

Driving a Revolution in Rail Services for West Midlands

West Midlands Rail Executive

A 30-year Rail
Investment Strategy
2018-2047

December 2018





**West Midlands Rail Executive
is a movement for change,
driving a revolution in rail
services for West Midlanders**

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Foreword by Councillor Roger Lawrence



Rail is vital to the West Midlands. West Midlands Rail Executive is pleased to outline our Rail Investment Strategy for delivering better rail services across the whole region over the next 30 years and will support the exciting regeneration and growth plans that exist across all our partner authorities, recognising the role rail can play in connecting people, communities, economies and businesses.

In 2018 West Midlands rail services are more frequent, carrying more passengers and taking more journeys off the road than ever before. Trains and stations are busier and rail capacity used intensively. We will need to continuously evolve the network to meet the challenges of growth.

Many substantial committed service, train and station improvements will be delivered by the West Midlands rail franchise between now and 2025. In this strategy we set out our ambitions and priorities for developing rail connectivity in the medium and long-term towards 2047, supported by clear economic evidence. We wish to build on the opportunities generated by High Speed 2 and Midlands Connect's 'Midlands Rail Hub', support their full and timely delivery, and strike a mutually beneficial balance between expanding passenger services and rail-freight growth.

Our focus in this investment strategy is upon on the rail connectivity required to support the needs of the region, testing the value of a wide range of train service options and choices to help us determine our overall strategic objectives. These options are not fixed, and will evolve as we develop the strategy in more detail, informing the infrastructure and rolling stock projects that will be needed to make them happen.

As well as better train services we know that passengers want to see a wide range of improvements when using the network. We are developing our approach to these modern passenger expectations within our Single Network Vision*. We will drive a transformation in reliability, punctuality, ticketing, value-for-money fares, customer care, information, stations and on-train facilities. We will work closely with our partners to better integrate our rail network with buses, trams, cycle and pedestrian facilities.

Taken together the Single Network Vision and this Rail Investment Strategy will be formed into a 'Prospectus for Rail', which we will publish in 2019, setting out our overall ambitions for the revolution in rail services West Midlanders need.

We have consulted our partners and stakeholders on the key elements and direction of this 30 year investment strategy and we very much appreciate the time and effort that consultees put into developing their responses. We are pleased that our approach has received wide and strong support, even though we may not be able to reflect everybody's priorities within this document.

Roger Lawrence
Chair - West Midlands Rail Executive
December 2018

*<http://www.westmidlandsrail.com/media/2851/single-network-vision-final-approved-version-170630.pdf>



West Midlands Rail Map



Figure 1 - West Midlands Rail Map

1. Executive Summary



1. Executive Summary - December 2018

West Midlands Rail Executive (WMRE) is a partnership of 16 local authorities leading a movement for change and driving a revolution in rail services for West Midlanders.

With a population of 6.47 million, an economy worth £128 billion each year, 3.2 million jobs and a key UK international airport, the West Midlands is thriving, vital to Britain's prosperity, and growing. By 2032 there will be 900,000 more people and 450,000 new jobs. Further major growth is anticipated in the 2030s and 2040s.

Delivery of our ambitions for faster, more frequent, better-connecting and higher capacity rail services will be essential to accommodate and build upon this scale of growth. By 2032 transformed West Midlands rail services will themselves add £325m each year to the economy, rising to £540m by 2047, and a further 6,600 new jobs.

Our rail services make a major contribution today to the economy, businesses and communities of the West Midlands with, for example, rail becoming the leading means of peak travel into Birmingham in 2017. However the region's rail network has significant existing challenges, is operating close to capacity, and needs transformative investment to be fit for current and future purpose.

The new High Speed 2 rail line (HS2) will unlock capacity and connectivity on the existing network. Midlands Connect's 'Midlands Rail Hub' will enable more frequent services to operate across the Midlands by 2032. Further development will be needed as the region's dynamic growth continues beyond completion of both of these major schemes.

This Rail Investment Strategy sets out West Midlands Rail Executive's ambitious plans to expand our local rail services and stations in partnership with Midlands Connect, Transport for West Midlands (TfWM) and the rail industry, and to maximise the benefit of High Speed 2 to the region.

Our Strategy has 7 principal components, driven by their value to the West Midlands economy.

- **ONE - West Midlands rail franchise and other franchises 'quick wins': 2018 to 2026**
Delivery of the ambitions and commitments of the West Midlands rail franchise, which we co-manage with the Department for Transport. These include enhanced cross-Birmingham connectivity, better Sunday and evening services, new Camp Hill, Leamington-Nuneaton and Walsall-Wolverhampton services, new stations, more train and car park capacity, improved reliability and easier access to stations.
- **TWO - High frequency '6-4-2' rail services matching our growing, vibrant economy**
Setting minimum frequency standards of 6, 4 or 2 trains per hour (tph) at West Midlands stations, matched to the region's evolving economy, population and travel markets, with earlier, later and overnight services and 24 hour access to Birmingham Airport. These will build on high frequency services such as those already in place on the Snow Hill and Cross City lines.
- **THREE - Midlands Rail Hub: 2026 to 2032**
Making the case now for the Midlands Rail Hub scheme, offering up to 10 extra train paths every hour across Birmingham and the West Midlands. In partnership with Midlands Connect, TfWM and the rail industry we will drive delivery of this new connectivity and capacity between 2026 and 2032.

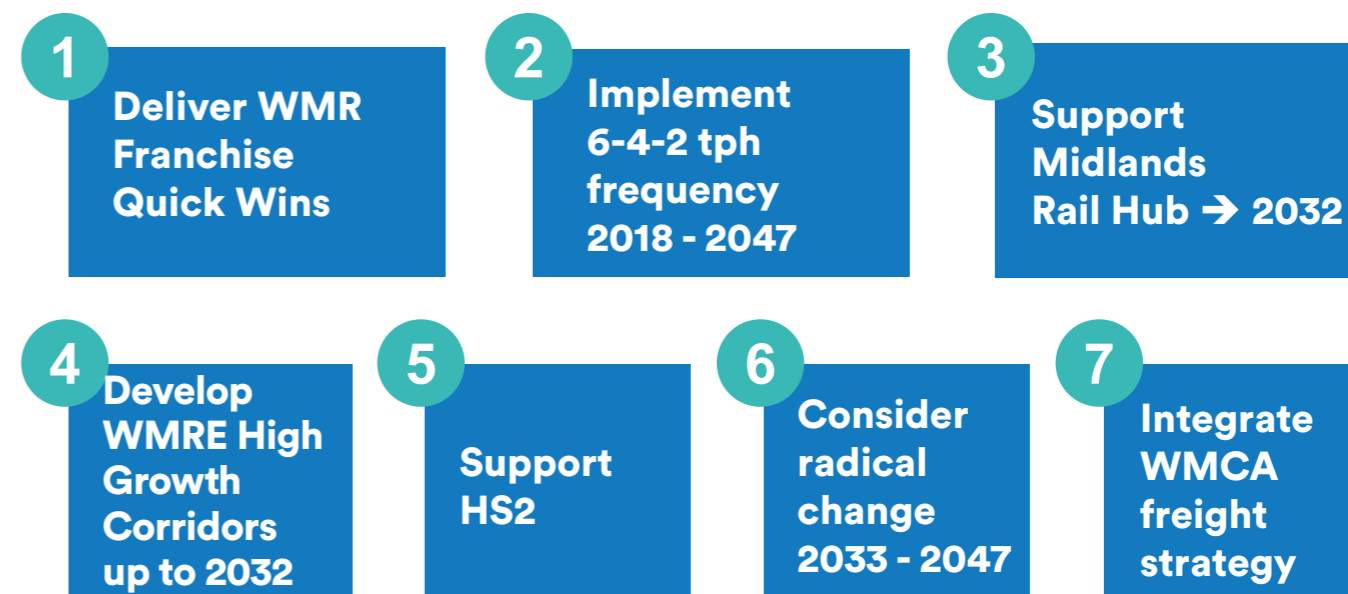


Figure 2 - Seven Principal Components

- **FOUR - Our high growth rail corridors: 2018 to 2032**
Developing rail services and connectivity in high-growth corridors seeing the greatest economic and population growth to 2032, including the Wolverhampton-Coventry, Cannock-Walsall-Birmingham, Tamworth-Nuneaton-Birmingham, Birmingham South-Worcester-Hereford corridors and the Snow Hill Lines.
 - **FIVE - High Speed 2: 2026/7 and 2033**
Supporting delivery of both phases of High Speed 2 (HS2) in 2026/7 and 2033. We wish to maximise the benefits generated by capacity released on the existing rail network by HS2, and access via Interchange to international connectivity from Birmingham Airport.
 - **SIX - Radical change towards 2047**
Starting work now to identify radical infrastructure change beyond High Speed 2 and Midlands Rail Hub. We will consider further new rail services and connectivity needed to support ongoing economic growth, the impact of major development proposals such as UK Central Hub, and how to relieve strategic rail capacity constraints on key routes such as the Wolverhampton-Coventry Corridor.
 - **SEVEN - Supporting rail-freight development and growth**
Supporting Transport for West Midlands (TfWM) and other WMRE-partner freight strategies, maximising shared benefits for passenger and freight services of capacity released by High Speed 2. We will seek to integrate passenger service aspirations with growing freight flows and employment at new freight interchanges, and gain shared benefit from infrastructure investment.
- Our work with our industry partners begins today to scope, develop, cost and fund the schemes we need to unlock this major value essential to the future prosperity of the West Midlands.

West Midlands Rail Executive
December 2018

West Midlands Rail Investment Strategy 2018-2047: Overview

A New Era for West Midlands Rail Travel

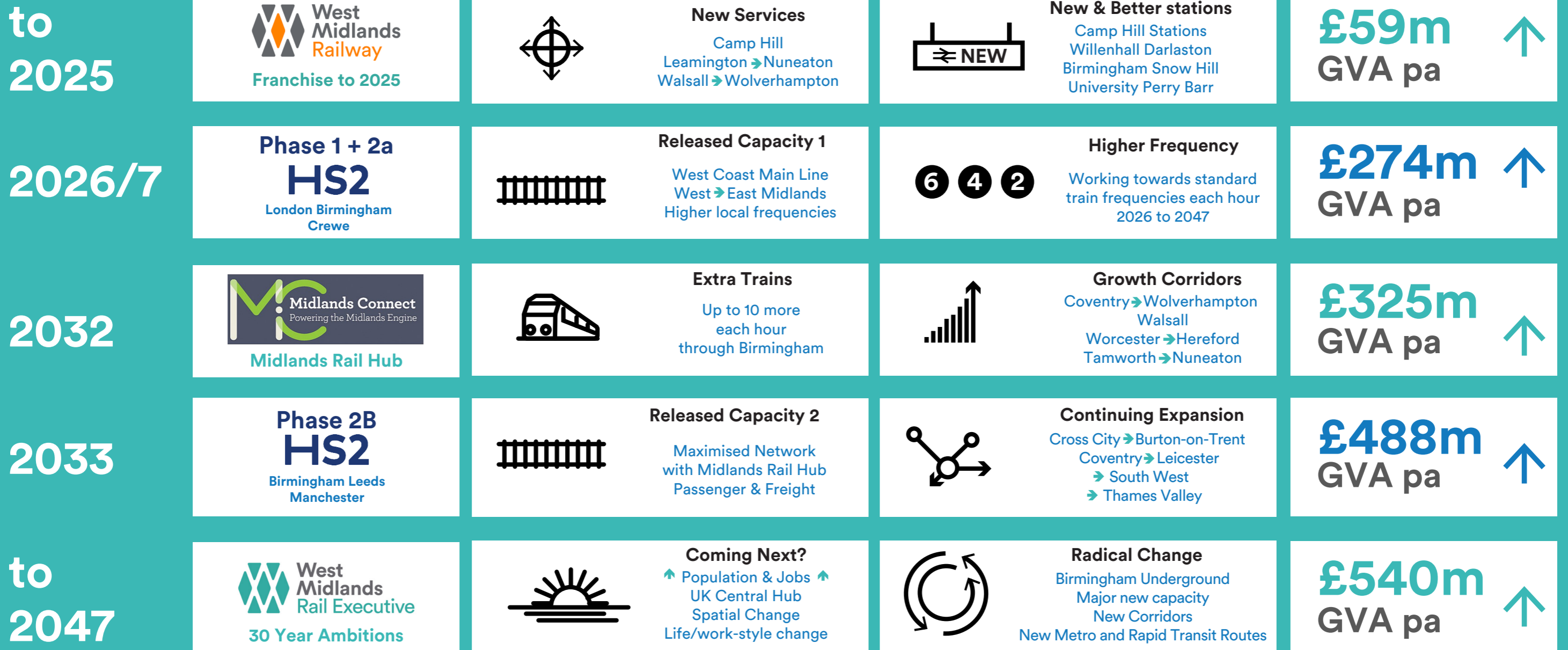


Figure 3 – West Midlands Rail Investment Strategy 2018-2047

2. Glossary



- **WEST MIDLANDS RAIL EXECUTIVE** The partnership of 16 West Midlands Local Authorities co-managing the West Midlands Railway franchise with the Department for Transport, and planning the strategic future of the West Midlands rail network.
- **FULL MEMBER AUTHORITIES** Birmingham, Coventry, Dudley, Herefordshire, Northamptonshire, Sandwell, Shropshire, Solihull, Staffordshire, Telford and Wrekin, Walsall, Warwickshire, Wolverhampton and Worcestershire.
- **AFFILIATE MEMBERS** Cheshire East and Stoke-on-Trent.



- **WEST MIDLANDS FRANCHISE** The West Midlands rail franchise covers services across the West Midlands, as well as trains from London Euston to Crewe and from Liverpool to Birmingham. The franchise covering local services within the West Midlands is specified and co-managed by the Department for Transport and West Midlands Rail Executive, and is branded as 'West Midlands Railway'. Regional services between London Euston, Birmingham, Crewe and Liverpool are branded as 'London Northwestern Railway'. The franchise runs from 10th December 2017 until March 2026, and is operated by West Midlands Trains Limited.



- **WEST MIDLANDS COMBINED AUTHORITY (WMCA)** A local government partnership defined in statute consisting of the 7 West Midlands metropolitan district authorities and 10 non-constituent local authorities, 3 Local Enterprise Partnerships and a number of observer organisations. WMCA has the statutory powers of both a Passenger Transport Executive and Integrated Transport Authority and as such is the Local Transport Authority for the West Midlands metropolitan area. Leadership of the WMCA comes from the Mayor of the West Midlands and the leaders of the 7 constituent metropolitan district authorities.



- **TRANSPORT FOR WEST MIDLANDS (TfWM)** The transport arm of the West Midlands Combined Authority (WMCA) set up to co-ordinate and deliver investment to improve transport infrastructure in the WMCA area and create a fully integrated, safe and secure network. It is also responsible for assessing and planning the WMCA's future transport needs so the network can meet the demands of businesses and a growing population. As well as a key partner in rail development and delivery in the WMCA's area, TfWM is also behind plans to expand a metropolitan rapid transit network - including new West Midlands Metro, Sprint (bus rapid transit), and Very Light Rail. TfWM's broader transport investment in the WMCA area will be critical for rail access and interchange, and providing alternatives to short rail journeys in the future.



- **WEST MIDLANDS TRAINS LIMITED** West Midlands Trains Ltd is a joint venture of Abellio (the international passenger transport subsidiary of the Dutch national railway company), Japan East Railway Company, and Mitsui & Co Ltd that operates the West Midlands rail franchise.



- **MIDLANDS CONNECT** The Partnership of 23 West and East Midlands local authorities, 9 Local Enterprise Partnerships, Department for Transport, Highways England, Network Rail, High Speed 2, Birmingham Airport, East Midlands Airport and Chambers of Commerce planning the strategic future of West and East Midlands regional rail connectivity.

MIDLANDS RAIL HUB



- **MIDLANDS RAIL HUB** A programme led by Midlands Connect of rail upgrades in and around central Birmingham to provide up to 10 additional trains per hour in and out of the city by 2032 and boost rail links across the wider Midlands and to the East Midlands economic centres of Derby, Leicester and Nottingham.
- **DEPARTMENT FOR TRANSPORT (DfT)** The Government department responsible for UK rail network development in England, franchise procurement and co-management of the West Midlands Railway franchise with the West Midlands Rail Executive

HS2

- **HIGH SPEED 2 (HS2)**

- **Phase 1** London Euston-Interchange and Curzon Street opening 2026
- **Phase 2A** West Midlands-Crewe opening 2027
- **Phase 2B** Crewe Manchester and West Midlands-Leeds opening 2033.

GVA

- **GROSS VALUE ADDED (GVA)** – the value of goods and services produced in an area, industry or sector of an economy.

3. Rail for a Dynamic Region



3.1
West Midlands Rail Executive
Who We Are

West Midlands Rail Executive leads a movement for change – driving a revolution in rail services for West Midlanders.

As a working partnership of the 16 local authorities co-managing the West Midlands rail franchise with the Department for Transport, West Midlands Rail Executive is determined that the region’s transport network will gain the major investment it needs.

3.2
Rail – supporting a vibrant, growing, sustainable region

With a population of 6.47 million, an economy worth £128 billion every year, and 3.2 million jobs, the West Midlands is vital to the United Kingdom’s economy and prosperity.

The region’s economy is set to grow by 14% by 2032, with 900,000 more people and over 450,000 new jobs anticipated in committed Local Plans.

Population and employment growth is extensively distributed across the region as a whole, but with a significant focus on the West Coast Main Line corridor between Northamptonshire, Coventry, Birmingham, the Black Country and Staffordshire.

After 2030 aspirational development proposals are under consideration by multiple third-party promoters. Examples include UK Central Hub in Solihull and a new West Midlands Freight Interchange in Staffordshire. Taken together these 2 uncommitted schemes would alone add a further 86,000 jobs to the region.

Post-2030 Local Plans are also likely to require substantial additional growth in housing and employment beyond such headline schemes.

Rail is already a major player in moving people around the West Midlands. For the first time in 2017 rail became the largest mode for peak travel into central Birmingham, with over 38% of people using the train in the morning peak. It has potential to play a much greater role in enhancing social inclusion and community development. It is key to logistics and distribution across the UK, with intermodal rail-freight growing by 9% in 2016-17. It is essential in supporting sustainable development and the quality of the West Midlands environment.

This increasing role for the rail network is set within the context of the challenges in managing congestion on the region’s highway network. 50% of road traffic is carried on 7% of the key route network, with an average weekday peak time road traffic speed of only 17.7 mph. By 2030, based on current travel habits, the West Midlands highway network will need to accommodate an additional 1.2million trips every weekday.

However the scale of committed and potential growth in housing and employment volume and distribution, as well as freight growth, will directly challenge the capability of the region’s rail infrastructure given its regional role and location at the heart of the UK rail network.

By 2033 the two phases of High Speed 2 (HS2) will have delivered major new UK-wide rail capacity, and released capacity on the existing West Midlands network. HS2 will further cement the region’s role at the heart of both the UK economy and its transport network. The West Midlands will be a yet greater place to live and work.

The capacity opportunity that HS2 offers is one the West Midlands must take. But as this Rail Investment Strategy illustrates, growth will quickly use this up.

West Midlands Rail Executive Members

- Affiliate Member
- Full Member
- West Midlands Metropolitan Area
- Railway Network

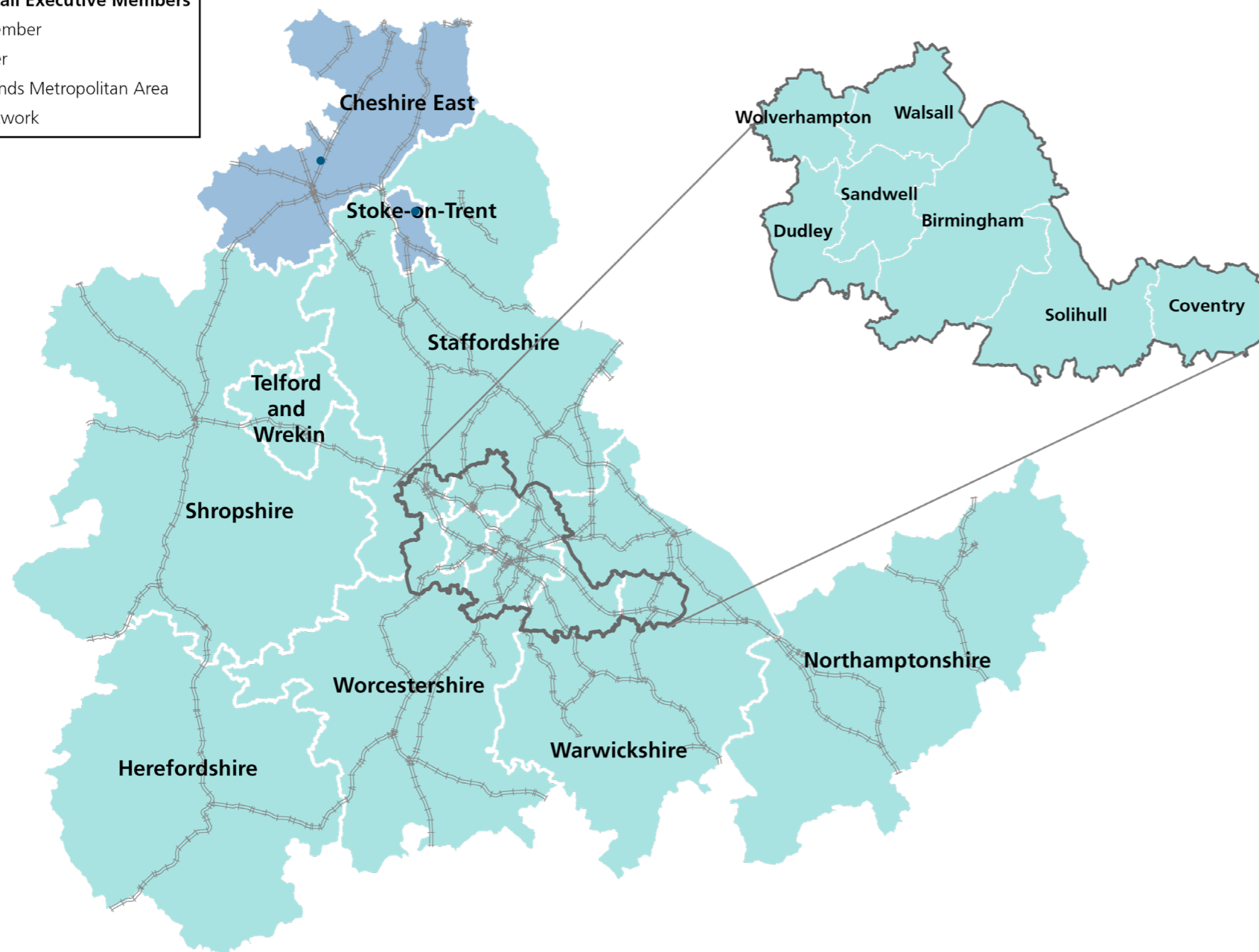


Figure 4 – West Midlands Rail Executive Members

3.3
An evidenced strategy for investment in the West Midlands Rail Network 2018-2047

This Rail Investment Strategy sets out the rationale for ongoing transformation of West Midlands rail services and connectivity to meet the region's forecast growth over the next 30 years to 2047.

The strategy evidences how better rail services and connectivity will serve and encourage growth in the region's economy and sustain its environment and communities.

In recognising continuously improving rail connectivity as a means to these objectives, the strategy tests the incremental value of a comprehensive range of more frequent, faster and new train services at a set of key points of change between 2018 and 2047. This is expressed in terms of Gross Value Added (GVA) to the economy and new jobs.

It sets out and prioritises West Midlands Rail Executive's (WMRE) 'Aspirational Outputs' for improved train services and for the infrastructure, stations and trains that will be required to make them happen. In turn these outputs have been sense-checked against deliverability, the magnitude of change and likely cost required, political context and volumes and concentrations of population and employment growth.

This strategy does not stand alone but forms 1 of 5 components of WMRE's overarching strategy to transform our region's rail services which will be published in 2019 as our integrated 'Prospectus for Rail' The other 4 are: -

- **The Single Network Vision** - our ambitions for excellence in customer service and experience, and ease of access for all to rail across all train services and operators in the WMRE area
- **The West Midlands Stations Alliance** - our innovative partnership with Network Rail and the wider rail industry to transform the quality of existing stations and deliver new ones
- **The West Midlands Rail Programme** - our active investment programme in stations and services
- **Rail Franchising** - our partnership with the Department for Transport (DfT) in managing the West Midlands rail franchise and supporting development of other franchises serving the West Midlands



Our Rail Investment Strategy takes direct account of key rail industry and stakeholder strategies, and incorporates tests of the economic value of their specific train service commitments and aspirations. These include Transport for West Midlands' 'Movement for Growth' (Local Transport Plan) and freight strategy, other transport authorities' Local Transport Plans and rail strategies, Network Rail's Route Studies, Midlands Connect's 'Powering the Midlands Engine' studies and plans, the Strategic Economic Plans of the region's Local Enterprise Partnerships, and planning authorities' Local Plans.

Key Facts

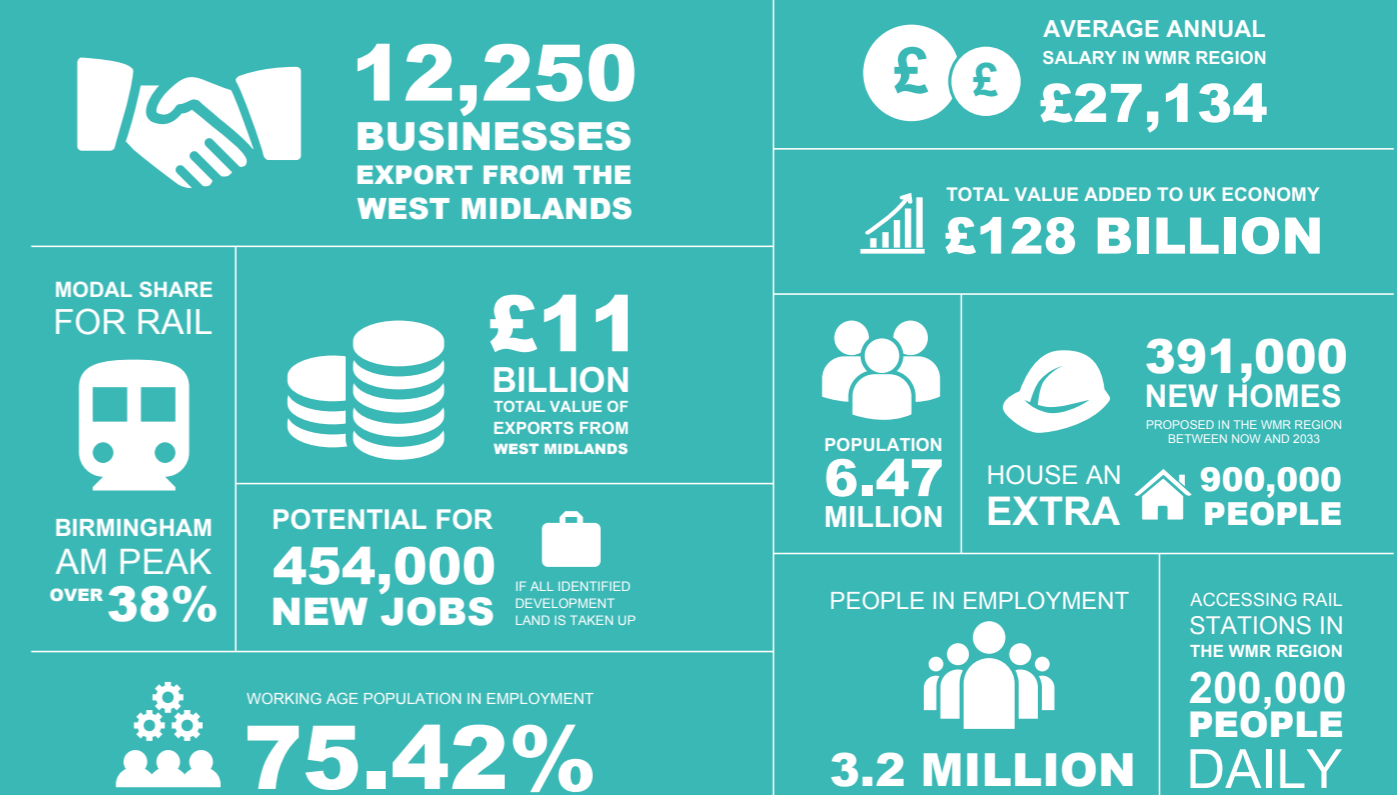


Figure 5 – The West Midlands – Key Facts



**4.
How
we have
developed
our strategy**



4.1 How we have developed our strategy

Railway services are a means to economic growth and environmental and social sustainability rather than an end in themselves. To enable us to evidence and prioritise future investment in the West Midlands rail network between now and 2047 we have tested the economic value of a comprehensive range of options for more frequent, faster and new train services which can transform connectivity for people and businesses across and to and from the region.

Testing economic value of rail connectivity and services

Our tests measure the impact of enhanced train services upon ‘agglomeration’ between economies, namely the benefits of closer proximity of businesses and labour markets to each other, and presents these as new Gross Value Added (GVA) to the economy as well as new jobs.

The GVA and jobs values derived are relative to train services and connectivity as at 2018, or a ‘do-nothing’ scenario. These are tested at 5 key points between 2018 and 2047, reflecting completion of the current West Midlands rail franchise, both phases of High Speed 2 (HS2) and Midlands Rail Hub (MRH).

In representing the specific and particular value of rail connectivity these are additional to the forecast growth in regional GVA and jobs generated by population and employment growth within planning authorities’ Local Plans.

West Midlands Rail Executive (WMRE) Investment Strategy Modelling Process

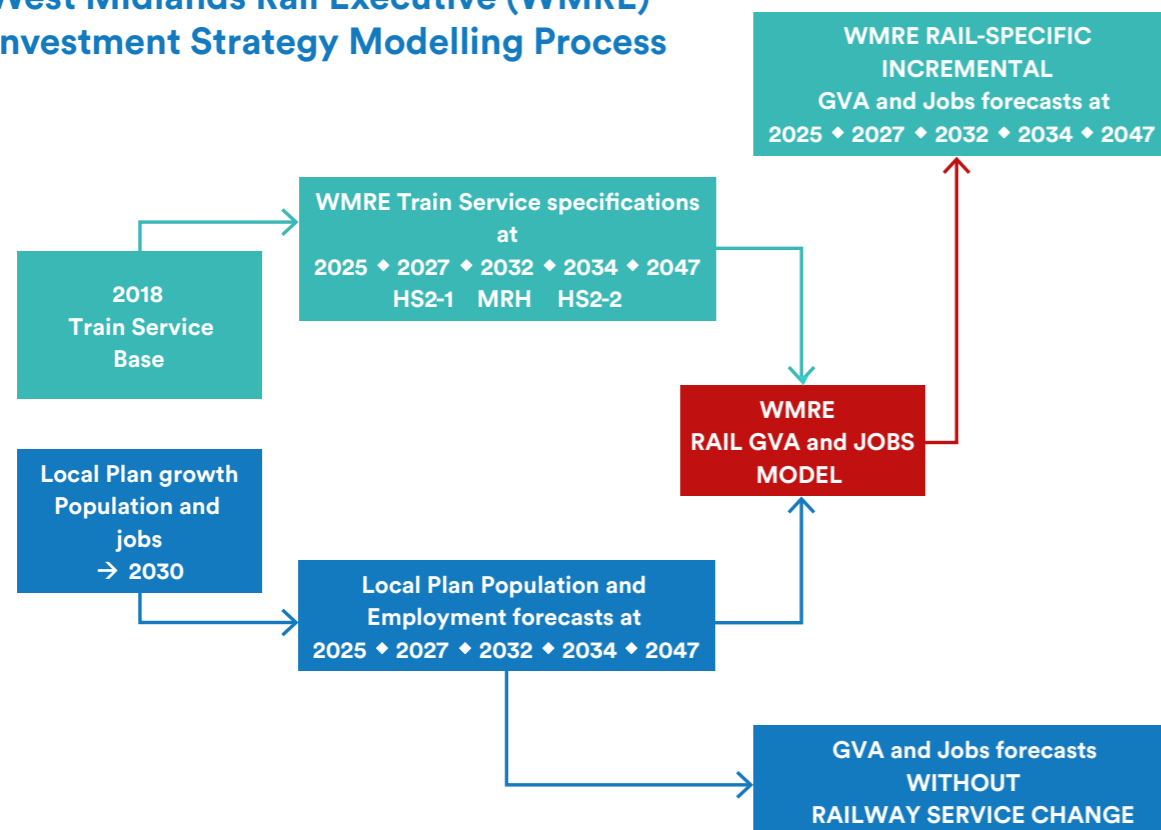


Figure 6 - WMRE Investment Strategy Modelling Process

4.2 Inputs to our strategy

The tests we have undertaken have specifically taken account of the strategic and detailed rail service aspirations of individual and combined partner authorities, the rail industry and the region’s Local Enterprise Partnerships.

- **Transport for West Midlands Local Transport Plan ‘Movement for Growth’ and ‘Delivery Plan for Transport’ (September 2017)**

TfWM’s statutory Local Transport Plan setting the overarching agenda for all transport modes across the TfWM area, with specific objectives to maximise regional access to High Speed 2 (HS2), develop rail services along high growth corridors, and deliver to a 10 year investment plan.

- **Transport for West Midlands Congestion Management Plan (September 2018).**

TfWM’s 10-point plan sets out its plans to introduce wide-ranging, coordinated measures to manage highways congestion.

- **Transport Authority Local Transport Plans**

The statutory plans of the other constituent local authorities of the West Midlands Rail Executive, together with individual authorities’ rail and freight strategies and aspirations for train services, rail facilities, re-opened routes and new stations.

- **West Midlands Combined Authority (WMCA) ‘Freight Strategy’ (December 2016)**

WMCA’s ambitions to establish the West Midlands as a beacon of freight best practice, logistics efficiency and reduced environmental impact, including best use of rail capacity released by HS2 and rail corridor development for rail-freight growth.

- **Network Rail Route Studies – West Midlands and Chiltern (August 2017); East Midlands (March 2016); Western (August 2015); Freight Network Study (February 2017)**

Network Rail’s ‘Indicative Train Service Specifications’ (ITSS), which look forward to 2043, together with ‘choices for funders’.

- **Midlands Connect – ‘Powering the Midlands Engine’ (March 2017) and ‘Our Routes to Growth’ (July 2018)**

Midland Connect’s faster regional service aspirations on its 6 ‘Intensive Growth Corridors’.

- **Strategic Economic Plans**

The plans of the West Midlands Combined Authority and the 6 Local Enterprise Partnerships covering the WMRE area setting out their economic, population and employment growth ambitions.

- **Planning Authority Local Plans**

The common data on committed housing and employment growth and spatial distribution to 2030 as supplied to central government by local planning authorities (within a database known as ‘Tempo’)

4.3

The timeline for our strategy

In determining the timeline for our economic tests before and after committed Local Plans running to 2030 we have considered the major changes that will take place to rail services via the West Midlands rail franchise and other current and new franchises, High Speed 2 (HS2) Phase 1 (2026), Phase 2a (2027) and Phase 2b (2033), Midlands Rail Hub and West Midlands Rail Executive's specific ambitions.

The economic value of new connectivity was thus calculated at 5 key points at which these key service changes are assumed to be complete: -

- **2025** - West Midlands franchise and other franchise commitments and aspirations.
- **2027** - HS2 Phase 1 and 2a and re-use of capacity on the existing network.
- **2032** - Midland Rail Hub's 10 new train paths per hour through Birmingham.
- **2034** - HS2 Phase 2b and further re-use of capacity on the existing network.
- **2047** - All other current West Midlands Rail Executive's ambitions.

The train service test options are illustrated in summary for 2018 and 2034 at the Appendix and set out in detail against each of these 5 key points in the full Rail Investment Strategy technical report.

A local as well as strategic model

The model used to test the economic value of train services has 2 variants which are integrated and consistent with each other: -

- **Local Model** – Covering the West Midlands' 16 authorities and station catchment areas at the highest level of detail – 'Local Super Output Areas' – capable of fully assessing the impact both of local service frequency and re-opened routes and new stations.
- **Strategic Model** – Extending to London, Reading, Plymouth, Cardiff, Cambridge, north-west and north-east England, Glasgow and Edinburgh, valuing strategic connectivity to and from 17 key West Midlands economic centres – capable of assessing the value of HS2 and released national and regional connectivity and capacity on the existing rail network.

This Rail Investment Strategy presents its key recommendations against the level of committed housing, population and employment development across West Midlands Rail's 16 authorities to 2030. Potential growth after 2030, currently uncommitted, is addressed as a sensitivity test, and discussed in detail in the full Rail Investment Strategy technical report.



5. Our Key Investment Priorities

Worcestershire Parkway -
Under Construction (Opening 2019)



5. Our key investment priorities

Our rail connectivity option tests show benefits to the economy as a whole over the life of this Rail Investment Strategy, bringing together values for both local/regional services and High Speed 2, and informing our aspirational outputs for the key corridors within the West Midlands rail network.

Benefits to the economy

2018-2032

West Midlands Rail Executive’s ambitions for high frequency rail services, new connectivity across the region and Midlands Rail Hub, with committed population and employment growth to 2030, can add £151 million Gross Value Added (GVA) to the economy each year by 2032.

This is in addition to the £171 million p.a. of economic benefits provided by High Speed 2 (HS2) Phase 1 (London to the West Midlands) and Phase 2a (West Midlands to Crewe) and the resulting wider strategic availability of capacity on the existing rail network, making a combined total rail investment impact of £323 million p.a., supporting the creation of 3,700 new jobs.

2033-2047

Delivery of Midlands Connect’s regional aspirations and full implementation of our ‘6-4-2’ trains per hour aspirations after 2032 would increase the benefit further, to £195 million GVA to the economy each year by 2047.

Completion of Phase 2 of HS2 (West Midlands to Manchester, Sheffield and Leeds), coupled with use of further rail network capacity released by the new rail line, adds an additional £344 million p.a. and resulting combined economic benefits of £540 million p.a. by 2047, supporting the creation of 6,600 new jobs.

ECONOMIC BENEFITS - WEST MIDLANDS RAIL NETWORK AND HIGH SPEED 2 - 2025-2047

Gross Value Added (GVA) - £ millions per annum

	2025	2027	2032	2034	2047
WEST MIDLANDS	59.4	103.4	151.2	144.0	195.8
HIGH SPEED 2	0.0	170.8	171.8	344.3	344.3
TOTAL	59.4	274.2	323.0	488.2	540.1

Figure 7 - Economic Benefits

Aspirational outputs – geographical corridors

Delivery of new economic value at 2032 via the West Midlands franchise, local network capacity released by High Speed 2 Phases 1 and 2A, and by Midlands Rail Hub, indicates the highest economic value of local investment in services in priority order as shown below and at Figure 7.

- **ONE - Wolverhampton-Coventry** £29.2m GVA p.a.
- **TWO - Cannock-Walsall-Birmingham** £20.7m GVA p.a.
- **THREE - Birmingham East-Tamworth-Nuneaton** £20.6m GVA p.a.
- **FOUR - Birmingham South-Worcester-Hereford** £11.4m GVA p.a.
- **FIVE – Snow Hill Lines** £10.3m GVA p.a.

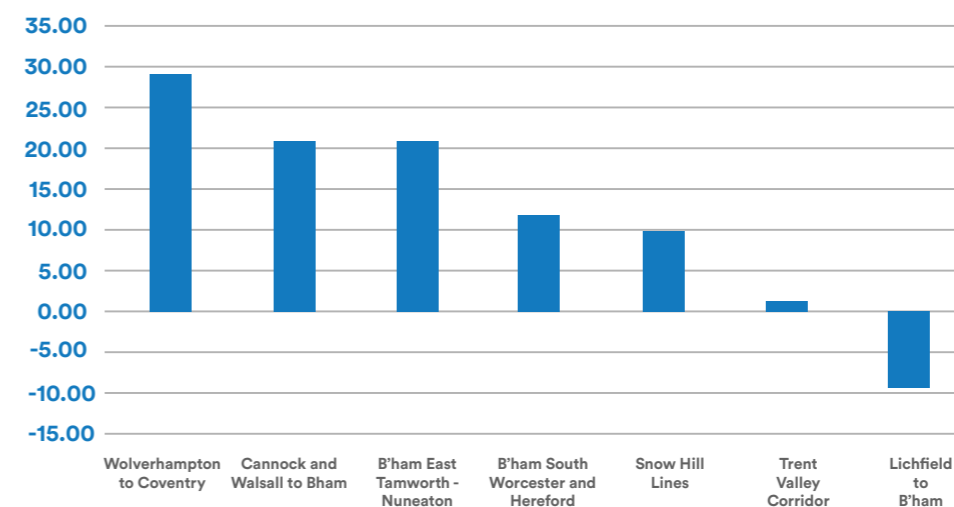


Figure 8 – £m GVA p.a. 2032 by Corridor – Local Model Incremental Benefits [Total £86m]

Delivery at 2047 of the full package of train service connectivity we have tested, directly accounting for population and employment growth to 2030, indicates the highest economic value of local investment in services in priority order as shown below and at Figure 8:

- **ONE - Wolverhampton-Coventry** £63.2m GVA p.a.
- **TWO - Cannock-Walsall-Birmingham** £28.9m GVA p.a.
- **THREE - Birmingham East-Tamworth-Nuneaton** £28.9m GVA p.a.
- **FOUR - Birmingham South-Worcester-Hereford** £20.9m GVA p.a.
- **FIVE – Snow Hill Lines** £19.0m GVA p.a.

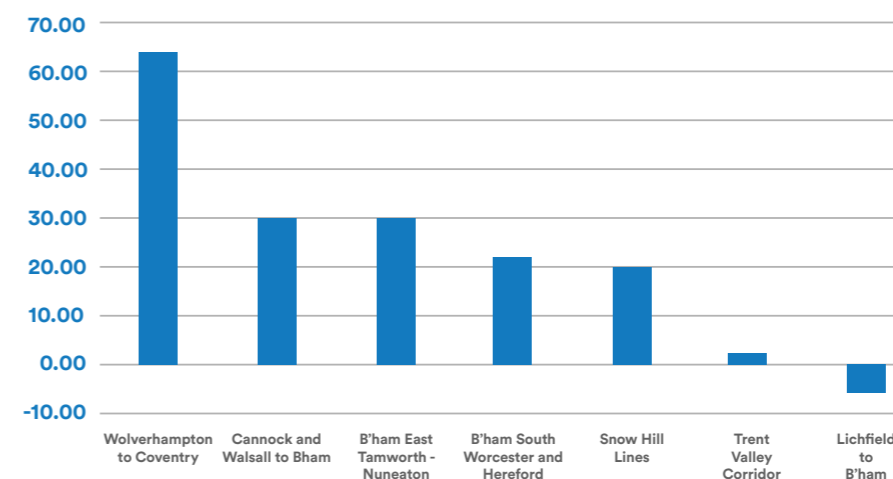


Figure 9 – £m GVA p.a. 2047 by Corridor – Local Model Incremental Benefits [Total £158m]

The reduction in GVA value of the Lichfield-Birmingham Corridor - totalling £4.65m GVA p.a. at 2047 - is relative, reflecting both the existing high service frequency operating today and the significant changes in catchment areas for its stations that arise from our proposed enhanced and new services and stations on adjacent and parallel Cannock-Walsall-Birmingham and Birmingham East-Tamworth-Nuneaton corridors.

Overall the transformative approach of our proposed enhancements to the north, north-east and east of the West Midlands conurbation brings significant net benefit in economic value of £53.2m GVA p.a. with demand and value distributed in a balanced way across these 3 corridors together. The improvements on adjacent corridors release on-train capacity on the intensively used Lichfield-Birmingham corridor which would otherwise become saturated, and initiatives to enhance service frequencies further and extend the Lichfield service to Burton-on-Trent themselves generate additional incremental GVA.

This similarly but separately impacts routes such as the Birmingham East-Tamworth-Nuneaton Corridor itself where after 2033, HS2 Phase 2 significantly changes catchment areas for stations for strategic travel.



Aspirational outputs – our key messages

- 1** Deliver WMR Franchise Quick Wins
- 2** Implement 6-4-2 tph frequency 2018 - 2047
- 3** Support Midlands Rail Hub → 2032
- 4** Develop WMRE High Growth Corridors up to 2032
- 5** Support HS2
- 6** Consider radical change 2033 - 2047
- 7** Integrate WMCA freight strategy

ONE: Quick wins in the West Midlands rail franchise and other franchises

The West Midlands rail franchise, co-managed by West Midlands Rail Executive and the Department for Transport, offers early and major economic benefits of £59m GVA p.a. by 2025, before HS2 Phases 1 and 2(a). West Midlands Rail Executive will work proactively and enthusiastically with West Midlands Trains and industry stakeholders to deliver the commitments and opportunities of this and other franchises by 2025, including (but not limited to):-

- **WCML Cross-Birmingham Services:** by linking services on the Stafford, Walsall and Rugeley corridors with those on the Coventry corridor, we will provide a step change in connectivity across the Midlands.
- **A new Walsall-Wolverhampton Service:** reinstating a service that formerly linked these two major centres of population, with new stations at Willenhall and Darlaston.
- **New Services on the Camp Hill Corridor:** serving our proposed new stations at Moseley, Kings Heath and Hazelwell.
- **A Direct Leamington Spa-Coventry-Nuneaton service:** providing new strategic links across Warwickshire.
- **Better Chase Line And Shrewsbury Line service frequencies:** providing two trains every hour to Rugeley and Shrewsbury in the off-peak on weekdays and Saturdays.
- **Regenerating Stations:** schemes to upgrade University and Birmingham Snow Hill stations, and enhance Perry Barr station to support the Commonwealth Games.
- **Transforming Sunday Services:** providing weekday frequency services on Sundays on most routes.
- **More Train Capacity:** significant uplift in capacity for passengers and investment in new trains.
- **Accessibility:** developing innovative Station Travel Plans, improving car park capacity, cycle storage and facilities accessible to all across the region's stations.

WM Rail Franchise – Key Benefits to the West Midlands

Higher frequencies on both the local and regional networks

New stations and car park capacity to expand accessibility to the railway

New direct connectivity between different corridors



TWO: '6-4-2' Trains per hour frequency

West Midlands Rail Executive has an ambition to develop the concept of a standard set of train service frequencies across the region that will maximise the rail network's contribution to commuting, business and leisure travel, and both support and encourage sustainable growth and development across the West Midlands between now and 2047.

This builds upon development by the rail industry and West Midlands Rail Executive's predecessors, of high frequency, regular-interval 'clock-face' service patterns on routes such as the Snow Hill and Cross-City Lines. Both offer 3, 4 or 6 trains per hour patterns for route sections or groups of stations. Such service levels have contributed to rail becoming the biggest mode for peak travel into central Birmingham in 2017, with over 38% of people using the train.

In recognising the economic and environmental benefits of rail, and the ease of passenger-use which frequent, regular interval train service timetables offer, an overarching purpose of our strategy is to progressively move towards a minimum standard of 6, 4 or 2 trains per hour service from West Midlands stations, closely matched to the economy, population, demand, geography and growth.

This '6-4-2' concept suggests aspirational minimum daytime train frequencies per hour in 3 broad categories: -:

- 6 trains per hour for stations within the West Midlands Urban Area with a turn-up-and-go 10 minute frequency
- 4 trains per hour for principal stations serving major towns or park and ride sites with a 15 minute frequency
- 2 trains per hour for local stations with a 30 minute frequency

In addition to this minimum daytime frequency concept, our aspirations include earlier, later, overnight and expanded weekend services meeting the needs of the region's evolving economy, geography and population, supporting the growing night-time economy of our cities and towns, and providing 24 hour access to Birmingham Airport and the international connectivity it provides to the West Midlands.

We have tested the progressive implementation of this 6-4-2 concept over the 30 years of this strategy between 2018 and 2047. Full delivery of this specification would add up to £195 million of new GVA per annum to the region's economy.

The 6-4-2 concept represents an aspirational, long-term target for minimum off-peak daytime frequencies from a station to either central Birmingham or other appropriate major centre. The frequency can be provided by either local, regional or long-distance services. In some instances the frequency is already met or exceeded, while at other stations it may never prove possible to generate a business case that can justify the aspirational frequency (for example if demand is exceptionally low or it can only be delivered with a major infrastructure intervention). Where a station is served by a mix of services or routes then the frequency shown on the map represents the frequency into Birmingham.

The map in Figure 10 illustrates what the 6-4-2 concept might mean for individual stations on the network. It is important to note that this does not represent any form of commitment, but is designed to show the principle of the concept. Where stations already exceed the proposed frequency (for example at Barnt Green, Hagley or Coventry) there is no intention to seek to reduce train services. When planning the actual timetables to support this concept, many factors will need to be considered, such as the actual capability of the infrastructure, and this could lead to different service frequencies being delivered in practice. Some of these factors are considered in more detail in the individual route plans. Connectivity to locations other than Birmingham city centre is also important and this map is not able to illustrate these effectively, although we seek to give more details in the individual route plans in the appendix.

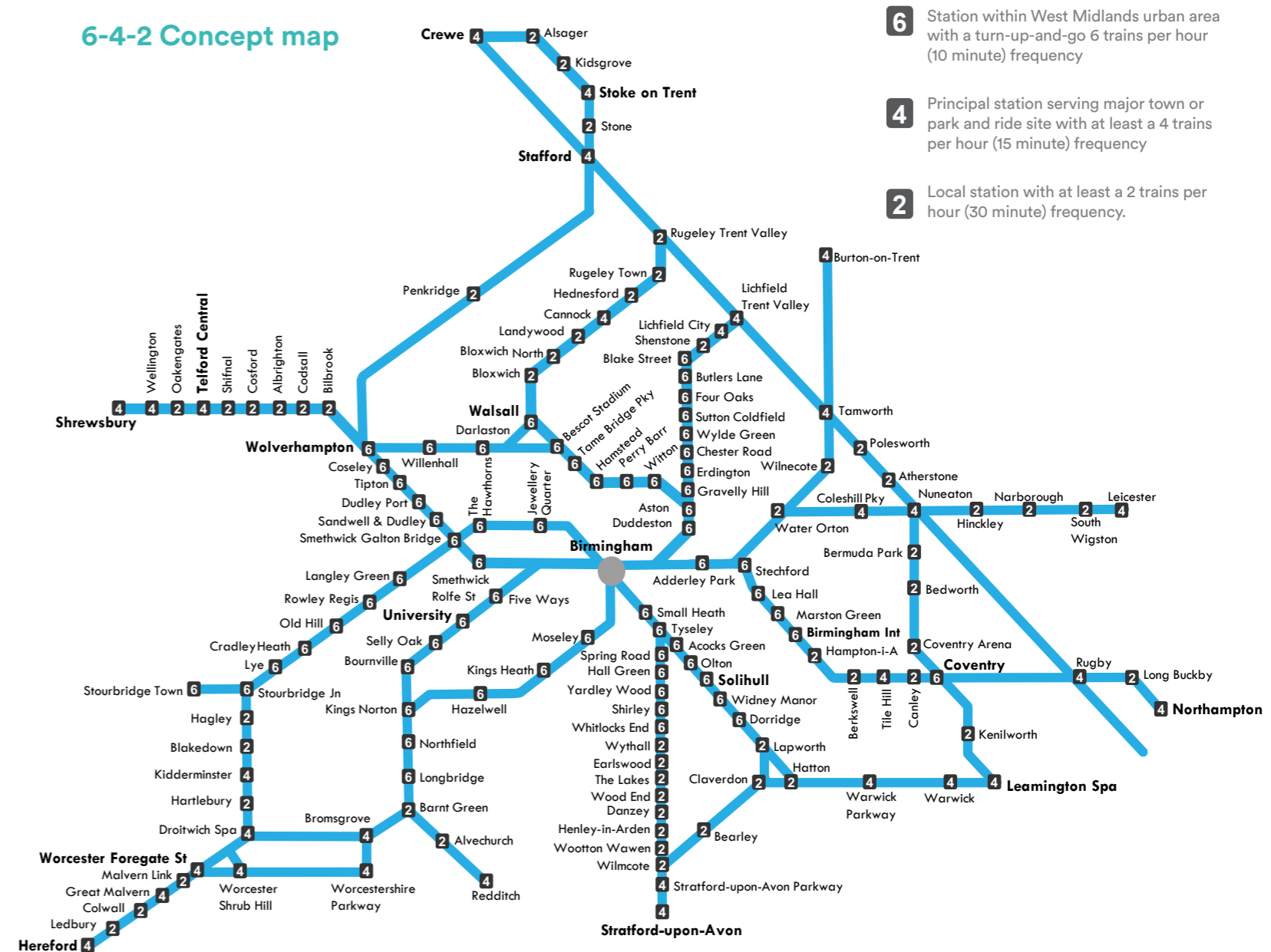
6-4-2 – Key Benefits to the West Midlands

A consistent, easy-to-use level of service across the WMRE area

A level of service that adds significant GVA to the economy

A level of service that allows people to access jobs in our key centres and growth areas

6-4-2 Concept map



NOTES

Reinstatement of rail services at Barlaston and/or Wedgwood currently under review. If reinstated then would have 2 trains per hour aspirational frequency.

Figure 10 – Aspirational Daytime Train Frequencies Per Hour

THREE: Strong support for Midlands Rail Hub

Midlands Connect, working alongside industry partners and Network Rail, is progressing feasibility work for the Midlands Rail Hub which aims to provide capacity for a further 10 trains per hour across central Birmingham, offering real potential for:

- Wholly new local services on the Birmingham East-Tamworth-Nuneaton Corridor, together with enhanced services to Nottingham, Leicester and Burton on Trent.
- Enhanced frequencies on the Snow Hill Lines
- Expansion of Camp Hill services, with enhanced Birmingham-Worcester-Hereford frequencies and new regional services on the Birmingham-Worcester-Bristol corridor
- Improved connectivity to the South West and South Wales

Schemes under consideration to support Midlands Rail Hub include:-

- The Bordesley Chords, facilitating new access to Birmingham Moor Street from the Birmingham South, Worcester and Hereford Corridor and the Camp Hill Lines as well as the Birmingham East Tamworth/Nuneaton Corridor
- Remodelling of the route between Kings Norton and Barnt Green
- Remodelling of the Water Orton section of the Birmingham East Tamworth/Nuneaton Corridor.
- West Midlands Rail Executive is already working with Midlands Connect and Network Rail to determine whether earlier delivery is possible of schemes such as re-instatement of Platform 4 at Birmingham Snow Hill

Whilst Midlands Rail Hub is uncommitted as at December 2018, West Midlands Rail Executive will work closely with Midlands Connect to scope and plan the scheme which offers more than £47m of new GVA p.a. by 2032.

We will continue our engagement with Midlands Connect, TfWM, Network Rail and the Department for Transport in making the case for Midland Rail Hub's proposed additional train paths across Birmingham and West Midlands, and for their earliest delivery before the 2032 date assumed within this strategy.

Midlands Rail Hub – Key Benefits to the West Midlands

Higher frequencies on both the local and regional networks

Scope for new stations to be served

Further capacity for travel into our cities, including access to HS2



FOUR – Our high growth corridor priorities up to 2032

We will develop rail services and connectivity in our corridors seeing the greatest economic and population growth up to 2032, maximising the benefits to be taken from capacity released from High Speed 2 and provided via Midlands Rail Hub.

The highest priority relates to the Wolverhampton-Coventry West Coast Main Line corridor, which connects Staffordshire, Stoke-on-Trent and the Black Country with Coventry, Warwickshire and Northamptonshire via Birmingham and the Black Country. It forms a vital transport artery through our area and links many of our constituent authorities. Even with HS2 being introduced, the corridor will play an increasingly vital role in facilitating improved local, regional and long-distance travel.

Given the GVA and wider benefits associated with corridors in our region, looking to both understand and address the known constraints of the current infrastructure, we will focus our efforts on the following corridors in this Rail Investment Strategy:-

- **ONE – Wolverhampton-Coventry**
- **TWO – Cannock-Walsall-Birmingham**
- **THREE – Birmingham East-Tamworth-Nuneaton**
- **FOUR – Birmingham South-Worcester-Hereford**
- **FIVE – Snow Hill Lines**

These priorities do not exclude development of other corridors in the region. The Lichfield-Birmingham and Stourbridge-Birmingham corridors, for example, are already effective examples of the benefits of high frequency train services. Our corridor priorities reflect application of our '6-4-2' principles as already successfully applied on such lines across the wider West Midlands network as a whole.

They also reflect the social inclusion, community development and sustainability principles intrinsic to the region's Local Plans and Strategic Economic Plans. Our corridors are illustrated in Figure 11 to the right and are detailed priorities are shown in the appendix to this Rail Investment Strategy.



Figure 11 - Rail Investment Strategy Corridors

FIVE: Support for HS2

HS2's 2 phases in 2026/7 and 2033 are radically transformative for the West Midlands, offering economic benefits of £344m GVA per annum by 2047. HS2 not only provides wholly new capacity for travel across Britain, but facilitates many of the aspirations West Midlands Rail Executive has for re-use of the released passenger capacity on our existing regional and local rail network up to 2034, as well as partner authorities' ambitions for growth in rail-freight.

HS2 Phase 1 to Birmingham is due for completion in 2026 and Phase 2a to Crewe in 2027 and Phase 2b to Manchester and Leeds in 2033, both offering HS2-compatible services beyond these locations.

HS2 will change the way passengers make long-distance journeys across Britain. Many of those travelling today between the West Midlands, the north of England and London on the West Coast, Midland and East Coast Main Lines will, by 2033, will use HS2. These routes' services to and from Euston, St. Pancras International and King's Cross will also change. HS2 will create opportunities for new services providing more regional connectivity between the major towns and cities on these 3 main lines, more local services tailored to the developing needs of growing populations and employment locations, and well as more paths for freight services.

HS2 – Key Benefits to the West Midlands

£344m GVA uplift by 2047

Journey time reductions to key centres

Released capacity allowing us to use our network more effectively



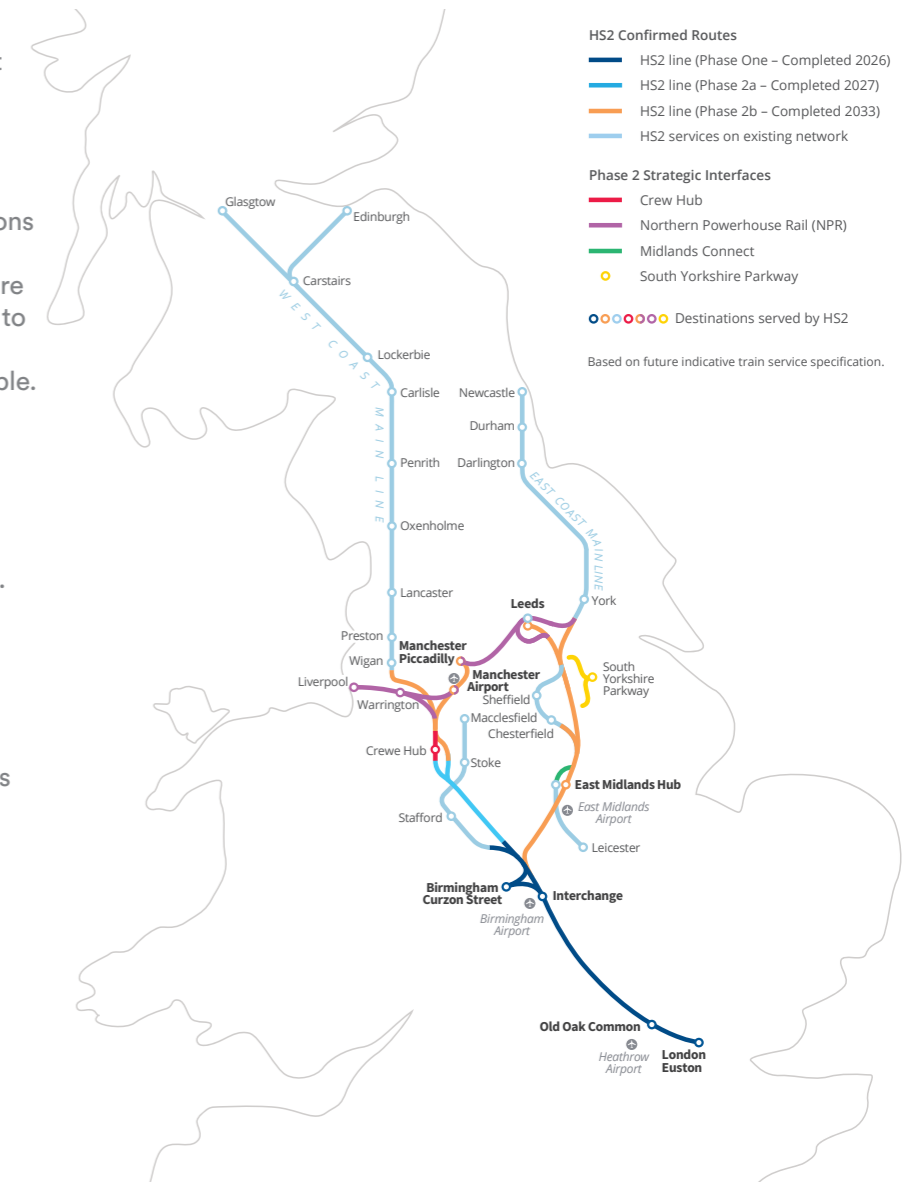
For the West Midlands there are several such potential opportunities, a number of which have been assessed within the sets of train service specifications developed and tested in this strategy. Illustrative examples include: -

- **Midlands Rail Hub** – some of the 10 extra train paths each hour to be provided across Birmingham
- **Coventry-Wolverhampton Corridor** – diversion of the Reading-Newcastle Cross Country service from the Solihull route to travel via Coventry and Birmingham International, together with higher frequency local services between Coventry and Birmingham, Birmingham International and Birmingham New Street, across Birmingham New Street, together with Birmingham-Wolverhampton-Shrewsbury/Stafford
- **West Coast Main Line (South)** – more frequent fast services connecting the West Midlands, particularly Birmingham, Solihull/UK Central and Coventry to major growth locations such as Milton Keynes, and to the 'Oxford-Cambridge Arc' as this is opened up by delivery of East-West Rail
- **West Coast Main Line (Trent Valley)** – higher frequency regional services to and from London from Trent Valley stations with enhanced interchange at Rugeley, Lichfield, Tamworth and Nuneaton, together with new Trent Valley connectivity to Coventry
- **Snow Hill Lines (South)** – opportunities for higher frequency services at local stations between Dorridge and Leamington Spa via diversion of the Reading-Newcastle Cross Country service

To ensure that the region benefits to the maximum extent from HS2 it is important that the stations are fully integrated into the wider transport network. In central Birmingham in particular it is critical that good interchange exists between Curzon Street, Moor Street and New Street stations and West Midlands Rail Executive will be actively working with its partners to ensure that a "One Station" project is developed to make the interchange between these central hub stations as seamless as possible.

West Midlands Rail Executive strongly support timely delivery of HS2. Both phases 1 and 2 are essential to growth and sustainability of our region's communities, economy and environment. We will prepare now for those further 'quick wins' that immediately follow HS2 Phases 1 and 2a.

West Midlands Rail Executive will work with HS2 Ltd to deliver the best outcomes for the West Midlands, including maximising the number of long-distance calls at Interchange towards north east and north England, and delivering fast journey times between Curzon Street and London Euston.



SIX – Radical change towards 2047

The commitments and opportunities offered by the West Midlands rail franchise, other franchises, High Speed 2 (HS2) and the Midlands Hub will offer substantial new capability to grow rail services along with the West Midlands economy as far as 2034. Beyond 2034 the scale of economic and population growth will demand yet more significant growth of rail capacity.

Major population and employment growth at new development locations such as the prospective UK Central Hub in Solihull will further alter the shape of demand for travel in the region. There will be a need for new rail travel opportunities across Birmingham, around and across the region as a whole, in some cases avoiding Birmingham. Demand for travel will become more pressing along corridors such as the potential A46 Expressway between the West Midlands and South-West Midlands, Coventry and Leicester and to Birmingham Interchange and the UK Central Hub.

As well as progressing Midlands Rail Hub we need to start radical planning now for what the West Midlands rail network needs to do and look like after 2034. We need to assess the case for new capacity separately supporting reliable local and longer-distance services. We need to consider how Birmingham New Street, Moor Street and HS2's Curzon Street Station can operate in the most effective, integrated ways.

We need to investigate challenging and prospectively high-cost options which could include: -

- **Infrastructure schemes** - major new capacity e.g. 4-tracking of Wolverhampton-Birmingham Birmingham International- Coventry Corridor (noted as choices for funders in Network Rail's West Midlands and Chiltern Route Study)
- **New tunnel options under central Birmingham** - allowing local services to bypass capacity hotspots such as Proof House junction, linking in with Birmingham New Street, Moor Street and HS2 Curzon Street stations and enabling higher frequencies across the Metropolitan area
- **Development of new rail corridors** - e.g. Wolverhampton-Walsall-Lichfield; West Midlands Metro expansion; A46 Expressway South West-Worcestershire-Warwickshire Coventry-Leicester, working with our partners to consider the potential for expansion of both existing and closed rail routes
- **Use of technology e.g. Digital Railway** - e.g. Digital Railway initiatives and advanced Train Control/signalling Systems; electrification and bi-mode train technology
- **Further development of the West Midlands Metro and other Rapid Transit options** - particularly where expansion of heavy rail capacity may no longer be possible

Our view that such radical change will be necessary after completion of HS2 and Midlands Rail Hub from 2034 onwards does not preclude development of such concepts before then if we are act with foresight and be flexible and swift in responding to and driving sustainable growth in the West Midlands from today onwards.

Radical Change – Key Benefits to the West Midlands

Offers full £540m
GVA Uplift by 2047

Supports as yet
uncommitted but
aspirational growth
2030-2047

Essential to
avoid suppressing
economic growth



SEVEN – Supporting rail-freight development and growth

In delivering this Rail Investment Strategy’s passenger service ambitions we will work together with the West Midlands Combined Authority (WMCA) to integrate these with its 2016 Freight Strategy and with strategies of other partner authorities, which seek to maximise the economic benefits of freight to the region whilst minimising its impact on communities and the environment.

Such strategies share aspirations and demonstrate synergies between passenger and freight growth, including: -

- **Use of capacity released by HS2 in 2026 and 2033** – to facilitate passenger and rail-freight growth on the existing National Rail network
- **High Growth Corridors** – priorities to transform passenger and freight capability of the West Coast Main Line, Northampton Loop, Coventry-Wolverhampton, Birmingham-Bescot-Walsall and Birmingham East-Tamworth/Nuneaton corridors
- **West Midlands Strategic Freight Corridor : Stourbridge-Wednesbury-Walsall** – re-establishing passenger services, rail or Metro, whilst creating new cross-West Midlands freight capacity.
- **Strategic and Intermodal Railfreight Terminals** – supporting employment growth, new communities, and investment in rail corridors on which existing Railfreight terminals/facilities are situated, such as Freightliner Birmingham, Hams Hall, Bescot and DIRFT (Daventry International Railfreight Terminal), as well as prospective growth locations such as DIRFT III, the West Midlands Interchange, the Black Country Intermodal Terminal and WMCA’s Bescot Railfreight Gateway concept
- **Integrated passenger and freight service timetable planning** – detailed planning of both passenger and freight paths essential in practice for all strategic and individual passenger and freight service enhancements.

We will work closely with Network Rail, West Midlands Combined Authority and rail freight partners:-

- In planning development of the National Rail network to meet passenger and freight demand growth, and in carefully balancing and prioritising the requirements of both for the use of its capability and capacity
- In response to major inter-modal and container growth to and from Southampton and Felixstowe which is served by Midlands-based Railfreight-terminals or passes across the West Midlands regional and local rail networks.
- In supporting WMCA’s comprehensive assessment of identifying potential rail freight locations

We will seek to maximise the shared benefits for passenger and freight services of each of these opportunities and, in particular, the ways in which investment in individual corridors or schemes can bring value to both forms of traffic, facilitating enhancements where the case for a ‘passenger-only’ or ‘freight-only’ project may be more difficult to make.

Freight and Passenger Services – Key Benefits to the West Midlands

Shared passenger and freight benefits of capacity released by HS2

Best value of shared investment in capacity accommodating passenger and freight growth

Freight supporting employment, new communities and passenger growth



6. Delivering the strategy



6. Delivering the strategy

West Midlands Rail Executive will be determined and proactive in driving implementation of this 30-year strategy. Our delivery partners include local and national government, Midlands Connect, Transport for West Midlands (TfWM), the rail industry, Local Enterprise Partnerships and the private sector. Vital to success will be our close engagement with local communities and passengers themselves.

Our ambitions for West Midlands rail services cover a 30-year period seeing major economic and population change in our region and transformative rail developments such as High Speed 2 (HS2). We are already getting on with delivering many of our aspirations for services before HS2, and maximising the advantage the region has in co-managing the West Midlands rail franchise with the Department for Transport (DfT) up to 2025.

Our delivery plan confirms our ongoing commitment to these short-term developments, aligns with the programmes for HS2's 2 phases and Midlands Connect's 'Midlands Rail Hub'. It looks towards further radical change in the 2030s and towards 2047. It is consistent with the aspirational outputs set out in this Rail Investment Strategy with the following 10 core components: -

1. **West Midlands and other franchises: 2018-2025**
Our existing work with West Midlands Trains, and other franchises serving the region, will see delivery of franchise commitments including train service and passenger facility enhancements. We are developing major station upgrades and new stations within our Stations Alliance with Network Rail. We welcome the transformative outputs of Station Travel Plans, making stations more accessible for passengers, delivery of masterplans for Wolverhampton and Coventry stations, and further integration with the expanding West Midlands Metro and other Rapid Transit schemes. We are planning new services on the Camp Hill, Leamington-Nuneaton and Walsall-Wolverhampton routes with the rail industry, Midlands Connect and TfWM. Each of these will contribute towards our '6-4-2' minimum train service frequency concept. Real change is committed and happening - (Aspirational Outputs 1 and 2).
2. **Future West Midlands and other franchises**
We will further strengthen the local and regional value of the West Midlands franchise via our partnership with the Department for Transport in future specification of the post-2025 franchise, as well as other franchises relevant to the West Midlands. We wish to see rail franchise specifications recognise the incremental aspirations this Rail Investment Strategy sets out, including our ambitions for our '6-4-2' trains per hour concept and the focus upon our priority high-growth corridors - (Aspirational Outputs 2, 3 and 4).
3. **High Speed 2: 2026-2033**
We are actively engaged now and onwards with High Speed 2 (HS2), Network Rail, Midlands Connect, TfWM and the Department for Transport in service planning for both phases of HS2 itself and for best passenger and freight use of the capacity it releases on the existing network in 2026 and 2033. This released capacity offers key opportunities to develop and implement our '6-4-2' and high growth corridor aspirations. Timely delivery of both phases of HS2 will be essential in enabling delivery of our ambitious rail developments supporting the growth and sustainability of the West Midlands economy, communities and environment - (Aspirational Outputs 2, 4, 5 and 7).
4. **Midlands Rail Hub**
We will continue our engagement with Midlands Connect, TfWM, Network Rail and the Department for Transport in making the case for Midland Rail Hub's proposed additional train paths across Birmingham and West Midlands, and for their earliest delivery before the 2032 date assumed within this strategy. This will include partnership working to develop service and infrastructure specifications, together with project development, funding, programming and delivery plans, and alignment with our '6-4-2' and high growth corridor aspirations - (Aspirational Outputs 2,3, 4 and 7).
5. **Cross Boundary matters**
Our strategy focuses upon the West Midlands, but within the wider context of the East and West Midlands together, our region's location at the heart of the National Rail network, and national initiatives such as HS2. Our economic model extends widely beyond the West Midlands. We will actively engage with partner bodies developing routes outside of our boundaries but relevant to us, such as Hereford-Shrewsbury (Transport for Wales), Birmingham-Bristol (South-west authorities and LEPs), Birmingham-Thames Valley (England's Economic Heartland), Hereford-Worcester-Oxford (North Cotswold Line Task Force) and Transport for the North with which our region has multiple connections. We will work closely with the emerging Sub-National Transport Bodies that are developing in a similar pattern to Midlands Connect - (Aspirational Outputs 2,3,4,6 and 7)
6. **Evidence**
We will use the economic evidence developed for this Rail Investment Strategy to support the development of strong business cases for our prioritised short and medium-term ambitions up to 2032, including Midlands Rail Hub. In looking towards 2047 we will initiate early high-level scoping work on longer term interventions considered within this strategy, particularly those that may be required following delivery of Midlands Rail Hub and HS2 Phase 2a at and after 2033 - (Aspirational Outputs 2, 4 and 6).
7. **Funding and project delivery**
West Midlands Rail Executive welcomes the government's new 'Rail Network Enhancements Pipeline' and 'Market-Led Proposals' processes (March 2018) and is committed to ongoing development of its capability and track record as a 'Third-Party' in making rail schemes happen. We similarly welcome Network Rail's 'Open for Business' principles which are supporting Third Party investment and engagement. We will work with Network Rail, the Department for Transport, Midlands Connect and TfWM to make the case for rail industry funding through these new processes. We will actively seek both public and private sector funding opportunities in conjunction with our partner authorities - (All Aspirational Outputs)
8. **Today's and tomorrow's operational railway**
Successful delivery of reliable, on-time, safe train services, all day and every day, is an expectation of our passengers and key to ongoing growth in their use. We will work closely with the rail industry at every step of the evolution and delivery of this 30-year strategy to support innovation and best practice in performance delivery, recognising that our growth objectives will be asking more of the system and its people. We will support Network Rail's ongoing development of the 'Digital Railway' and schemes such as electrification, recognising that these are the 'means' to meet capacity, capability and performance 'ends' rather than end in themselves - (All Aspirational Outputs).
9. **Rolling stock for growth**
New trains form a key component of the West Midlands Rail franchise programme up to 2025, and parts of the region are benefiting from other schemes such as InterCity Express. We recognise that the aspirations set out in this strategy will require significant investment in both quality and quantity of new rolling stock, respectively meeting modern operational and environmental standards and providing more capacity as passenger volumes grow over the next 30 years. We will work closely with our partners in the Department for Transport and the rail industry to develop not only the strategy to meet these 2 objectives, but innovation in funding and financing approaches - (All Aspirational Outputs).
10. **Communities, passengers and businesses**
Sustainably meeting the evolving needs of communities, passengers and of businesses is at the heart of West Midlands Rail Executive's ambitions for rail connectivity, services and customer experience. In testing the economic value of connectivity this Rail Investment Strategy and its delivery plan is directly linked to social inclusion, community development and sustainability principles intrinsic to the region's Local Plans, the strength of the region's economy and to the confidence and prosperity of its people and businesses. This delivery plan will be tested against the values set out in our 5 approaches to rail services. We will work with Transport for West Midlands' 'Inclusive Growth Unit' to maximise our rail services' potential to serve all the region's population. We will gather and continuously respond to the views and experience of our passengers - (All Aspirational Outputs)

Appendix - Our Corridor Priorities





Our overall approach to testing the value of continuously improving rail connectivity over the 30 years of this strategy is described at Sections 4.1, 4.2 and 4.3. This appendix illustrates our high-level options for train service development on a corridor-by-corridor basis.

The individual route pages firstly show the service structure for a typical off-peak hour as operating within the January 2018 timetable. This service pattern formed the base against which the five future year service scenarios (for 2025, 2027, 2032, 2034 and 2047) were tested for their economic uplift. The numbers in circles represent the number of stops per hour in a particular service that calls at a station.

Secondly the aspirational service pattern is illustrated for 2034, representing prospective services upon completion of both phases of High Speed 2 and Midlands Rail Hub. This service pattern, alongside those developed for the other four time periods, was used to test the economic benefits of changed services against the 2018 base.

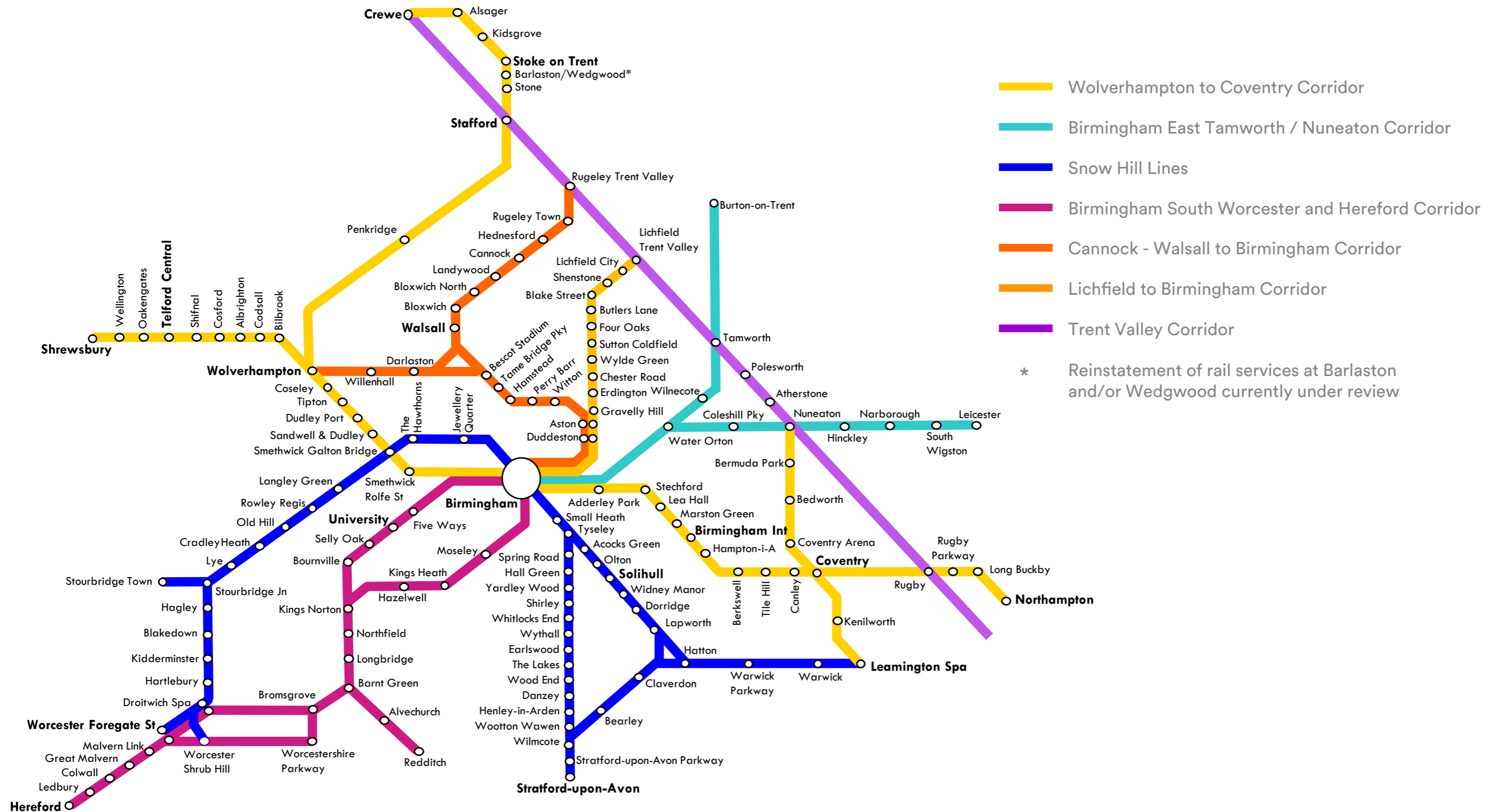
The detailed service scenarios for 2025, 2027, 2032 and 2047 can be found at <http://www.westmidlandsrail.com/strategy/wmris/>. It should be noted that the timing of major changes included within these scenarios is indicative only, and does not preclude these being advanced in practice.

The future year service patterns are similarly purely indicative and conceptual at this stage, developed to enable West Midlands Rail Executive to assess the key economic priorities this Rail Investment Strategy sets out. These will undoubtedly evolve over time and do not represent a commitment. They are an indication of the type of service pattern that could operate in the future subject to appropriate infrastructure being in place. It is recognised that some of these service patterns may change some existing linkages between stations and issues such as this would be considered in detail in future development work.

The service patterns assumed provision of a number of new stations on the network based on both schemes under current development, and aspirations from our constituent authorities. WMRE recognises that further new station aspirations will emerge over time, and that some of the stations tested for this strategy may not progress to delivery. Passenger rail re-openings tested within the service patterns up to 2047 include the Camp Hill, Walsall-Wolverhampton, Coventry-Leicester, Stourbridge-Brierley Hill, Kidderminster-Safari Park (Severn Valley), Lichfield-Burton and Sutton Park Lines. WMRE will work with our partner authorities as proposals for new stations and further new or re-opened routes are identified and developed, and will seek to bring forwards the delivery such projects in advance of the timescales indicated in the corridor plans wherever this is possible.

The infrastructure enhancements in the medium and long term outlined to support the service changes are also high level and indicative at this stage. Considerable further work will be needed to develop the actual interventions that would be needed to support the service plans and WMRE will work actively with rail industry partners to take these forward.

West Midlands Rail Map - Key Corridors



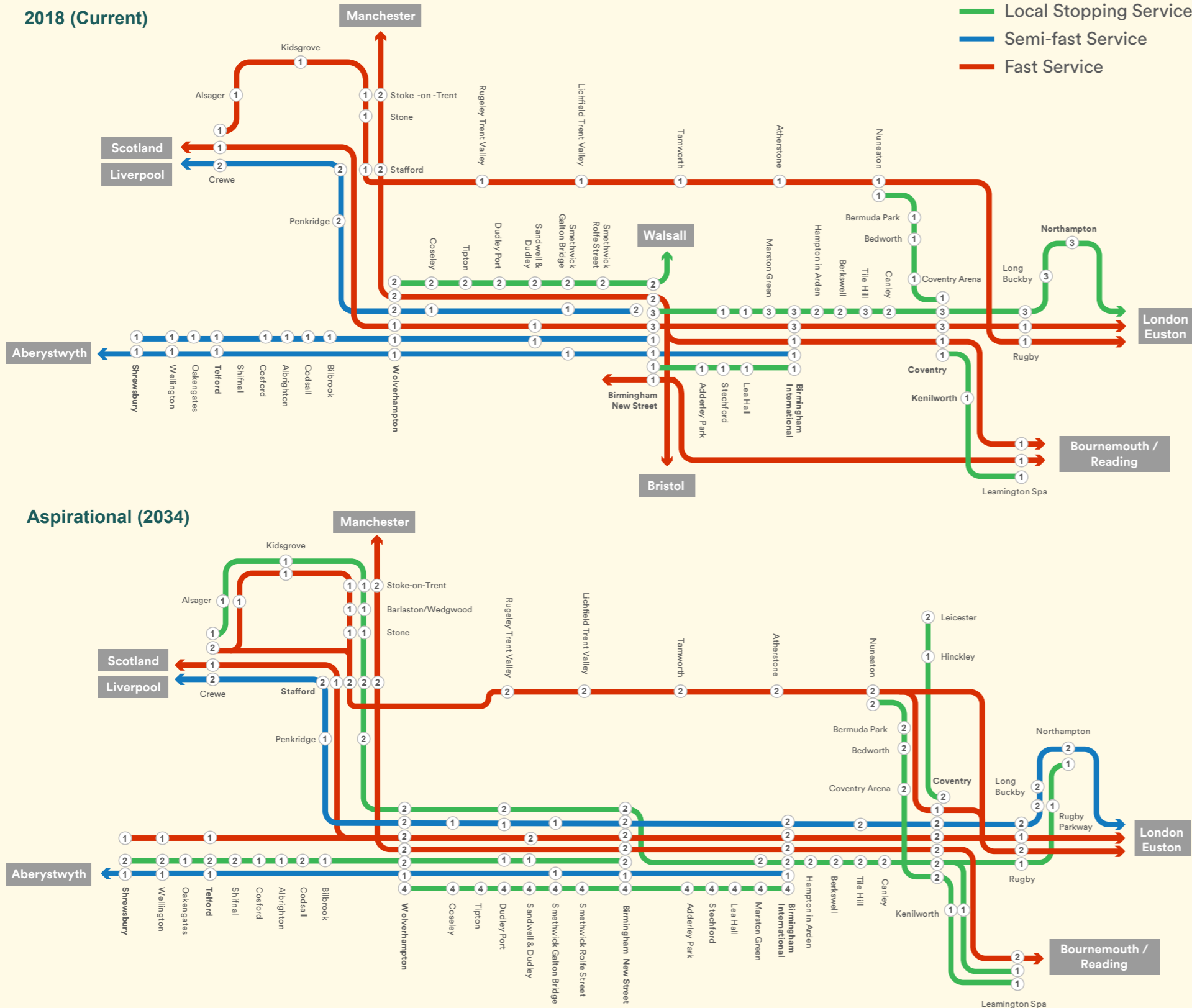
Key Corridors

TIME PERIOD	Wolverhampton to Coventry Corridor	Birmingham East Tamworth-Nuneaton Corridor	Snow Hill Lines	Birmingham South Worcester and Hereford Corridor	Cannock and Walsall to Birmingham Corridor	Lichfield to Birmingham Corridor	Trent Valley Corridor
Up to 2025 before HS2 Short Term Strategy	<ul style="list-style-type: none"> • Train lengthening • New cross-Birmingham links and through journeys to London • New Crewe-Stoke-Birmingham service • Frequency increases: <ul style="list-style-type: none"> • Coventry-Nuneaton • Shrewsbury Line • Improved evening and Sunday services 	<ul style="list-style-type: none"> • Train lengthening 	<ul style="list-style-type: none"> • Train lengthening • Improved evening and Sunday services • Consideration of new connectivity options for Brierley Hill and West Midlands Safari Park • Snow Hill Station regeneration 	<ul style="list-style-type: none"> • Train lengthening • Introduction of local passenger services and stations on Camp Hill line • Worcestershire Parkway new station • Improved Sunday and evening services • Worcester to Birmingham frequency uplift • University Station regeneration 	<ul style="list-style-type: none"> • Train lengthening • New through services to London and Birmingham International • Improved Sunday and evening services • New stations at Willenhall and Darlaston • New Wolverhampton to Walsall /Birmingham service via Willenhall • Perry Barr regeneration for supporting Commonwealth Games 	<ul style="list-style-type: none"> • Train lengthening and new trains • Improved Sunday and evening services • Enhanced frequency to Lichfield Trent Valley 	<ul style="list-style-type: none"> • Train lengthening • Faster services between Stafford and Crewe • Improved evening and Sunday services
2026 to 2033 HS2 Phase 1 and Phase 2 Midlands Rail Hub Indicative Medium-Term Strategy	<ul style="list-style-type: none"> • Timetable improvements post HS2 • Reading-Newcastle service to serve Coventry and Birmingham International • New Euston – Coventry – Trent Valley service • Shrewsbury to London service improvements • Coventry to Leamington service enhancements • New station - Rugby Parkway 	<ul style="list-style-type: none"> • Additional Birmingham to Leicester local services • New Birmingham to Burton-on-Trent local services • Nottingham to Birmingham frequency increases and faster journeys • New stations Castle Bromwich and Fort Parkway 	<ul style="list-style-type: none"> • Frequency enhancements to Stratford, Dorridge, Rowley Regis and Whitlocks End services 	<ul style="list-style-type: none"> • London/Oxford to Worcester (North Cotswold Line) frequency enhancements • Camp Hill line frequency enhancements 	<ul style="list-style-type: none"> • Frequency enhancements • New station and services to Aldridge • Extension of Chase Line services to Stafford 	<ul style="list-style-type: none"> • New station at Alrewas • Extension of services from Lichfield to Burton-on-Trent 	<ul style="list-style-type: none"> • New Euston – Coventry – Trent Valley service providing frequency uplift and new journey opportunities
2034 to 2047 Post HS2 Aspirational Long-term strategy	<ul style="list-style-type: none"> • Higher frequency Wolverhampton to Birmingham International local service • Coventry to Leicester direct service 	<ul style="list-style-type: none"> • Sutton Park line new stations and services • Further new stations and frequency enhancements 	<ul style="list-style-type: none"> • New Birmingham to Oxford via Solihull services • Further frequency enhancements 	<ul style="list-style-type: none"> • Hereford to Birmingham and London frequency enhancements • Redditch frequency enhancements • New Worcester suburban stations • New regional services on Birmingham to Bristol corridor 	<ul style="list-style-type: none"> • Further frequency enhancements 	<ul style="list-style-type: none"> • Frequency enhancements including semi-fast services 	<ul style="list-style-type: none"> • Further frequency enhancements

Figure 12 - Summary of our Corridor Priorities

Figure 13 - Wolverhampton to Coventry Corridor

Includes Shrewsbury / Stoke-on-Trent / Stafford to Rugby / Northampton, via Birmingham. Also includes West-East Corridor - Leamington Spa to Nuneaton / Leicester via Coventry



Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: £23.4m p.a
<p>Principal Service Changes</p> <ul style="list-style-type: none"> Shrewsbury to Birmingham frequency increases (May 19) Through services to London (May 19), with direct services from Rugeley, Walsall and Liverpool to London, via Birmingham Nuneaton to Leamington Spa new services (May 19) Nuneaton to Coventry frequency increases New through service from London Euston and Coventry to Trent Valley Stations (retaining 3 fast trains per hour between Coventry and London Euston) Crewe to Birmingham (via Stoke-on-Trent) new services (May 19) Improved evening services (May 19) and Sunday services (May 21) 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> Rugeley to Walsall electrification (Dec 18) to support electric train operation and through services to London Capacity works in the Coventry area Reinstatement of rail services at Barlaston and/or Wedgwood
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: £42.7m p.a
<p>Principal Service Enhancements</p> <ul style="list-style-type: none"> Re-cast of timetable on Coventry corridor post-Phase 1 of HS2 Diversion of CrossCountry Newcastle to Reading service via Birmingham International and Coventry Coventry to Leamington Spa local service frequency increases Wolverhampton to Birmingham International local service frequency increases All day Shrewsbury to London service provision 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> Capacity works between Coventry and Leamington Spa New station: Rugby Parkway
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £63.2m p.a
<p>Aspirational Service Enhancements</p> <ul style="list-style-type: none"> Wolverhampton to Birmingham International local service frequency increases Leicester to Coventry new services Wolverhampton to Birmingham via Tame Bridge Parkway service frequency increases 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> Wolverhampton station capacity Wolverhampton to Birmingham capacity Birmingham to Coventry capacity Nuneaton area capacity New stations: Shrewsbury Parkway, Hawkesbury, Coventry East, Coventry South

Figure 14 - Birmingham East - Tamworth / Nuneaton Corridor
Includes Burton-on-Trent / Tamworth / Nuneaton to Birmingham

2018 (Current)



Aspirational (2034)



Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: £0.4m p.a
Principal Service Changes <ul style="list-style-type: none"> Train lengthening as part of CrossCountry franchise 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> None – but see below the major changes in the medium term to introduce local services and stations
Indicative Medium-Term Strategy (2026 - 2043)	CORRIDOR GVA UPLIFT: £21.8m p.a
Principal Service Enhancements <ul style="list-style-type: none"> Burton-on-Trent to Birmingham new services Leicester to Birmingham frequency increases Nottingham to Birmingham frequency increases Hourly calls for long-distance services at Burton-on-Trent and Tamworth 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> Birmingham area capacity improvements (currently known as Midlands Rail Hub) to facilitate higher frequencies of service through central Birmingham New stations: Castle Bromwich and Fort Parkway
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £28.9m p.a
Aspirational Service Enhancements <ul style="list-style-type: none"> Sutton Park Line new services Extension of Nuneaton to Coventry services to Birmingham 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> New stations: Streetly, Sutton Coldfield Town, Walmley, Minworth, Kingsbury, Galley Common/ Stockingford

Figure 15 - Snow Hill Lines

Includes Worcester / Kidderminster / Stourbridge Town to Leamington Spa / Stratford-upon-Avon, via Birmingham Snow Hill

2018 (Current)



Aspirational (2034)



- Local Stopping Service
- Semi-fast Service
- Fast Service

New stations denoted in italics

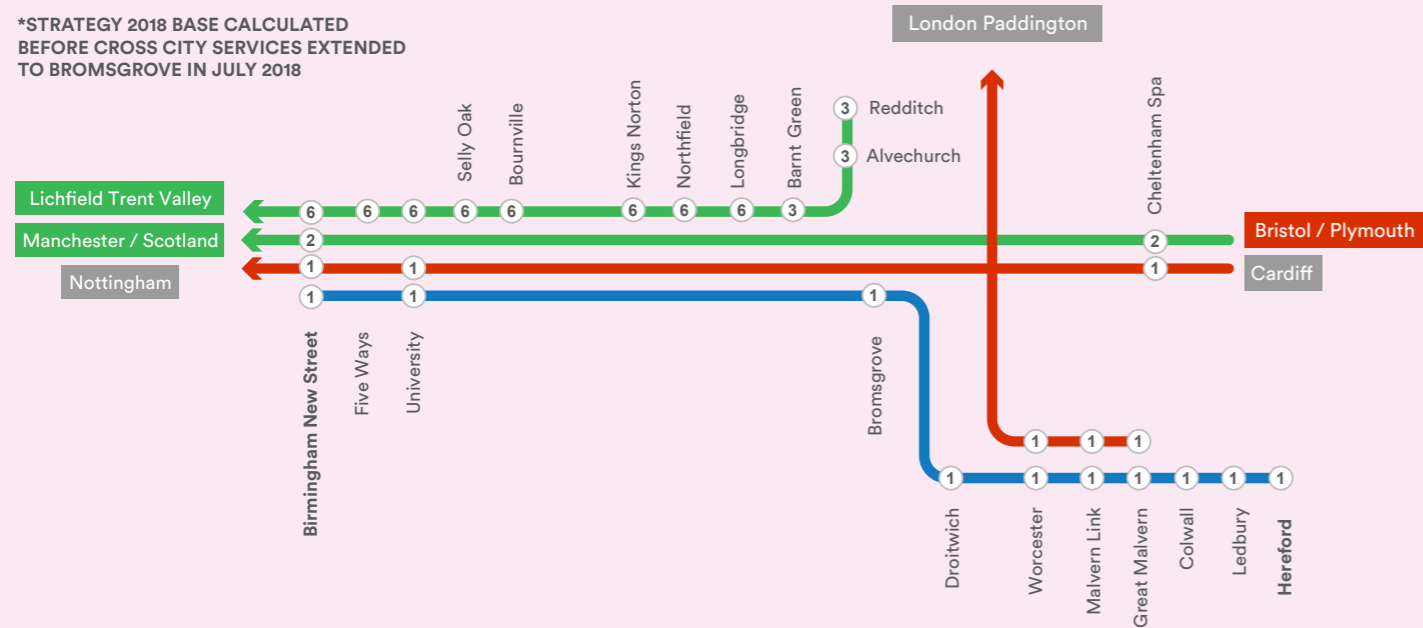
Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: £5.8m p.a
Principal Service Changes <ul style="list-style-type: none"> Train lengthening Improved evening services (May 19) and Sunday services (May 21) Investigation of case for and feasibility of new services to Brierley Hill and West Midlands Safari Park 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> Snow Hill Platform 4 Possible new stations and infrastructure to support any new services to Brierley Hill and West Midlands Safari Park
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: £12.3m p.a
Principal Service Enhancements <ul style="list-style-type: none"> Birmingham to Rowley Regis frequency increases Birmingham to Dorridge, Whitlocks End and Stratford-upon-Avon frequency increases 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> Rowley Regis turnback Birmingham area capacity (including Snow Hill and Moor Street)
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £19.0m p.a
Aspirational Service Enhancements <ul style="list-style-type: none"> Local service frequency increases Birmingham to Oxford new semi-fast services, via Solihull Safari Park frequency increases 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> Birmingham to Leamington Spa capacity improvements

Figure 16 - Birmingham South Worcester and Hereford Corridor

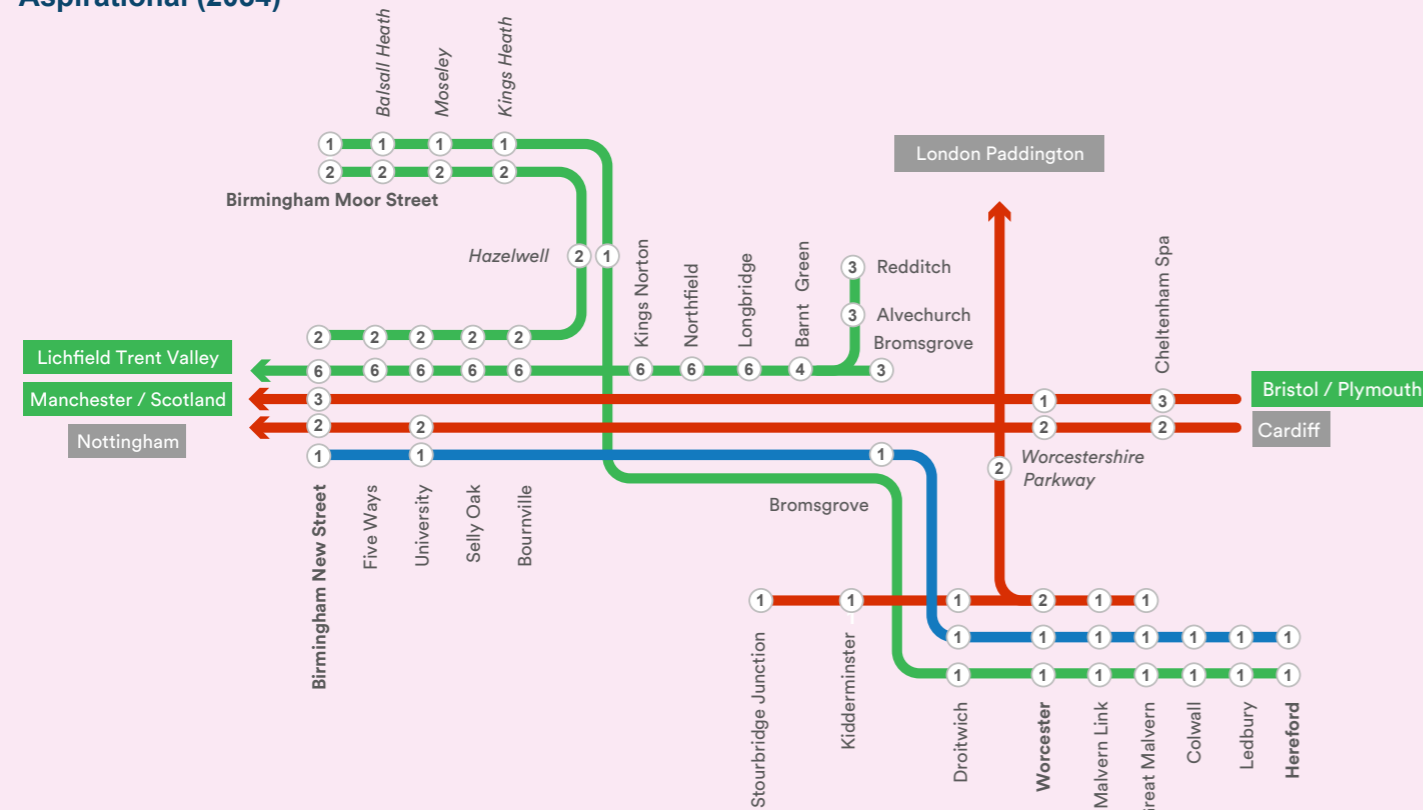
Includes Hereford / Worcester to Birmingham via University / Camp Hill and south west towards Ashchurch, Cheltenham Spa, Gloucester, Bristol and Cardiff

As at January 2018*

*STRATEGY 2018 BASE CALCULATED BEFORE CROSS CITY SERVICES EXTENDED TO BROMSGROVE IN JULY 2018



Aspirational (2034)



Short-Term Strategy (2018 / 2025)	CORRIDOR GVA UPLIFT: £9.5m p.a
<p>Principal Service Changes</p> <ul style="list-style-type: none"> • Train lengthening • Introduction of passenger services via new Camp Hill stations • Calls at Worcestershire Parkway for regional services (2019) • Improved evening services (May 19) and Sunday services (May 21) 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • Completion of Worcestershire Parkway station (2019) • New stations: Hazelwell, Kings Heath and Moseley
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: £12.6m p.a
<p>Principal Service Enhancements</p> <ul style="list-style-type: none"> • London / Oxford to Worcester frequency increases, including extensions to Great Malvern and Stourbridge (via Kidderminster) • Camp Hill line frequency increases 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • Capacity works in the Worcester area • North Cotswold Line capacity • Birmingham area capacity improvements (currently known as Midlands Rail Hub) to facilitate higher frequencies • New station at Balsall Heath
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £20.9m p.a
<p>Aspirational Service Enhancements</p> <ul style="list-style-type: none"> • Hereford to Birmingham frequency increases • Development of regular Hereford to London service (currently limited services) • Camp Hill line frequency increases • Bristol /Gloucester/Cheltenham / Ashchurch/ Worcester/Bromsgrove to West Midlands new regional services 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • Capacity works between Hereford and Great Malvern • Capacity works on the approaches to Birmingham • New Worcester suburban stations

— Local Stopping Service
— Semi-fast Service
— Fast Service
New stations denoted in italics

Figure 17 - Cannock - Walsall - Birmingham Corridor

Includes Chase Line / Walsall to Birmingham, plus Wolverhampton to Walsall

As at January 2018*

*STRATEGY 2018 BASE CALCULATED BEFORE WALSALL-RUGELEY SERVICES INCREASED TO 2 TRAINS PER HOUR IN MAY 2018

Aspirational (2034)



Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: £13.4m p.a
<p>Principal Service Changes</p> <ul style="list-style-type: none"> • Train lengthening • New through services to London (May 19) • Frequency doubling between Rugeley Trent Valley and Birmingham (May 18) • Wolverhampton to Walsall new services • Wolverhampton to Birmingham via Tame Bridge Parkway new services • Improved evening services (May 19 and Sunday services (May 21) 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • Rugeley – Walsall electrification and line speed improvements (Dec 18) • Birmingham New Street re-signalling (Dec 21) • New stations: Willenhall and Darlaston • Perry Barr regeneration for supporting Commonwealth Games
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: £26.9m p.a
<p>Principal Service Enhancements</p> <ul style="list-style-type: none"> • New services to Aldridge • Extension of Chase Line services to Stafford 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • New station Aldridge • Capacity works at Wolverhampton
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £28.9m p.a
<p>Aspirational Service Enhancements</p> <ul style="list-style-type: none"> • Wolverhampton to Walsall frequency increases • Wolverhampton to Birmingham via Tame Bridge Parkway frequency increases • Hednesford to Birmingham frequency increases 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • Capacity works at Walsall and the approaches to Birmingham

- Local Stopping Service
- Semi-fast Service
- Fast Service

New stations denoted in italics

Figure 18 - Lichfield - Birmingham Corridor
Includes Burton-on-Trent / Lichfield to Birmingham via Sutton Coldfield

2018 (Left) and 2034 (Right)



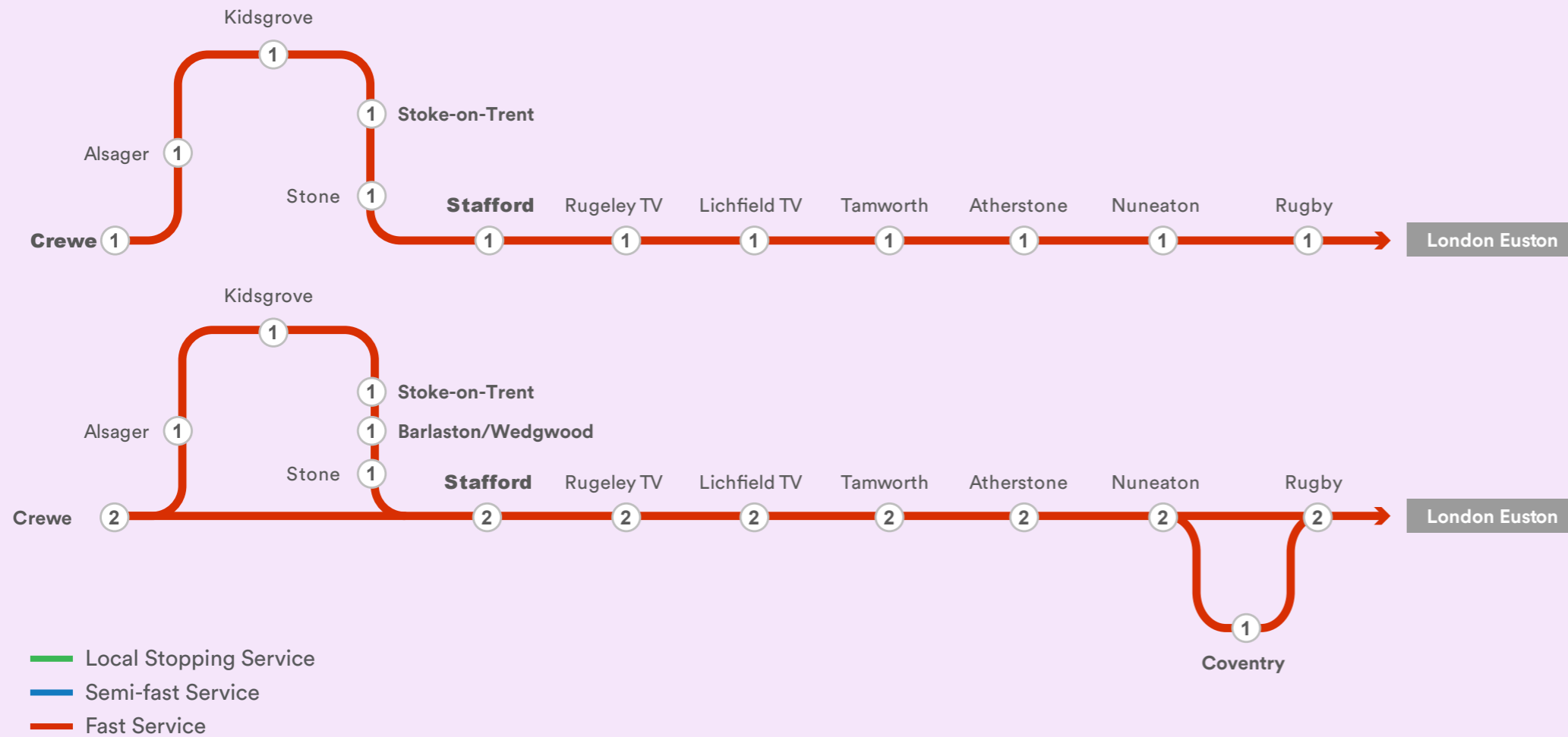
Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: £0.6m p.a
<p>Principal Service Changes</p> <ul style="list-style-type: none"> • Train lengthening • Higher frequencies to Birmingham from Lichfield Trent Valley (May 19) • Improved evening services (May 19) and Sunday services (May 21) 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • None
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: -£3.8m* p.a
<p>Principal Service Enhancements</p> <ul style="list-style-type: none"> • Extension of services from Lichfield Trent Valley to Burton-on-Trent • Further train lengthening 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • New station: Alrewas • Burton to Lichfield Trent Valley electrification • Burton area capacity • Capacity works on the approaches to Birmingham
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: -£4.7m* p.a
<p>Aspirational Service Enhancements</p> <ul style="list-style-type: none"> • New 'semi-fast' services introduced which would serve larger stations 	<p>Principal Infrastructure Enhancements</p> <ul style="list-style-type: none"> • None

* See first paragraph, page 14, for an explanation of the negative GVA figures.

Figure 19 - Trent Valley Corridor

Includes Stoke-on-Trent / Stafford to Rugby / Northampton via Tamworth – (regional services only illustrated)

2018 (Top) and 2034 (Bottom)



Short-Term Strategy (2018 - 2025)	CORRIDOR GVA UPLIFT: -£1.0m* p.a
Principal Service Changes <ul style="list-style-type: none"> Faster journeys to Crewe through fast running between Crewe and Stafford Improved evening services (May 19) and Sunday services (May 21) 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> None
Indicative Medium-Term Strategy (2026 - 2034)	CORRIDOR GVA UPLIFT: £1.97m p.a
Principal Service Changes <ul style="list-style-type: none"> Higher frequencies following re-cast of West Coast Main Line timetable following completion of HS2 Phase 1 Improved interchange to other corridors at Rugeley Trent Valley, Lichfield Trent Valley and Tamworth given corresponding service improvements New through service from Coventry to Trent Valley stations 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> Delivery of HS2 Phase 2A Upgrade of Nuneaton-Coventry line
Long-Term Strategy Aspirations (post 2034)	CORRIDOR GVA UPLIFT: £1.5m p.a
Aspirational Service Enhancements <ul style="list-style-type: none"> Further re-cast of timetable following Phase 2B of HS2 may facilitate higher regional service frequencies at key stations in the Trent Valley 	Principal Infrastructure Enhancements <ul style="list-style-type: none"> None

* See first paragraph, page 14, for an explanation of the negative GVA figures.



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