



Western
Gateway

Porth y
Gorllewin

Rail 2050

2050 vision to transform rail for South Wales and Western England

A bold vision to unlock potential in South Wales and Western England by connecting people to jobs, education and leisure opportunities, and businesses to employees and markets, through investment in the rail network. The vision will accelerate the decarbonisation of our transport networks by offering sustainable choices for our people, at the heart of our communities.

ARUP

Foreword



Creative, entrepreneurial and innovative, Western Gateway communities have so much to offer. With renowned universities, innovative business and world leading industry, we punch above our weight contributing over £100bn to the UK economy.

However, we are also home to pockets of deprivation and the least well-connected core city in the union. It is our turn for a rail investment programme that can transform our communities and recognises their importance on the world stage.

One of our founding principles and core missions as a partnership has been the need to improve connections between people, to level up access to opportunity, education and jobs.

This vision sets out why we believe that South Wales and Western England are ready to unleash their potential through rail with a long-term, deliverable vision, backed by our Board and delivery partners.

Our vision articulates why rail is so important to our communities, why our area needs investment and where and when this should be targeted to provide best value for money.

Building on the work of our partners, we detail projects already under development and how these fit into a wider comprehensive network to connect talent to opportunity.

Informed by conversations with stakeholders from across our geography, we spell out how we can

fuel economic growth and improve lives whilst decarbonising our economy and encouraging private sector investment through a mix of improved passenger and freight services, new stations and better integration with mass transit systems.

As a potential Green Energy Super Cluster that is committed to reaching net zero, it is essential that we can provide sustainable means of transport to open up access across our area to the opportunities that we want to see in the future.

Our partnership has a role to play in building on the ambitious proposals already in place to join the dots, bring together local politicians, business and the public sector to outline the direction of travel for our area.

I am excited to be able to unveil this vision and look forward to securing the investment needed to make this a reality.

Katherine Bennett CBE
– Chair of Western Gateway



Foreword

As a local authority leader within the Western Gateway, I know that our area has been seeking for a long time to secure the investment we need to reach our full potential.

It is only by coming together to look across the whole area we can begin to understand what is needed to deliver the future we all want to see.

This vision is about connecting our innovative communities to the rest of the UK but also focusing on ensuring we better connect across the union. It is about seeing rail investment as a coherent programme, cemented in solid partnership foundations and I have been delighted to see the coming together of Transport for Wales with the Western Gateway Sub-National Transport Body to create an offer with such potential.

It is also about inspiring the private sector to come and co-invest with us in our places and around our stations, making them the sustainable heartbeats of our communities.

We know that there are already over 80,000 journeys every day across the M4 Severn Bridge crossing between Wales and England. Our communities cross borders for work, play and family on a regular basis.

To make this sustainable and fit for the future we need a transport system which can make sure people can get to where they want to go, when they want, in a timely manner. Rail can provide the connection between people, jobs, education and opportunity whilst ensuring we can decarbonise at speed to tackle our climate targets.

As leaders, we have a responsibility to plan for the future to ensure we can provide for new generations. By coming together through the partnership, we can provide the wider long-term strategy and vision which can give governments, investors and the public clarity on what we want for our area in the future.

This vision shows that, for only a relatively modest cost compared to similar programmes elsewhere in the UK, we can deliver transformational benefits which connect communities across South Wales and Western England with opportunity leading to economic growth.

Councillor Jane Mudd
– Vice Chair of the Western Gateway Partnership, leader of Newport City Council



Key Organisations



Western Gateway Porth y Gorllewin

Western Gateway: Western Gateway Partnership is the UK's first pan-regional powerhouse to bring together leaders from two countries. Stretching across South Wales and Western England, our powerhouse is working to power the UK's efforts to reach net zero whilst also providing opportunities to those at risk of being left behind.

The partnership has five core missions:

- To overcome productivity challenges to add £34bn to the economy
- Attract investment and increase exports by £4 billion
- Decarbonise our economy
- Better connect communities – digitally and through transport
- Support our innovation

Work to improve historic issues with transport is key to overcoming productivity challenges, decarbonising our economy and levelling up communities through improving connections to jobs, education and opportunity among much else.



TRAFNIDIAETH CYMRU
TRANSPORT FOR WALES



Western Gateway
Sub-national Transport Body



WEST OF ENGLAND
Combined Authority



West of England
LOCAL ENTERPRISE PARTNERSHIP



CARDIFF
CAERDYDD



Prifddinas
Ranbarth
Caerdydd | **Cardiff**
Capital Region



Wiltshire Council



BRISTOL
CITY COUNCIL



South Gloucestershire
Council



NEWPORT
CITY COUNCIL
CYNGOR DINAS
CASNEWYDD



SWINDON
BOROUGH COUNCIL



swindonwiltshire
Local Enterprise Partnership



Cyngor **Abertawe**
Swansea Council



Bargen Ddinesig
BAE ABERTAWE
SWANSEA BAY
City Deal



Bath & North East
Somerset Council



North Somerset
Council



GCC



gfirst LEP

Contents

Introduction and Vision 2050 Summary	1
The Three Pillars of the Vision	10
Why Now?	13
Why Here?	19
Why Rail?	31
Building on Solid Foundations	51
The Vision Explained	59
Engagement	73
Roadmap to Delivery	77
Call to Action	79



Introduction



Western Gateway is ready to embrace transformational change, harnessing talent, industry and innovation to deliver for the UK. This vision lays out how this can be fast forwarded through better connecting people to opportunity with improved rail services.

This not only presents the opportunity to improve lives in the short term, but also make communities more sustainable for the future.

Our vision articulates the strategic benefits of a transformational step change in rail connectivity across the area, identifying the need for change and the success realised by other global city regions that have invested in better quality rail networks and services. It describes how we can develop an integrated network through a single, deliverable programme to 2050, building on what is planned by our partner transport bodies and outlines the next steps to take this vision from concept to delivery and to secure wider support.

It builds on work with a wide range of stakeholders to get views from across the partnership.

There is a huge opportunity across South Wales and Western England to transform rail connectivity, across the region and by improving journeys to London, Birmingham, South West and beyond.

Rail is essential for supporting economic growth and a greener, fairer future. It can deliver reliable and fast journey times, plus huge passenger and freight loads, that road transport cannot match. Cities and regions around the world are investing in rail connectivity and are already reaping the rewards: they are boosting productivity, global competitiveness and prosperity for their citizens. Growth has become highly coupled to rail and digital connectivity, and places that fail to adapt to this are falling behind.

Our partnership brings together the wide range of people and organisations involved across the area to develop a vision and engage with government to build momentum towards delivery. Delivery powers remain with the transport bodies who are integral partners to this vision and this represents the beginning of an enhanced partnership approach to maximise the return for our people and places.

Vision 2050 Summary

The challenge is clear. We know that public transport services in South Wales and Western England are currently underperforming, leading to a below average use when compared to the rest of the UK.

Despite evidence of thousands of journeys taking place across our geography for work and leisure, currently:

- The 84-mile rail journey from Swansea to Bristol Temple Meads takes approximately two hours, while the South Wales Main Line largely runs at 90-mph or less. This vision seeks to speed up services, connect Swansea to Bristol in one hour and to London in two hours.
- The Great Western Main Line electrification is still incomplete, meaning a slow service for the majority of the public. Completing the electrification programme enables low emission transport of people and heavy goods with transformational impacts for comparatively small investment.
- There is a need for new and improved interchange hubs which better connect communities through integrating with urban transit improvements with access to high quality rail services.

- Rail capacity is severely limited by operations and long term under-investment in capacity and speed. We will pursue short-term signalling and capacity enhancements whilst beginning the exploration of options for an enhanced Severn crossing.

Relatively modest investment in the Western Gateway area can deliver transformational benefits, addressing decades of underinvestment while complimenting planned investment elsewhere on the network. The adjacent map sets out a series of transformational journey times and frequencies that we believe can be achieved through targeted investment in the network.

Given the integrated nature of the rail network, there will also be wider benefits beyond the areas directly impacted. For example, through collaborative working with partner organisations such as the Great South West Partnership and Peninsula Transport, onward connections to key locations in the South West such as Exeter, Plymouth and Taunton will be enhanced as part of the proposals set out in this vision. Likewise, Welsh-Anglo connectivity will be further enhanced through improved interchange and service upgrades on the Welsh Marches route between Newport and the North West of England.

Vision 2050



Aspirational journey time and frequency (trains per hour) from 2050 Vision	
Current journey time and frequency (trains per hour)	
Bristol - Cardiff	30 mins / 4tph
	50 mins / 2tph*
Cardiff - Swansea	30 mins / 3tph
	50 mins / 1.5tph
Bristol - Gloucester	40 mins / 4tph
	50 mins / 1tph
Bristol - London	60 mins / 4tph
	100 mins / 2tph**
Bristol - Swansea	60 mins / 3tph
	90 mins / 1tph***
Bristol - Birmingham	60 mins / 3tph
	85 mins / 1.5tph
Cardiff - London	90 mins / 3tph
	110 mins / 1.5tph
Cardiff to Birmingham	90 mins / 2tph
	120 mins / 1tph
Swansea - London	120 mins / 2tph
	165 mins / 1tph

* to/from Bristol Temple Meads, additional 2tph to Parkway at 35 mins
** to/from Bristol Temple Meads, additional 2tph to Parkway at 75 mins
*** to/from Bristol Parkway, Temple Meads 120 mins with 1 change



To achieve the transformational journey times and frequencies outlined, the vision sets out why the completion of committed and proposed projects in the area is critical, and where investment will be required in longer term interventions to build on this momentum.

We call on the Government to commit to completing the following schemes in the short to medium term:

- South Wales Main Line Programme
- Swansea Bay Metro (initial phase)
- South Wales Metro (expansion)
- MetroWest (initial phase)
- West of England Combined Authority Transport Corridors

In the medium to long term we call on a commitment to look at:

- The remaining electrification gaps beyond the current SWML proposals
- Speed enhancements beyond those currently proposed

- Additional capacity through the provision of multiple tracks at busier locations
- Better quality rolling stock
- A potential additional Severn crossing
- The development of enhanced interchange hubs

The map overleaf provides some additional detail around how and where the investment described above is needed across the network. It includes infrastructure improvements such as electrification or extra capacity, service enhancements including increased frequencies and speeds, freight upgrades, upgraded and new stations, and integration with proposed mass transit systems.

The remainder of the brochure then provides more context to the vision, explains how it was prepared and gives a high-level overview of the anticipated costs and benefits of the proposed vision, including the shorter-term commitments and longer term aspirations.

Vision 2050 Summary





A Vision Shaped in Partnership

“Welsh Government and UK Government (via the Department for Transport Union Connectivity Review) are funding the South Wales Mainline Programme. This includes the new stations and rail services between Cardiff, Newport and Bristol in line with the recommendations of the SE Wales Transport Commission and enhanced services to West Wales. The programme is managed by TfW working in partnership with Network Rail.

Transport for Wales have been supporting Western Gateway to ensure its programme and business development work is reflected in the Western Gateway Rail Vision alongside complementary measures in SW England. The Western Gateway Rail Vision supports the wider regional economic ambition enabled through enhanced rail connectivity between West Wales, Swansea, Cardiff, Newport and Bristol & SW & SE England.

TfW will work in partnership with Western Gateway and other bodies to support the vision and help secure further UK Gov funding for the delivery of the TfW South Wales Mainline Programme.”

David McCallum
Transport for Wales Strategic Development
Programme Manager and Rail Lead

“Connectivity within South Wales and South West England is vital to growing our regional economy. I welcome the ambition of Western Gateway and am pleased to have recently announced significant funding to help develop a number of key priorities including tackling congestion on the South Wales corridor”

Rt Hon David TC Davies MP
Secretary of State for Wales

“In the last 10 years, the communities of the Western Gateway have seen electrification of their railway, a new fleet of long distance trains & the launch of Pay as You Go ticketing. These improvements have been delivered in partnership with the communities we serve. Good rail services support modal shift and carbon reduction, they support and sustain the local and regional economy and they promote equality of opportunity and access. They are essential for delivering prosperity and sustainability and we need the strength of ambition set out in Western Gateway’s Rail Vision 2050 to keep the communities of the Gateway thriving. “

Mark Hopwood
Managing Director, GWR

The Western Gateway Sub-national Transport Body recognises the need to improve rail connectivity and make rail an appealing and feasible option for journeys. We welcome and support the proposals for extending electrification, service enhancements, better quality rolling stock, additional track capacity and freight upgrades set out in this Rail Vision to 2050, which will boost connectivity between people, businesses and places, and help reduce carbon emissions.

This Rail Vision to 2050 reflects our Sub-national Transport Body’s vision, objectives, priorities and desired outcomes. We believe it demonstrates strategic alignment between the Western Gateway Sub-national Transport Body, Transport for Wales, Western Gateway Partnership, local authorities and the rail industry and we look forward to working together to take forward its recommendations.”

Cllr Mike Greene
Chair of the Western Gateway STB

“Fast, effective connectivity for business and leisure travel is the lifeblood of regional economies, and Western Gateway’s Rail Vision 2050 recognises the importance of building on its strategic rail corridors. Completion of existing schemes will start the journey towards decarbonisation and regional economic expansion.

This vision highlights the need to deliver more, to start the transformational journey to unlocking opportunities for growth in jobs and education and establishing a stronger, inclusive society. These will be delivered through strong partnerships supported by the Governments in England and Wales, and Western Gateway’s vision shows the pathway for this to succeed.”

Tom Joyner
Managing Director, CrossCountry

The Three Pillars of the Vision

Why Now?

THE CLIMATE EMERGENCY...

The climate emergency continues to shape how we live our lives, along with the national policy agenda – transport has a clear role to play in shifting people and materials to more sustainable modes and also decarbonising the network. Across the Western Gateway car dependency is high but there is the ambition to change this. For example the target is to achieve a car mode share of 55% in Wales in the 2040s.

ECONOMIC UNCERTAINTY...

At a time of significant global economic uncertainty, it is more important than ever that all the regions of the UK are maximising their potential and are provided with the right tools to succeed such as targeted investment in critical infrastructure. The Western Gateway Sub-National Transport Body (STB) Rail Strategy is clear that a resilient and high capacity rail network is needed to help the region achieve its potential.

LEVELLING UP COMMUNITIES...

Truly inclusive growth as part of the current Levelling Up agenda can only be delivered if structural inequalities are addressed, including providing genuinely affordable journey options for the most deprived communities.

Why Here?

UNTAPPED ECONOMIC POTENTIAL...

At £110bn, the Western Gateway is responsible for 6% of national output, but growth has been below the national average with poorly connected cities and a clear productivity gap.

A NEW STRATEGIC PARTNERSHIP...

The recently formed Western Gateway Partnership has a remit to help realise economic growth for the people in the region both now and in the future, and the political backing to deliver real change.

IT'S OUR TURN...

Significant rail investment elsewhere in the UK is being committed in the face of challenging economic conditions - the Western Gateway is primed to deliver excellent value for money and reverse decades of underinvestment in rail services that lag comparator UK regions.

Why Rail?

SUSTAINABLE MODE SHIFT...

When rail services are fast, frequent, reliable, integrated and provide high quality journeys, there is enormous potential to drive mode shift away from private vehicles onto one of the most sustainable modes of travel. The Johannesburg to Hatfield Guatrain connection in South Africa has resulted in over 21,000 fewer car trips per day with accompanying reductions in congestion and emissions.

TRANSIT-LED DEVELOPMENT...

Rail is uniquely placed to help realise growth opportunities by unlocking existing and new sites that require high quality sustainable transport links to enhance viability and through integration with city mass transit systems. Many of the larger regeneration and development opportunities across the Western Gateway are within easy reach of better rail connections. Better services and better access will transform this development potential.

AGGLOMERATION BENEFITS...

Investment in strategic rail can help bring places closer together, capitalising on the benefits of the clustering effect to enhance productivity and boost GVA. An example is the Cologne to Frankfurt high speed rail connection in Germany which has resulted in a 2.7% annual increase in economic activity in the intermediate towns on this line.



Why Now?



The climate emergency...



Economic uncertainty...



Levelling up communities...

Policy Background

Investment in rail across the region will deliver on the strong policy visions of stakeholders

Llwybr Newydd Wales Transport Strategy

The climate emergency requires a drastic change in how people travel. Reducing the need to travel, providing accessible transport services and switching to sustainable modes are key in achieving net zero by 2050. The public transport offering must become more affordable, reliable, safe, and frequent and must integrate efficiently with other modes.



Net Zero Wales Carbon Budget 2

Net zero must be achieved through just transition, with people at the centre of all measures. The existing public transport system must be unified into an integrated, multi-modal network which enables seamless journeys. Investment in the Metro systems as well as the completion of the Burns stations will further facilitate modal shift.



Welsh Government National Transport Delivery Plan

Delivering the priorities set out in the Wales Transport Strategy requires coordination between government, local authorities and transport providers. Key priorities are identified as:

1. Reducing the need to travel
2. Providing accessible, sustainable, and efficient transport services and infrastructure
3. Encouraging modal shift



Western Gateway STB Rail Strategy

The population of the South West is expected to grow significantly in the next decade. This requires a resilient and high-capacity rail network. Investment is needed to improve the frequency, reliability and speed of services. An intermodal ticketing and journey approach must be taken to ensure rail journeys become more competitive.



Levelling Up

Investment imbalance in rail infrastructure over several decades has resulted in a productivity challenge. New investment is needed to improve capability, capacity, and reliability. This will drive modal shift towards rail, addressing issues caused by congestion and providing inclusive and sustainable transport options to communities across the Western Gateway.



Union Connectivity Review South Wales Corridor

There is a peak congestion problem on the M4, with the M4 relief road at Newport cancelled due to cost and environmental impact. Instead, the Burns Commission has been instigated; a package of proposed public transport improvements to promote modal shift.



South East Wales Transport Commission

The Commission was established to investigate sustainable ways to tackle congestion on the M4 in South East Wales. The overarching finding was that South East Wales needs significant new transport options.



Union Connectivity Review Welsh Marches Corridor

This corridor suffers from long rail journey times and constrained capacity between Cardiff and Birmingham and onwards to the North. The review recommends the development of a package of railway enhancements to increase connectivity and reduce journey times.



Policy Background

Cardiff Capital Region Passenger Rail Vision

The key to achieving sustainable economic development and social regeneration in the area is a coherent intermodal public transport grid. Key rail elements within this are the South Wales Main Line upgrade, addressing bottlenecks, improving cross valley links and introducing new stations.



West of England Joint Local Transport Plan 4

Achieving transport carbon neutrality by 2030 requires a shift to sustainable modes of travel. 2 out of 3 commutes are made by car and trips are forecast to increase by 25% by 2036. A well-connected, sustainable public transport network is needed to reverse this trend, which entails capacity and resilience improvements for the rail network.



Network Rail SPEED Initiative

The Swift, Pragmatic and Efficient Enhancement Delivery (SPEED) Programme seeks to reduce timescales and costs associated with infrastructure projects in order to maximise benefits for passengers and freight users. A focus is put on delivering projects innovatively and efficiently by reducing inefficiencies and streamlining regulatory processes.



TfW Main Line Railway Enhancement Requirements

To achieve the Welsh Government's economic, sustainability, and well-being goals, substantial investment in rail infrastructure is needed. More rail capacity, improved frequency and speeds, and better integration are required along the Welsh main lines.



NR Traction Decarbonisation Network Strategy

Railway electrification enables zero-emission transport of people and heavy goods. High freight and passenger volumes and significant diesel train usage in Wales and Western England make electrification work essential. This takes high priority as personnel from previous work may lose their skills if additional electrification is not pursued soon.



Net-Zero Review (2023)

While rail is already one of the greenest modes of transport, only 38% of the UK rail network is electrified (2019). Combined with a modal shift from road to rail, further electrifying the railways can make a significant positive impact in decarbonising the transport sector. The Review showed that every tonne of freight transported by rail produces 76% less carbon than the equivalent by road, with nine times more tonne kilometres of goods being transported domestically by rail than road.



An aerial photograph of a city waterfront, likely Cardiff, showing a river flowing through the city, bridges, and a mix of residential and commercial buildings. The sky is overcast.

Why Here?

Untapped economic potential...

A new strategic partnership...

It's our turn...

Untapped Economic Potential

The Western Gateway has a high percentage of the population and jobs in Wales and Western England. Understanding how it performs now and in the future is crucial to understanding the case for better transport and the potential benefits of improved rail connectivity.

Population

- 4.4 million residents, 7% of the UK’s population
- Population growth of over 7% over the last 10 years
- 37m car journeys between South Wales and Western England each year
- 92 hours lost per year in congestion in Bristol, 83 hours in Cardiff, and 74 hours in Swansea

Bridging the Gap

- Some of least well-connected towns and cities in the country
- Bridging just half the current productivity gap between the Western Gateway and the national average could add £34bn to the UK economy by 2030, leading to a 3% GDP increase

Employment

- Employment rate of 75%, close to the national average
- GVA per employee is 7% lower than the national average
- Driving is the largest mode of travel to work

Productivity

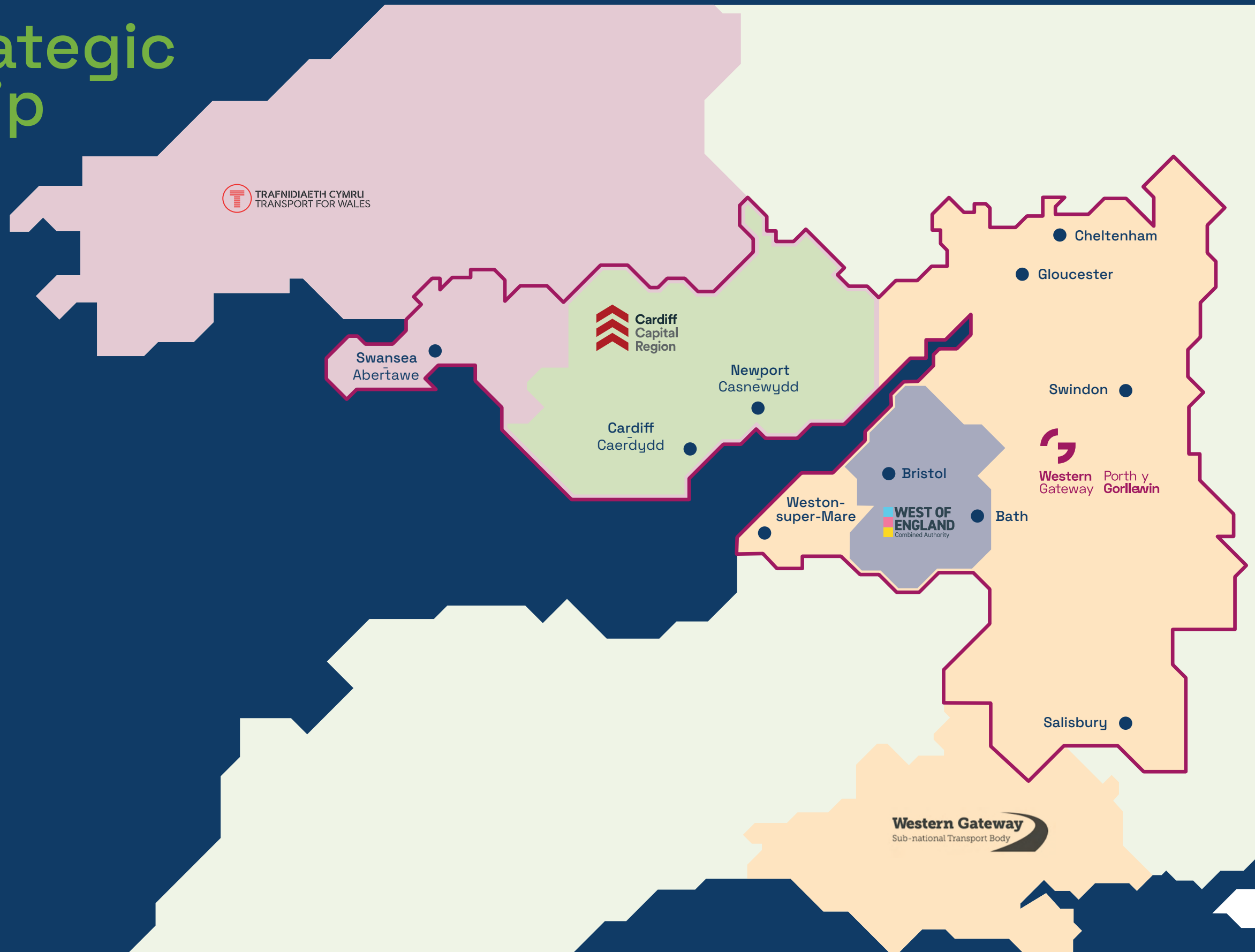
- Worth £110bn in 2020, 6% of the national output
- GDP has grown by 33% in the last 10 years, a lower growth rate than the national average
- Leading sectors include advanced manufacturing, aerospace, engineering, cyber, green energy, fintech, and creative and digital media
- Digital connectivity lags behind

A New Strategic Partnership

The Western Gateway Partnership is the cross-border economic powerhouse partnership for South Wales and Western England, made up of local authorities, city regions, Local Enterprise Partnerships, and transport authorities in Wales and England.

Western Gateway spans two countries, eight cities, three city regions, and over four million people. The Partnership is focused on realising economic growth for the people we serve both now and in the future; using shared strengths to find new ways to reach net zero, create opportunities to level up communities, and, in the process build a sustainable economy.

Western Gateway Partnership is separate from Western Gateway Sub National Transport Body but both organisations are working closely together on priorities for the region.



The Mission of Western Gateway

The Western Gateway's mission reflects the goals and vision of stakeholder organisations across economic growth, decarbonisation, connecting communities and unlocking innovation for better transport and the potential benefits of improved rail connectivity.

Mission 1: Contribute £34 billion to the economy



Drive up productivity levels to close the gap with the UK average by 50%.

Mission 2: Attract investment and grow exports by £4 billion



Champion the area internationally and grow exports to meet the UK average.

Mission 3: Decarbonise our economy



Position the area as a global leader in green renewable energy systems.

Mission 4: Connect communities



Realise an integrated transport network and improve regional connectivity to level-up access to jobs, education, and opportunity.

Mission 5: Unlock innovation



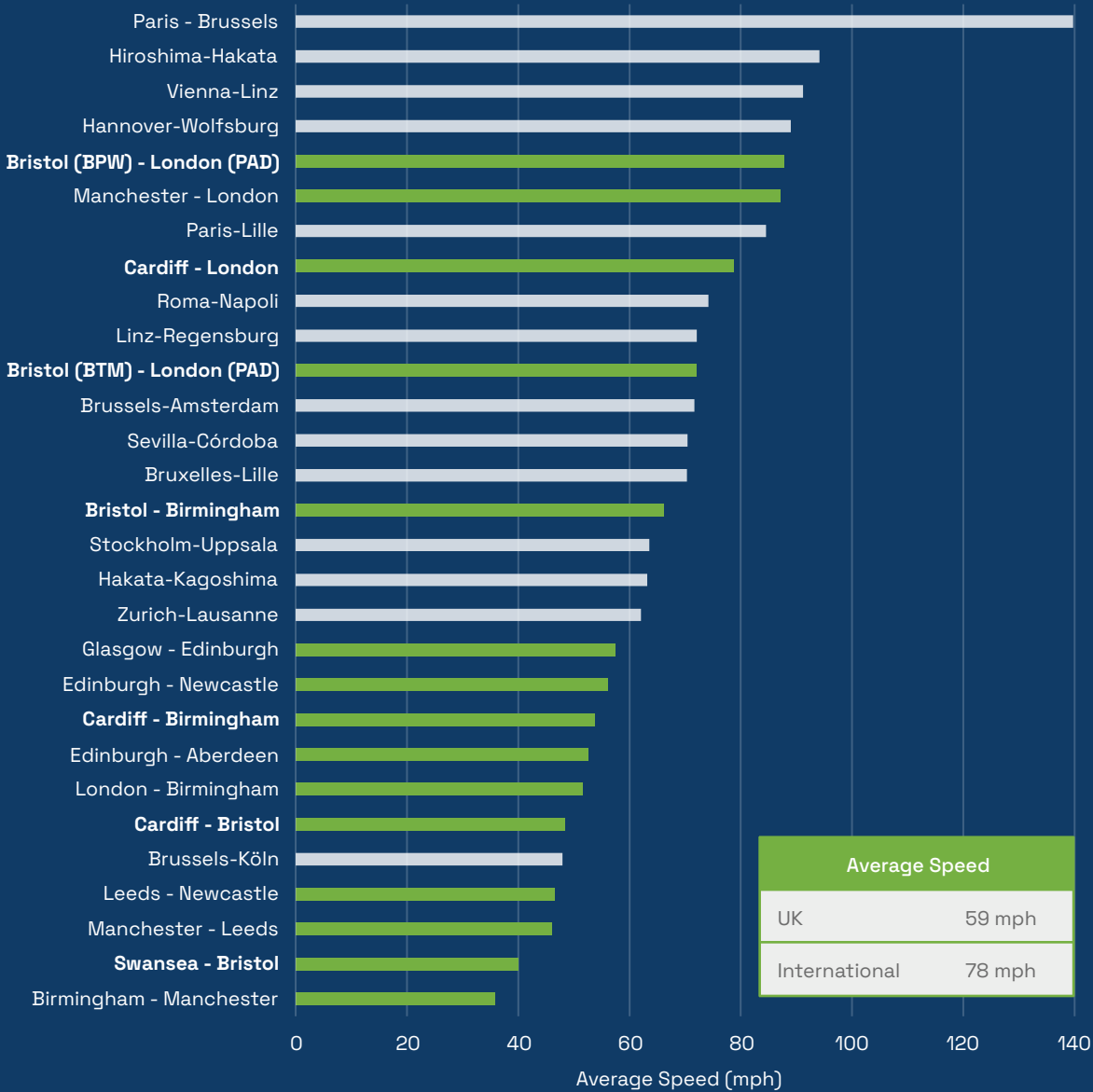
Create a digital super-cluster that harnesses the strengths of our high value sectors, such as advanced engineering, telecoms and creative industries.



An Underperforming Network

Slow journey times restrict the ability of rail to compete against car travel. Rail journey times are very slow compared to international city pairs a similar distance apart. This restricts the emergence of Western Gateway as an area capable of achieving sustainable growth and competing on the global stage for inward investment and skilled workers.

- The 84-mile rail journey from Swansea to Bristol Temple Meads takes approximately two hours, while the South Wales Main Line largely runs at 90-mph or less.
- The removal of Severn Bridge tolls has resulted in an increase in the preference for private motor vehicles.
- The Great Western Main Line electrification is incomplete, benefiting only a minority of services.
- Rail capacity is severely limited by operations and under-investment in the Severn Tunnel.
- Onward connections are currently poor with integration needed with urban mass transit proposals.

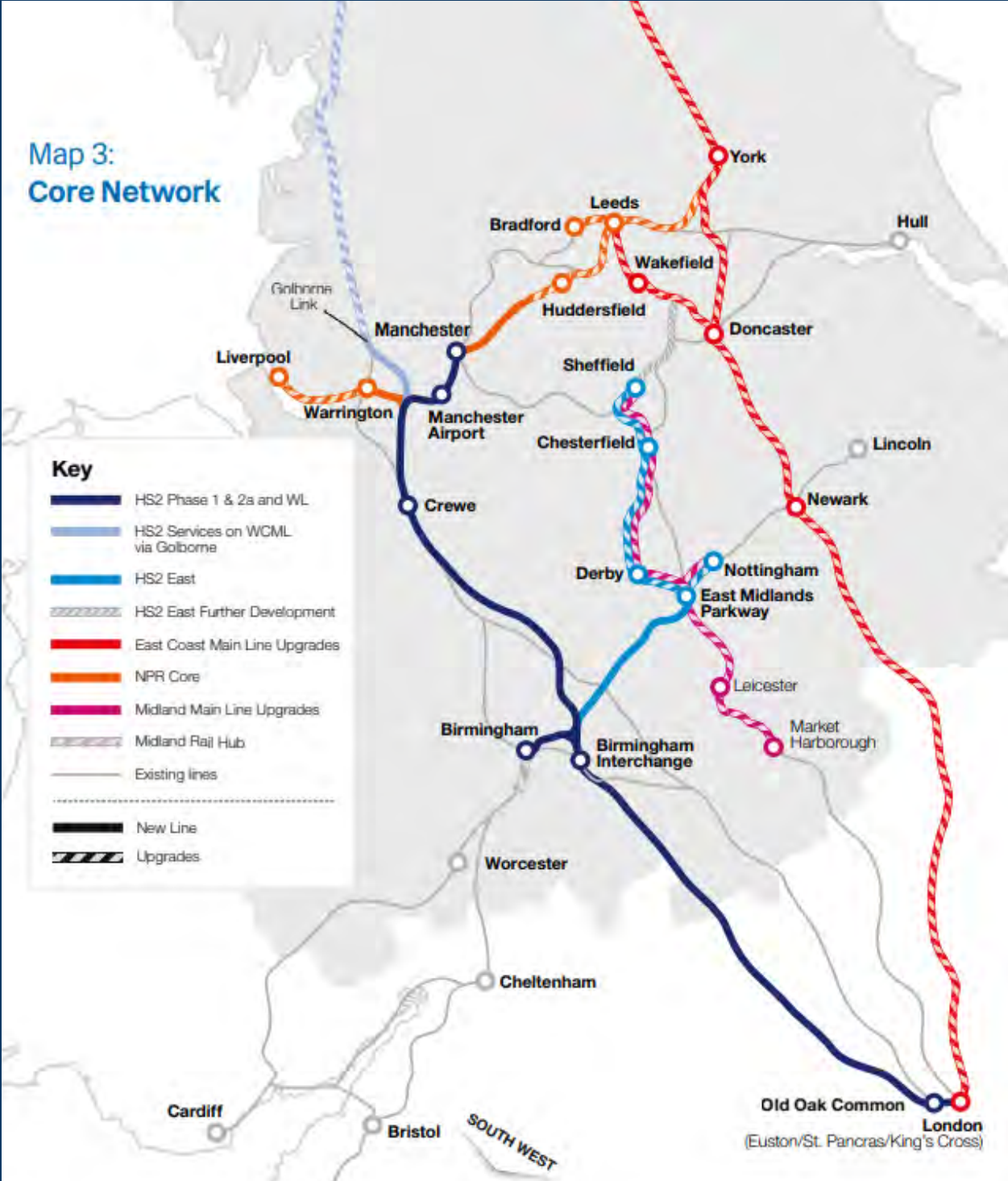


Comparison of Western Gateway rail average speeds to international city pairs.

It's Our Turn

Relatively modest investment in the Western Gateway can deliver transformational benefits, addressing decades of underinvestment while complimenting planned investment elsewhere on the network.

Investment from Integrated Rail Plan (IRP)	Will deliver...	Will cost...
HS2	A significant increase in capacity and moderate reduction in journey times on core north south routes	£72.3bn (£42.5bn Phase 1 & 2a, £17bn Phase 2b, £12.8bn East Core Network)
Transpennine Route Upgrade (TRU)	One additional path on the core route and moderate improvements to journey times and reliability	> £9.0bn
Northern Powerhouse Rail	Reduced scope to deliver moderate journey time and capacity improvements above and beyond TRU	£17.2bn
Smaller schemes in the North and Midlands to 2024	A range of smaller investments delivering incremental change to journey times, capacity, and reliability	£1.5bn
Our ask...		
Western Gateway 2050 Rail Vision	Transformational improvements to journey times, frequencies, capacity, and reliability	£1-2bn (committed and planned to 2035) £7-8bn (longer term ambition to 2050)



An aerial photograph of a town, likely Bath, showing a river winding through the bottom right, a railway line with a train curving through the middle, and a dense residential area with stone buildings on the hills in the background.

Why Rail?

Sustainable mode shift...

Transit-led development...

Agglomeration benefits...

Why invest in rail connectivity?

Rail will promote sustainable economic growth and improve access to opportunities for all.



Enhance **inclusive, sustainable economic growth**



Increase **access to skilled workforce and job opportunities**



Allow all towns and cities in the region to specialise, **capitalising on their strengths** and bringing complementary benefits



Support increased **housing and commercial development** in line with national and regional strategic objectives



Collaboration to support **international competitiveness** and capitalise on connections to benefit the whole region



Reduce long-term car dependence and **address environmental challenges**

The Scale of Opportunity

Rail will play an important role in decarbonising the transport sector and meeting mode share targets

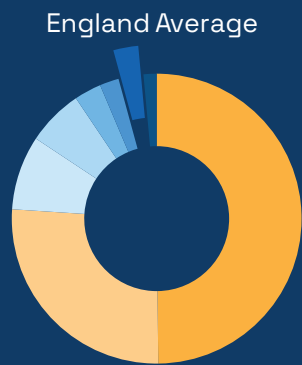
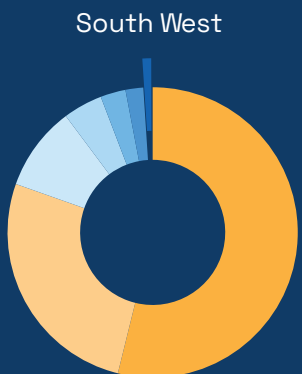
4.5 billion km were travelled by passengers in 2019/20 using Great Western Railways and Transport for Wales rail services. If increased to the national average, this would correspond to 13.5 billion annual km within the Western Gateway and 40.5 billion km when achieving London modal share levels.

Rail can become the mode choice for medium and longer distance journeys, connecting into cities and communities in an efficient and sustainable way.

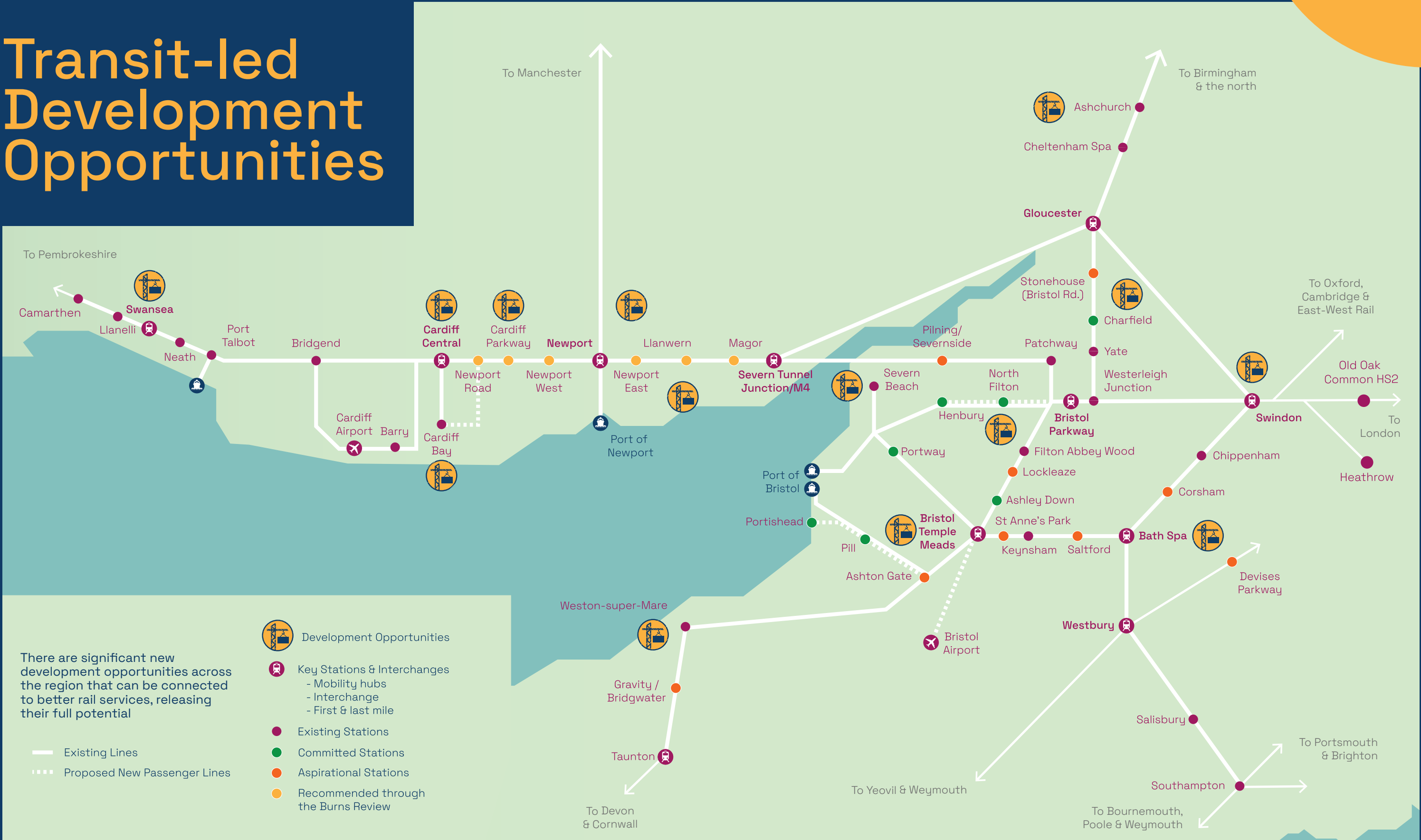
- Car (driver)
- Car (passenger)
- Walking
- Bus
- Other
- Bicycle
- Surface Rail
- Underground

2018/19	Car	Sustainable Modes	Rail Share
South West	80%	20%	1%
London	47%	53%	9%
England	76%	24%	3%

Target (2040s)	Car	Sustainable Modes
Wales	55%	45%
London	20%	80%
Manchester	50%	50%



Transit-led Development Opportunities



Transit-led Development Opportunities

Development	Description	Scale	Timeline	Transport measures
Cardiff Hendre Lakes / Cardiff Parkway	New business district with new railway station and transport hub	<ul style="list-style-type: none">90,000m2 business park with potential for 6,000 jobs4 platform station with up to 800,000 passengers per year	Planning application assumed station built by end 2024. Building development dependent on market demand: <ul style="list-style-type: none">Initial phase: 2023-2025Early phases: 2024-2027Middle & later phases: 2027-2031	<ul style="list-style-type: none">4 intercity length platformsLocal and national services8 tph to Cardiff & Newport7 minute journeys to Cardiff Central & NewportP&R station car parkbus stops in integrated transport interchangeWalking and cycling connections and facilities
Cardiff Central	Cardiff Central Enhancements Programme - Station enhancements and expansion to accommodate crossrail services Central Square – mixed use with new bus station Central Enterprise Zone Capital Quarter Development - mixed use development Former Gas Works - housing development Central Quay – mixed use development	Central Square <ul style="list-style-type: none">New bus station300 apartmentsUp to 14,550 sqm office space Central Enterprise Zone <ul style="list-style-type: none">2400 homesCommercial spaces, public square, park, transport interchange, offices Former Gas Works <ul style="list-style-type: none">500 homes and community uses Central Quay <ul style="list-style-type: none">1,000 homesOffice, hotel, university and leisure	Cardiff Central Enhancements: <ul style="list-style-type: none">Option selection: liveOption development: 2023Completion: 2027 Central Square: under construction, completion 2022 Cardiff Enterprise Zone: undergoing planning application process Central Quay: undergoing planning application process	<ul style="list-style-type: none">Station capacity increaseEnhanced major multi-modal interchange at the heart of the South Wales MetroExpanded footprint to accommodate proposed “Cardiff Crossrail” servicesStimulating and enabling a number of local developments including Central Quay and Central Square
Cardiff Bay	Cardiff Atlantic Wharf mixed use development	<ul style="list-style-type: none">1100 residential dwellingsArena, hotel and retail spacesUp to 50,000 sqm of offices	<ul style="list-style-type: none">Initial phase 1: 2022 – 2025Phase 2: 2024 – 2027Phase 3: 2027 – 2029Phase 4: 2029 – 2031Phase 5: 2031 – 2032	<ul style="list-style-type: none">New transport hub connecting the metro line between the Bay, City and other stationsMulti-storey car parkPedestrian and transport links for all modes
Llanwern	New housing development and business park	<ul style="list-style-type: none">4,000 homes100 acre business park	20 year regeneration plan <ul style="list-style-type: none">Phase 1-2: builtPhase 3: under constructionPhase 4d: construction start summer 2022Phase 5: subject to planning process	<ul style="list-style-type: none">New railway station as part of Burns Stations report
Kings Quarter Gloucester	Station area regeneration project between Gloucester City Council, University of Gloucester and the private sector	<ul style="list-style-type: none">20,000sqft commercial spaceAcademic provision for 4,500 studentsStation enhancements	Under construction	<ul style="list-style-type: none">Enhanced connectivity and pedestrian flow between station and wider city areaImproved public realm

Transit-led Development Opportunities

Development	Description	Scale	Timeline	Transport measures
Swansea City & Waterfront Digital District	New arena, office development and university innovation matrix	<ul style="list-style-type: none">3,500 capacity arena10,000sqft office space2,200sqm innovation matrix space	<p>Arena: construction complete</p> <p>Office: under construction; completion 2023</p> <p>University building: subject to planning process. Completion 2023</p>	<ul style="list-style-type: none">Initial phases of Swansea Metro developed by TfW
Newport Knowledge Quarter	New education and leisure facility along the riverbank	<ul style="list-style-type: none">Around 20,000 sqm	<p>Consultation ran from 2020 – 2021</p>	<ul style="list-style-type: none">New commuter service into Newport city centre from across the region should help support the development of this quarter
Llandarcy	Coed Darcy residential development with potential for new station	<ul style="list-style-type: none">Up to 2,000 dwellings17,500sqm educational space750sqm retailUp to 800sqm extension to Darcy Business Park	<ul style="list-style-type: none">Outline planning application submitted Nov 2021EIA assumed 6 year construction starting 2023	<ul style="list-style-type: none">Potential new station at Llandarcy – not part of Coed Darcy planning application
Bristol Brabazon & Bristol Arena	New housing development and transformation of existing hangar to entertainment venue with associated railway station	<ul style="list-style-type: none">41.94 hectare developmentUp to 6,500 dwellings17,080 arena capacityca 200,500 passengers per year	<ul style="list-style-type: none">Phase 1 housing completed by 2023Arena & station completed by 2024Full development completed by 2040	<ul style="list-style-type: none">2 platforms1 tph initiallyservices to/from BTMMetrobus integrationWalking and cycling links between station and development
Bristol Temple Meads / Temple Quarter	<p>Station improvements and mixed use development</p> <p>Temple Quarter Enterprise University Campus</p>	<ul style="list-style-type: none">10,000 new homes22,000 jobs1500 student accommodationsTeaching, research and commercial units	<ul style="list-style-type: none">2021 - 2025: Temple Meads transformed2023 - 2024: Temple Quarter Enterprise Campus proposed opening2025: Enhanced BRT services2026 - 2029: Public consultation2030: Metro stop operational2035 - 2040: phased development progresses2041 + regeneration complete	<ul style="list-style-type: none">Two new entrances to stationElectrification of the GW routeNew pick-up / drop off and cycle accessNew bus interchange area and traffic free cycle routesCycle hubNew entrances to the stationNew car park
Ashchurch	Garden town with mixed use development including Cotswold Designer Outlet	<ul style="list-style-type: none">10,195 homes100 ha employment90+ shops across ca 195,000 sqft	<ul style="list-style-type: none">Phase 0&1 completion by 2041Phase 2 beyond 2041 (completion envisioned by mid 2050)	<ul style="list-style-type: none">Intentions to make station multi modal hub and form part of town centre1tph (up from 0.5tph) by 2023 to/from Bristol/ BirminghamPotential for additional 2tph Bristol/Gloucester (3tph total)New 1tph to Cardiff

Transit-led Development Opportunities

Development	Description	Scale	Timeline	Transport measures
Charfield	New station delivered through the West of England Combined Authority City Region Sustainable Transport Settlement	3 developments on Wotton Road <ul style="list-style-type: none">285 dwellings Land North of Wotton Road <ul style="list-style-type: none">250 dwellings Land to the South of Charfield <ul style="list-style-type: none">525 with developer aspirations for 775 unitsLocal centre, primary school and employment Stroud area (1.5km east of Charfield) <ul style="list-style-type: none">11,000sqm expansion of Renishaw New Mills site Stroud area (1km east of Charfield) <ul style="list-style-type: none">New Stroud Local Plan site PS47 - 10ha employment	3 developments on Wotton Road <ul style="list-style-type: none">Planning applications approved and largely occupied. Land North of Wotton Road <ul style="list-style-type: none">Application submitted July 2022 – awaiting decision. Land to the South of Charfield <ul style="list-style-type: none">Planning application submitted March 2019 – awaiting decision. Stroud area (1.5km east of Charfield) <ul style="list-style-type: none">Planning application approved. Stroud area (1km east of Charfield) <ul style="list-style-type: none">New Stroud Local Plan Examination in Public – March to May 2023.	<ul style="list-style-type: none">Reopening of station1 tph service to Bristol and GloucesterM5 J14 improvements
Sevenside	Westgate Distribution Park	<ul style="list-style-type: none">296 acre developmentUp to 4 million sqft of distribution warehousing	Phase 1: in operation Phase 2: in planning	<ul style="list-style-type: none">New M49 Avonmouth Junction
Bath City Centre Regeneration	Bath Central Riverside - repurposing of vaults and voids, improved connections to rest of city and a new development Bath Quays – mixed use development both new build and refurbishment	Bath Central Riverside potential: <ul style="list-style-type: none">9,000 sqm office space60 homes Bath Quays <ul style="list-style-type: none">North: 250,000 sqft officeSouth: 90,000 sqft office, 70 apartments	Bath Central Riverside – OBC tender process Bath Quays: North: outline planning in place South: new office build completed July 2022; Newark Works building is undergoing refurbishment	<ul style="list-style-type: none">Bath Quays pedestrian and cyclist bridge to tie in with station
Swindon Regeneration	New bus interchange & bus boulevard Kimmerfields mixed use development	Kimmerfields <ul style="list-style-type: none">100,000 sqft office space450 homesCultural hub	Bus improvements <ul style="list-style-type: none">Under construction – 2024 completion Kimmerfields <ul style="list-style-type: none">Office under construction – 2022 completionFurther developments in planning	<ul style="list-style-type: none">Bus/taxi/cycle only access along key city centre corridorNew bus station
Weston Station Gateway	Station improvements and new housing developments	<ul style="list-style-type: none">Up to 400 homes across two sitesPotential for significant further development around Weston	<ul style="list-style-type: none">Housing developments in pre-planning application stage	<ul style="list-style-type: none">Improved active travel links to stationEnhancements to station and forecourt

Capitalising on Innovation and Technology

Global Centre for Rail Excellence and CAF Newport

Located at the heart of the Western Gateway and leading rail based innovation, the Global Centre of Rail Excellence (GCRE) – funded jointly by the Welsh and UK Governments – is a transformational project which will create a world leading Research and Development (R&D) facility for rail technology on a 1000ha site near Onllwyn. By 2025 It will create 180 jobs for this economically deprived area and involves 6.9km of high-speed test track and 4.5km of additional test track and rail R&D.

In addition CAF Newport is leading the way in rolling stock development and building and has been producing rolling stock since 2018.

GCRE and CAF Newport are part of the Western Gateway arc of rail innovation transforming rail development, manufacturing and operations in the UK.

Siemens, Chippenham

Siemens Rail Automation is a global leader in the design, supply, installation and commissioning of track-side and train-borne signalling and train control solutions. Its portfolio includes train control, interlocking systems, operations control systems, components, track vacancy detection, level-crossing protection, rail communications, cab radios, station systems and cargo automation for both passenger and freight rail operators. The company has a long and successful history in the industry and Chippenham

Bristol Temple Meads – Station Innovation Zone

Connected Places Catapult, the UK's innovation accelerator for cities, transport, and place leadership, and Network Rail, have announced that Bristol Temple Meads is to host trials of innovative passenger technologies thanks to a new partnership between the two organisations and through engagement with stakeholders like the Western Gateway.

The programme is selecting start-ups aiming to test new ways to improve various aspects of the passenger experience: from making journeys smoother with smarter ticketing, to making stations more accessible with wayfinding apps; from using AI to improve people flow, to designing better facilities using human-centred design principles.

The Catapult is directing millions of pounds of Innovate UK funding into the programme, which sees Bristol Temple Meads named as the UK's first Station Innovation Zone. The five-year programme will pioneer the approach and plans are in place to roll out the model to other stations as it succeeds.



Connecting Opportunities and Excellence

Cardiff Hendre Lakes

Cardiff Hendre Lakes is one of Wales' most ambitious and exciting developments, connecting people and high quality business opportunities from South Wales and beyond. It will deliver 90,000sqm of employment, around 6,000 jobs, a new main line station (Cardiff Parkway), drive investment and help people experience the region's exceptional natural environment.

Filton and Brabazon Development

YTL Developments is transforming the former Filton Airfield into a thriving new neighbourhood for Bristol. It will be a centre of learning and new businesses.

Outline planning consent has been granted for over 1 million sq ft of employment space. Opportunities encompass headquarters office buildings, creative co-working space, advanced manufacturing and research & development facilities.

Temple Quarter Enterprise Campus

The second phase of the University of Bristol's (UoB) Temple Quarter Enterprise Campus (TQEC2) will support the urban regeneration of Silverthorne Island. Located in the centre of Bristol, the proposed development comprises up to 94,910m² of academic and office space, along with complimentary active uses seeking to regenerate this post industrial site through the provision of improved public realm, creating new public spaces and enhancing the significant heritage structures within the site.

Severnside Strategic Masterplan

South Gloucestershire Council is working with the local community, town and parish councils and businesses on a strategic infrastructure led masterplan for Severnside. The aim of the masterplan is to develop a vision to help shape the future of Severnside up to 2050 and include new economic and development opportunities and the need for sustainable travel solutions.

Bristol Parkway Masterplan

A new Vision for regeneration of the Parkway area, and to revitalise Parkway as the Gateway to the North Fringe, catalysing sustainable growth in north Bristol, integrating Bristol Parkway with surrounding communities and to support local and global businesses.

Swansea Station

In Summer 2021 Swansea station saw completion of an investment of more than £7.5m in the station, revamping facilities and reconstructing a platform to accommodate 10 carriage intercity trains, providing more flexibility for passengers.

The station refresh included improved ticket-buying facilities, new toilets and refurbished space for use by local businesses and community groups. With space for bigger trains and upgraded facilities it is a real uplift for the city and was an integral part of a £1bn regeneration programme including the new Arena development and the overhaul of some prominent sites and streets in the city centre.

Yate Masterplan

The masterplan envisions a gradual transformation for the traditional industrial areas of Yate into a low carbon, resilient and diverse "employment zone".

This will offer businesses a healthier and more attractive work environment which enables them to use active travel modes or public transport.

Opportunities for densification and mixed use, support to start-ups and co-working spaces will further accelerate change.

Swindon Station Knowledge Quarter

Swindon's excellent rail connectivity is already driving growth in high knowledge R&D and business investment. The University of Oxford and the University of Bath have established the Innovation Centre for Applied Sustainable Technologies (iCAST), the UK's leading sustainability research facility. Whilst major investment in Zurich's new UK headquarters at Kimmerfields is sitting alongside new investment in commercial and residential.

Other parties include SETSquared, SWLEP, the RAU, Network Rail, LCR and the High-Value Manufacturing Catapult's Sustainability Partnership (National Composites Centre and Centre for Process Innovation).

Other key assets for the Knowledge Quarter include the UK HQ of UKRI, including Innovate UK and the UK space agency. This underpins a larger brownfield development opportunity where Swindon is perfectly placed to benefit from high knowledge sector demand from Oxford, the Didcot Science Vale and the Western Gateway region.

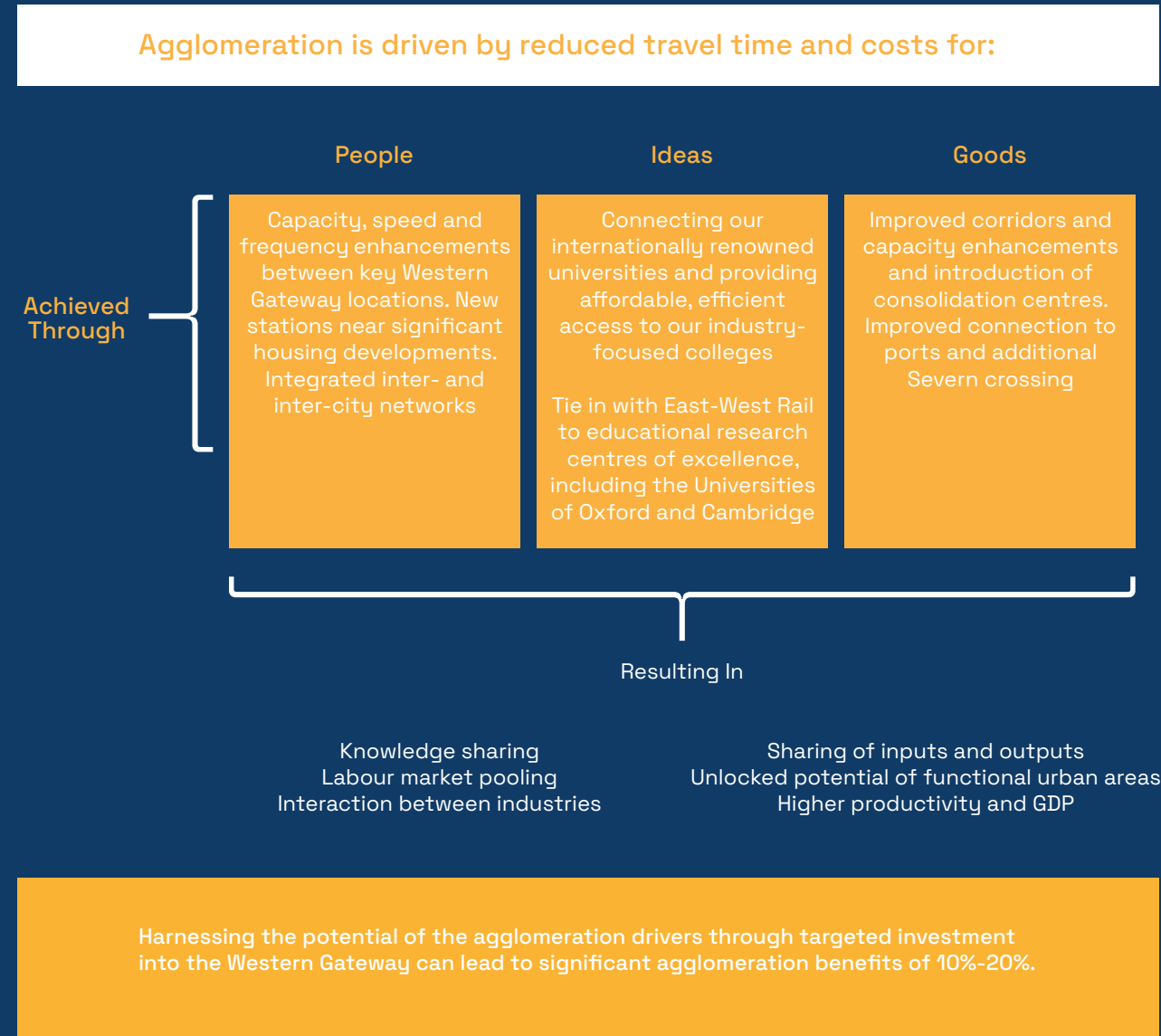
Western Gateway Cyber Super Cluster

Through GCHQ, the National Cyber Security Centre and now Golden Valley Development, Cheltenham is already an internationally significant cyber hub.

This sector has grown exponentially across the Western Gateway through military expertise in Swindon & Wiltshire, creative sectors in the West of England, data and tech specialisms in Newport and the academic-led innovation hub in Cardiff.

Enhanced capacity and new stations between Cardiff & Gloucester will fuel the collaboration potential and present a unique cross-border cyber super cluster.

Agglomeration Benefits



Improved rail connectivity opens up larger markets for firms, enabling them to specialise at an individual level. By focusing their expertise on specialist niche markets, they can be more productive and contribute to higher economic growth.

Specialisation can also occur more widely, in the form of clustering. This is the phenomenon whereby businesses and public institutions operating in a particular field locate in the same geographical area. This geographical proximity generates many benefits.

Increased Productivity	Personal Approach	Driving Innovation	Economies of Scale	Knowledge Transfer
Access to skills Local workforce specialise in the required skills. Presence of cluster signals opportunities and encourages workers to move to area.	Face-to-face contact Personal contact is very important to the high-tech sector and facilitates many of the other benefits presented.	Local rivalry Firms want to set themselves apart from the rest of the cluster by doing something new and innovative.	Sharing resources Firms gain the scale benefits of larger ones (lower fixed costs) without sacrificing the flexibility that comes with small size.	Cluster membership Clusters can bring together firms in different niches, academics and government institutions, sharing experiences and approaches.
Competition and density Intense competition forces less productive firms to improve. Dense concentrations of activity use assets and infrastructure more efficiently.	Local links Local outsourcing is less disruptive than overseas outsourcing. When local reputation is important business behaviour improves.	Low barriers to entry Concentration of skills and customers makes it easier for new disruptive firms to enter the market with their innovations.	Customers and suppliers Large markets for both encourage growth and better coordination of the supply chain.	Access to information Physical proximity facilitates knowledge sharing through formal or informal channels.
Specialisation Concentrations of customers, suppliers and skills allow firms to specialise and gain expertise in high-value niche markets.	Attracting 'visitors' The cluster's reputation will make it easier to attract events such as trade fairs or visits from support industries such as marketing.	Lower risk Specialisation makes it easier for firms to spot gaps in the market and pursue the new opportunities.	Viability Large scale allows more products and services to be offered profitably, satisfying market needs and generating growth.	Education sector links Clusters often develop close links with educational institutions offering formal training opportunities.

Agglomeration Benefits

There is a comprehensive evidence base in support of the notion that investment in rail, and most notably higher speed rail, can drive agglomeration benefits. By reducing journey times and increasing frequencies between key centres, rail can bring firms closer to potential customers, employees and partners, giving them access to larger labour and product markets and to a greater range of potential suppliers and partners.

These transformational changes require a long term vision for investment that can be used to underpin a robust programme of interventions to deliver the benefits incrementally and in an affordable manner. This programme-led approach will be fundamental for the 2050 vision to achieve its objectives.

The following table summarises some of the forecast and actual benefits of recently delivered, or currently planned, schemes within the UK:

Project	Benefits to date	Forecast benefits
HS1	Has boosted the UK economy by £427m every year since opening in 2007 (£4.5bn in total)	Forecast to deliver £1.3bn in Wider Economic Impacts over a 60 year appraisal period, in addition to standard transport user benefits
West Coast Modernisation	Dramatic growth of Greater Manchester's creative, digital and technology sector to £63bn in ten years with high frequency and high speed rail a key factor	Continued genuine competition with short haul flights and the capacity to continue to grow and deliver substantial economic benefits to the corridor and wider region
Transpennine Route Upgrade	N/A	Benefits not yet published but it is likely to have a positive value for money case against costs of £5.4bn
Northern Powerhouse Rail	N/A	Leeds to Manchester alone could deliver a £22bn boost to the Northern economy by 2060, increasing GVA by about 8%

Internationally, rail investment (especially into high speed rail) has also been shown to have significant agglomeration benefits.

The table overleaf details three case studies from Germany, Portugal, South Africa, and highlights the transport, environmental, and economic benefits of these projects.

Project	Transport Impact	Environmental Impact	Economic Impact
Cologne – Frankfurt High Speed Rail (Germany)	<ul style="list-style-type: none">Travel time savings of 74 minutesSupports long distance air travel by improving airport access50% increase in the rail market share	<ul style="list-style-type: none">Reduces demand for short domestic flights: Lufthansa scrapped flights on this route	<ul style="list-style-type: none">2.7% annual increase in economic activity in intermediate townsIncrease of business travel share along corridor from 28% in 2005 to 44% in 2011Local government secured developable land near the stations to take advantage of the rail link
Lisbon – Porto High Speed Rail (Portugal)	<ul style="list-style-type: none">Expected travel time savings of 2 hoursIncreased rail market share	<ul style="list-style-type: none">Estimated 3.5m passengers will switch from car to rail, with the accompanying reduction in accidents and carbon emissions	<ul style="list-style-type: none">The corridor's GDP is expected to be 20% above the national average€64m (£57m) of forecast agglomeration benefits in 2030Increased competition resulting from enhanced accessibility valued at €26.5m (£23.3m) by 2030
Johannesburg – Hatfield Gautrain (South Africa)	<ul style="list-style-type: none">Time savings for commuters and increased productivity levels of 10 to 12 working days per yearIncreased rail market shareSuccess led to plans for a 150km extension	<ul style="list-style-type: none">21,300 fewer car trips per day, with accompanying reduction in congestion, emissions and accidents	<ul style="list-style-type: none">Contributes £100m (€114m) per year to GDP of Gauteng provinceGenerates £25m (€28m) per year in government revenue£589m (€670m) invested in new developments and upgrades to retail centres between 2009 and 2014.4,000 jobs sustained in Gauteng due to the additional office space

We have demonstrated that there is already a very strong pipeline of development around the existing rail network and investment in better quality rail will continue to drive densification

and high value development in line with wider national and regional policies. The below table highlights the potential size of the prize should GVA receive even a modest boost as a result of any investment:

Current Western Gateway GVA	5% boost to GVA...	7.5% boost to GVA...
£110bn	£5.5bn per year	£8.25bn per year



Building on Solid Foundations

Western Gateway’s stakeholder organisations have well developed and well articulated visions and policy goals. They are developing their plans, with the support of government, through a range of committed projects across the region in the short to medium term. A selection of these are summarised here.

Western Gateway Partnership’s role is as a collaborative partner, working with others to develop the regional vision, engage with government and wider stakeholder groups to build momentum towards delivery.

Scheme	Brief Description
South Wales Main Line (SWML) Programme (including Burns Stations)	New stations, services, capacity enhancements and electrification between Bristol Temple Meads, Cardiff and Swansea
Swansea Bay Metro (initial phases)	Rail frequency enhancements, bus corridor improvements and integration, and new stations
South Wales Metro (expansion)	Core Valley Line enhancements and extensions ('Cardiff Crossrail'), and other corridor and station enhancements
MetroWest (initial phases)	New lines, stations, services, and capacity enhancements in the Bristol Metro area
West of England Combined Authority Transport Corridors*	Bus priority corridors, walking and cycling improvements, junction upgrades, liveable neighbourhoods, and new transport hubs within the West of England Combined Authority region

* Funded through the City Region Sustainable Transport Settlement (CRSTS)

Committed and Aspirational Rail Schemes

South Wales



South Wales Main Line

Speed, capacity, and frequency enhancements; electrification; extends to Bristol
Status: feasibility stage

Burns stations and services:
5 new stations and associated services
Status: option development

Cardiff Parkway: new station
Status: planning application approved; planned completion 2024

Metro Central

Improvements to Cardiff Central and new bus interchange; integration with SWML
Status: option development

South Wales Metro

Core Valley Lines: upgrade of stations and lines; electrification; new stations and line extension
Status: detailed design & construction

Ebbw Vale Line: frequency enhancement
Status: detailed design & construction

Cardiff Crossrail: Light rail / tram mass transit system connecting to the future Bay Arena
Development
Status: pre-feasibility study completed

Maesteg Line: frequency enhancement
Status: option development

Swansea Bay & West Wales Metro

Bus corridor and rail frequency enhancements, new stations
Status: OBC completed

Focus on the South Wales Main Line

Beginning to realise the Vision

There is significant planned and committed investment in the South Wales Main Line (SWML) from Milford Haven to Bristol in the short to medium term. This work is being led by Transport for Wales (TfW) and mainly funded by the Welsh Government, with additional support from Central Government as an outcome of the Union Connectivity Review. Through to the early 2030s this will deliver new, direct services, new stations, improved frequencies, reduced journey times, freight enhancements and further electrification.

When combined with the significant planned investment in local transport networks, this will deliver a transformational step-change in public transport connectivity across the Western Gateway. A core part of these local plans are the development of three Metro areas – Swansea Bay, MetroWest and South Wales – the latter of which recently received a significant vote of confidence through a successful Levelling Up Fund submission for the early phases. This transformation will form the basis for further investment in the longer term to fully deliver on the 2050 Vision.



Committed and Aspirational Rail Schemes

South West England



- MetroWest (committed)**
- Phase 1a**
Under construction
 - Speed, capacity and frequency enhancements; new station at Portway
 - Phase 1b**
DCO expected Oct 2022, FBC 2023
Reinstatement of Portishead rail line and Portishead and Pill stations
 - Phase 2**
Development stage; FBC Sept 2022
Reopening of Henbury Line with new stations at Henbury, North Filton and Ashley Down

West of England Combined Authority
City Region Sustainable Transport
Settlement (committed)

- Charfield : OBC approved ;
planning application submitted

Private sector led (aspirational)

- Gravity / Bridgewater

Restoring Your Railway Fund (aspirational)

Reopening of previously closed lines
and stations

- Corsham : SOBC under development
- Devizes Gateway : SOBC accepted
- St Anne's Park : SOBC submitted
- Stonehouse (Bristol Rd) : SOBC under development

West of England Combined Authority
JLTP 4 schemes (aspirational)

- Saltford
- Ashton Gate (paused)
- Lockleaze
- Pilning / Severnside

Committed and Planned Mass Transit Schemes

Wider Bristol Area



MetroBus

Committed
M4: Cribbs Causeway – Bristol Parkway;
launch spring 2023

Proposed

- Bristol – Avonmouth/Severnside
- Bromley Heath – Yate
- Almondsbury – Thornbury
- Bower Ashton – Nailsea – Clevedon
- Bristol – Bath
- Eastern Fringe Orbital
- Bristol – Bristol Airport
- Weston-super-Mare Network

Bristol Tram
Pre-feasibility study

- Phase 1: Key routes
- Phase 2: Additional loops and Bath extension
- Phase 3: tie in with rail lines

West of England Combined Authority
Strategic Corridors Consultation

- A37/A367:
Bath – Radstock – Midsomer Norton – Whitchurch
- A38/Bradley Stoke Way:
Stoke Gifford – Thornbury
- A4: Bristol – Bath
- A432/A4174: Bristol – Yate – Chipping Sodbury
- Service 2: Stockwood – Bristol – Henbury



The Vision Explained

The vision, developed collaboratively with stakeholders across the region, is to **provide** better passenger and freight rail services, stations and integration with wider mass transit systems; but also to **promote** decarbonisation of the network, private-sector investment and a globally-significant R&D capability.



Building the Vision

Arup and Western Gateway have worked closely with stakeholders across the region including Transport for Wales, Western Gateway Sub-National Transport Body, Cardiff Capital Region, West of England Combined Authority, Welsh Government, UK Government, DfT, GWR, CrossCountry, Network Rail and industry partners to develop a robust vision of how rail can support economic growth and carbon reduction.

There are already ambitious policies and plans to improve rail through targeted investment in capacity, stations, and urban mass transit systems across the region. Western Gateway's role is to build upon these committed schemes, working with others to facilitate a strategic vision and delivery with existing stakeholders and agencies.

The region should be ambitious. It has the population and a growing and diverse employment base. It is home to some globally recognized and industry leading companies recognised for their innovation and contribution to our future economy. Improved rail connectivity is essential to support sustainable, high quality and inclusive growth.

The vision is to improve opportunities for the people, communities, businesses and industries across the region. Rail offers the chance to tackle a wide range of strategic objectives through enhancing journey times, the connections, the capacity and the quality of the rail network.

Better services, stations and integration across rail and with wider mass transit systems and faster services to London, Birmingham, and across the region will transform rail and turn it into the mode of choice for millions of people.

Vision 2050

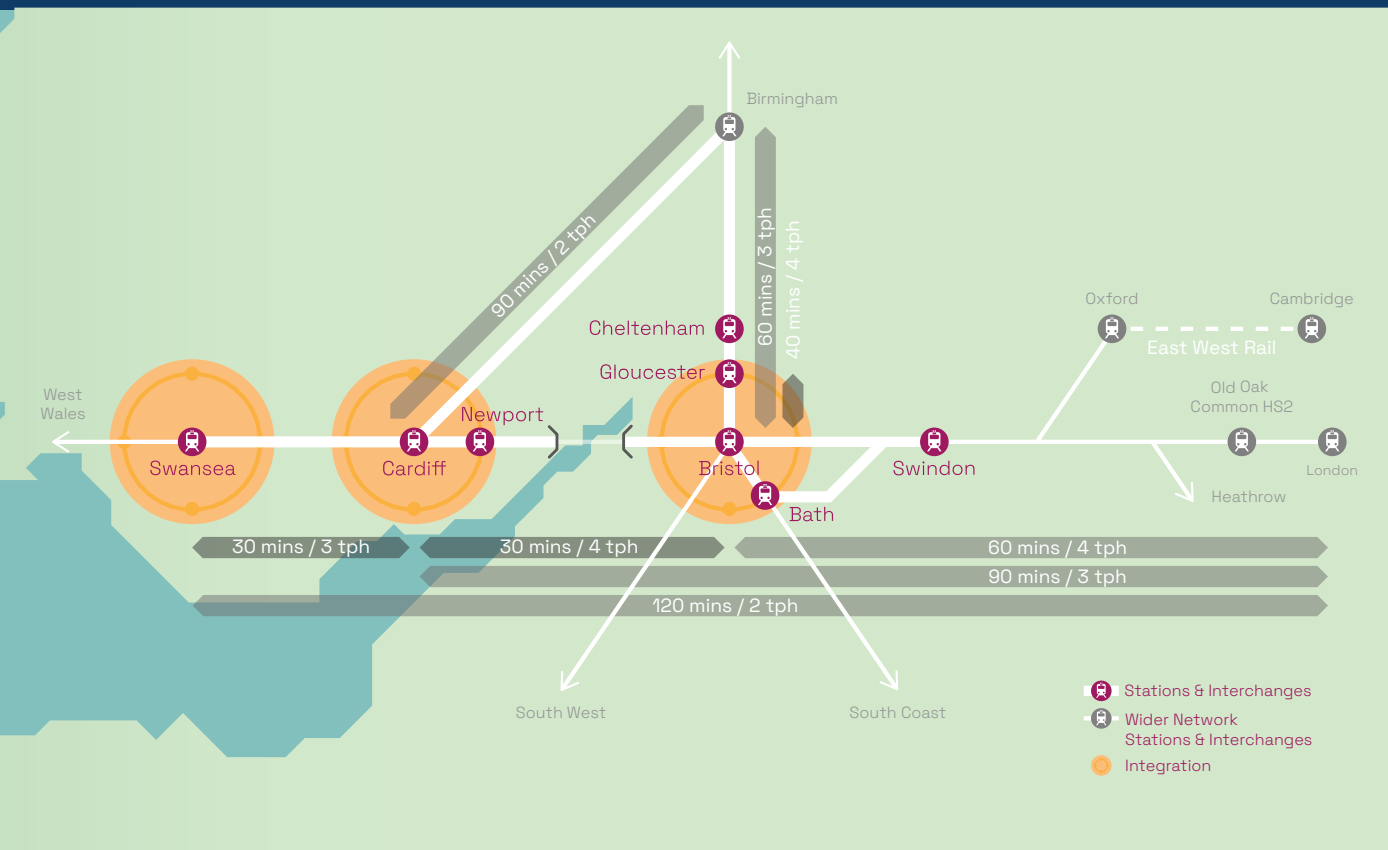
The vision is to provide better quality passenger and freight services, better stations and integration with wider mass transit systems; but also to promote decarbonisation of the network and private-sector investment.

Faster services to London, Birmingham, and across the region will transform rail connectivity and turn it into the mode of choice for millions of people.

This vision can be pragmatically and cost effectively delivered through:

- Western Gateway working with existing partners to deliver transformative change for the region
- Building on committed schemes with focused interventions combining to create regional integration

The vision delivers for our economy, communities, and environment.



Focus Areas

Investment in rail across the region can be delivered in a pragmatic and **cost effective** way.

Western Gateway needs to work with existing partners to build on committed schemes with focused interventions combining to create regional integration.

Western Gateway will bring coordination across the region, influence with stakeholders and government and can help deliver investment and additional funding.



User Benefits

The 2050 Vision will have a substantial positive impact on the lives of those living within the Western Gateway

Work



Recent graduate Tom lives with family in Portishead and has just accepted a new job in Cardiff. What is currently a challenging and lengthy journey across multiple modes would be a quick and easy commute via the reopened Portishead Line and upgraded South Wales Main Line under the 2050 Vision.

Health



Fran lives in Swansea with her wife and two children. She has recently had a kidney transplant at the UHW in Cardiff and regularly needs to return for check-up appointments. Her wife is not always able to drive her so she takes the train. Under the 2050 Vision, the South Wales Main Line upgrade would make her journey stress-free by reducing travel time by 40% and offering more flexibility through higher frequency services.

Friends



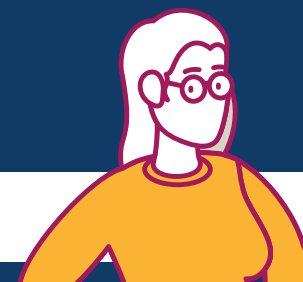
Margaret retired 10 years ago and now lives in Gloucester. Once a month on Saturdays, she meets up with her friends in Bath for dinner and a play at the Theatre Royal. Her visits are oftentimes cut short because she has to catch the last train back home. Under the 2050 vision, the improved services between Bath, Bristol and Gloucester would allow her to stay out and spend more time with the people she loves.

Education



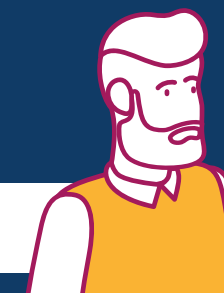
Ibrahim is based in Bristol and is in the first year of his PhD. He is a student at the EPSRC Centre for Doctoral Training which allows him to carry out research at the Universities of Oxford, Bristol and Southampton. Under the 2050 vision, Ibrahim could efficiently travel between the three universities without having to worry about rail timetables and missing out on valuable lab time thanks to improved service frequency and capacity.

Family



Kate lives in Newport but most of her family is based in Birmingham. She would like to spend more time with her nephew Ollie, but finds the rail journey lengthy and expensive, so she only manages to travel up a few times a year. With more trains per hour and a quick 75-minute journey to Birmingham, the 2050 vision would allow her to be there for all of Ollie's important moments in life.

Logistics



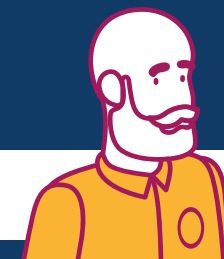
Marek is the CEO of a logistics company in Swindon. Congestion on the Severn motorway crossings has led to delays and profit losses in recent years. He has considered transitioning over to rail but is concerned about the limited capacity of the Severn Tunnel. Under the 2050 vision, he can make the switch in confidence, thanks to an enhanced capacity of the tunnel and the Swindon – Gloucester – Severn Tunnel Junction freight corridor.

Tourism



Imani works for Weston-super-Mare's tourist information and wants to help visitors travel more sustainably to the seaside town. Whilst there are regular rail connections between Weston and Bristol, she has struggled with recommending convenient routes for visitors arriving from further afield. The enhanced service offering and improved Bristol Temple Meads station interchange within the 2050 Vision would make it easy for visitors to travel to Weston in a sustainable manner.

Sports



Scott and his grandchildren are horseracing enthusiasts from Magor. They like watching the races at Cheltenham but currently drive between the two towns because they find the journey to be too much of a hassle using public transport. With a new station at Magor, frequency enhancements and an improved tie in with local bus services, the 2050 Vision would make rail the clear mode of choice for the trio.

Music

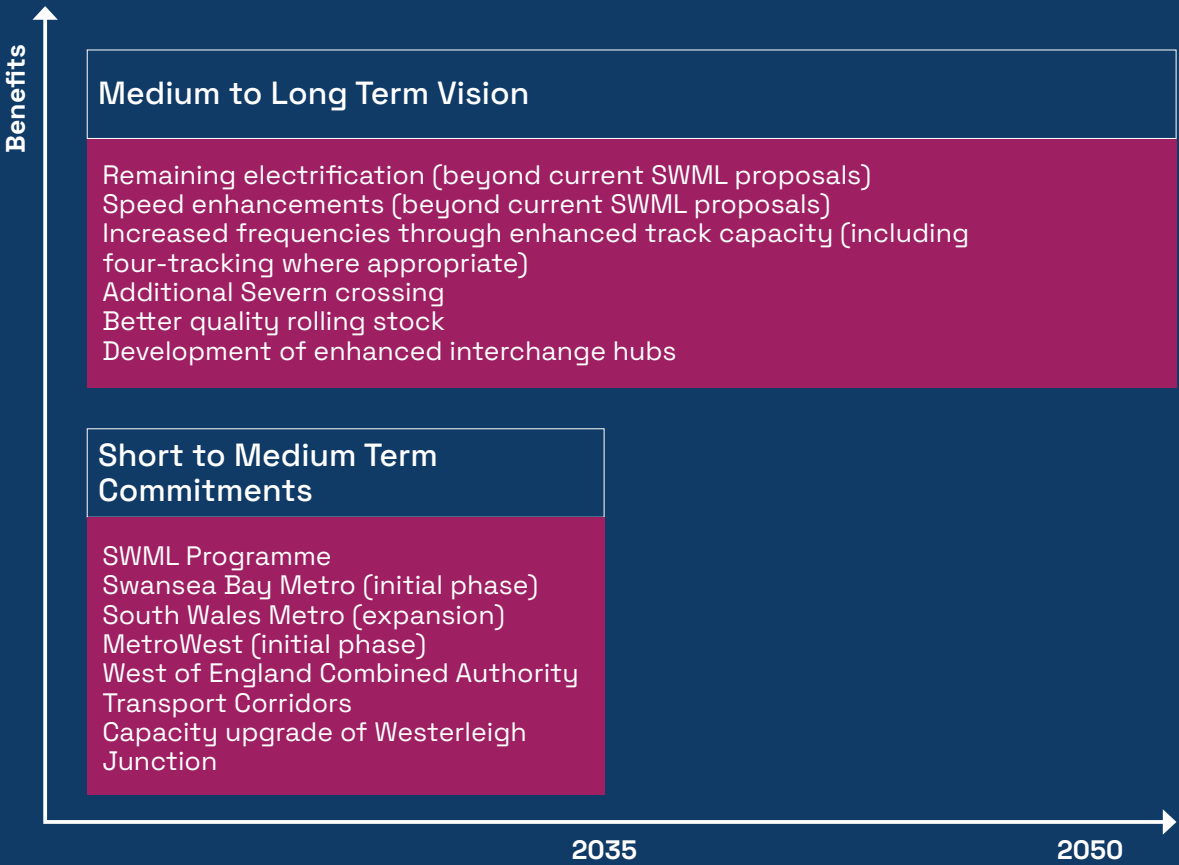


Lisa is a member of the Salisbury Cathedral Chamber Choir and lives in Westbury. She likes taking the train to choir practice but oftentimes cannot find a seat, especially on weekends. Under the 2050 vision, the enhanced frequency would allow people to spread out over more services and help Lisa find a seat every time.

Short Term Deliverability Meets Longer Term Ambition

We recognise that such an ambitious vision cannot be delivered in one single intervention or investment, but will require a phased package of interventions, underpinned by a clear strategy and roadmap agreed by all stakeholders, that incrementally builds towards achieving the bold vision for 2050.

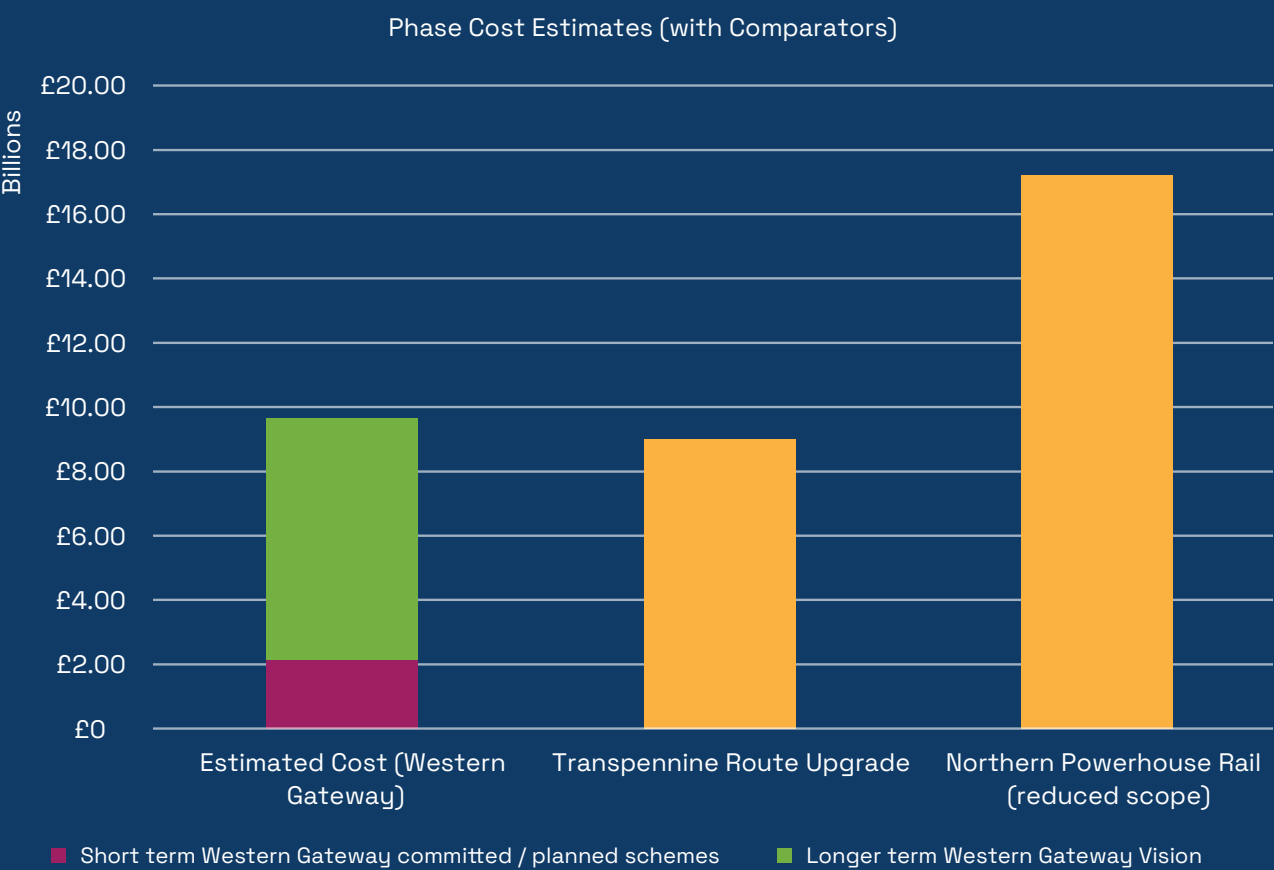
For the Western Gateway there is a clear distinction between the committed and planned schemes already in the pipeline through to 2030/35 which are a big step in the right direction and the longer term ambition to 2050 to fully meet the vision.



The Short to Medium Term Ask

In the short to medium term (to 2030/35) we are fully supportive of the current planned pipeline of work, led primarily by Transport for Wales (TfW) in collaboration with Network Rail and DfT, which has a robust governance structure and programme in place. The scheme and geography-specific asks shown on

the next page are at various stages of development, some with confirmed funding and others still in the planning stage, but together will form the critical first stage towards meeting the overall 2050 vision.



The Short to Medium Term Ask

The schemes that have been proposed for the short to medium term and the medium to longer term all address Western Gateway’s mission relating to economic growth, attracting investment, decarbonisation, connecting communities and unlocking innovation.



Mission 1:
Contribute £34 billion to the economy
Drive up productivity levels to close the gap with the UK average by 50%



Mission 2:
Attract investment
and grow exports by £4 billion
Champion the area internationally and grow exports to meet the UK average.



Mission 3:
Decarbonise our economy
Position the area as a global leader in green renewable energy systems.



Mission 4:
Connect communities
Realise an integrated transport network and improve regional connectivity to level-up access to jobs, education and opportunity.



Mission 5:
Unlock innovation
Create a digital super-cluster that harnesses the strengths of our high value sectors, such as advanced engineering, telecoms and creative industries.

Scheme	Summary of interventions	Development and Delivery Partners	Estimated Cost
SWML Programme (including Burns Stations)	New stations, services, capacity and electrification between Bristol Temple Meads, Cardiff and Swansea	Network Rail Transport for Wales	£600 – 700m
Swansea Bay Metro (initial phases)	Rail frequency enhancements, bus corridor improvements and integration and new stations	Network Rail Transport for Wales	£400m
South Wales Metro (expansion)	Core Valley Line enhancements and extensions (‘Cardiff Crossrail’) and other corridor and station enhancements	Network Rail Transport for Wales	£300 – 600m
MetroWest (initial phases)	New lines, stations, services, capacity, and electrification in the Bristol Metro area	West of England Combined Authority Local authorities Western Gateway STB	£163m (Phase 1) – Phase 2 currently undefined but costs to be included in short to medium term plan
West of England Combined Authority Transport Corridors	Bus priority corridors, walking and cycling improvements, junction upgrades, liveable neighbourhoods, and new transport hubs within the West of England Combined Authority region	West of England Combined Authority Local authorities Western Gateway STB	CRSTS £500m allocated

Prioritised Schemes to Deliver the Vision

Vision Element	Vision item	Summary of interventions	Development and Delivery Partners
East-West Connectivity and Capacity	South Wales Main Line	Capacity and line speed enhancements including: <ul style="list-style-type: none">Full electrification4 tracking where appropriate140mph operation where possibleSeparation of fast and stopping servicesIncreased frequenciesBetter quality rolling stock	Network Rail Transport for Wales
	Great Western Main Line	Capacity and line speed enhancements including: <ul style="list-style-type: none">Full electrification4 tracking where appropriate140mph operation where possibleSeparation of fast and stopping servicesIncreased frequenciesBetter quality rolling stock	Network Rail Transport for Wales West of England Combined Authority
	Severn Tunnel	<ul style="list-style-type: none">Short term resilience enhancementsSignalling operations improvementLong term additional crossing	Network Rail Transport for Wales
North - South Connectivity and Capacity	Bristol to Birmingham Connectivity	Capacity and line speed enhancements including: <ul style="list-style-type: none">Westerleigh Junction capacity upgradeGloucester to Bristol Parkway track capacity upgradeFilton Bank to Bristol Temple Meads electrification	Network Rail Transport for Wales West of England Combined Authority Midlands Connect STB Western Gateway STB
	Bristol to Southampton / Portsmouth Connectivity	Service enhancements that deliver: <ul style="list-style-type: none">Improved frequenciesReduced journey timesUpgraded rolling stock	Network Rail WECA Western Gateway STB Transport for the South East

	Vision item	Summary of interventions	Development and Delivery Partners
Multi-modal Integration	Metro Integration	Integration with current and future local Metro networks <ul style="list-style-type: none">CardiffBristolSwansea Bay	West of England Combined Authority Transport for Wales Local authorities
	Upgrading Key Hubs	Capacity and line speed enhancements including: <ul style="list-style-type: none">Address capacity issues at BTM and CardiffImprove accessibility to stations	Network Rail Local authorities
	Other Stations and Mobility Hubs	<ul style="list-style-type: none">Deliver mobility hubs at key locationsAccelerated delivery of new stations identified through the South East Wales Transport CommissionUpgrade Park and Ride site at Severn Tunnel junctionDelivery of identified stations in Western EnglandIdentify opportunities for additional stations	Network Rail Local authorities Transport for Wales West of England Combined Authority Western Gateway STB
	Airport Connectivity	<ul style="list-style-type: none">Improved connectivity to Bristol AirportImproved connectivity to Cardiff airportImproved connectivity to Heathrow airport	Network Rail Local authorities Transport for Wales West of England Combined Authority Western Gateway STB
Freight	Freight Capacity and Consolidation	Capacity and routing enhancements including: <ul style="list-style-type: none">Improvement of Newport-Gloucester-Swindon corridorFreight consolidation and intermodal freight facilities at key hubsFreight capacity improvements to/from ports	Network Rail Transport for Wales West of England Combined Authority Local authorities Freight Operators Port Authorities Western Gateway STB



Engagement

We have engaged with stakeholders around the region, including Transport for Wales, Western Gateway Sub-National Transport Body, Cardiff Capital Region, West of England Combined Authority, Welsh Government, UK Government, DfT, GWR, CrossCountry, Network Rail, MPs and industry partners to understand their needs and aspirations for the region, and also the opportunities and challenges for rail.

Engaging with Stakeholders

Beginning to realise the Vision

Arup and Western Gateway have engaged with stakeholders around the region, including Transport for Wales, Western Gateway Sub-National Transport Body, Cardiff Capital Region, West of England Combined Authority, DfT, GWR, CrossCountry, Network Rail and industry partners to understand their needs, aspirations for the region, and also the opportunities and challenges for rail. Ideas were put forward on what they wanted to see, some specific, some broader.

Through this engagement clear themes have become apparent. There are gaps in infrastructure, capacity, service provision. Uncertainty around funding makes investment more challenging and rail is seen by people and businesses as expensive and unreliable; not meeting their needs.

However, there is an opportunity to deliver transformational change. Alignment of Western Gateway's vision with the policies and priorities of existing organisations such as Transport for Wales, Network Rail and West of England Combined Authority will enable delivery of coordinated plans and better integration. Western Gateway can bring real cross-regional influence.



© Victor Carlingal/Arup

Gaps Identified by Stakeholders

Overarching Themes

Operational & Infrastructural Constraints

- Insufficient capacity to meet the needs of all current and potential rail users.
- Limited integration between rail and bus services.
- Issues with connectivity, line speeds and frequencies acting as a barrier to modal shift.
- Capacity and reliability issues resulting in poor service and overcrowding.
- Mix of electrified and non-electrified lines causing expensive mix of rolling stock.
- Station capacity is limited in key locations (e.g. Cardiff Central).
- Poor rail access to airports (Bristol and Cardiff).

Public Offering

- Public perception among some groups that rail is expensive, unreliable and uncomfortable.
- Poor integration in terms of service provision, service quality and integrated ticketing.
- Poor interchange experience at major stations.
- Understaffing and poor security at rural stations.

Approach to Investment

- Investment appraisal favours traditional commuter markets.
- A lack of understanding of the trade-offs in rail investment.
- Cost certainty and affordability of improvements limit opportunities for investment.
- Uncertainty around future passenger numbers.
- A reduced appetite for investment due to wider economic uncertainties.
- Urban geography makes investment expensive.
- Lack of control and authority – service specification / rolling stock / long distance services and electrification outside Western Gateway's control.

Opportunities Identified by Stakeholders

Overarching Themes

Mode Shift and Integration

- Enhancing integration between rail and bus services; infrastructure, services and ticketing.
- Reducing public transport journey times to be comparable with private cars.
- Providing more frequent services to compete with private cars.
- Enabling freight by minimising conflict with passenger services.
- Establishing park and ride sites / mobility hubs at key locations, to expand catchments.
- Treating post-COVID recovery as an opportunity to provide services for changing travel patterns and markets.
- Maximising benefits of open access opportunities.

Appraisal, Policy and Funding

- Aligning with wider priorities – a focus on 'big ticket', cross-boundary, strategic priorities.
- Developing a bespoke Western Gateway approach to appraisal, accounting for community, social & environmental benefits.
- Optimising alignment with various local strategies and policies.
- Scale of funding required for Western Gateway lower than in other areas.

Decarbonisation and Innovation

- Delivering electrification - both quick wins and long-term priorities.
- Exploring the use of traditional overhead wires for core routes and alternative technologies for remote lines.
- Realising Western Gateway's ambition to be a green energy supply cluster.
- Replacing diesel trains with alternatives as fleets reach expiry.
- Seeking opportunities to use and share data.
- Providing digital connectivity at stations.
- Exploiting technology (apps and digital marketing) to provide information and improve accessibility.

Roadmap to Delivery

Work has started on positioning the vision for rail across the Western Gateway. Phase 2 will define the work needed to take this forward with partners and to build the case. Beyond that more detail will be developed on projects, planning, funding and design.

This will be a collaborative venture with Western Gateway working in partnership with others to coordinate and integrate across the region, bringing influence to plans and funding agencies.



Call to Action

This Vision is the culmination of a renewed and broadened commitment to partnership working across the Western Gateway. It has cross-boundary and cross-party backing and is designed to empower the delivery of a transformation in our rail network, investment in our communities and an opportunity to lead the way in the decarbonisation of the rail industry.

We are calling for commitment from UK and Wales Government to back this vision and to strengthen partnership working across the Western Gateway. We want to explore the scope for programme-level investment through our delivery bodies and to understand how our partnership approach can accelerate delivery and programme certainty.

We are calling for ongoing support from our many influential and impactful political, industrial, academic and community stakeholders. Join us in backing and delivering this vision by offering up your support and wherever viable, your resources and expertise.

This vision for enhanced connectivity and investment in our places is deliverable. It is a comprehensive but phased programme with impact for communities right across our area; providing access to skills, jobs and community networks of genuinely integrated transport, connected to mass rapid transit and active travel options.

We have reached many stakeholders and have been delighted by the willingness of partners and operators to shape and critique this approach. We are committed to continuing to build these relationships with a focus on realising delivery and on co-promotion of the extraordinary opportunity in this area. If you can offer support or can promote further engagement please contact the team.

