



Llywodraeth Cymru
Welsh Government

The Rail Network in Wales

The Case for Investment – Summary

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Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

This study was led by Prof Mark Barry of Cardiff University and undertaken by a combined team: M&G Barry Consulting, ARUP, Mott MacDonald, Cogitamus and SDG. Support and contributions from WG/TfW, NR and wide range of stakeholders was also secured. This summary document is supported by more detailed Programme Strategic Outline Cases: one for north Wales and one for south Wales

SUMMARY

1.1 Background

Following the cancellation of electrification in July 2017 of the Great Western Main Line (GWML) between Cardiff and Swansea, the Secretary of State for Transport announced the development of business cases for rail enhancement schemes across Wales. To support this work, the Cabinet Secretary for Economy and Transport Ken Skates announced in May this year that Professor Mark Barry of Cardiff University would lead a programme to establish the strategic and economic case for investment in Wales' rail infrastructure. This executive summary – ‘*The Case for Investment*’ – and Programme Strategic Outline Cases (PSOC) are the outputs of that work.

We have developed a positive and compelling case for major rail investment that addresses both the Welsh Government's (WG) economic ambitions and our broader environmental and well-being objectives. This is even more important given the scale and potential economic impact of rail schemes being developed elsewhere in the UK and the need to respond to the cancellation of the electrification of the GWML to Swansea.

The analysis is clear that a programme of investment in rail infrastructure in Wales is required to support a stronger, inclusive and more equitable economy, delivering prosperity for all by connecting people, communities and businesses to jobs, services and markets. Improved rail infrastructure and services will help to deliver a range of overarching social and economic needs, as set out in the Cabinet Secretary's announcement:

“...improving connectivity and reducing journey time between cities in Wales; expanding the city region areas across Wales; growing cross-border economies; enhancing connectivity from Wales to London; improving access to airports; maximising the potential benefits and offset negative consequences of High Speed 2 (HS2); providing compelling journey choices to users of the congested M4 at Swansea; and meeting trans-European network standards.”¹

This analysis supports the case for change and sets out the key findings and recommendations of the work undertaken since the announcement through two Programme Strategic Outline Cases. The work also reflects extensive discussions with stakeholders in both north and south Wales from business, education, local government and the rail industry.

In doing so, an initial vision, objectives, and some potential interventions have been set out that will be developed through more detailed business cases. These include measures to maximise the potential positive economic impacts of HS2 in north Wales, and to address its potential negative economic impacts in south Wales. Equally important, are the opportunities that these proposals present for more of us to travel more efficiently and sustainably.

This work also supports and informs the more detailed Strategic Outline Cases that the Department for Transport (DfT) has asked Network Rail to undertake in respect of specific schemes in Wales including improvements to the infrastructure on the North Wales Coast mainline, the Wrexham to Bidston line, and between the Severn Tunnel and Cardiff.

1.2 Long term under investment in Wales' rail infrastructure

A key finding of this work is the identification and quantification of a long-term and systematic under-investment in Welsh rail infrastructure compared to the UK as a whole. For example, the Office of Road and Rail data² for 2011-2016 shows that the Wales Route, which covers 11% of the network, has only received just over 1% of the enhancement budget (£198m out of an England and Wales total of £12.2bn). These choices and priorities are made and set by the UK Government on behalf of Wales. Wales has been underfunded, if one uses the Wales Route as a basis, by more than £1bn over that period. This at a time when the UK is committing £56bn to High Speed 2, and potentially £30bn to Crossrail 2 in the south-east, and £70bn to Transport for the North³ over the next 30 years to deliver major schemes like Northern Powerhouse Rail (NPR).

¹ Extract from a Statement by the Cabinet Secretary for Economy and Transport: Ambitions for Great Western and North Wales Main Lines, 08 May 2018 <http://record.assembly.wales/Plenary/4981#A43301>

² ORR Annual Efficiency and Finance Assessment 2014-15 | Network Rail - Wales Route Plan 2014-2019

³ https://transportforthenorth.com/wp-content/uploads/TfN-Strategic-Plan_draft_lr.pdf

Enhancements improve the capability, capacity and reliability of the rail network, and so the limited investment in Wales contributes to fewer and less attractive services, resulting in a lower modal share for rail and higher subsidies per passenger.

This is an analysis endorsed by both the Welsh Affairs and Transport Parliamentary Select Committees at Westminster. The House of Commons Transport Committee has recently concluded that the Department for Transport's current decision-making processes and existing systems of scheme appraisal work against regions outside the south-east as they are weighted heavily towards the reduction of existing congestion. In developing plans for new rail schemes, we cannot be constrained by a process that has historically disadvantaged Wales and must instead focus on progressing schemes that deliver on our wider objectives.

1.3 Vision for rail in Wales

Our overarching vision for rail in Wales is shown below (Figure 1). To frame more detailed scheme and business case development we have developed with stakeholders overarching visions and a set of objectives for rail enhancements across four key workstreams as follows:

- North Wales
 - North Wales Main Line
 - Wrexham-Merseyside (Borderlands line)
- South Wales
 - South Wales Main Line
 - Swansea Bay Urban Area

This initial focus will support the Department for Transport's development of the business cases for these areas. Further Programme Strategic Outline Case schemes can be developed as the work is progressed.

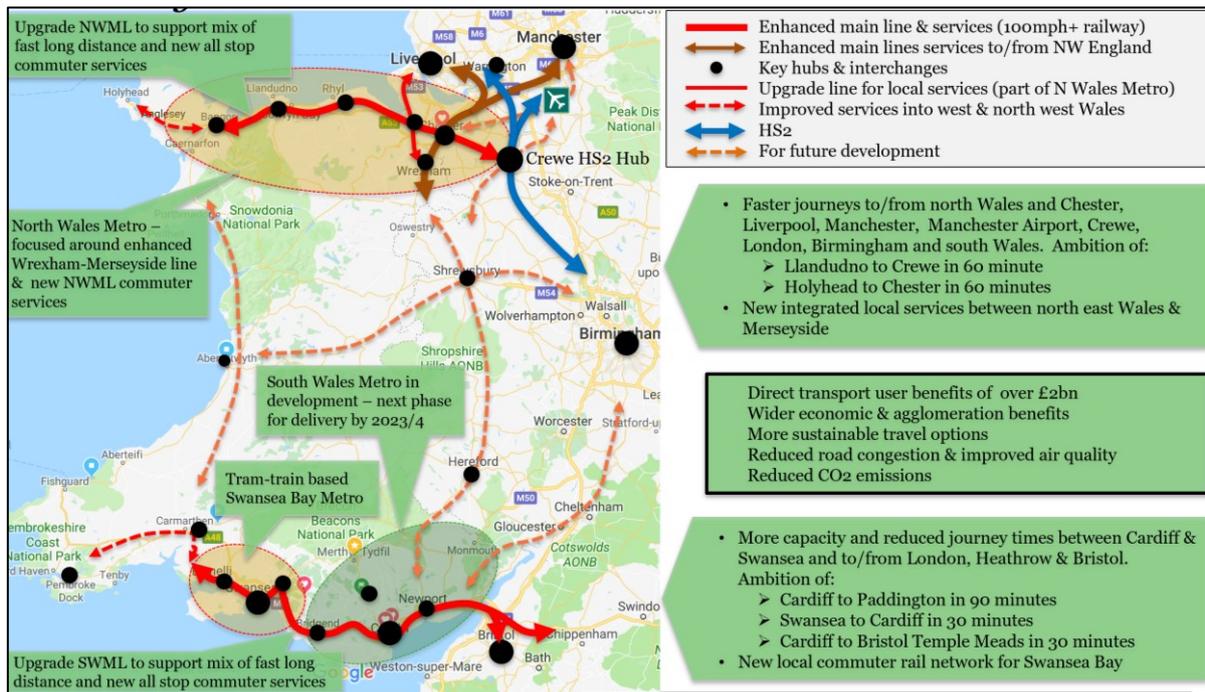


Figure 1 All Wales view of Vision and overarching objectives

1.3.1 North Wales Main Line (NWML)

Vision: Building upon the work of Growth Track 360 to support inclusive and balanced economic growth in Wales and north west England, by providing faster and more frequent services through investment in the north Wales coast line and by maximising the benefits of HS2.

Objectives: To deliver on this vision for north Wales interventions will need to:

1. Widen access to employment across north Wales, Cheshire and Liverpool by improving rail services.
2. Develop a service pattern (journey time and frequency) that supports Growth Track 360's ambitions:
 - a. Journey times of less than one hour between the main centres of Holyhead and Chester; and Llandudno and Crewe
 - b. Frequency doubling between Holyhead and London; and Holyhead to Cardiff/Birmingham
 - c. Frequency doubling between the north Wales coast and Manchester Airport
 - d. At least one train per hour from the north Wales coast and Wrexham to Liverpool
3. Enhance rail connectivity from north Wales to international gateways at Manchester and Liverpool airports.
4. Promote social inclusion by improving local access to employment, services & key centres.
5. Provide a viable public transport alternative to private car journeys, for all journey purposes including tourism.
6. Provide sufficient capacity and improve rail network resilience in north Wales to accommodate future demand.
7. Promote interventions that integrate with HS2 and the major developments at Crewe and Chester stations to support cross-border passenger journey requirements
8. Reduce the environmental impact of transport, especially carbon emissions & air quality.
9. Improve rail network efficiency to allow a lower future subsidy requirement per passenger.

At this stage we anticipate the most likely interventions required to deliver this vision, include:

- Modernisation of the North Wales Main Line (NWML) from Crewe to Holyhead (including line speed improvements, re-signalling and electrification);
- Faster long-distance services from key hubs in north Wales to London, Manchester, Manchester Airport, Liverpool & Cardiff with fewer stops
- Hourly connectivity to London via Crewe (direct and/or via HS2)
- New local all-stop commuter services in north east and north west Wales
- Double track Wrexham-Chester to support additional services
- On-track capacity and operational enhancements at Chester station
- Selected new stations across the network

1.3.2 Wrexham-Merseyside (*Borderlands line*)

Vision: Supporting economic growth and improving connectivity across the north Wales and Merseyside area by enhancing the Borderlands rail line to deliver faster, more frequent, and better integrated services.

Objectives: To deliver on this vision for the Wrexham – Merseyside area interventions will need to:

1. Widen access to employment across north Wales, Cheshire, Liverpool and Manchester by improving rail services.
2. Provide a frequent and well-connected transport system that supports the economic aspirations of the north Wales and Mersey – Dee regions.
3. Promote social inclusion by improving local access to employment, services and key centres.
4. Maximise the potential for stations to accelerate urban regeneration and major development site delivery.
5. Increase the proportion of journeys in north east Wales undertaken by rail.
6. Contribute to developing a north Wales Metro including improvements to multi-modal interchanges.
7. Reduce the environmental impact of transport, especially carbon emissions & air quality.
8. Improve rail network efficiency to allow a lower future subsidy requirement per passenger.

At this stage we anticipate the most likely interventions required to deliver this vision, include:

- Full operational integration of the Wrexham-Bidston service with Merseyrail permitting faster through running to central Liverpool operating at 4 trains per hour (tph)
- A new station at Deeside Industrial Park with Park and Ride (P&R) and improved local bus links
- Major upgrade to Shotton station to improve interchange
- Park & ride facilities at selected stations with bus integration at several stations along the line

1.3.3 South Wales Main line (SWML)

Vision: Supporting inclusive and balanced economic growth in Wales and south west England by providing faster and more frequent services through investment in the Great Western rail corridor.

Objectives: To deliver on this vision for the South Wales Main Line interventions will need to:

1. Reduce rail journey times between West Wales and London, towards targets of:
 - a. 90 minutes between Cardiff and London Paddington
 - b. 30 minutes between Cardiff and Bristol Temple Meads
 - c. 30 minutes between Swansea and Cardiff
2. Increase service frequencies between south west Wales and London; Cardiff and Bristol Temple Meads; and Swansea and Cardiff.
3. Provide sufficient capacity and improve rail network resilience between Cardiff and Bristol to accommodate future passenger and freight demand.
4. Enhance rail connectivity to international gateways/airports and Enterprise Zones
5. Improve Park and Ride provision for accessing the South Wales Main Line and reduce reliance on the M4 corridor
6. Improve integration between main line rail and the wider transport network, especially the developing south Wales and Bristol Metro systems.
7. Maximise the potential for stations to accelerate urban regeneration and major development site delivery.
8. Increase the number of trips made by public transport, focusing on commuter trips.
9. Reduce the environmental impact of transport, especially carbon emissions & air quality.
10. Improve rail network efficiency to allow a lower future subsidy requirement per passenger.

At this stage, the most likely interventions required to begin to deliver this vision, include:

- Line speed improvements from Severn Tunnel Junction to Swansea and beyond that enable the benefits of new trains to be realised (including consideration of electrification and more capacity)
- New services operating on a balanced pattern of fast and stopping services (4tph from Cardiff to London and 2 tph from Swansea; 4 tph Bristol Temple Meads to Cardiff and 2tph from Swansea).
- Potential for new stations at Magor, Llanwern, Cardiff Parkway, Rover Way, Miskin-Junction 34, Brackla, Cockett and St Clears.
- Enhanced transport interchange at Llansamlet making better use of its proximity to the M4.

1.3.4 Swansea Bay (Urban Area) Metro (Figure 2)

Vision: Accelerating economic growth across the Swansea Bay City Region, expanding labour market catchments, and encouraging investment by transforming the region's rail network.

Objectives: To deliver on this vision for Swansea Bay interventions will need to:

1. Reduce journey times between key population centres including Swansea, Neath, Port Talbot, Llanelli, Carmarthen, Pembroke and Milford Haven.
2. Increase service frequencies
 - a. for local stations on the main line between Carmarthen and Port Talbot, especially during peak periods
 - b. on the Heart of Wales line to serve commuters into Swansea and beyond
 - c. across south west Wales to improve suitability for daily commuting
3. Improve regional transport accessibility through widening the spatial reach of the rail network and services.
4. Improve Park and Ride provision for access to the Swansea Bay region.
5. Provide a viable public transport alternative to the congested M4/A48 corridor
6. Contribute to developing a Swansea Bay Urban Area Metro including improvements to multi-modal interchanges.
7. Maximise the potential for stations to accelerate urban regeneration and major development site delivery.
8. Increase the number of trips made by public transport, focusing particularly on commuter trips.
9. Reduce the environmental impact of transport, especially carbon emissions & air quality
10. Improve rail network efficiency to allow a lower future subsidy requirement per passenger

At this stage we anticipate the most likely interventions required to deliver this vision, include:

- A new dedicated Swansea Bay commuter rail network serving a range of new and existing stations (for example, Landore, Felindre, Winch Wen)
- Subject to operational feasibility, two initial routes (including some new infrastructure) could be operated using the rolling stock based on the tram-train that will be procured for the South Wales Metro.
 - A Llanelli – Pontarddulais – Swansea 'Metro' service
 - A Port Talbot – Neath - Swansea 'Metro' service.
- Tram-train capability to give more affordable and flexible extension options in later phases
- Park and Ride provision at key stations
- Integration measures for active travel and bus routes to maximise the rail network's reach

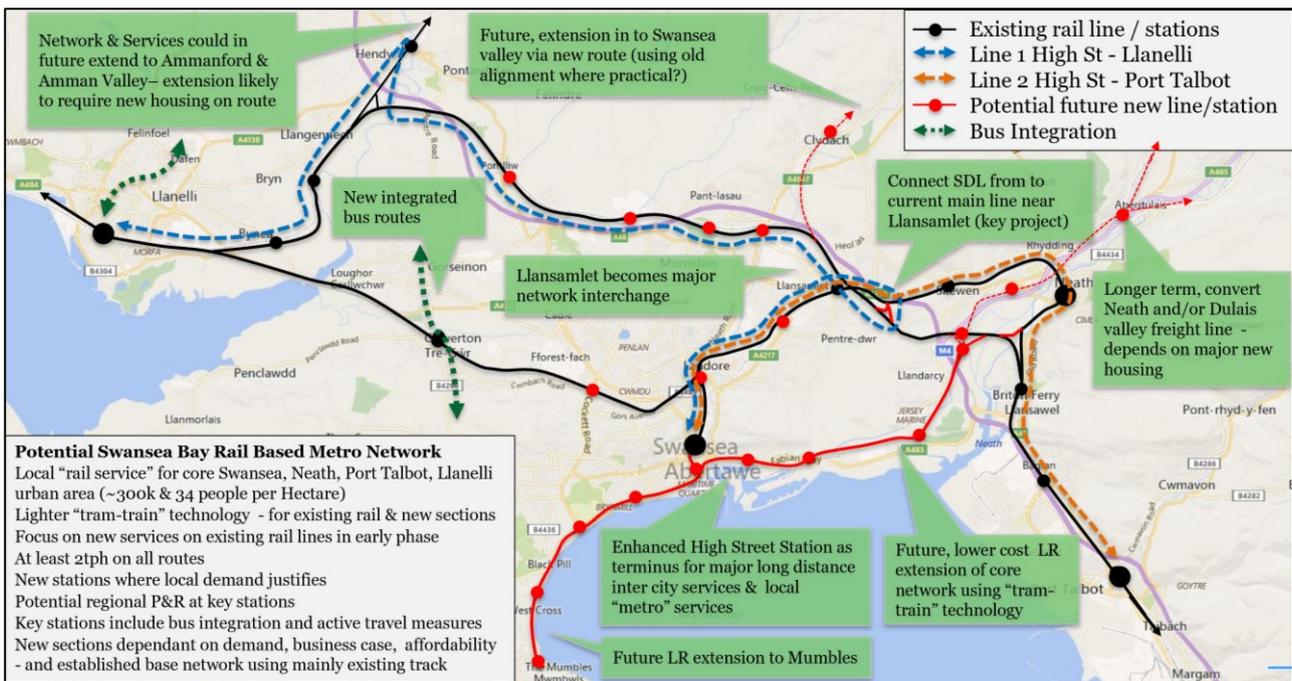


Figure 2 A potential rail foundation for a Swansea Bay Metro

1.4 Benefits

The work undertaken to date makes the case for further investment in Wales' rail infrastructure and has identified direct transport user benefits for the selected schemes of at least £2bn in present value terms over a 60-year period. This is based on:

- A package of measures to increase frequencies to 4 trains per hour along the North Wales Main Line, a one hour journey between Chester and Holyhead, additional stations, and integration with HS2;
- A Wrexham to Merseyside package to deliver 4 direct trains per hour from Wrexham to Liverpool via Bidston, with additional stations;
- Enhancements to the South Wales Main Line to deliver lower journey times and improved frequencies including 4 trains per hour between South Wales and London (of which 2 would originate from Swansea or further west), 4 trains per hour between Cardiff and Bristol, and at least 4 trains per hour between Swansea and Cardiff.

These benefits are generated by reducing journey times for rail passengers, with significant benefits to business users. Additional benefits also arise from reduced road congestion, environmental benefits (especially improved air quality and reduced CO₂ emissions), and safety improvements through reductions in car use.

Analysis will continue to refine these benefits on a more granular basis, and to include an assessment of the wider economic and agglomeration benefits associated with the proposed interventions. The benefits arising from rail development in the Swansea area will also be included, further increasing the overall benefits of the programme.

1.5 Key decisions

These proposals present major opportunities, challenges and decisions, and highlight some key options - with advantages and disadvantages – these include:

- How best to operate rail services on the South Wales Main Line from London/Bristol to west Wales and in particular the balancing of the benefits of fast journeys between major stations and the role of rail services in enabling local journeys. This trade-off is particularly apparent for services between Port Talbot and Llanelli where there is significant demand for local travel but stopping all trains at local stations would significantly impact journey times. Deciding on the optimal solution will require further stakeholder discussion and will be especially important where new infrastructure may be required.
- The extension of the scope of Network Rail's work to enhance the relief lines to develop and deliver interventions along a greater extent of the South Wales Main Line and to Bristol Temple Meads in order to increase capacity, improve reliability and reduce journey times.
- The development of a new dedicated Swansea Bay Urban Area commuter rail network potentially using rolling stock similar to the tram-train technology being deployed for the South Wales Metro.
- The potential integration of Wrexham-Bidston with the Merseyrail network and the future role of Shotton Station as a Metro Hub.
- The orientation of the Crewe HS2 hub and the need to ensure ease of connectivity between HS2 and north Wales services, its impact on direct London to north Wales services, and the routing of Cardiff-Manchester services.
- The approval for the full extent of the signalling enhancements originally proposed for the North Wales Main Line.
- The development of further measures at Chester station to enhance operational capacity and reliability in order to support the proposals we have set out.
- The early completion of the Heathrow Western Access rail link – with the potential to support direct services from south Wales and south west England into Heathrow.
- To test options in partnership with 3rd parties of interventions that deliver faster services and more capacity between north Wales, Chester, Manchester, Manchester airport, Liverpool and Leeds. *In doing so, development of Northern Powerhouse Rail (NPR), HS2 Phase 2b and the potential Manchester western rail access should reflect this requirement.*

An ongoing process that engages with relevant stakeholders and industry partners will be essential to secure support for preferred interventions. We have already and will continue to engage with organisations such as Merseytravel, Transport for the North, DfT, Network Rail (NR), local authorities as well as business-led groups like Growth Track 360, the CBI and the Chambers of Commerce.

1.6 Next Steps

Work will continue to develop and consult on these enhancements to the rail network which the UK Government must make if it is to fulfil its promise to rebalance the UK economy. These programme cases will be completed over the summer and will be made available to Network Rail and the Department for Transport to frame the development of their specific scheme business cases.

A commitment is now needed from the UK Government to fund the development and delivery of an ambitious, realistic, and equitable rail investment programme for Wales.