by 2036. Growth has exceeded the national average over the last 15 years, and Bristol's productivity is the highest of all city regions outside of London.

The rail offering around Bristol needs to improve to support sustainable growth. We need to improve both inter-regional and local services to meet growing demand. Improved rail connectivity will help build good connections between new housing and employment hubs. It will make rail travel a viable option for more leisure journeys. And it will help meet the increasing demand for moving freight by rail.

Geographic scope of the Greater Bristol study

Figure 1.0



Study overview

Our vision includes planned service changes and stakeholder aspirations, which have informed our recommended Train Service Specification (TSS). The TSS is designed to support sustainable economic and housing growth, improve connectivity and balance the needs of different rail users.

The three stages of the Recommended TSS build from modest improvements with minimal interventions in stage 1. Stage 3 has the most ambitious service improvements. These will require significant infrastructure interventions.

The stages were constructed using the study's economic analysis. This identified connectivity gaps in the current timetable as well as journeys to major hubs outside the study's geographic scope that are currently uncompetitive.

Our Recommended TSS presents service enhancements and options to meet the Greater Bristol area's connectivity requirements.



Our specific recommendations:

- extending an hourly Bristol/Westbury service to Weymouth to align with the Dorset Connectivity study's recommendations
- improving service levels on the routes to Swindon and Westbury to increase connectivity
- improved service frequency on the Severn Beach line to provide an enhanced service for the densely populated areas of north Bristol served by this branch line
- including local services proposed by the Union Connectivity review to reduce journey times between Bristol and Cardiff. New stopping services could allow us to reduce calls in existing inter-regional services, helping to improve journey times
- delivery of 2tph (trains per hour) on the Portishead and Henbury branch lines to meet stakeholder longer-term aspirations
- freight uplifts on the corridors into Bristol in line with the industry's freight forecasts and stakeholder guidance
- service improvements as recommended in the Bristol to Birmingham rail corridor strategic study. This includes connectivity improvements between Bristol and Gloucester while maintaining fast intercity service provision. The Cardiff/Birmingham Midlands Rail Hub (MRH) service should run via Lydney, due to capacity constraints elsewhere
- service improvements as recommended in the Bristol to Exeter rail corridor strategic study. This includes connectivity improvements at stations between Bristol and Weston-super-Mare while maintaining a high level of fast intercity services.

The railway today

Bristol is a large city with significant employment, housing, education and leisure opportunities. It's surrounded by other significant urban areas (such as Bath, Gloucester, and Weston-super-Mare), as well as local urban hubs. Bristol is also an origin for journeys to significant regional centres such as London, Cardiff, Birmingham and Exeter. We need to balance fast journey times to large regional hubs while providing greater connectivity to smaller urban hubs.

Increasing transport demand strains existing systems. Improved transport provision (especially public transport) is essential for supporting sustainable economic and housing growth.

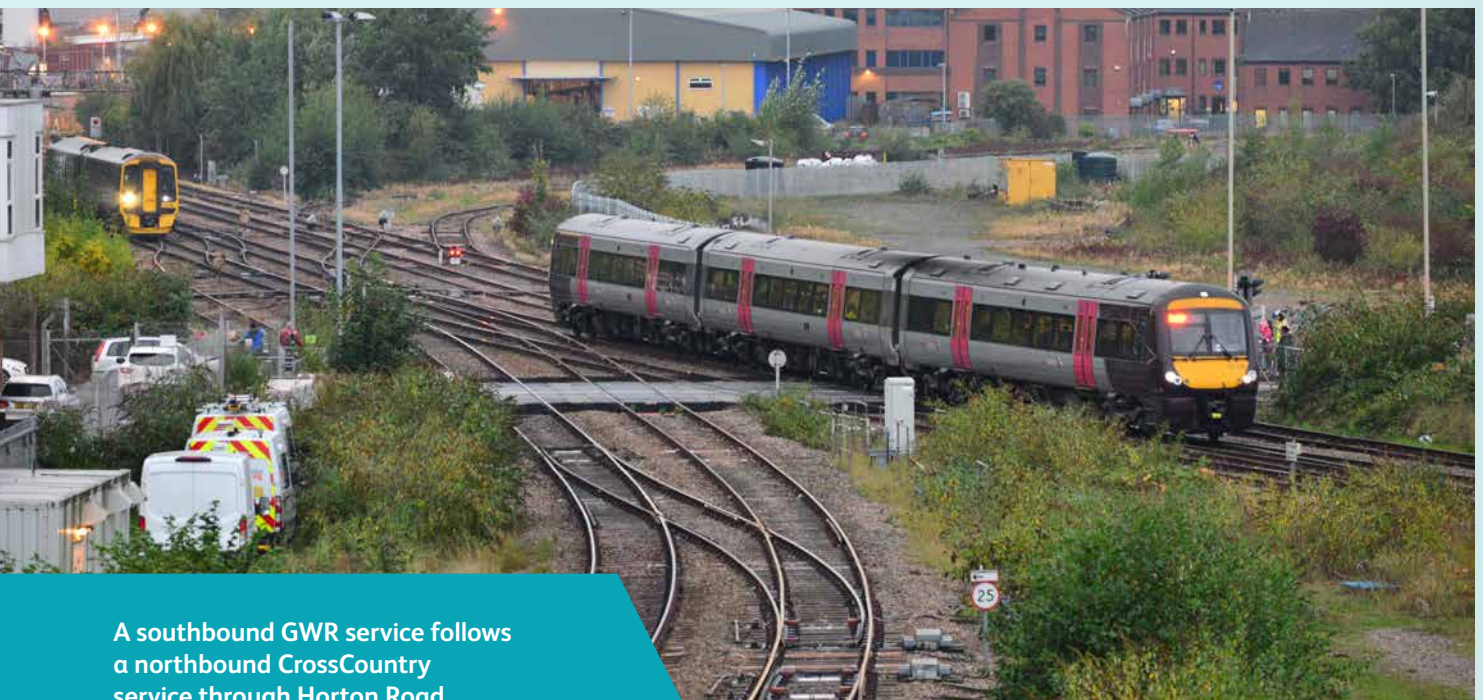
The rail network in the Greater Bristol area carries freight, as well as long-distance high-speed, inter-regional, local, and metro-style passenger services. These serve different markets, with different characteristics that need to be accommodated.

Another challenge is the connectivity of the major hubs not directly on the main line (Gloucester to the north and Weston-super-Mare to the south). The journey time impact of leaving the mainline to serve these areas is a barrier to greater connectivity.

Passenger services

Passenger services in this area are provided by four Train Operating Companies (TOCS):

- **CrossCountry: Bristol, Cardiff, Cheltenham, Taunton and beyond**
- **Great Western Railway: Cardiff/Portsmouth, Cheltenham/Paddington, and Bristol/Cardiff/Exeter/Westbury/Weymouth/Worcester**
- **Transport for Wales: Cardiff/Cheltenham**
- **South Western Railway: Westbury.**



A southbound GWR service follows a northbound CrossCountry service through Horton Road Junction near Gloucester (2021).

Freight services

The Greater Bristol area serves freight traffic with origins/destinations in the area and longer distance movements as part of a longer journey. Regular rail freight movements include:

- **Suez Recycling (Seabank Power Station):** inbound containerised domestic refuse originating from West London
- **Avonmouth:** inbound construction materials originating from the Mendip Quarries (aggregates), and Cheshire and the North of England (cement)
- **South Liberty Lane:** outbound aggregates sourced from a nearby quarry and destined for terminals in Oxfordshire
- **Westerleigh:** inbound petroleum products from refineries in South West Wales and the North of England.

Traffic types transported as part of longer distance journeys include:

- **Intermodal:** container flows including Wentloog (South Wales) to the East Midlands via Lydney and Gloucester; London and the South East via Bristol Parkway; to/from Southampton via Reading
- **Metals:** steel traffic between manufacturing centres in South Wales and terminals in the Midlands and north, via Lydney and Gloucester
- **Construction materials:** longer distance flows, including aggregates and cement to Avonmouth via the Birmingham-Bristol corridor
- **Aggregates:** flows from Liberty Lane and Bristol East
- **China clay** from the South West to the Potteries
- **Ministry of Defence and nuclear traffic** between locations in the South West and the north through the Bristol area.

Constraints

Key issues requiring intervention to accommodate more services include:

- **capacity on the large sections of two-track railway, given the need to accommodate a mixture of inter-regional, local, and freight traffic**
- **slow-speed junctions and restrictive layouts (such as North Somerset junction)**
- **capacity at Westerleigh Junction**
- **platform and track capacity at Bristol Temple Meads, Gloucester station, Cheltenham Spa station and Weston-super-Mare, where passenger services terminate**
- **further review to identify the level crossings most impacted by the service and recommended infrastructure changes**
- **restrictive headways on most of the corridors into Bristol, including on the lines to Westbury and to Exeter.**

About the study



A CrossCountry High Speed Train (HST) passes through Parson Street station, heading for Taunton and the West Country.

Our main question is:

How can rail best support sustainable economic and housing growth in Greater Bristol?

To answer this, we need to answer these supporting questions:

- How can rail make a positive contribution to the economic growth agenda for the study area, by improving capacity, journey times and connectivity?
- Post COVID, should rail prioritise local and sub-regional connectivity (including leisure travel) ahead of long-distance movements and commuting?
- How can rail best support the central and local government net zero carbon emissions policy objective?
- What interventions are needed to increase opportunities for moving freight by rail?
- How can rail keep improving its reliability and resilience?

Our key stages and components are:

- evidence gathering
- market demand forecasting
- developing Indicative Train Service Specifications (ITSS)
- economic analysis of ITSS options
- capacity testing for ITSS options and associated interventions
- refining ITSS proposals with stakeholders
- recommended approach with evidence and next steps.

Our report and recommendations will affect rail services in the Greater Bristol area to 2030 and beyond. Our recommendations are in line with the strategic priorities and objectives identified by Western Gateway, the West of England Combined Authority and other key stakeholders. They also align to the output of previous Network Rail strategic documents.

Stakeholder engagement and priorities

The UK Government has developed five strategic objectives for the Strategic Plan over the next 30 years: meeting customers' needs, delivering financial sustainability, contributing to long-term economic growth, levelling up & connectivity, and delivering environmental sustainability. These objectives are at the heart of this strategy.

Our study involved close collaboration with stakeholders. These included:

- sub-national transport bodies
- statutory transport and planning authorities
- passenger and freight train operators.

Study Steering Group members:

- Western Gateway
- West of England Combined Authority
- Gloucestershire County Council
- South Gloucestershire Council
- North Somerset Council
- Wiltshire Council
- Transport for Wales
- Peninsula Transport
- Great Western Railway
- CrossCountry Trains
- Rail Freight Group.

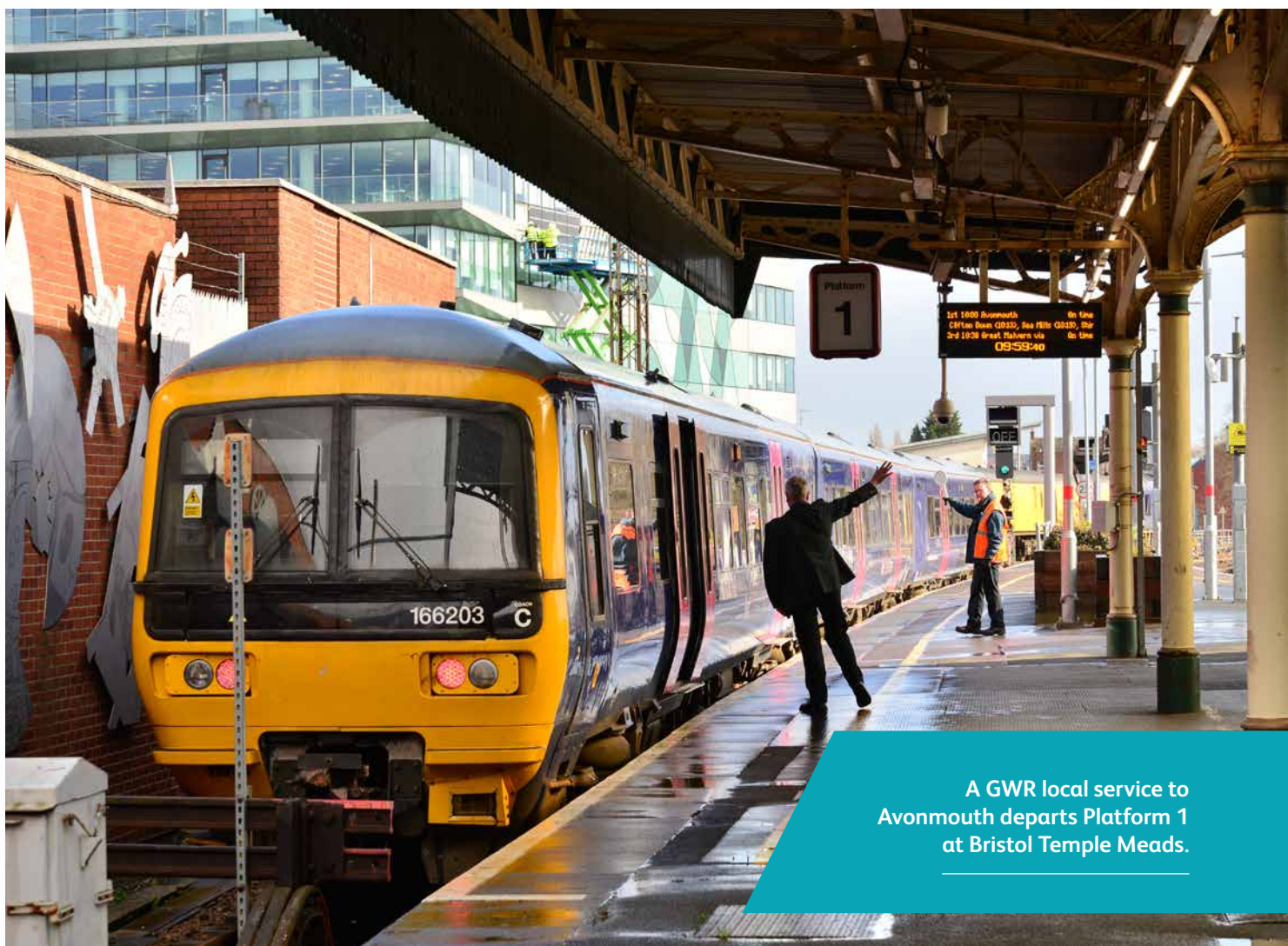
Further input to the study process was received from other organisations, including National Highways and DB Cargo. We decided on a workshop approach for a more in-depth review of the key areas of freight and stations. These workshops drew on the study participants above, with specialists from relevant areas within Network Rail.

Western Gateway is the sub-national transport body for the area. Their vision is for the wider gateway area to be sustainably connected and provide high quality and value for money travel opportunities for its businesses, residents, and visitors. Five objectives comprise this vision:

- 1. Choice – make rail a realistic and viable option for journeys**
- 2. Decarbonisation – enable rail to contribute more actively towards decarbonisation**
- 3. Social Mobility – provide equal journey opportunities by rail for all residents**
- 4. Productivity – enable rail to contribute more actively to improvements in productivity**
- 5. Growth – enable rail to provide sustainable travel options for housing and job growth.**

The Western Gateway Rail Strategy identifies conditional outputs for rail that can help deliver these objectives, including additional services, improved direct connectivity between key hubs and greater provision for freight. These conditional outputs helped to inform the three proposed TSS stages in this study.

A southbound CrossCountry service passes a Great Western Railway IET in Alstone Carriage Sidings near Cheltenham (2021).

A photograph of a train platform at Bristol Temple Meads station. A train is visible on the tracks to the left, and a person is standing on the platform. The image is partially covered by a teal overlay on the right side, which contains white text.

A GWR local service to
Avonmouth departs Platform 1
at Bristol Temple Meads.

Evidence

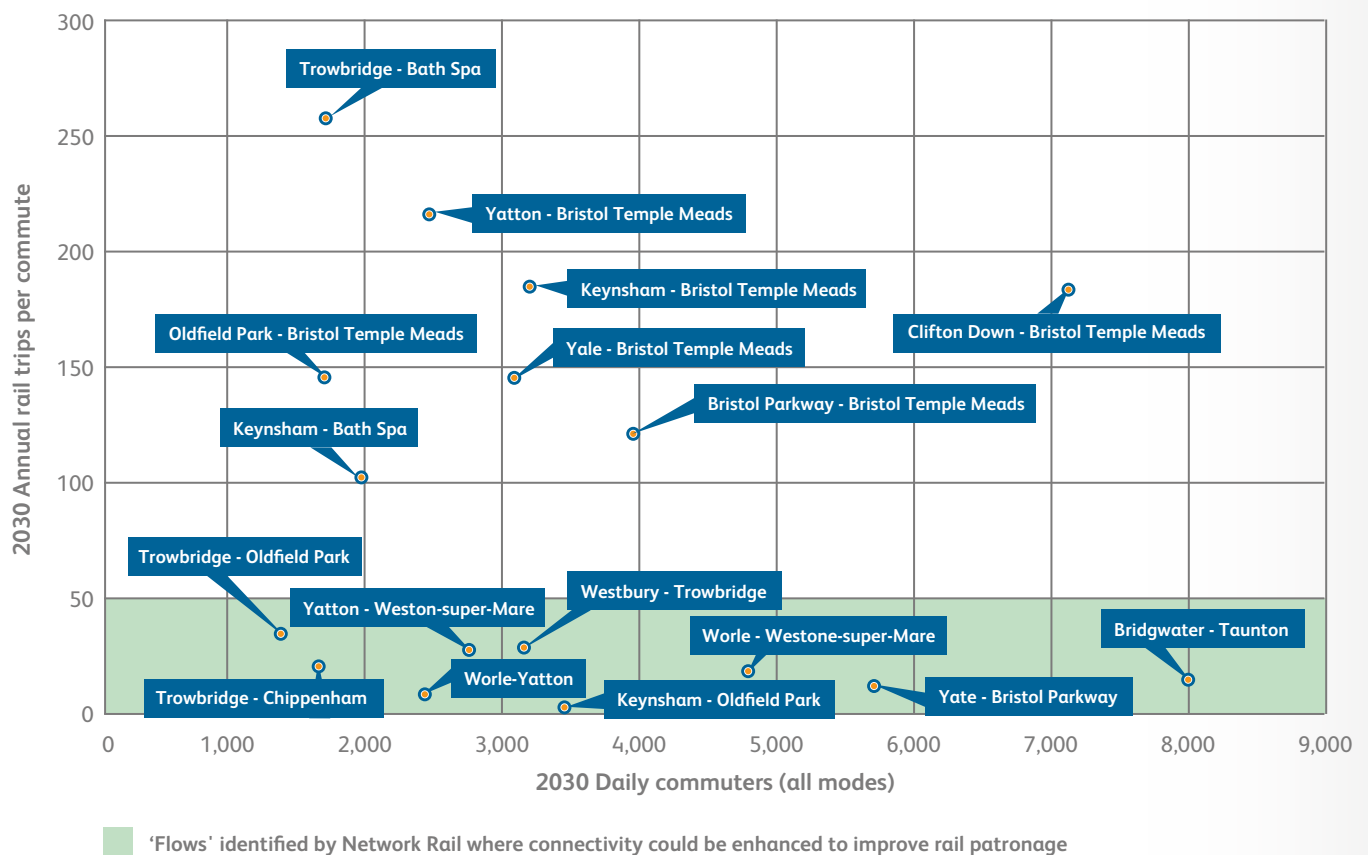
Quantifying current and potential markets for rail in the Bristol area was crucial for shaping our recommendations. This included:

- reviewing existing market characteristics
- developing forecast scenarios and identifying rail demand growth rates
- carrying out connectivity analysis to identify where connectivity between specific stations could be enhanced to improve rail patronage (for example, see the flow connectivity metric in the figure below)
- quantifying benefits delivered by the identified TSS stages.

Figure 2.0 and Table 1.0 are examples of the analysis that has shaped the TSS and our recommendations.

Flow connectivity values for key flows

Figure 2.0



Projected total weekday freight trains in each direction in base year and key growth scenarios

Table 1.0

Scenario	Bristol Parkway – Westerleigh Jn	Keynsham – Oldfield Park	Pilning - Patchway	Filton Abbey Wood – Narrowways Hill Jn	Hallen Moor East – Filton West Jn	Portbury branch line
2016/17 Base Year	6.85	4.72	7.81	4.05	2.45	3.61
High projected growth scenario 2033/34	16.53	4.5	8.75	8.23	4.88	7.26
Central case growth scenario 2033/34	11.2	4.52	7.5	5.8	3.1	4.94
High projected growth scenario 2043/44	24.53	4.74	11.09	10.91	8.42	9.72
Central case growth scenario 2043/44	16.48	4.68	8.8	8.1	5.14	7.09

Timetable analysis involved testing to identify the changes needed to deliver a compliant and robust timetable that meets the future needs of local, inter-regional and freight markets. The testing considered future service reliability and resilience alongside operational needs.



A Freightliner aggregate train passes Bristol East Depot, heading east.

Recommendations



CrossCountry and GWR services
meet at Bristol Parkway.

- Extending a Bristol/Westbury service to Weymouth to align with the recommendations of the Dorset Connectivity study.
- Improved service levels on the Westbury corridor to increase connectivity in this corridor.
- Improved frequency on the Severn Beach line.
- Local services in the Union Connectivity work stream to reduce journey times between Bristol and Cardiff. Introducing new stopping services could allow us to reduce calls in existing interregional services, thus benefiting journey times in the fast service.
- Delivery of 2tph on the Portishead and Henbury branch lines to meet stakeholder longer-term aspirations.
- Freight uplifts on the corridors into Bristol in line with the industry's freight forecasts and stakeholder guidance.
- Service improvements as recommended in the Bristol to Birmingham rail corridor strategic study. This includes connectivity improvements between Bristol and Gloucester while maintaining fast intercity service provision. The Cardiff/Birmingham Midlands Rail Hub (MRH) service should run via Lydney, due to capacity constraints elsewhere.
- Service improvements as recommended in the Bristol to Exeter rail corridor strategic study. This includes connectivity improvements at stations between Bristol and Weston-super-Mare while maintaining a high level of fast intercity services.

We recommend connectivity improvements through additional calls addressing specific flows in inter-regional services at hubs such as Oldfield Park and Keynsham until they can be taken back out and replaced by improved local services.

The Recommended TSS dramatically improves inter-regional connectivity with at least two direct services per hour between major hubs.

Local connectivity improvements on each corridor support growth at hubs across the network.

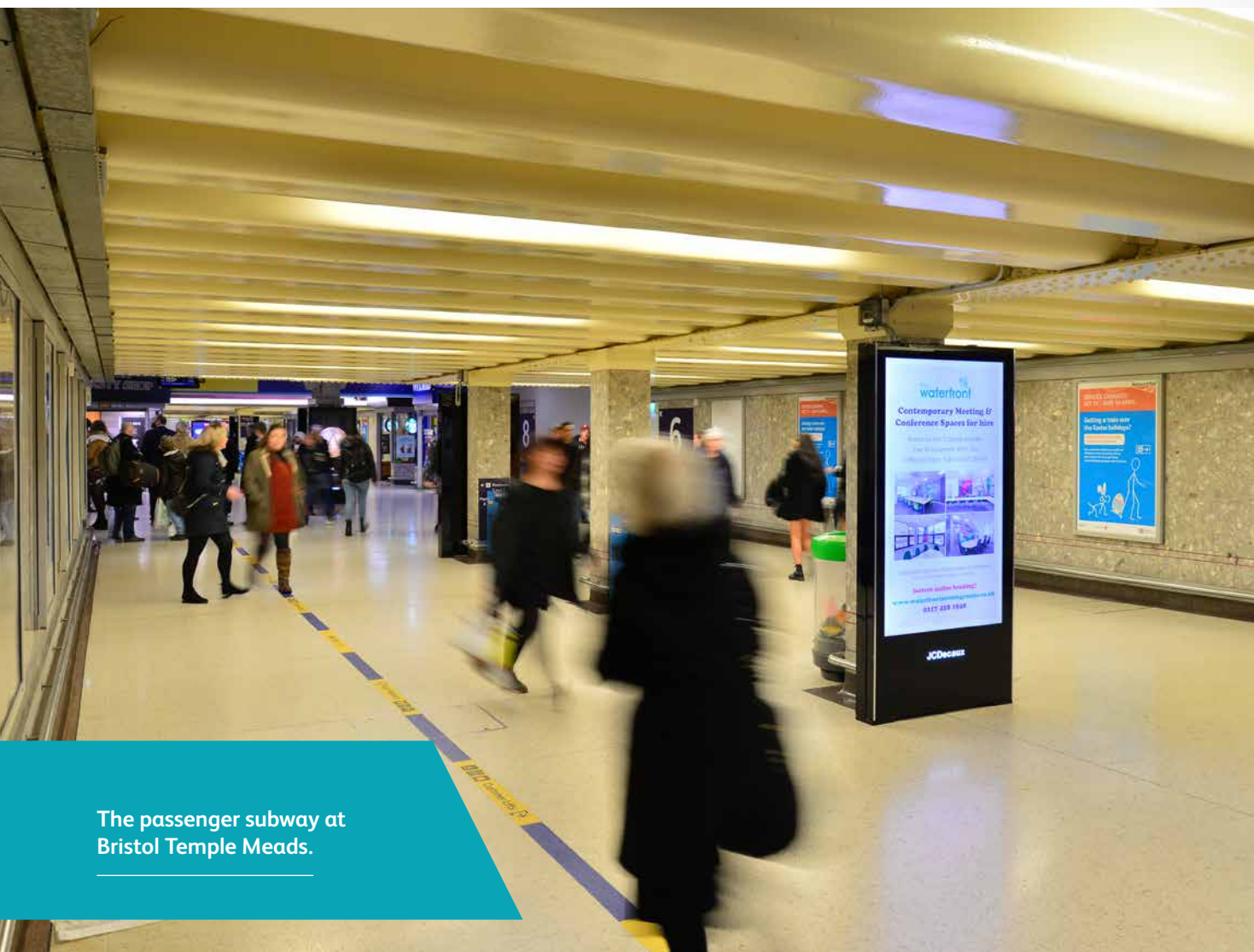
We've identified opportunities for developing rail freight in the Bristol area. More freight paths are needed as well as infrastructure requirements to allow growth in rail freight that will help support sustainable economic growth. We recommend that a freight terminal should be considered in the Avonmouth area to support freight growth in the Bristol area.

Beyond new services, we identify the importance of factors such as increased hours of service and improved rail-to-rail and intermodal interchange in attracting new rail users and supporting growth.

A northbound CrossCountry service calls at Cheltenham Spa.



The passenger subway at Bristol Temple Meads.



Recommended TSS

Stage 1 TSS - quantum of hourly passenger services

Table 2.1

Service enhancement	Type	Description	Corridor calls	Rationale
Bristol/Exeter				
Manchester Piccadilly/ Exeter St David's	Extension	Extending the XC service to Exeter and alternate hourly call at Bridgwater or Worle/ Weston-super-Mare	Cheltenham, Bristol Parkway, Bristol Temple Meads, Worle, Bridgwater, Taunton	Strong benefits case and a recommendation from the Bristol to Exeter study (B2E)
Bristol/Westbury				
Cardiff/Portsmouth	Amended	Calls added at Oldfield Park and Keynsham	Severn Tunnel Junction, Filton Abbey Wood, Bristol Temple Meads, Keynsham, Oldfield Park, Bath Spa, Bradford-on-Avon, Trowbridge, Westbury	Additional connectivity on the Westbury corridor identified as a priority in the economic analysis
Bristol/Severn Beach				
Weston-super-Mare/Severn Beach	Extension	Extension of the existing service which terminates at Avonmouth	Weston Milton, Worle, Yatton, Nailsea and Backwell, Parson Street, Bedminster, Bristol Temple Meads, Lawrence Hill, Stapleton Road, Montpelier, Redland, Clifton Down, Sea Mills, Portway Park and Ride, Shirehampton, Avonmouth	Additional frequency on the Severn Beach line identified as a priority in the economic analysis
Bristol/Henbury				
Bristol Temple Meads/ Henbury	Extension	Extension of the existing service to Filton Abbey Wood, which is planned to serve Henbury	Lawrence Hill, Stapleton Road, Filton Abbey Wood, Ashley Down, North Filton	Delivers on industry and stakeholder plans to introduce passenger services on the Henbury line

Stage 2 TSS - quantum of hourly passenger services

Table 2.2

Service enhancement	Type	Description	Corridor calls	Rationale
Bristol/Birmingham				
Cardiff Central/Birmingham Moor Street	New service	New service as proposed by MRH but sent via Lydney for capacity reasons and for improved regional connectivity	Gloucester, Cheltenham	Delivers on advanced schemes for the corridor and align with the recommendations from the Bristol to Birmingham study (B2B)
Bristol Temple Meads/ Birmingham Moor Street	New service	New service as proposed by MRH	Bristol Parkway, Cheltenham	Delivers on advanced schemes for the corridor and aligns with the recommendations from B2B

Service enhancement	Type	Description	Corridor calls	Rationale
Bristol/Exeter				
Weston-super-Mare/ Gloucester	Amended	Extend Bristol to Gloucester services to Weston-super-Mare calling at all stations from Nailsea and Backwell to Weston-super-Mare	Worle, Yatton, Nailsea and Backwell, Parson Street, Bedminster, Bristol Temple Meads, Lawrence Road, Stapleton Road, Filton Abbey Wood, Bristol Parkway, Yate, Cam and Dursley	Aligns with Western Gateway rail strategy and a recommendation from B2E
Bristol/Westbury				
Bristol Temple Meads/ Oxford	New service	New service to Oxford via Bath Spa	Bath Spa, Chippenham	Delivers on stakeholder's priorities and meets this study's priority to reduce journey times between Bristol and Oxford
Bristol Temple Meads/ Weymouth	Extension	Extension from Westbury/ Weymouth	No change to current calling pattern	Recommendation out of the Dorset Connectivity Study
Bristol/Severn Beach				
Bristol Temple Meads/ Severn Beach	New service	New local service between Bristol and Severn Beach	Lawrence Hill, Stapleton Road, Montpelier, Redland, Clifton Down, Sea Mills, Portway Park and Ride, Shirehampton, Avonmouth	Delivers the additional frequency on the Severn Beach line identified as a priority in the economic analysis
Bristol/Cardiff				
Bristol Temple Meads/ Cardiff Central	New service	Two new local services as proposed in the Union Connectivity work stream	Severn Tunnel Junction, Patchway, Filton Abbey Wood, Ashley Down, Stapleton Road, Lawrence Hill	Aligns with Union Connectivity and meets this study's priority to reduce journey times between Bristol and Cardiff

Stage 3 TSS - quantum of hourly passenger services

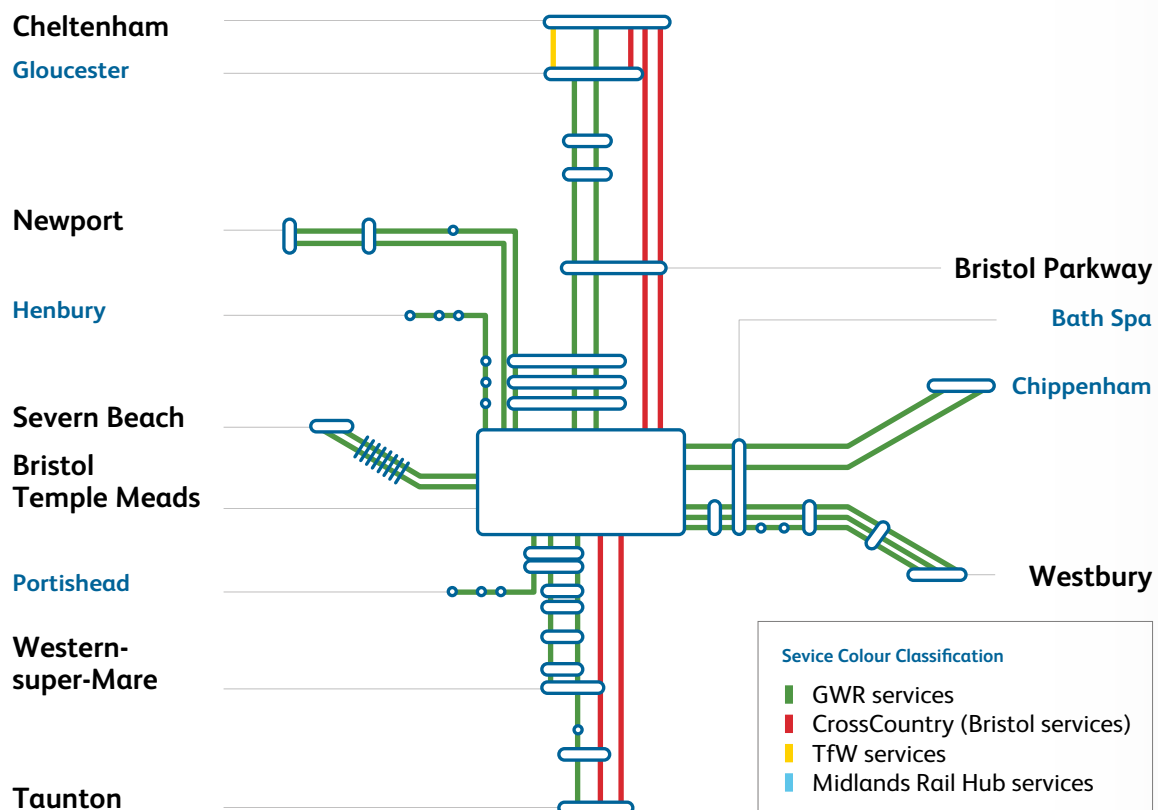
Table 2.3

Service enhancement	Type	Description	Corridor calls	Rationale
Bristol/Birmingham				
Swindon/Cheltenham	New service	Western Gateway aspiration	Gloucester	Delivers high-priority connectivity recommendation and considerable benefits
Maesteg/Gloucester	Early termination	Existing TfW Maesteg/ Cheltenham terminated early	Gloucester only	Removal reduces operational constraints at Cheltenham; lost connectivity is offset by other new services. Aligns with B2B recommendations
Westbury/Worcester Foregate Street	Extension	GW DA Gloucester/Westbury extended to Worcester	Gloucester, Cheltenham Spa	Delivers connectivity recommendation of strategic importance; reasonable benefits. Aligns with B2B recommendations

Service enhancement	Type	Description	Corridor calls	Rationale
Gloucester/Bristol Temple Meads	Two new services per hour	New service creating metro-style frequency between Gloucestershire and Bristol	Bristol Parkway, Yate, Cam and Dursley	Delivers key priority in connectivity analysis and strong benefits case. Aligns with B2B recommendations
Bristol/Exeter				
London Paddington/Taunton	Extension	Extension of a current London Paddington/Bristol Temple Meads service	Bath Spa, Bristol Temple Meads, Worle, Weston-super-Mare, Bridgwater	Provides additional inter-regional connectivity on the Bristol/Exeter corridor. Aligns with B2E recommendations
Gravity/Gloucester	Extension	Extension of the amended Gloucester/Weston-super-Mare service	Highbridge and Burnham, Worle, Yatton, Nailsea and Backwell, Parson Street, Bedminster, Bristol Temple Meads, Lawrence Road, Stapleton Road, Filton Abbey Wood, Bristol Parkway, Yate, Cam and Dursley	Would provide a passenger rail link to Gravity should the site progress. Aligns with B2E recommendations
Bristol/Westbury				
Cardiff Central/Portsmouth Harbour	New service	A second service between these two regional hubs. Likely that this could be an extension of an existing service due to capacity constraints	Severn Tunnel Junction, Filton Abbey Wood, Bristol Temple Meads, Bath Spa, Bradford-on-Avon, Trowbridge, Westbury	Supports longer-term stakeholder aspirations
Bristol Temple Meads/Westbury	New service	Another local service	Keynsham, Oldfield Park, Bath Spa, Freshford, Avoncliff, Bradford-on-Avon, Trowbridge	Delivers on this study's priority to deliver greater connectivity on the Westbury corridor
Bristol Temple Meads/Oxford	New service	A second new service to Oxford via Bath Spa	Bath Spa, Chippenham	Delivers on longer term stakeholder priorities and meets this study's priority to reduce journey times between Bristol and Oxford
Bristol/Portishead				
Bristol Temple Meads/Portishead	New service	A second service per hour to Portishead	Bedminster, Parson Street, Pill, Portishead	Supports longer-term stakeholder aspirations
Bristol/Henbury				
Bristol Temple Meads/Gloucester/Henbury	New service	A second service to Henbury. Origin depends on available capacity when this service is brought forward. Could be that one of the new Bristol/Gloucester services goes to Henbury instead of Bristol	All local stations (which ones will depend on service origin)	Supports longer-term stakeholder aspirations
Bristol/Cardiff				
Bristol Temple Meads/West Wales	New service	One new local service as proposed in the Union Connectivity work stream	Severn Tunnel Junction, Filton Abbey Wood, Stapleton Road, Lawrence Hill	Aligns with Union Connectivity and meets this study's priority to reduce journey times between Bristol and Cardiff

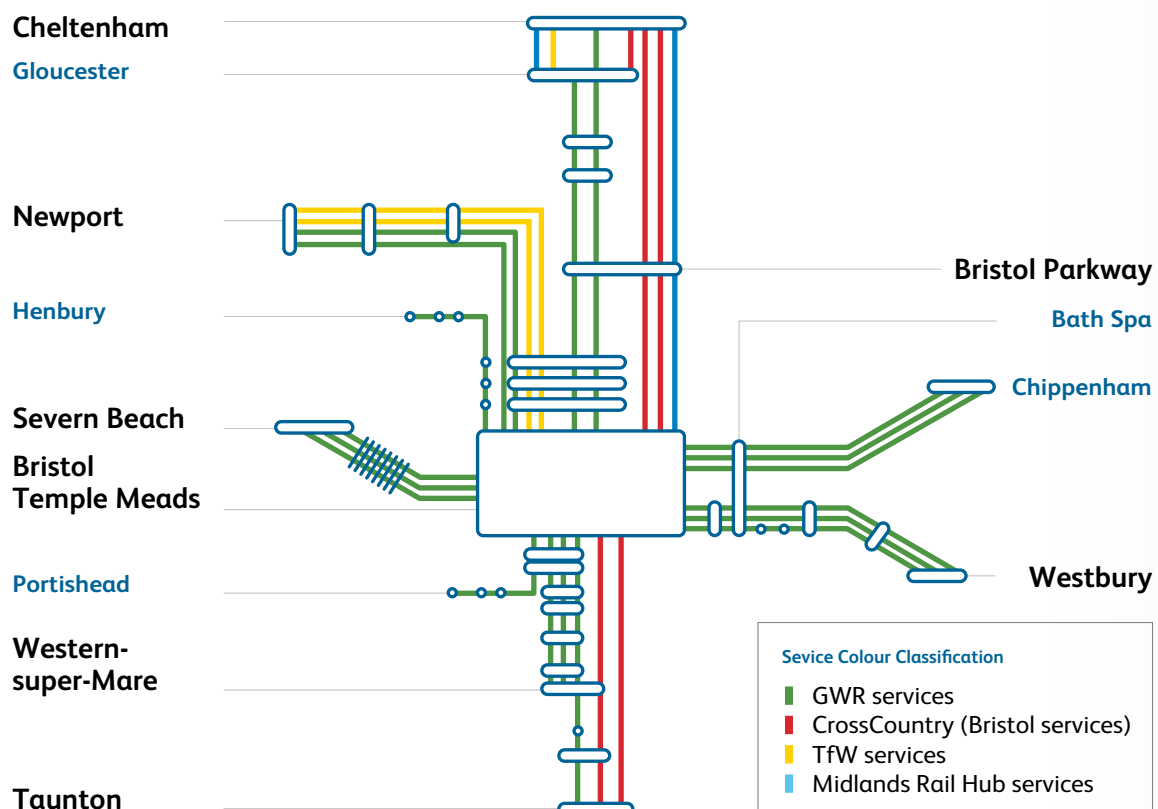
Greater Bristol Train Service Specification Stage 1

Figure 3.1



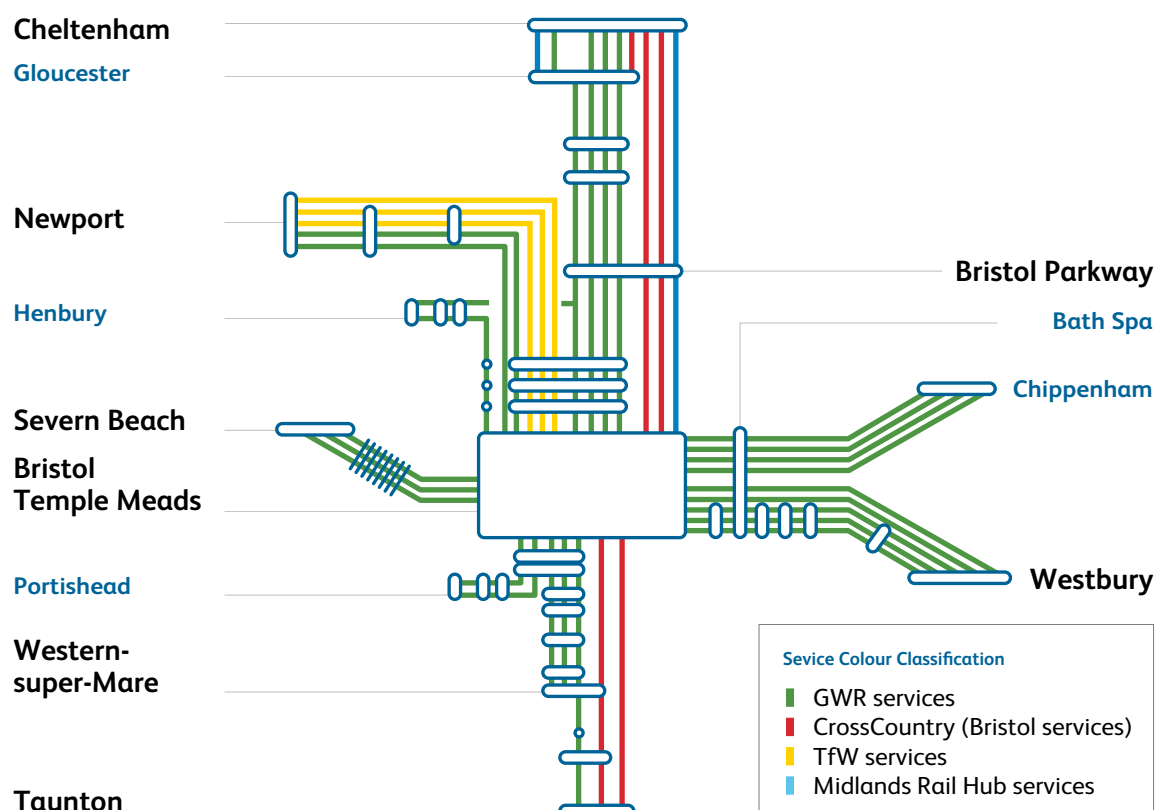
Greater Bristol Train Service Specification Stage 2

Figure 3.2



Greater Bristol Train Service Specification Stage 3

Figure 3.3



Recommended freight paths for each route in the three TSS stages

Table 3.0

Corridor	Stage 1	Stage 2	Stage 3
Bristol/Birmingham	No change	1tph Class 4 path, 1tph Class 6 path (1 via Lydney and the other via Westerleigh)	2tph (1 Class 4, 1 Class 6) via Lydney and 2tph (1 Class 4, 1 Class 6) via Westerleigh
London/Cardiff GWML	No change	1tph Class 6 path	2tph Class 6 path
Bristol/Westbury	No change	0.5tph Class 6 path	No change
Bristol/Exeter	0.5tph Class 6 path Bristol/Exeter 0.5tph Class 6 path Westbury/Exeter	1tph Class 6 path Bristol to Exeter	1tph Class 6 path Westbury/Exeter
Bristol/Cardiff	No change	0.5tph Class 6 path	0.5tph Class 6 path
Portishead branch line	No change	0.5tph Class 6 path	1tph Class 6 path
Henbury branch line	No change	0.25tph Class 6 path	0.5tph Class 6 path

Interventions



A Bristol bound GWR service awaits departure time at Severn Beach station.

The mix of services in the Bristol area and constraints imposed by busy networks – plus the junctions and shared running with the GWML – mean that a threshold is quickly reached when introducing new services. This triggers the need for major interventions. Most have already been identified and some are in development.

Interventions required to facilitate the recommended TSS

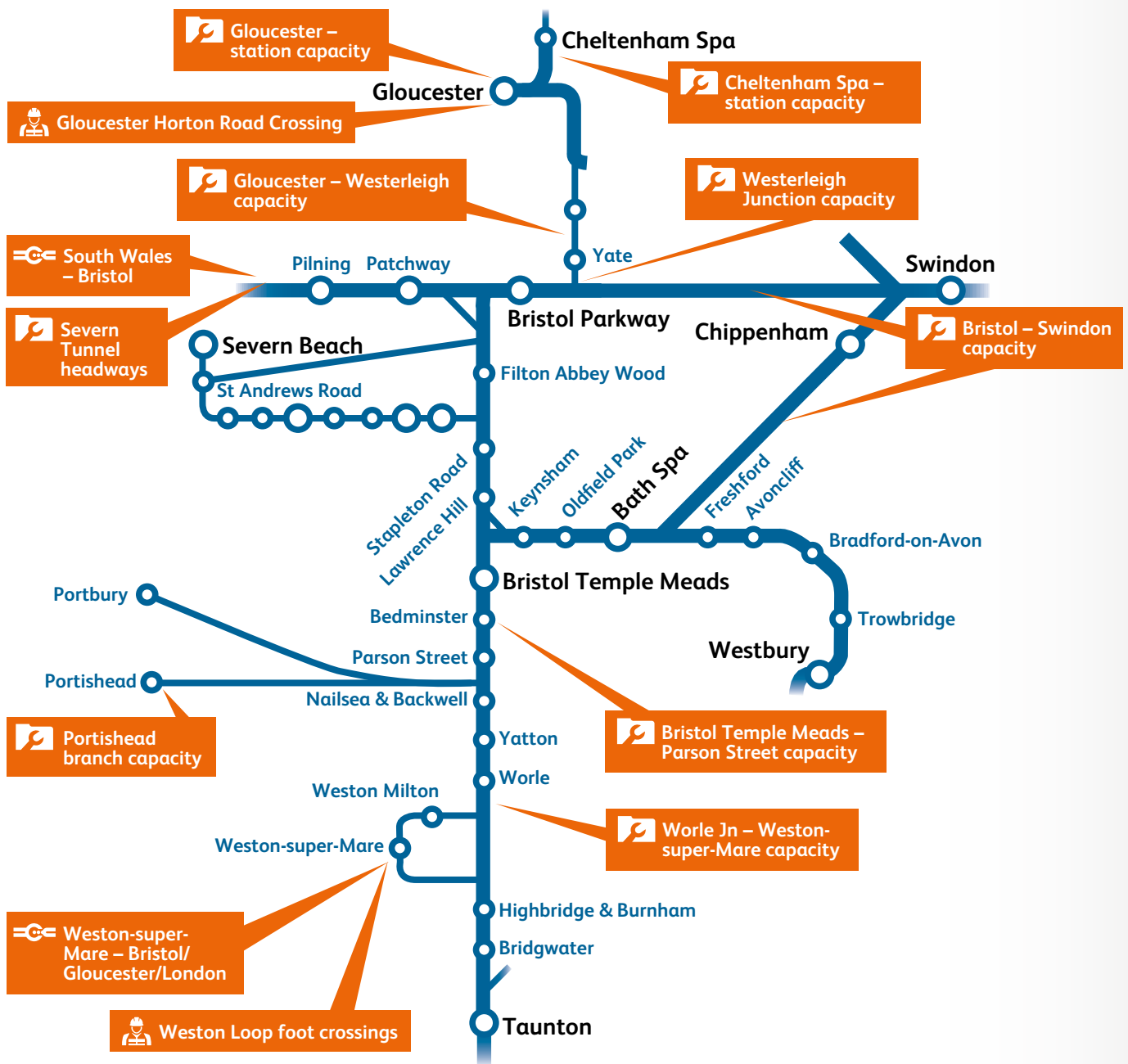
Table 4.0

Area	Necessary interventions	Intervention required at:		
		Stage 1	Stage 2	Stage 3
Cheltenham Spa station	Increased platform capacity and reduced platform re-occupation times			
Gloucester station	New bay platforms			
Gloucester/Westerleigh track capacity	More lines to allow passenger trains travelling in the same direction to pass one another			
Westerleigh Junction	Increased junction capacity and track capacity between Westerleigh Junction and Bristol Parkway			
Hullavington	Enhancements to Up Goods Loop to accommodate two services			
Pilning/Patchway	New Up Relief line			
Severn Beach branch	Reinstated and new platforms and passing loops			
Worle/Weston-super-Mare/Uphill Junction	Double junctions, double-tracking, reinstated bay platform. New through platform at Weston (depending on desired service levels)			
Bridgwater	New Up Goods Loop			
Taunton/Frome	New Up Goods Loop			
Bristol/Swindon	Sections of four-tracking and goods loops			
Portishead branch	4 minute headways/double tracking and double junction at Parson Street			
Bristol Temple Meads station	Potential layout improvements, alterations to support Temple Quarter development			
Multiple locations	Headway reductions			

● - Fully required. ● - Partly required.

Key challenges

Figure 4.0



Corridor Wide

- W8 Freight Loading Gauge
- Signalling headway constraints

Legend



Key Operational Challenges



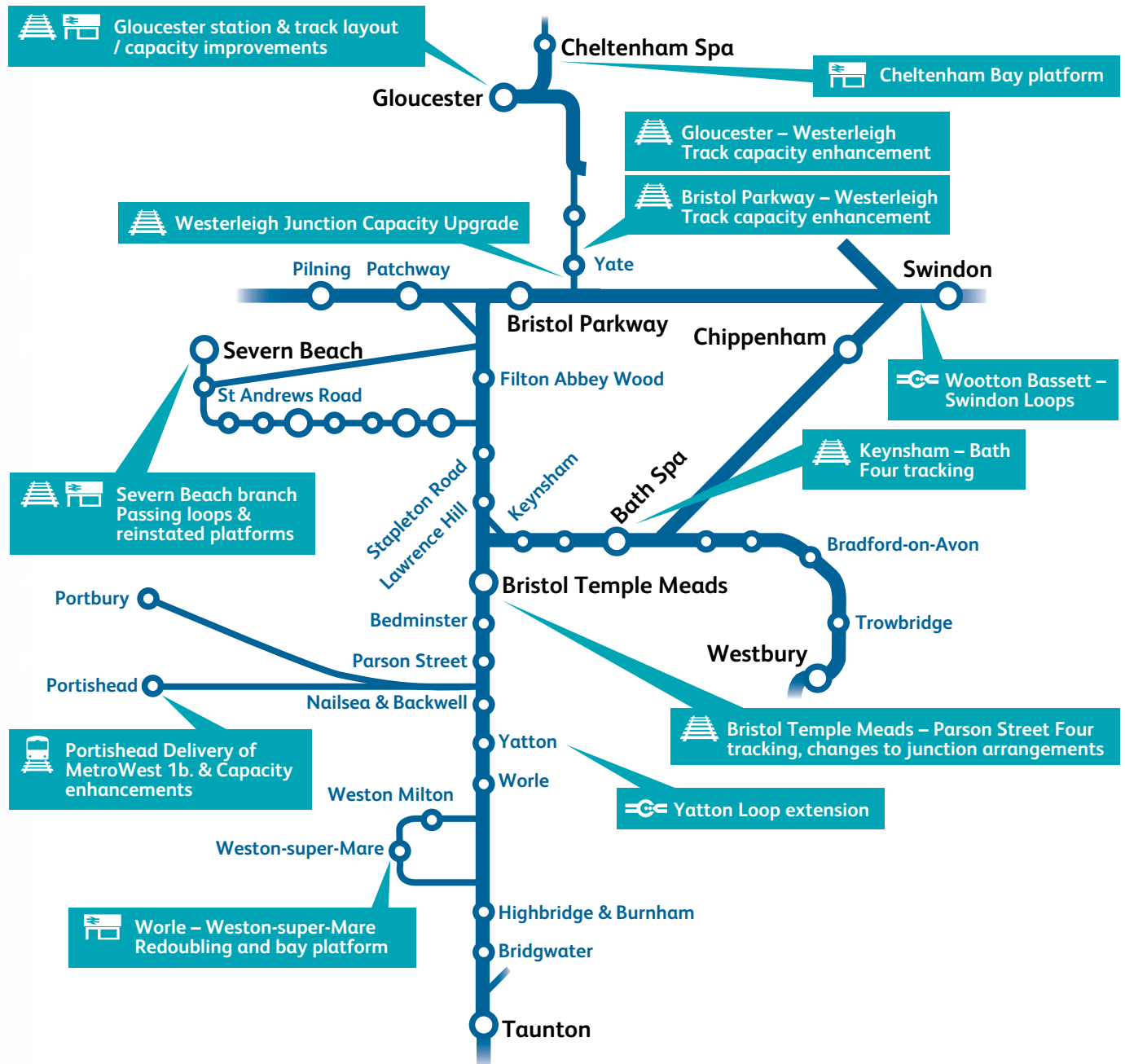
Key Safety Challenges



Key Connectivity Challenges

Study recommendations

Figure 5.0



Corridor Wide

Headway reductions

Legend



New/Major Service Enhancement



New/Upgraded Station



New/Major Upgraded Rail Infrastructure



New/Upgraded Connectivity

Next steps

Outputs and recommendations should be progressed by:

- further development of recommended outcomes
- supporting and influencing existing programmes
- informing future strategic rail planning work.

Developing recommended outcomes

Interventions should be developed in association with the service enhancements they help deliver. We recommend further development of the Bristol area-wide vision of services and interventions. This will help us to understand the feasibility and inter-dependencies of recommended interventions. It will also help us identify business cases. Initial development work is underway to assess the interventions required to run additional services on the Severn Beach branch.

We need to consider areas for intervention that aren't part of planned or existing programmes. The study should also develop the economic case for recommended improvements and provide further detailed timetable validation of proposed new services. We need to consider how we can deliver improvements and interventions in stages.

The study will help us to identify viable business cases and outcomes for further progression.

Supporting and influencing existing programmes

It's important that the work for this study is used to enhance the case for programmes in development. The study outputs should be used to support, inform, and influence the existing Midlands Rail Hub project, Union Connectivity, further MetroWest plans, as well as the future Gloucester area re-signalling.

There is a clear role for study partners to champion and progress outputs, (including as part of rail and investment strategies), especially where outputs align with those we've already identified.

We recommend that (alongside central government funding) we create opportunities to align further development with sub-national transport bodies (in this case Western Gateway) and strategic planning partners' work streams and available funds. Network Rail is already supporting West of England Combined Authority in developing a programme for investment to support MetroWest services to Weston-super-Mare, and Western Gateway in further analysis of a bay platform at Cheltenham Spa.

Informing future strategic rail planning work

The outputs and recommendations should be used to inform future strategic planning work, such as the Wiltshire investment programme currently being developed by Network Rail. This will ensure our vision can be built on and we can take steps to make it reality. And it will ensure that this study's outputs aren't forgotten and decisions aren't made that could compromise our recommendations.

Study answers and recommendations summary

Table 5.0

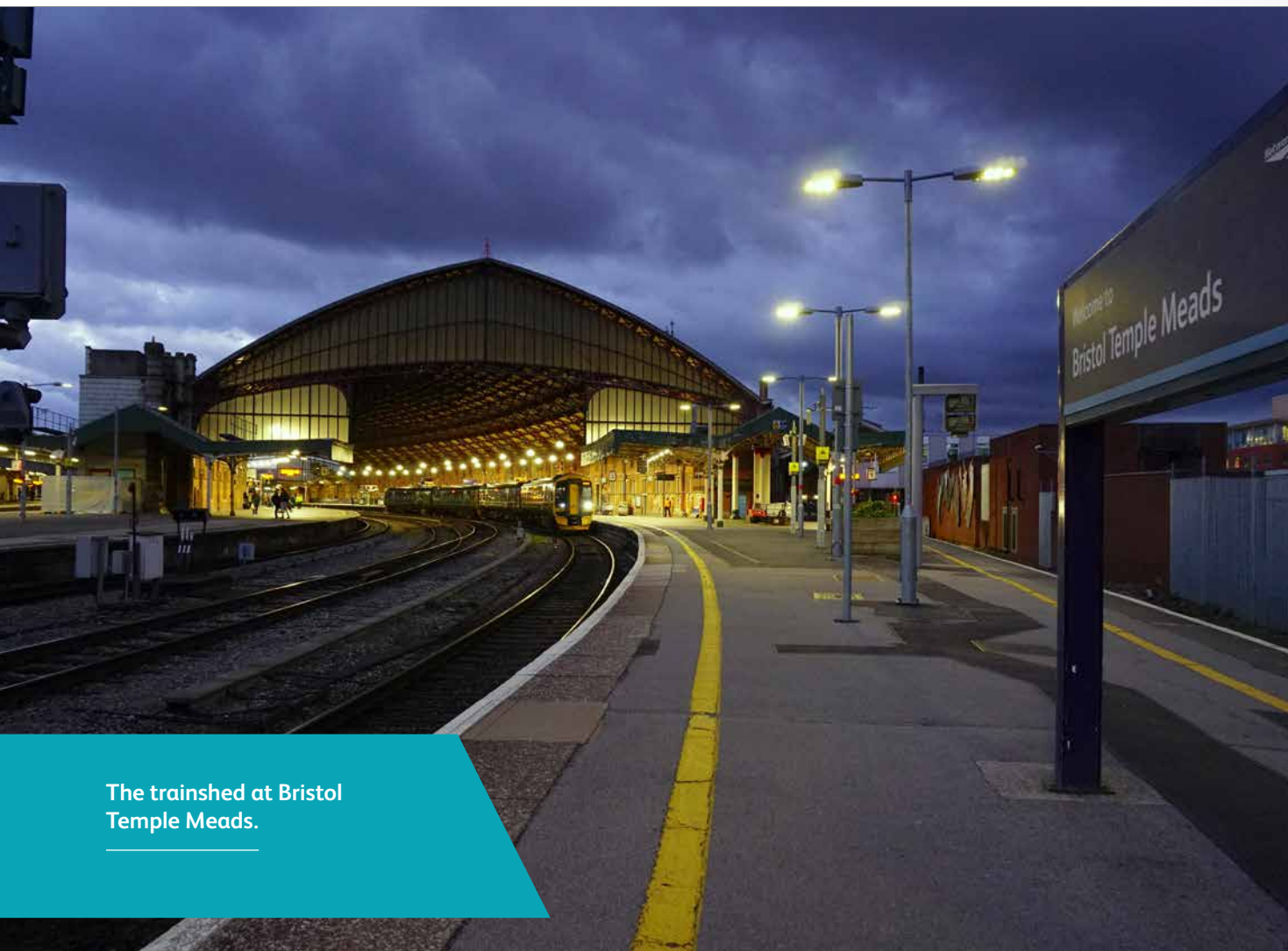
Strategic questions and study recommendations	Type	Next Steps
<p>How can rail make a positive contribution to the economic growth agenda for the study area, by improving capacity, journey times and connectivity?</p> <p>Post COVID, should rail prioritise local and sub-regional connectivity including leisure travel, ahead of long-distance movements and commuting?</p> <p>What interventions are needed to ensure that increasing opportunities for moving freight by rail are realised?</p> <p>How can rail keep improving its reliability and resilience?</p>		
<p>Study outlines TSSs featuring improvements to service groups that are designed to maximise benefits, accommodate stakeholder aspirations, and address connectivity shortfalls. They also include more freight paths to facilitate rail freight growth (notably intermodals and express logistics).</p> <ul style="list-style-type: none"> Midlands Rail Hub inter-regional services. Local services between Gloucester and Bristol Temple Meads; Westbury and Worcester Foregate Street; Cheltenham and Swindon. Inter-regional services between Exeter and Manchester. New/more calls at Weston-super-Mare/Worle and Bridgwater. More calls at local stations, including Keynsham and Oldfield Park. New direct service between Bristol and Oxford. Enhanced local services on the Severn Beach and Portishead branches. More freight paths. 	P F	Develop service improvements with stakeholders; influence existing programmes; inform future strategic planning work
<p>Study outlines recommended rail system interventions for new and improved infrastructure, designed to deliver the developed TSS. They feature capacity and resilience benefits and build on already planned upgrades:</p> <ul style="list-style-type: none"> Cheltenham Spa new south-facing bay platform Gloucester Area re-signalling Gloucester Station new platforms and layout upgrade Gloucester to Westerleigh Junction track passing loops Westerleigh Junction to Bristol Parkway four tracking Worle/Weston-super-Mare/Uphill Junction double junctions, double tracking and new/reinstated platforms Four-tracking and new loops between Bristol and Swindon New/reinstated platforms and passing loops on the Severn Beach branch Increased line speeds/reduced headways/double tracking on the Portishead branch New freight loops at Bridgwater and between Taunton and Frome Signalling headway reductions across most routes. 	P F	Undertake feasibility studies on new interventions and inform cases for existing interventions
How can rail best support the key central and local government policy objective of net zero carbon emissions?		
<p>Our study recommends that <i>First and Last Mile opportunities</i> include: Station master-planning to include the following:</p> <ul style="list-style-type: none"> Integrated design for rail and bus interchange New and improved provision for electric vehicle charging New and improved provision for cycle parking Car parking management measures. 	P	Review and prioritise opportunities in corridor with Local Transport Authorities for early delivery, i.e. Quick Wins
We recommend that opportunities to review and develop freight aspects are progressed. These include plans for new and improved terminals and facilities, notably for express logistics traffic.	F	To be developed through partnerships with sub-national transport bodies and freight operating companies, including the South West Freight Study
We recommend minimum standards for freight infrastructure, including improved passing loop lengths, entry and exit speeds.	F	To be developed as part of rail system interventions (above)
We recommend full electrification consistent with Traction Decarbonisation Network Strategy (TDNS) findings.	P F	To be developed through Regional Decarbonisation Strategies
We recommend that future passenger and freight rolling stock programmes should reflect TDNS proposals.	P F	To be developed through Regional Decarbonisation Strategies
Developed TSSs improve connectivity and offer the opportunity to attract more passengers to rail.	P	To be developed as part of rail system interventions (above)

Type: P - Passenger. F - Freight.

A northbound GWR service calls at Weston super Mare.



The trainshed at Bristol Temple Meads.



Our vision

Rail travel plays a crucial role in this key transport area with its large, growing and diverse population and economy. We aim to improve connectivity and make rail travel more attractive, for more people, for more journeys. And we intend to support projected increases in freight traffic.

To do this effectively, we'll collaborate with stakeholders, including the Train Operating Companies that provide services in the area. Our recommendations include new services, improved connectivity and extending selected existing services.

Specifically, we aim to improve connectivity by delivering:

- improved frequency at local stations, including Keynsham, Oldfield Park, stations to Severn Beach and stations to Henbury
- improved connectivity to, from and between Weston-super-Mare, Bristol Temple Meads and Gloucester stations
- improved connectivity between Westbury and Bristol
- new connectivity between Bristol and Oxford
- improved connectivity between Stroud/Stonehouse and Gloucester/Cheltenham
- new Midlands Rail Hub services from Birmingham to Bristol and Cardiff, providing a link to HS2.

Improved rail connectivity will help build good connections between key urban centres. This will connect people with jobs and employment and enable more people to travel by sustainable means. It will make rail travel a viable option for more leisure journeys. And it will help meet the increasing demand for moving goods and other freight by rail. These are essential for rail to step up and support sustainable growth in the Greater Bristol area.

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