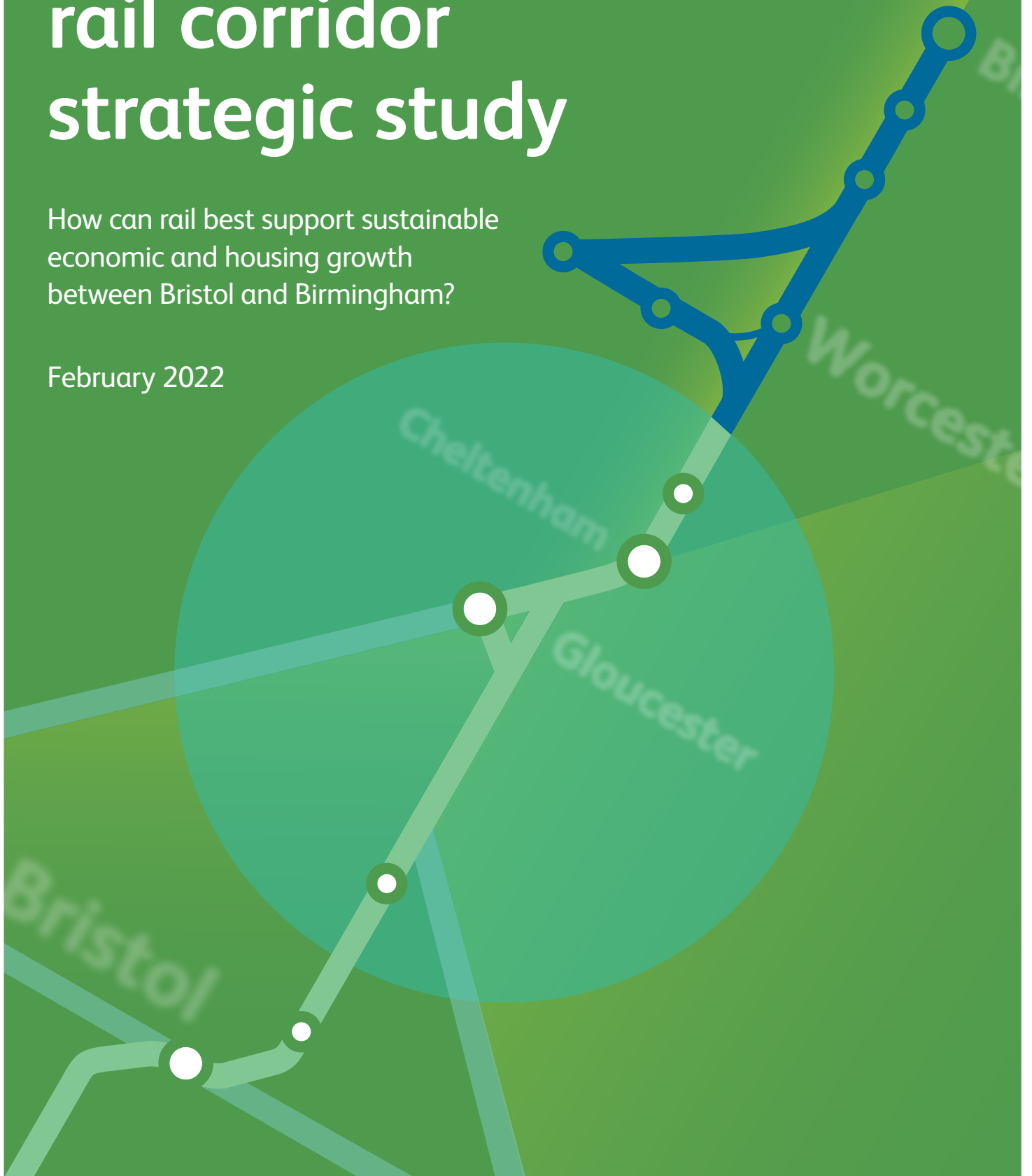


Bristol to Birmingham rail corridor strategic study

How can rail best support sustainable economic and housing growth between Bristol and Birmingham?

February 2022



Foreword

I am delighted to set out with our valued partners this vision for how rail services could develop to support growth in the Bristol Birmingham corridor in the years ahead.

As part of our statutory activities, we have a responsibility to work with train operating and government partners to plan the future of rail growth. This is not an easy task as we go through a time like no other – the Covid-19 pandemic and Williams-Shapps plan for rail are reshaping our industry on a scale not seen in 100 years.

With that in mind, this study represents the best of joint working, sharing data and insight to reach an ambitious but evidenced and integrated strategy. We have shared our outputs with Great British Railways transition team (GBRTT) so that this valuable work can be included in their wider planning for the next 30 years.

Although it is difficult to predict how quickly growth will return to the railways, rail remains a critical lifeline for communities, businesses, and individuals across Britain; and this will only increase as we work towards achieving net zero carbon emissions by 2050.

This study sets out potential options for funders, as well as some that require little or no investment, and our vision is a long term, sustainable one that can be delivered incrementally.

The next few years will be incredibly exciting and challenging, but I know across our industry and partners we will rise to the challenge for the benefit of passengers and freight customers across our route, region and country.



Mike Gallop
Western Route and Strategic Operations Director



Within our respective strategies we recognise the need to improve rail connectivity and make rail an appealing and feasible option for journeys. Our region's vision, objectives, priorities and desired outcomes are well reflected in the Bristol to Birmingham Study.

We are very pleased with this study and believe it to be an excellent piece of collaborative working which demonstrates a strategic alignment between the sub-national transport bodies and Network Rail. We welcome and support the enhanced service proposals explained in the study which will improve connectivity and help reduce carbon emissions.

We are grateful to Network Rail for supporting our strategic priorities and look forward to further collaborative working in taking forward the suggestions in this important long term strategic study.



Cllr Mike Greene
Chair of the Western Gateway STB



Maria Machancoses
CEO, Midlands Connect



Contents

Introduction	4
Study overview	6
The corridor today	10
About the study	12
Gathering evidence	16
Emerging findings	18
Recommendations	20
Interventions	24
Next Steps	28
Our Vision	30

Introduction

How can rail best support sustainable economic and housing growth between Bristol and Birmingham?

Bristol to Birmingham is a key transport corridor that links major UK regions. This vitally important economic area contains major hubs, including Worcester, Cheltenham and Gloucester. The area has a large, growing and diverse population and economy.

There are existing connectivity gaps in the corridor where key journeys aren't attractive by rail. This drives people to use less sustainable and more congested modes of transport. And it hinders economic development in the corridor. Population and employment growth in the corridor will increase these gaps.

Our key challenge is to improve connectivity so rail travel is an attractive option for more people and for more journeys.

The rail corridor carries freight, inter-regional, regional, local, and urban passenger services. Each serves a different market with different characteristics. It also intersects with other major rail corridors carrying their own strategically vital services. Another challenge is to provide the right balance of services to best meet the needs of each of these markets.

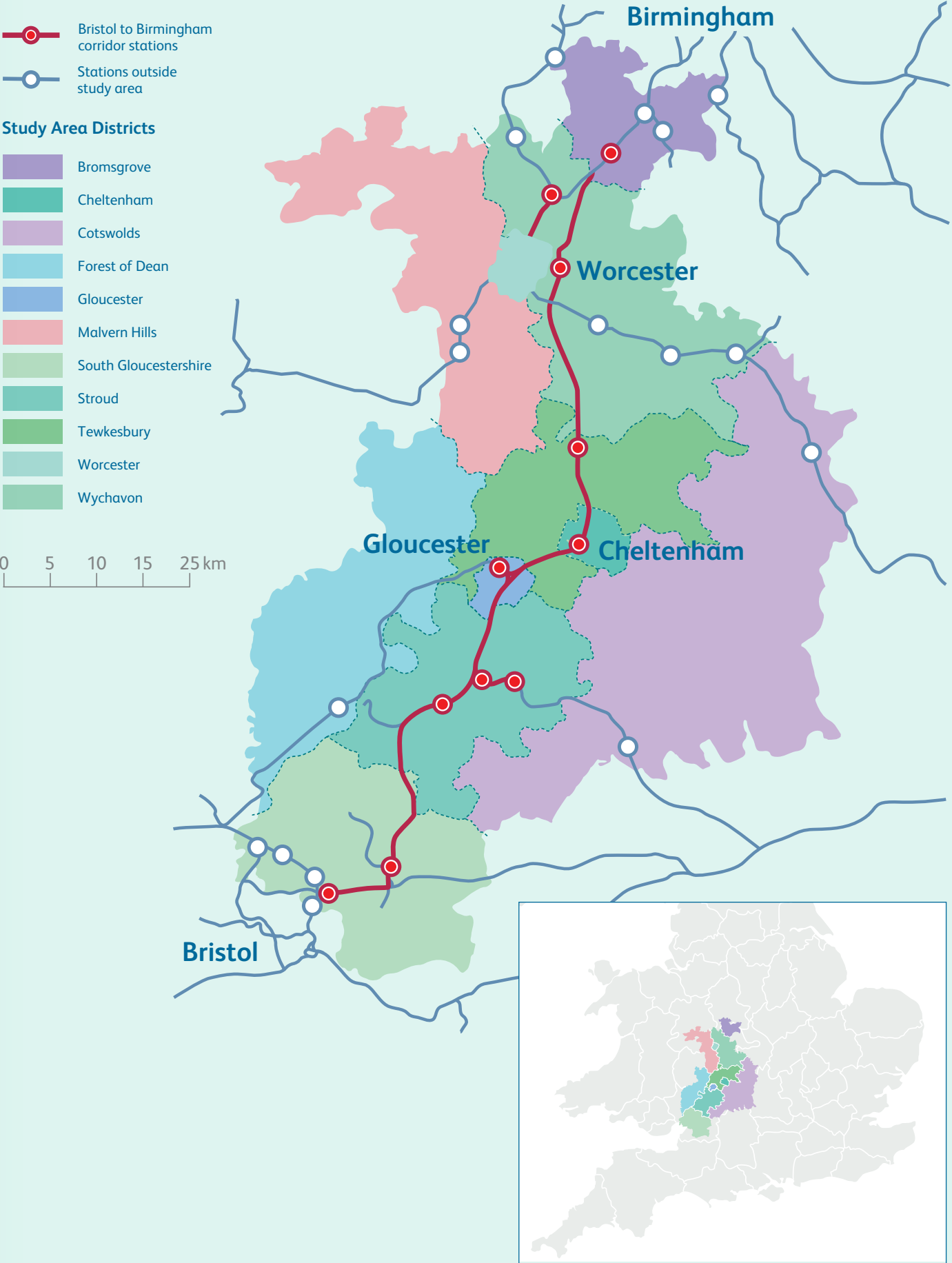
The road alternative for much of the corridor is the M5 motorway. To make rail a sustainable travel option we need to divert existing journeys from road to rail. This is essential for meeting decarbonisation targets. Rail travel is the most environmentally friendly way to move lots of people (and goods) long distances. It plays an important role in meeting the Government's zero-carbon targets by 2050.

There's been a significant drop in rail passenger numbers due to the COVID-19 pandemic. But demand is returning and we expect it to recover. There may be long-term changes in how we travel, but rail still has a crucial role in moving people and goods. This is especially true in this corridor, due to its range of service types, existing connectivity gaps, and forecasted growth.

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 goods and other freight by rail.

The main rail markets in the Bristol to Birmingham corridor.

Figure 0.1



Study overview

We propose a vision for the development of passenger and freight services in the corridor. The vision includes planned service changes and stakeholder aspirations to develop a Recommended Train Service Specification (TSS). This Recommended TSS addresses the key challenges and is designed to support sustainable economic and housing growth in the corridor.

The Recommended TSS emerged from three TSS options that each responded to different priorities. Between them they included a range of options and help us understand key dependencies and benefits. Refining them led to the Recommended TSS.

The annual rail user benefit generated by each proposed service was calculated using MOIRA2 passenger demand forecasting software. A scenario-based approach showed potential future demand for passenger services. This meant modelling rail demand and travel patterns created by sets of plausible socio-economic outcomes.

We then ranked the benefits delivered by each origin-destination flow. This allows us to identify service enhancements that best target connectivity gaps. It also allows us to compare the different Train Service Specifications and options for calling patterns so we can identify which best support our study's objectives.

Our recommended TSS doesn't discount the aspirations in the other TSS options or deliver all stakeholder aspirations. It presents a series of service enhancements supported by the study's analysis, and represents the optimal service offering to support sustainable housing and employment growth in the Bristol to Birmingham corridor.

Our study focuses on the principal railway markets and hub stations served by the Bristol to Birmingham rail corridor.

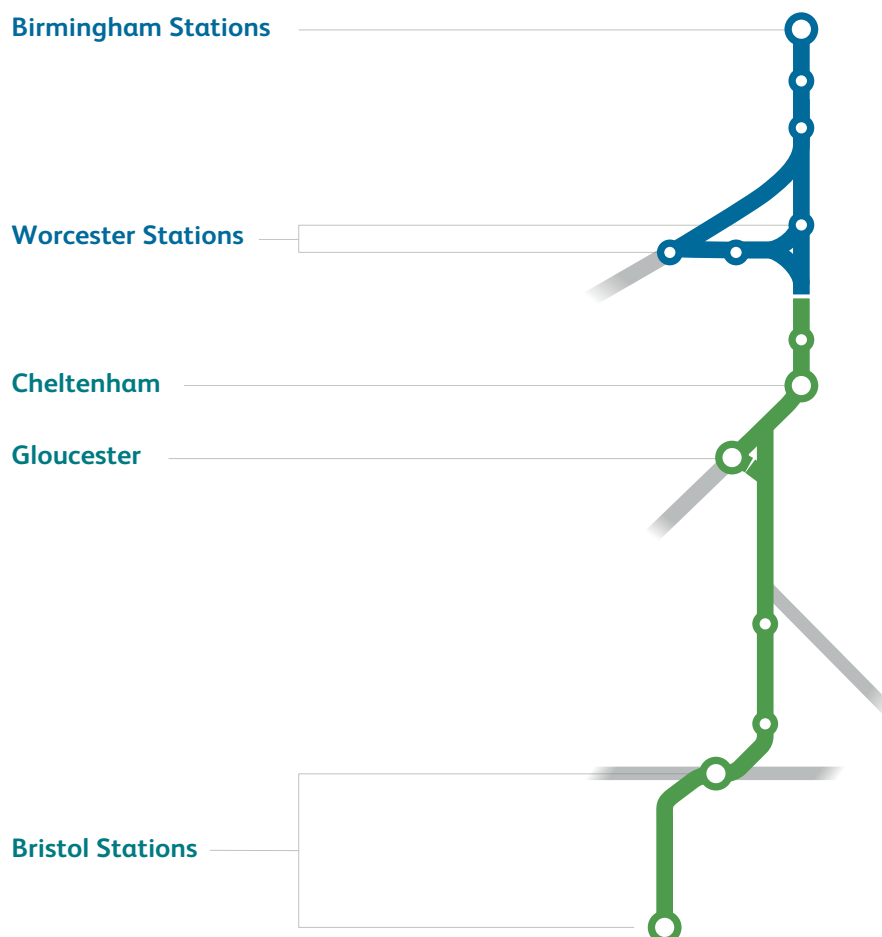
Study area districts' population and jobs (2019).

Table 1.0

Area	Population	Jobs	GVA (£m) 2015 prices
South Gloucestershire	285,040	85,276	11,368
Cheltenham	117,349	67,581	2,832
Cotswolds	89,524	36,615	3,427
Forest of Dean	87,047	28,128	1,442
Gloucester	130,323	75,410	3,097
Stroud	119,821	67,378	2,537
Tewkesbury	93,612	33,673	2,550
Bromsgrove	99,271	32,846	2,644
Malvern Hills	78,448	26,225	1,480
Worcester	85,024	61,224	2,736
Wychavon	128,308	46,917	2,524
Total	1,313,767	561,273	36,637

Hub stations in the corridor between Bristol and Birmingham.

Figure 1.0

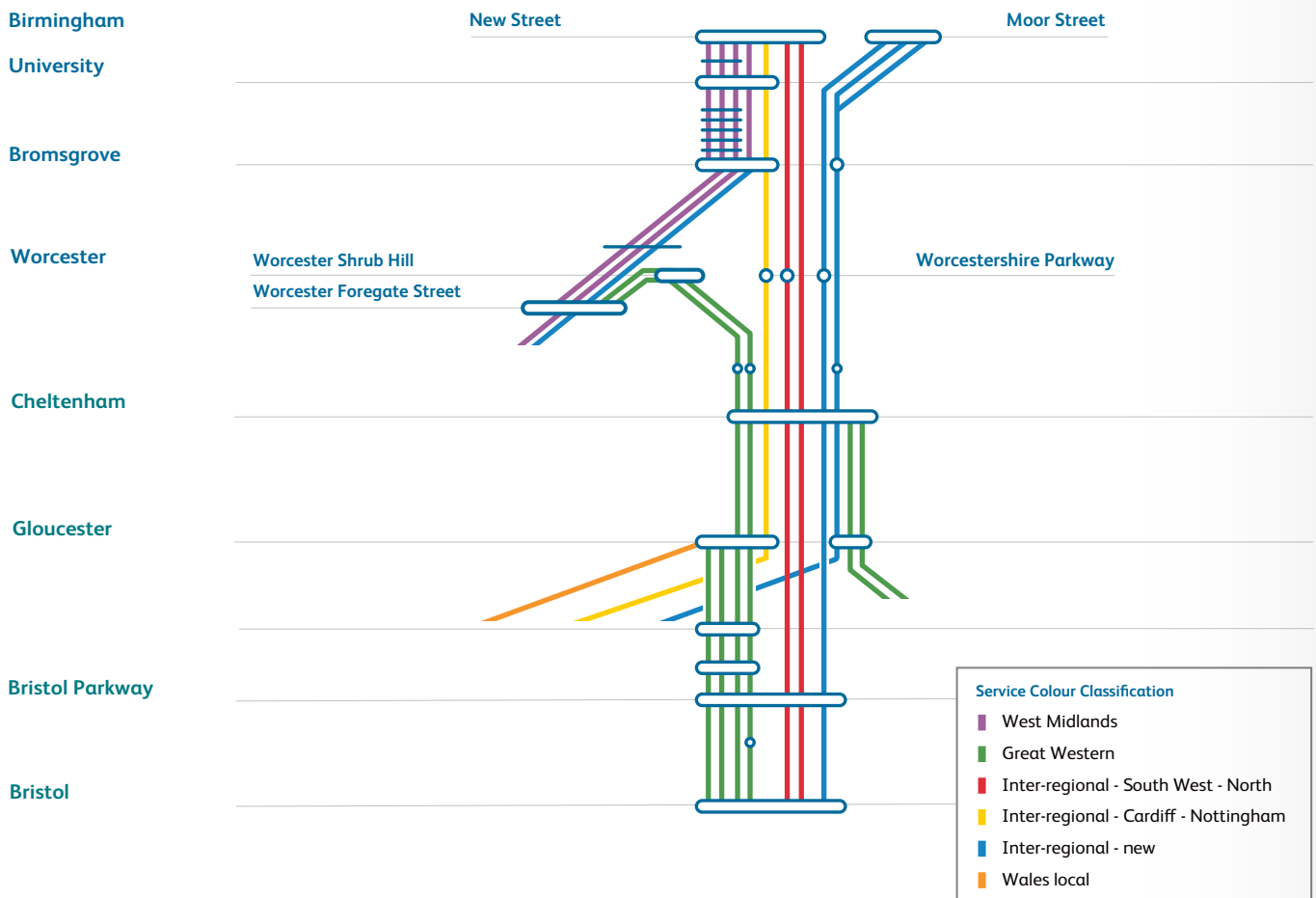


Our specific recommendations are:

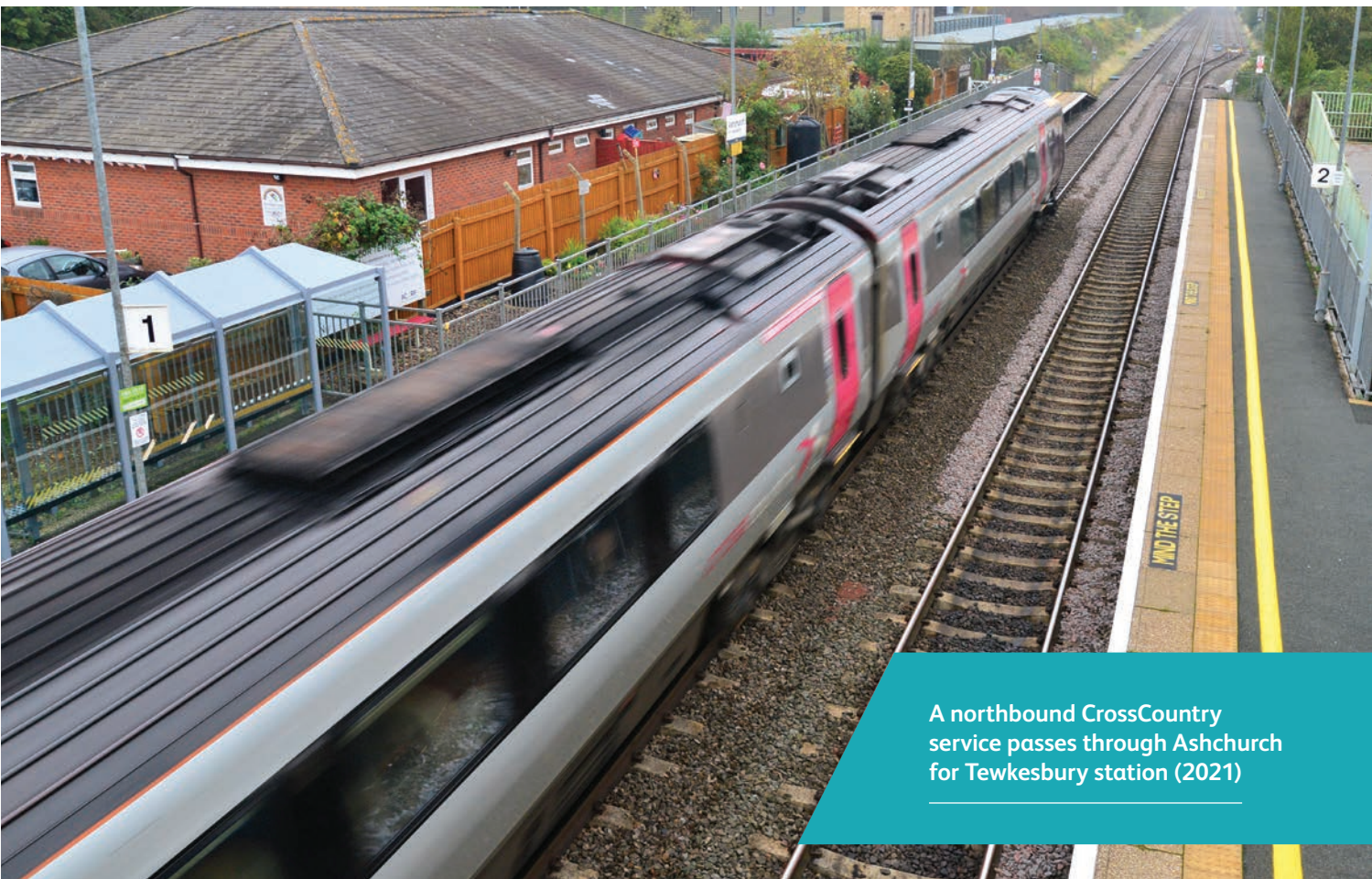
- amendments to inter-regional services to improve connectivity between major hubs while retaining attractive journey times - the Recommended TSS dramatically improves inter-regional connectivity and provides at least two direct services per hour between major hubs
- improved local services including urban frequency between Gloucester and Bristol
- recommended routing of Midlands Rail Hub Cardiff-Birmingham service via Lydney, calling at Gloucester
- introduction of two additional freight paths per hour
- adjustment of services previously proposed to terminate at Cheltenham Spa.

Passenger services identified in the Recommended TSS.

Figure 1.0



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



A northbound CrossCountry service passes through Ashchurch for Tewkesbury station (2021)

The corridor today

The Bristol to Birmingham rail corridor is a busy, mixed traffic railway. It carries long distance and local passenger services as well as freight services.

It is a relatively high-performing railway. Most performance problems that affect services result from issues in the urban networks at either end, around Bristol and Birmingham.

Spare capacity is limited by the need to time many trains around these congested urban networks. And by the range of services in the corridor, which run at different speeds and with different calling patterns. The two-track mainline also means there are few opportunities for trains to pass.

There's a high number of level crossings (96), mostly between Cheltenham Spa and Bromsgrove. The majority are unprotected footpath crossings, and there are also significant highways crossings. To introduce new services, mitigation works are likely to be required at some crossings.

Passenger services

Passenger services are provided by four Train Operating Companies:

- **CrossCountry, between Bristol, Cardiff, Birmingham and beyond**
- **Great Western Railway, between Bristol to Worcester, Cheltenham to Paddington and Bristol to Cardiff**
- **Transport for Wales, between Cardiff to Cheltenham**
- **West Midlands Trains, between Birmingham to Worcester/Bromsgrove.**



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

These passenger services can be divided into four categories:

1. **inter-regional: fast, limited stop services that cover large distances - the off-peak hourly pattern is three services per hour for most of the corridor, and these are supplemented by regional and local services and frequent urban services at the northern end**
2. **regional: fast, limited-stop services that mainly link regional hubs**
3. **local: calling at all (or nearly all) stations with slower end-to-end journey times**
4. **urban: high frequency, all stations services confined to metropolitan areas.**

Freight services

Freight traffic may originate or end in the corridor or travel through as part of a longer journey. Freight facilities that generate regular flows include Tytherington Quarry and Westerleigh Petroleum Terminal.

Traffic types transported as part of longer distance journeys include:

- **intermodal container flows that include Wentloog (South Wales) to the East Midlands via Lydney and Gloucester, and Wentloog to London and the south east via Bristol Parkway**
- **steel traffic between South Wales and the Midlands and north via Lydney and Gloucester**
- **construction materials to Avonmouth and china clay from the south west to the Potteries**
- **MoD and nuclear traffic between the south west and the north which traverses the length of the Bristol to Birmingham corridor.**

Key challenges that need to be addressed to introduce new passenger and freight services are:

- **slow speed junctions and restrictive layouts around Worcester and Gloucester**
- **crossing capacity at Westerleigh Junction**
- **platform and track capacity at Cheltenham Spa station where passenger services terminate**
- **safety improvements at level crossings throughout the corridor.**

Operational constraints affect both route options north of Abbotswood junction for freight traffic towards the West Midlands.

The route via Bromsgrove features the Lickey Incline, the steepest main line gradient in the UK rail network. The alternative via Old Hill is also subject to significant gradients.



Platform 2
145632

GWR

GWR

800 016

MIND THE STEP

Our main question is:

How can rail best support sustainable economic and housing growth between Bristol and Birmingham?

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

- What interventions will help us deliver the rail capacity and connectivity to support growth between Bristol and Birmingham and key settlements in between?
- What changes will meet demands for long-distance travel and freight requirements?
- How can we reconcile improved journey times with the need to serve expanding and new communities?
- What's the role of rail in supporting the UK Government policy objective of net zero carbon emissions?

The key stages and components of our process are:

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

Our report and recommendations will affect rail services between Bristol and Birmingham to 2030 and beyond.

Our recommendations are in line with the strategic priorities and objectives identified in the Western Gateway Rail Strategy and Midlands Connect Strategy.

Stakeholder engagement and priorities

Our study involved close collaboration with stakeholders, including sub-national transport bodies, statutory transport and planning authorities, and passenger and freight train operators.

Study Steering Group members:

- **Western Gateway**
- **Midlands Connect**
- **Gloucestershire County Council**
- **Worcestershire County Council**
- **West of England Combined Authority**
- **West Midlands Rail Executive**
- **Great Western Railway**
- **CrossCountry Trains**
- **West Midlands Trains**
- **Freight operators including DB Cargo, GBRf and FreightLiner**

The sub-national transport bodies Western Gateway and Midlands Connect were key, and Western Gateway acted as joint client for the study. The Western Gateway Rail Strategy identifies a number of outputs to help deliver its objectives. This includes an increased service, direct services between national and regional hubs, improved connection times and an extended timetable.

Midlands Connect's Rail Strategy aims to improve connectivity with better journey times. This particularly applies to connections between the Midlands Engine cities and with other important economic centres. Key hubs that need improvement include Birmingham – Bristol and Birmingham – Cardiff and Birmingham – Worcester – Hereford.

The West Midlands Rail Investment Strategy also identified a need for improved connectivity for Bromsgrove, Worcester Foregate Street and Shrub Hill, and Worcestershire Parkway. This will open up opportunities for the south west of the West Midlands. It will also give better access to the education and health campuses near the refurbished University station.

Gloucester's new Transport Hub - opened in 2018 - viewed from the station forecourt (2021)



A northbound CrossCountry HST passes Cheltenham Alstome level crossing (2021)



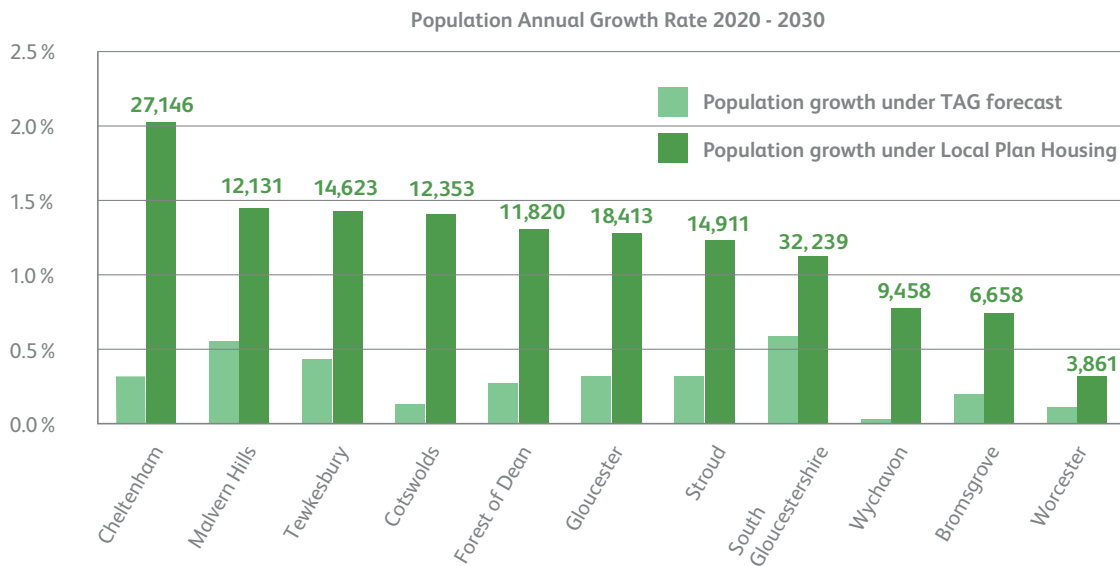
Gathering evidence

We used growth outlined within each of the study districts' Local Plans to provide a detailed projection of population and employment growth across the corridor. This is significantly higher than assumed in the standard, less locally-sensitive method.

Population growth

Local Plan vs standard (TAG) assumptions - data labels show absolute population growth to 2030 under Local Plan growth.

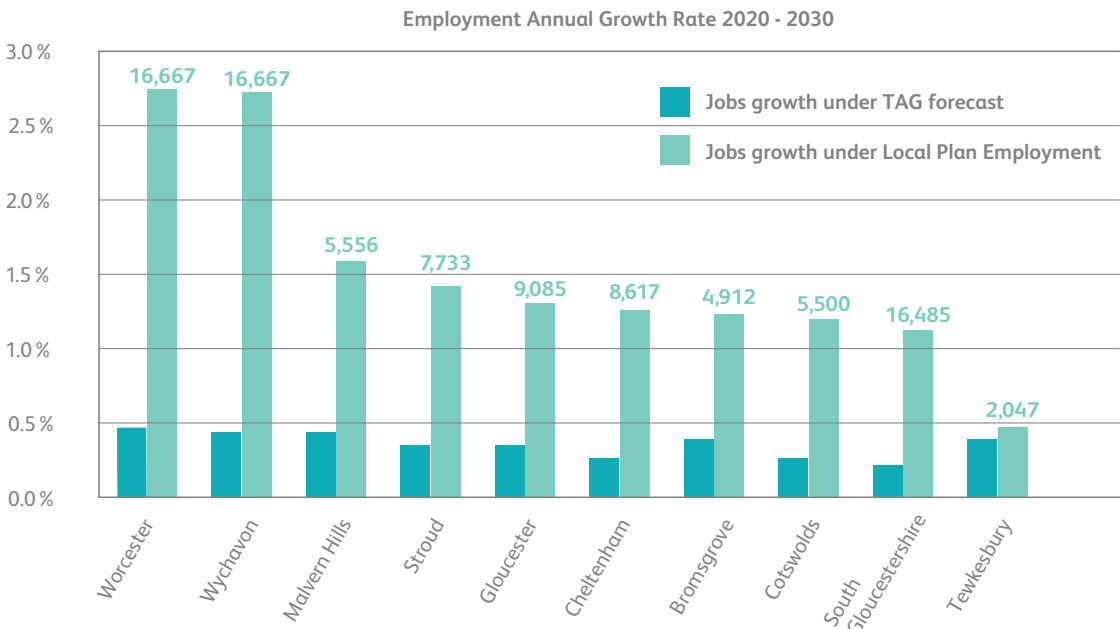
Figure 4.0



Employment growth

Local Plan vs standard (TAG) assumptions - data labels show absolute employment growth to 2030 under Local Plan growth.

Figure 4.1



Impact of growth on rail demand and connectivity

To understand demand as a result of population growth, we calculated how many new rail trips each new resident can be expected to make. Two factors influence this metric:

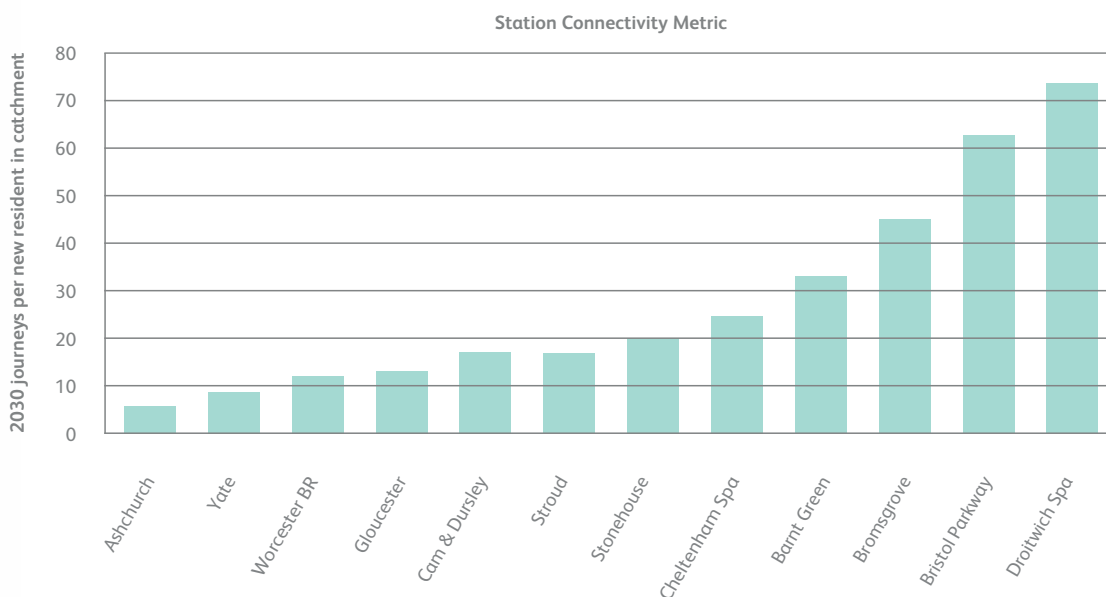
1. rail demand growth to 2030
2. catchment population growth to 2030 under Local Plan housing.

The rate of growth in rail demand relative to the rate in population growth shows how well rail is able to support planned housing and employment growth. The ratio of demand to population gives the station connectivity metric.

The number of forecast rail trips per resident reveals connectivity gaps – where rail may be able to play a much bigger role in supporting growth. This station connectivity metric shows that Ashchurch, Yate, Gloucester, and the Worcester stations perform relatively poorly. Rail doesn't provide an attractive option to attract new journeys and support planned growth.

Journeys per new resident in catchment (2030).

Figure 4.2



A closer look at the projected share of trips made by rail compared to other modes for specific journeys reveals connectivity gaps. Where lots of journeys are made from station catchments but proportionally few by rail, there's a connectivity gap.

In other words, rail performs poorly in comparison to other modes, and improvements are required for rail to support planned growth.

A high number of both trips and daily commuters means many people live near the origin station and work near the destination station, but rail isn't an attractive service for commuting.

Flows within the corridor and not including Bristol or Birmingham generally have lower connectivity values. There is an opportunity to improve connectivity between major and local hubs in Gloucestershire, South Gloucestershire, and Worcestershire.

Emerging findings

Our key priorities include improved connectivity:

- for Worcester stations, Gloucester, Ashchurch, Cam & Dursley and Yate
- between Gloucestershire and Worcestershire
- from Gloucestershire stations into Bristol
- between Stroud/Stonehouse and Gloucester/Cheltenham Spa, providing improved rail options for large commuting flows currently dominated by car
- between Worcester and Cross City Line stations such as Bromsgrove and Longbridge to support commuting to and from Worcester.

Demand for freight services

We used the latest industry rail freight forecasts to project future freight demand in the corridor. The forecasts include South Wales and Bristol freight flows, which converge/diverge at Gloucester.

Two scenarios were adopted to account for the highest projected growth and provide a central case for freight growth.

A breakdown of freight flows by commodity sector suggests significant growth of ten additional trains a day in each direction. The most substantial growth is projected in the intermodal sector, from one to around nine trains per day each way.

Growth may be expected in two traffic types

1. Intermodal services to the south west:

The rail share for intermodal freight traffic south west of Bristol is zero because there are no rail terminals in the south west peninsula. This traffic is undertaken by road. We could develop strategic freight interchanges to drive up this type of traffic.

2. Express logistics services:

The market for transport of parcels and other light consumer goods by rail is fast-developing and has been amplified by the impact of COVID-19 on consumer retail trends.

Trials are underway across the network and there are opportunities involving the major hubs in this corridor. Locations such as Gloucester and Worcester could be early candidates for establishing facilities for this type of traffic.



A GWR service waits at Bristol Temple Meads (2021)

Recommendations

We looked at a range of new services to address the identified gaps. We compared options to generate a recommended vision for passenger and freight train services in the corridor – our Recommended Train Service Specification (TSS).

Our Recommended TSS presents a series of service enhancements supported by the analysis carried out for this study. It represents the optimal service offering to support sustainable housing and employment growth in the Bristol to Birmingham corridor.

There are increases in both local service calls and inter-regional calls across the corridor, with key connectivity recommendations targeted. Connectivity between hub stations is dramatically improved. Each hub is connected by two fast, inter-regional services per hour, except Bristol to Gloucester, which are instead connected by a metro-style local service of four trains per hour.

We recommend local connectivity improvements at each end of the corridor with urban frequency services between Bristol and Gloucester at the southern end to complement those at the northern end.

We recommend preserving the distinction between inter-regional and local services instead of adding multiple calls to inter-regional services. This is because adding calls has significant negative impacts on longer distance flows between major hubs. Further, the main benefit of adding local calls to inter-regional services is confined to improved local connectivity at either end of the route.

Therefore, we recommend connectivity improvements to high-growth local stations though limited, targeted additional calls in inter-regional services. This addresses flows at growth hubs such as Ashchurch and Bromsgrove in inter-regional services and will significantly improve local services.

The study supports introducing Midlands Rail Hub services between Birmingham and Bristol, Cardiff, and Hereford. We recommend that the Cardiff service is routed via Lydney (calling at Gloucester). This has a faster journey time and retains capacity through the Severn Tunnel for Bristol Temple Meads and London services that have no alternative routing.

We recommend developing the intended role of Worcestershire Parkway in supporting growth through providing new calls, rather than diverting inter-regional services through Worcester itself.

As well as new services, the study identifies the importance of increased hours of service and improved rail-to-rail and intermodal interchange in attracting new rail users and supporting growth.

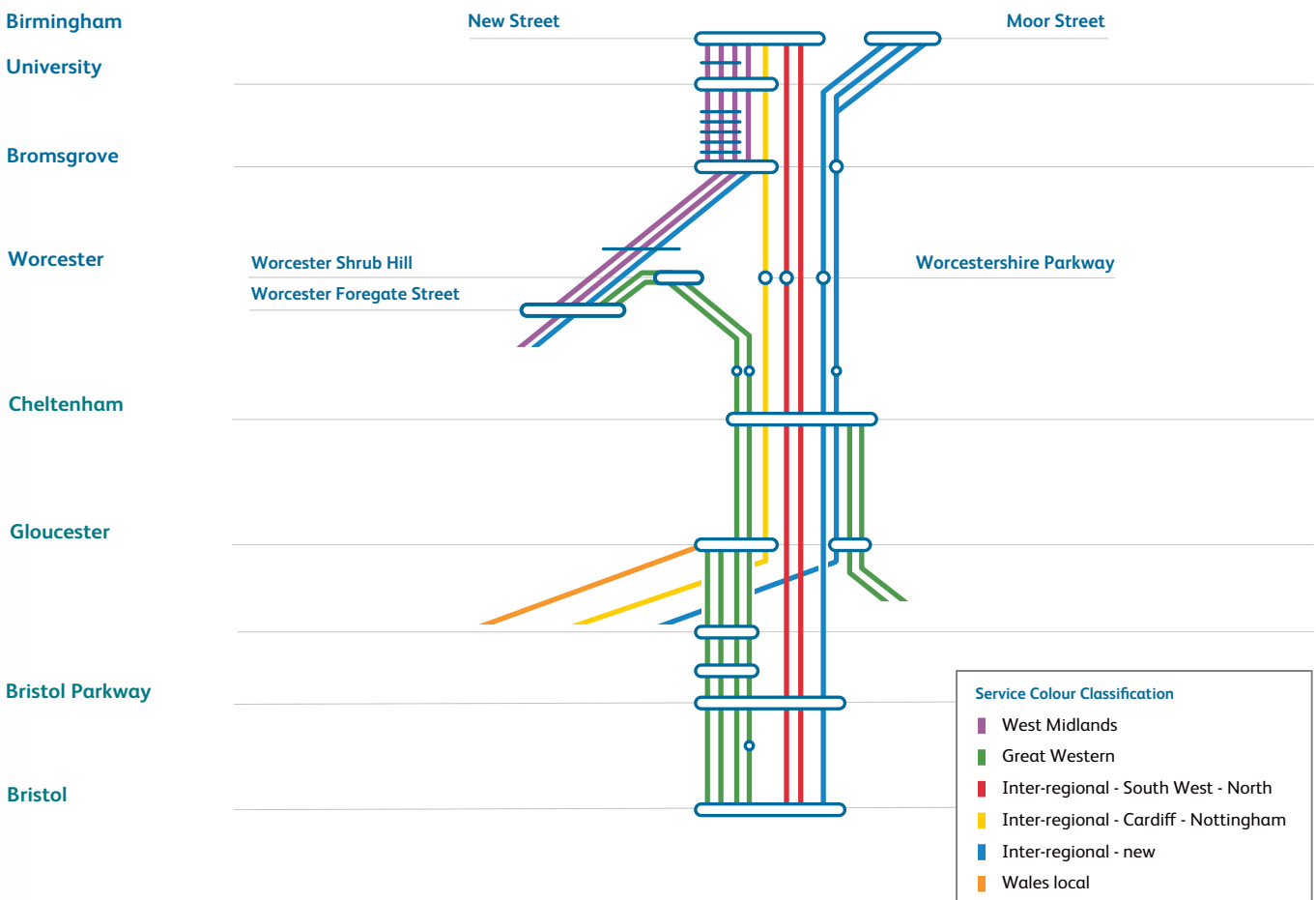
Freight

To facilitate projected freight growth we recommend additional freight paths:

- two freight paths per hour in either direction - these would be combined north of Gloucester as two trains per hour continuing to Abbotswood junction (the limit of freight route planning for this study)
- one should be a class four and one a class six, to account for the variety of freight services using this corridor and to allow for an uplift in intermodal services.

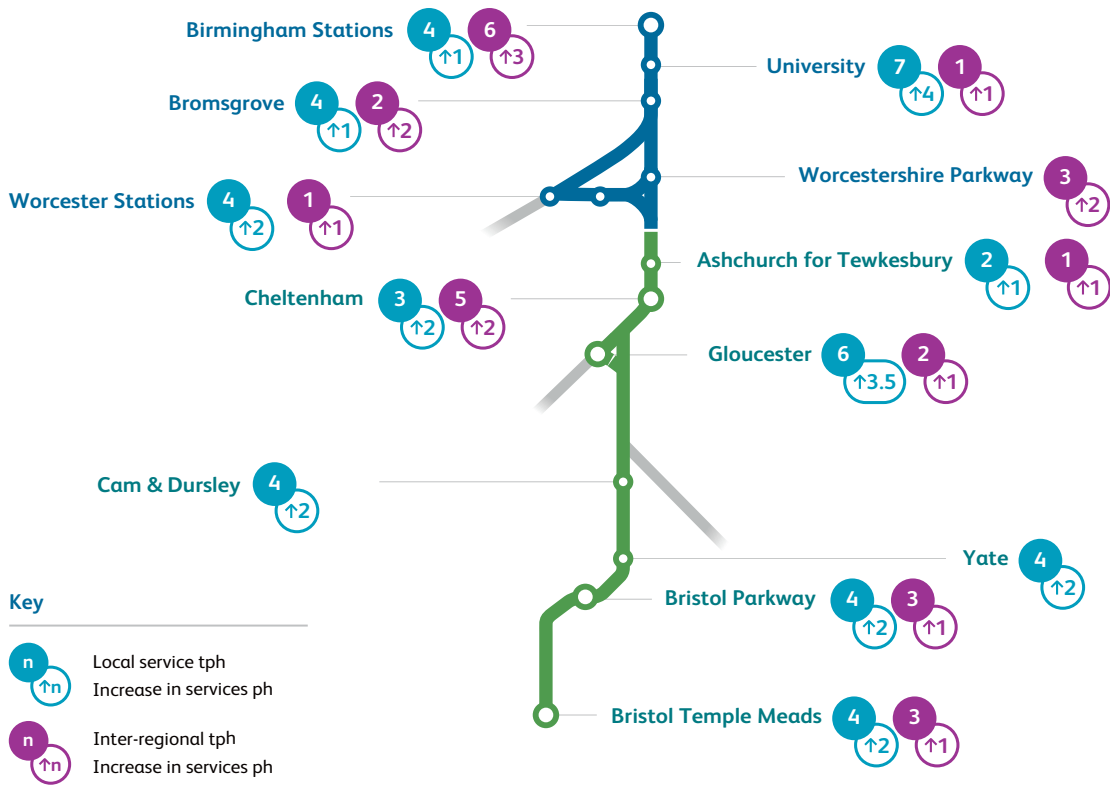
Passenger services identified in the Recommended TSS.

Figure 1.0



Local and inter-regional connections between stations in the Recommended TSS.

Figure 6.0



Inter-regional connectivity between hub stations in the Recommended TSS.

Table 6.1

Between	And	Direct inter-regional tph
Bristol Temple Meads	Bristol Parkway	3
	Gloucester	0
	Cheltenham Spa	3
	Worcester stations	2
	Birmingham stations	3
Bristol Parkway	Gloucester	0
	Cheltenham Spa	3
	Worcester stations	2
Gloucester	Worcester stations	2
	Birmingham stations	2
	Cheltenham Spa	3
Cheltenham Spa	Worcester stations	3
	Birmingham stations	5
Worcester stations	Birmingham stations	4

Recommended TSS proposed service enhancements.

Table 6.2

Service Enhancement	Type	Description	Corridor Calls	Rationale
Bristol – Birmingham Moor Street	New service	Proposed MRH service with alternative calling pattern	<ul style="list-style-type: none"> • Bristol Parkway • Cheltenham Spa • Worcestershire Parkway 	<p>Greatest benefit accrued to Bristol Parkway and Cheltenham Spa flows when fast running as currently specified.</p> <p>Supports Worcester area inter-regional connectivity and strategic growth around Worcestershire Parkway.</p>
Hereford – Birmingham Moor Street	New service	Proposed MRH service	<ul style="list-style-type: none"> • Worcester • Foregate Street, • Droitwich Spa, • Bromsgrove 	Strong benefits case as currently specified.
Cardiff – Birmingham Moor Street via Lydney	New service	Proposed MRH service with alternative calling pattern and recommended route	<ul style="list-style-type: none"> • (Lydney) • Gloucester • Cheltenham Spa • Ashchurch • Bromsgrove 	<p>Strong benefits and journey time case for routing via Gloucester and Lydney.</p> <p>Additional calls support growth at Ashchurch and links Bromsgrove to south.</p>
Swindon – Cheltenham	New service	Western Gateway aspiration	<ul style="list-style-type: none"> • Gloucester 	Delivers high priority connectivity recommendation and considerable benefits.
Worcester Foregate Street – Birmingham New Street	Extension	1tph Cross-city line service extended to Worcester	<ul style="list-style-type: none"> • Droitwich Spa 	Delivers connectivity recommendation; strong benefits for additional commuting option from Worcester.
Westbury – Worcester Foregate Street	Extension	Committed Gloucester – Westbury extended to Worcester	<ul style="list-style-type: none"> • Gloucester, • Cheltenham Spa • Ashchurch • Worcester Shrub Hill 	Strong benefits case as currently specified Cardiff – Birmingham Moor Street via Lydney New service Proposed MRH service with alternative calling pattern and recommended route (Lydney), Gloucester, Cheltenham Spa, Ashchurch, Bromsgrove Strong benefits and journey.
Exeter – Manchester	Calling pattern	Existing inter-regional service with alternative calling pattern	<ul style="list-style-type: none"> • Bristol Temple Meads • Bristol Parkway • Cheltenham Spa • Worcestershire Parkway • Birmingham New Street 	Delivers connectivity recommendation of inter-regional connectivity for Worcestershire without disbenefit of diversion to Shrub Hill.
Maesteg – Gloucester	Early termination	Existing TFW Maesteg – Cheltenham terminated early	<ul style="list-style-type: none"> • Gloucester only 	Removal reduces operational constraints at Cheltenham; lost connectivity more than offset by other new services.
Gloucester – Bristol Temple Meads	Two new services per hour	New service creating metro-style frequency between Gloucestershire and Bristol	<ul style="list-style-type: none"> • Bristol Parkway • Yate • Cam & Dursley 	Delivers key priority in connectivity analysis and strong benefits case.

Interventions



The four track railway between Bristol Temple Meads and Bristol Parkway, at Horfield (2021)

The mix of services and constraints imposed by busy networks (plus the junctions and shared running with the Great Western Main Line) means capacity for enhanced services is quickly exhausted.

This triggers the need for major interventions to accommodate the Recommended TSS. All interventions are required to deliver the Recommended TSS. However, they can be delivered incrementally to support phased service enhancements.

Most of the necessary interventions have previously been identified to resolve corridor constraints. Some are already in development, such as Worcester area re-signalling. Further development work is needed to establish the cost and viability of the required interventions.

This study reflects the Traction Decarbonisation Network Strategy recommendation that the Bristol to Birmingham route is electrified. This is needed to accommodate long distance and high-speed passenger services and freight services, linking to the with electrified networks at either end. A fully electrified Bristol to Birmingham corridor will play an important role in decarbonising rail and supporting the UK government policy objective of net zero carbon emissions.

Areas where interventions are required to accommodate the Recommended TSS.

Table 7.0

Area	Interventions required
Gloucester area	Improved layout and signalling functionality between station and mainline; increased platform capacity. To make Gloucester work more efficiently, and accommodate identified services, we recommend a new bay platform accessible from the east.
Worcester area	Re-signalling to improve layout and signalling functionality including junction, track and platform capacity, in line with planned major renewal.
Track capacity between Gloucester and Westerleigh Junction	Additional lines to allow passenger trains travelling in the same direction to pass each other. Dynamic loops on the Up and Down sides or four-tracking in the Charfield area are needed to timetable one or two new Bristol Temple Meads-Gloucester services per hour.
Westerleigh Junction	Increased capacity to accommodate more conflicting moves between east-west and north-south services, and additional track capacity Westerleigh/Stoke Gifford. To accommodate additional trains, four-tracking is suggested between Bristol Parkway and Westerleigh Junction.
Cheltenham Spa station	Increased platform capacity by providing a south-facing bay platform.
Ashchurch Down Goods Loop Eckington Loop	Lengthening of loops required to accommodate longer freight trains and to provide resilience with additional freight and passenger services.

Key network challenges to implementing the Recommended TSS.

Figure 7.1



Corridor Wide

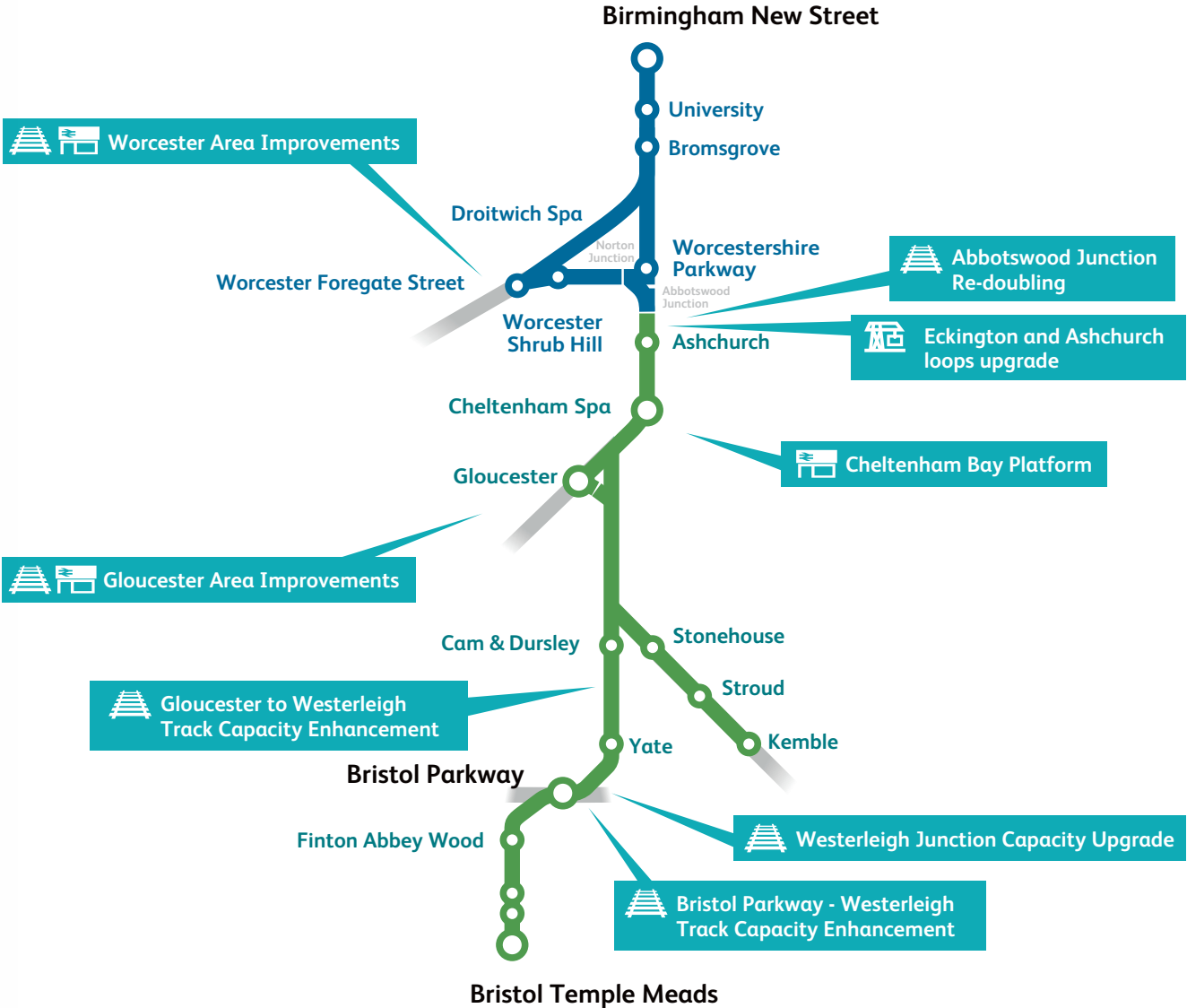
-  W8 Freight Loading Gauge
-  Flood risk
-  Level crossing risks

Legend

-  Key Operational Challenges
-  Key Safety Challenges

Interventions identified as required to accommodate the Recommended TSS.

Figure 7.2



Corridor Wide

- Train path headway reduction
- Freight Loading Gauge Enhancement
- Electrification to be determined through Regional Decarbonisation Strategy
- Level crossings mitigations

Legend

- New/Major Upgraded Rail Infrastructure
- New/Upgraded Rail Freight Facility
- New/Upgraded Station

Next steps

Further development of the corridor-wide vision of services and interventions will help us understand the feasibility of our recommended interventions and how they relate to each other. We need to develop our view of how interventions can be delivered in increments. This will help us identify viable business cases that offer defined outcomes for further progression. We will also use the information gained to inform our future strategies and plans. Further work will allow us to identify programmes and projects for investment.

A specific development study is needed for interventions not already in planned or existing programmes.

We expect this will include:

- **Gloucester area interventions**
- **Gloucester/Westerleigh track capacity**
- **Westerleigh Junction**
- **Cheltenham Spa station**
- **Eckington and Ashchurch loops.**

It's important that the collaborative work undertaken for this study is used to enhance the case for programmes currently in development. Alongside central government funding, there are opportunities to align further development of our proposals with Sub-national Transport Bodies and strategic planning partners' workstreams and available funds. This is particularly the case where outputs represent significant benefits to partners, and where central government funding may be harder to secure.

The outputs provide evidence for (and need to be factored into) future strategic rail planning activities. This includes our Greater Bristol Strategic Study which will commence in 2021 and will answer a similar strategic question to the one posed for this study. The study outputs also offer clear input into the regional decarbonisation strategies. Strategic development work undertaken by partner organisations such as the West of England Combined Authority will be informed by the study outputs and will benefit from the opportunity to build these in.



Traffic crosses the railway at Horton Road level crossing in Gloucester (2021)

Our vision

Rail travel plays a crucial role in this key transport corridor with its large, growing and diverse population and economy. We aim to improve connectivity and make the option of rail travel more attractive, for more people, for more journeys.

To do this effectively, we'll continue to collaborate with a variety of stakeholders, including the Train Operating Companies who provide services in the corridor.

Our recommendations include new services as well as increased hours of service and improved interchanges. Specifically, we aim to improve connectivity by delivering:

- improved frequency at local hub stations
- improved connectivity to, from and between Gloucester and Worcester stations
- improved connectivity between Worcester and Birmingham
- calls on inter-regional services at strategic local hub stations
- improved connectivity between Stroud/Stonehouse and Gloucester/Cheltenham.

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 goods and other freight by rail.

These things are essential for rail to step up and support sustainable growth between Bristol and Birmingham.

Summary of study recommendations and answers to the key questions.

Table 9.0

Questions & Study Recommendations	Type	Next Steps
<p>What interventions are necessary to deliver the rail capacity and connectivity required to best support growth between Bristol and Birmingham and key settlements in between?</p> <p>What interventions are required to ensure that demands for long distance travel and freight requirements can be met on the Bristol to Birmingham Corridor?</p> <p>How should the desire to improve journey times be reconciled with the need to serve expanding and new communities on the Bristol to Birmingham Corridor?</p>		
<p>Train Service Specification (TSS) featuring improvements to service groups designed to maximise benefits, accommodate stakeholder aspirations and address connectivity shortfalls; and additional 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; Cheltenham and South Wales; Bromsgrove and Birmingham inter-regional services between Exeter to Manchester freight paths. 	P F	Develop service improvements with stakeholders; influence existing programmes; inform future strategic planning work
<p>Rail system interventions for new and improved infrastructure, designed to deliver the recommended TSS, featuring capacity and resilience benefits and building on planned network upgrading:</p> <ul style="list-style-type: none"> Worcester area re-signalling including Abbotswood junction Eckington loop extension Ashchurch loop extension Cheltenham Spa new south-facing bay platform Gloucester area re-signalling Gloucester station new platform and layout upgrade Gloucester to Westerleigh junction track passing loops Westerleigh junction to Bristol Parkway four tracking. 	P F	Undertake feasibility studies on new interventions and inform cases for existing interventions
<p>Further interventions to complement the proposed train service and infrastructure upgrading including:</p> <ul style="list-style-type: none"> Extended hours of service Improved interchange times. 	P	Consider implications and options as part of development studies
<p>What is the role of rail in the corridor in supporting the UK government policy objective of net zero carbon emissions by 2050?</p>		
<p><i>First & Last Mile</i> opportunities include station master-planning to include:</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 long term agreements for early delivery (Quick Wins)
<p>Opportunities to review and develop freight aspects are progressed including plans for new and improved terminals and facilities, notably for express logistics traffic.</p>	F	To be developed through partnerships with Sub-National Transport bodies and Freight Operating Companies, including Western Gateway Freight Study
<p>Minimum standards for freight infrastructure including improved passing loop lengths, entry and exit speeds.</p>	F	To be developed as part of rail system interventions
<p>Full electrification consistent with Traction Decarbonisation Network Strategy findings.</p>	P F	To be developed through Regional Decarbonisation Strategies
<p>Future passenger and freight rolling stock programmes should reflect Traction Decarbonisation Network Strategy proposals.</p>	P F	To be developed through Regional Decarbonisation Strategies

Type: P - Passenger. F - Freight.

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