Delivering a better railway for a better Wales: our plans for 2014-2019
Our railway is more popular than ever. Passenger numbers have increased at a faster pace than expected and they continue to rise. Every day 4m people use the network and today we carry 50 per cent more passengers than 10 years ago. We’ve enabled around 400,000 more passenger trains to run per year than we did in 2009 and the amount of freight moved has increased by 13 per cent.

We’ve invested almost £39bn in maintaining and improving Britain’s railway. Modernisation and smarter ways of working have delivered more frequent, more reliable, safer services and brighter and better stations.

We’ve achieved a lot over the last 10 years. We’ve a lot more to do, and we’ve been given £38bn to carry out this work over the next five years.

So how are we going to continue improving the railway?

Here we set out the challenges we face and the plans we have to build a bigger and better railway for Britain over the next five years and beyond.

#BetterRailway
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Mark Langman  
Route managing director, Wales

The railway in Wales has a long and proud history. The country was a rail pioneer, with the first steam locomotive railway in the world built in 1804 to transport iron from Merthyr Tydfil to Abercynon. And three years later, on the horse-drawn Oystermouth Railway in Swansea, the world’s first fare-paying passenger railway service was launched. Two centuries later we’re working to build on this legacy.

Over the next five-year funding cycle, Control Period 5 (CP5), Network Rail’s Wales route will deliver the biggest investment in the Welsh rail network since the 19th century. This record investment is responding to unprecedented growth and will help deliver more capacity, faster journeys and better stations across the country.

Projects to electrify the railway, install new signalling technology and improve stations are at the forefront of our plan to modernise the Wales route. Our detailed maintenance and renewal strategy will also see the roll-out of new technologies to help further improve safety, improve performance of the railway and deliver better value for money.

This level of investment is reflective of the crucial role that the railway plays in the economy. In the first instance, the construction industry and wider supply chain will receive a welcome boost during project delivery. There’ll be more jobs and apprenticeships and we’re working with our contractors to ensure that benefits are maximised for the communities we’re investing in.

Additionally, a modern, high-performance railway helps to support business growth. The railway gets people to and from work every day and helps move goods from ports and factories to our shops. Our plans for faster, more frequent journeys will therefore not only provide better journeys for passengers but will also help stimulate the wider economy.

The next five years is a wonderful opportunity to showcase what investment in the railway can achieve. Working with our partners across the rail industry and in the Welsh Government and Department for Transport, our goal is to deliver a modern railway that offers an improved experience to passengers and outstanding value to taxpayers.

I believe that the Wales route plan for the next five years will help deliver a better railway for a better Wales. I look forward to you joining me for the journey.

Mark Langman  
Route managing director
Our network

Over the next five years we’re delivering a wide range of projects to improve the railway in Wales.

Freight capacity
The South Wales Main Line is one of the busiest freight routes in the country carrying almost 15 per cent of total GB freight tonnage.

It’s quicker by rail
Door to door
(Ebbw Vale to Cardiff Central)

Train – 1hr 10 mins

Car – 1hr 40 mins

Source: BBC Wales (30 September 2013)

“Getting to work in Cardiff on the train is much quicker and easier than by car. With high fuel and parking costs, I’m also saving money by leaving the car at home.”

Ebbw Vale line commuter
Below:
Freight train in South West Wales

Left:
Cardiff Central from above

1. Electrification
2. Cardiff and Valleys network improvements
3. North/South Wales journey improvements
4. Re-signalling – Newport to Shrewsbury
5. Re-signalling – North Wales main line (phase 1)
6. Ebbw Vale town extension
7. Station investment
A rail renaissance

Over the past decade the railway across the Wales route has undergone an exciting renaissance.

The rail network has expanded with the re-openings of the Vale of Glamorgan (2005) and the Ebbw Vale lines (2008).

There’s been massive investment in projects to renew signalling, including the ongoing £650m project in South Wales and the roll-out of the European Rail Traffic Management System on the Cambrian Line.

And with more and more people using our stations, we’ve been delivering improvements right across the country. From major station redevelopments at Newport and Swansea to improved accessibility at Prestatyn and Wrexham General, we’re investing to provide a better passenger experience.

Ebbw Vale

The Ebbw Vale line re-opened to passengers in February 2008, having been closed for more than 40 years.

The issue of transport poverty is a real problem along the line. The wider Ebbw Vale area has one of the lowest rates of car ownership in Wales. The railway is therefore playing an instrumental role in the regeneration of the area by improving connectivity to Cardiff and expanding the labour market.

This helped contribute to the instant success of the line with over one million journeys in the first 20 months – hitting that milestone over two years before the original forecast had predicted.

And the work to improve the line further hasn’t stopped. We’re working with the Welsh Government to build a new station at Pye Corner and to also extend the line to Ebbw Vale town centre.

ERTMS

The European Rail Traffic Management System (ERTMS) was commissioned on the Cambrian line in 2011. This was the very first use of this state-of-the-art technology in Britain and it has provided a new and more flexible way of controlling trains across the line.

ERTMS replaces traditional railway signals with a computer display in the train, allowing lineside signals to be removed.

Importantly, it will help reduce the costs of maintaining the railway, improve performance and enhance safety.

Newport

The redeveloped Newport station opened to passengers in September 2010. The two-year construction project delivered a modern station that was ready to welcome the thousands of visitors that passed through on the way to watch the Ryder Cup golf at Celtic Manor.

As well as a modern building, the project delivered improved accessibility, with step-free access from both terminals on to all platforms. The station also now benefits from increased and improved parking facilities.
Our plan for Wales

The improvements we’ve made across the rail network are one of the factors that have helped attract record numbers of passengers and record amounts of freight to the railway.

Demand for rail has grown so much in recent years that overcrowding is now becoming an issue on parts of the network. That is why we are working with our partners to continue the investment programme.

Over CP5, we’ll be delivering the biggest investment in the Welsh rail network since Victorian times. It’s important that we balance the need for improved services and extra capacity with the demands for a punctual and value for money railway.

To meet these demands, we’ve developed a Modernisation Plan that will see investment delivered right across the country. Over the next five years this will get well under way with projects to help deliver the modern, cost-effective and sustainable railway our country needs.

The Modernisation Plan includes projects to electrify the railway in South Wales, improve stations and renew our signalling technology. These projects will help deliver lower costs and better performance as well as the potential for faster, more frequent services for passengers. This will help meet the forecasted demand for rail travel as well as helping to stimulate economic growth across the country.

Electrifying the railway in South Wales

Electrification will help transform the railway in South Wales. Electric trains will help deliver a faster, greener, quieter and more reliable railway for passengers.

Electric trains have 20 per cent more seats compared with diesel trains. Journey time savings can be made thanks to superior braking and acceleration, making journeys quicker, especially in urban areas where there are frequent stops.

They emit around 20-35 per cent less CO₂ than diesel trains and there are zero emissions at the point of use. This helps improve air quality in pollution hot-spots such as city centres and stations. Electric trains are also quieter and virtually silent when waiting at stations.

And by improving the connection between South Wales and London, electrification will help boost the economy of South Wales. Businesses that are looking to relocate their offices from London or set up new bases often judge their location choices on the ease of access to London. There’s a magic two-hour travel arc that they look at and electrification will help bring Newport and Cardiff well within that time.

Improving links into Cardiff

In the morning rush hours almost 10,000 people arrive at Cardiff Central and Cardiff Queen Street stations. Getting this many people to work and to meetings means that, in the busiest hour of the morning, the network is operating at full capacity.

With passenger numbers rising, we need to invest in growing capacity and improving the passenger experience so that rail can support Cardiff’s economy by getting more people to work than ever before.

We’re working towards this with a £220m scheme, which includes building new platforms and station entrances at Cardiff Central and Cardiff Queen Street and extra platforms at Pontypridd, Caerphilly and Barry.

The project, scheduled for completion in 2015, will help improve reliability and boost capacity giving the potential for more seats during rush hours. This will also help deliver a solid foundation for the Metro aspirations.
Almost 10,000 people pass through Cardiff Central and Cardiff Queen Street stations in the morning rush hour.

“Efficient rail links are vital to the success of Cardiff’s Enterprise Zone. The work that Network Rail is undertaking to improve journeys between Cardiff and London, as well as improving commuting opportunities into Cardiff, sends out a strong message to companies looking to relocate to Cardiff that we’re open for business.”

John Antoniazzi
Cardiff Enterprise Zone Chair
Station improvements

We want to invest in comfortable facilities that cater for passenger needs, helping make their journeys more pleasant. Stations are also central to local communities, acting as a gateway to towns and cities and giving that vital first impression for many visitors.
Our vision is for stations to become transport hubs, providing seamless links with airports, bus interchanges, cycle storage and car parks.

Across the network we’ll be improving the environment and delivering step-free access to make it easier to get to and from the platforms.

We will deliver station upgrades in Cardiff Central, Cardiff Queen Street, Llandudno, Pontypridd, Rhyl, Ystrad Mynach and Aberystwyth.

We’re also rebuilding Port Talbot Parkway station. Here the Welsh Government-funded project will see the existing station demolished and replaced with a new design which includes a striking new enclosed footbridge as a key feature. There will be lift access to all platforms, a large car park with a park-and-ride for commuters and better facilities for cyclists, bus passengers and taxis.

**Resignalling**

Key to the Wales route Modernisation Plan is new signalling across the network. Much of the signalling in Wales dates back to the 1950s and 1960s, with some sections still using 19th century technology.

Our plans will see these signalling systems replaced with modern technology that will help cut costs and improve reliability. We’ll also be using the opportunity to improve capacity and linespeeds.

During CP5, we’ll be re-signalling:

- **Newport to Shrewsbury** – a renewal of the signalling and track infrastructure will help deliver better reliability and improved capacity, with the potential to run six extra freight trains per day.

- **North Wales Main Line (Phase 1 – Flint to Llandudno)** – new signalling and track will help deliver faster, more frequent journeys across North Wales.

**North-South Wales journey improvements**

Passenger demand between North and South Wales has significantly increased in the past decade.

To address this we are undertaking a project, funded by the Welsh Government, to improve capacity and reduce journey times. The project will involve redoubling a section of the route between Wrexham and Chester. This work, aligned with linespeed improvements, will allow more frequent and faster journeys between North and South Wales.
A railway fit for the future

Running the railway is our business. The tracks, bridges, tunnels, embankments and signals that make up the railway network are our assets. Managing these assets in the smartest way we can, making improvements and investing in infrastructure is how we will operate safely and effectively throughout CP5.

Safety
The railway in Britain is one of the safest in Europe. Safety is at the core of everything we do.
From using new technologies and safer systems of working to awareness campaigns about the dangers posed on the railway, we are constantly striving to reduce safety risks for passengers, the public and our workforce.

Level crossings
Level crossings represent one of the biggest safety risks on the railway. To help make our level crossings even safer, we have adopted a comprehensive approach. We have national and local campaigns highlighting the dangers of taking risks at level crossings. We’re also investing to close them where we can and, if we can’t, taking a series of other steps to reduce the risk of harm to the public.

A resilient railway
By putting sustainability at the core of everything we do, we will help deliver a more efficient railway while also protecting this key asset for future generations. Whether it’s reducing emissions by electrifying the railway or reducing the carbon footprint of our buildings, we recognise the role that the railway can play in helping to tackle climate change. In some areas there are big challenges ahead. We’ve seen recently weather patterns are changing and it’s important that we have sustained investment to adapt our infrastructure to make it more resilient to future climate changes and extreme weather.

Coastal Management Plan
We’re developing a Welsh Coastal Asset Management Plan. The plan will allow the Wales route to manage all of the 34 miles of sea defences and to help mitigate the impact of extreme weather and changing climate on coastal routes.

Innovation and new technology
Investing in technology will help us to improve the way we manage and maintain the railway.
We’re developing new ways of inspecting the railway and adopting technologies so that we can ‘predict-and-prevent’ problems before they happen.
By using technology in this way we’re also improving safety – by reducing the amount of times our people need to go out to work on the track.

Traffic Management System
Wales is leading the way in Britain by rolling out a new way of controlling and signalling the railway. In full use in the Cardiff Rail Operating Centre by 2015, the Traffic Management System will transform the way we manage the day-to-day railway and help deliver a more robust timetable.
“Arriva Trains Wales has seen remarkable growth in passenger numbers and high levels of customer satisfaction over the past decade. Network Rail’s plans for CP5 are designed to deliver a safer, more reliable railway and this will help drive future growth and improve the customer experience further. It’s good news for the railway and good news for Wales.”

Tim Bell
Managing Director, Arriva Trains Wales

Above: Ferryside in South West Wales

Moving from a position of ‘find-and-fix’ to one of ‘predict-and-prevent’

Level crossings
1,167
Level crossings in Wales

174
Level crossings closed since 2010
Planning the future of the network

More people travel on the railway today than ever before. Our challenge is to meet the growing demand for rail in an efficient and affordable way.

After many years of underinvestment in the railway, the past 10 years have seen much work carried out to reverse the symptoms of neglect. In CP5 we’re continuing that process – but we’re looking beyond 2019, planning the right investments so that our railway runs better and safer in the years to come.

Our investment has helped drive demand for rail travel and we forecast that this will continue to grow strongly over the next 30 years.

The Long Term Planning Process (LTTP) is led by Network Rail in close collaboration with our train and freight customers, government and other funders. This involves assessing future demand, identifying gaps where additional capacity or capability will be required, identifying efficient and affordable solutions and, finally, presenting these solutions as choices for funders.

The LTTP will inform the future direction of the railway in Wales and we are completing the activity by summer 2015 so that it can inform the specification of the next Wales and Borders franchise.