



Wiltshire Rail Strategic Study

Final Report

October 2024





CONTENTS

Executive Summary	2
1. What Strategic Questions does the study seek to answer?	e
Introduction	6
What is the strategic question?	6
Why are we asking these questions?	-
How has the study been undertaken?	
What role has economic analysis played? What role has timetable analysis played?	(
2. What is the Wiltshire area like today?	11
The Wiltshire area	11
Existing Transport Network	16
What are rail services like?	19
What are the strategic transport problems?	29
What are the key capacity and capability constraints?	31
3. What could the Wiltshire Area be like tomorrow?	35
What are the rail plans and growth opportunities?	35
4. How could stakeholder aspirations be met for tomorrow's railway?	39
Overview of the train service development options	4(
What are the options for improvements other than to train service specifications?	45
What is the new evidence on demand for passenger services change?	46
How could new services be accommodated?	52
5. What is the recommended course of action?	55
What service improvements are we recommending?	55
What Infrastructure interventions are we recommending?	63
6. What is the answer to the headline Strategic Questions and the subquestions?	69
7.Next Steps	73
Table of References	76





Executive Summary

This report presents the findings of the Wiltshire Rail Strategic Study, led by Network Rail in collaboration with partner organisations and stakeholders including: Western Gateway Subnational Transport Body (STB), Wiltshire County Council, Swindon Borough Council, Great Western Railway (GWR), South Western Railway (SWR), TransWilts Community Rail Partnership, Bedwyn Trains Passenger Group and Pewsey Vale Rail User Group.

The study makes recommendations for development of rail services required to support planned growth in Wiltshire, in answer to the headline question *How can rail best support sustainable economic and housing growth in Wiltshire?*

The report and its recommendations are intended to inform decisions by strategic planners and funders considering the further development of rail passenger and freight services in the Wiltshire area to 2030 and beyond. Recommendations are developed in line with the strategic priorities and objectives identified in local, regional and industry strategies and in line with the outputs of the Greater Bristol Strategic Study (GBSS) and Devizes Restoring Your Railway (RYR) Interim Feasibility Study (IFS).

Context:

Wiltshire is a relatively rural region in the West of England which spans two Network Rail routes – Western and Wessex.

It is experiencing significant growth supported by Wiltshire and Swindon's existing and emerging local plans for investment in housing and economic development. The considerable forecasted growth will continue to put pressure on an already constrained railway.

Combined with local policies to meet government net-zero targets and the market for rail freight through Wiltshire forecast to grow, accelerated by DfT's freight growth targets for 75% growth in freight carried by rail by 2050, the reliance on rail will increase and Wiltshire needs a reliable and robust railway to support forecast levels of housing and economic growth.

The study also identified that on a significant number of flows the current rail provision does not provide the required levels of connectivity, with infrequent and irregular services.

The rail network in Wiltshire is based around three main lines that radiate from London and therefore cross the area in an east-west orientation: the Great Western Main Line in the north of the area, serving Swindon and Chippenham; the Berks & Hants Line, serving Westbury in the centre of the county; and the West of England Line, in Wessex Route, serving Salisbury in the south of the county. These lines feature predominantly high-speed, long-distance services that provide relatively good connectivity to key regional hubs. Therefore, each of these four stations (Swindon, Chippenham, Westbury, and Salisbury) has an important interchange function for onwards local connectivity, with Westbury also serving as an important hub for freight services.





North-south connectivity along the TransWilts corridor from Swindon (a key interchange station for services on the GWML) to the north to Westbury (with connections to a large number of destinations) and Salisbury (the county's only city) to the south is limited and is served by slower, stopping services. The alternative is to travel via Bath or Reading to access the south of the county which comes with extra cost and time. These infrequent and irregular service present significant challenges to local connectivity within Wiltshire.

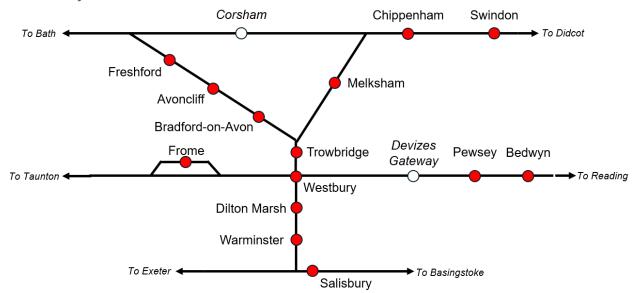


Figure 1 below illustrates the stations and corridors within the study scope.

Figure 1 - Key stations in the study area. (Not to scale).

While there is good east-west connectivity providing strong regional links, there is little rail connectivity for journeys to the south and east of the area and the limited north-south connectivity that is provided is restricted the west of the county. Connectivity towards Bath and Bristol is good, but stations in the area lack direct connectivity to Oxford and the Oxford-Cambridge Arc, Birmingham and the West Midlands, the East Midlands, the North West, or the North East. Connectivity within the county is also limited.

Furthermore, the mix of services that utilise the network each serve different markets, such as commuter, leisure and freight across local and regional locations, and have different characteristics, which can bring challenges associated with capacity and calling patterns.

Recommendations:

The Wiltshire Rail Strategic builds on existing recommendations from the rail industry, including outputs from the Devizes Gateway Restoring Your Railway scheme, to consider what additional improvements could be delivered for the Wiltshire rail network in the future, taking into account stakeholder aspirations. The study provides a recommended course of action and next steps to address the key strategic question.





This strategic study will help to inform decisions for investment in an incremental, integrated development programme to deliver passenger and freight benefits within Wiltshire to 2030 and beyond.

It delivers a suite of service recommendations, as shown in Table 1 below, supported by timetable and economic analysis, to be delivered incrementally.

The recommendations present stakeholders with choices for enhancements which will support planned growth in Wiltshire. The agreed choices will be taken forward for further detailed analysis and will inform the relevant development plans and business cases.

Delivery	Service type	Service Enhancement	Tph	Intervention required?	Recommended
Stage 1	Regional	Paddington - Westbury	1	Υ	Υ
	Regional	Bristol Temple Meads - Oxford	1	N	Υ
	Local	Swindon - Westbury	1	Υ	Υ
Stage 2	Local	Swindon - Salisbury	1	N	Υ
	Local/ Regional	Swindon – Frome/ Taunton*	*	Y	Υ
	Regional	Swindon – Southampton#	#	N	Υ
Stage 3	Regional	Paddington - Exeter	1	Υ	Υ
	Regional	Bristol Temple Meads - Oxford	2	N	Y
Not recommended	Regional	Cardiff Central – Portsmouth Harbour	2	N	N

^{*} Is an option to alternate with/instead of Swindon – Salisbury service #Would be an extension of Swindon – Salisbury service

Table 1- Recommended services

Interventions required.

Table 2 below shows the recommendations for infrastructure interventions, supported by timetable analysis. Economic assessment of infrastructure options has not been considered in this study and will need to be included as the options are progressed for further development.

Proposal	Required	Stage intervention is triggered	Services which trigger intervention
Melksham loop		Stage 1	Westbury – Swindon passenger and freight services
Platform 0		Stage 1	Hourly Paddington – Westbury service





Loop/Platform at Frome	Stage 2	Extension of hourly Swindon – Westbury service to Frome/Taunton
Signalling and Headway improvements at Westbury		Will need to be considered in the longer-term to enable continued
Southcote Jn		growth and alignment to route objectives.
Berks & Hants capacity improvements - Electrification		
Station Accessibility		
Level Crossing upgrades		
Stabling facilities at Westbury/Salisbury		

Table 2 - Recommended infrastructure interventions

The assessment indicates that the rail system must prioritise enhancements to the local, TransWilts service to improve connectivity within the county itself and to the key interchange hubs to strengthen onwards connectivity to regional economic and educational hubs. New service opportunities are also required to provide new, direct journey opportunities to between Wiltshire and key regional hubs while supporting the case for new stations in Wiltshire including Devizes and Corsham, increasing accessibility and patronage to rail and supporting growth and modal shift.

Next steps:

The outputs of the Wiltshire Rail Strategic Study have been endorsed at a cross-industry Steering Group and should be considered as the basis of strategic rail planning for Wiltshire. The outputs provide an opportunity to inform and influence the development of infrastructure programmes including Westbury Platform 0 and Melksham loop, and of new aspirations, such as the new services and station proposals at Devizes and Corsham.

The next steps are to test a refined ITSS and develop a portfolio of service and infrastructure interventions, that can enter the Rail Network Enhancements Pipeline to secure a decision to progress to the next stage and the development of Strategic Outline Business Cases.

This study will also support and inform future strategic rail programmes.

Continued engagement with the stakeholders for the proposed programme of investment is essential and consideration should be given to how they can support the case for investment, including by identifying opportunities for third party funding.





1. What Strategic Questions does the study seek to answer?

Introduction

This report presents the findings of the Wiltshire Strategic Study, led by Network Rail in consultation with partner organisations and stakeholders.

It looks at the Wiltshire area as it is today and builds on existing recommendations from the rail industry, including outputs from the Devizes Gateway Restoring Your Railway scheme, to consider what additional improvements could be delivered for the Wiltshire rail network in the future, taking into account stakeholder aspirations. The study provides a recommended course of action and next steps to address the key strategic question.

This strategic study will help to inform decisions for investment in an incremental, integrated development programme to deliver passenger and freight benefits within Wiltshire to 2030 and beyond. To meet this objective, the study proposes train service improvements and associated infrastructure interventions.

What is the strategic question?

The Wiltshire Strategic Study answers the headline strategic question:

How can rail best support the sustainable economic and housing growth in the Wiltshire area?

To do this, the study addresses the following supporting questions:

- What are the capacity and connectivity requirements for key markets operating within, into and out of Wiltshire?
- What interventions are necessary to deliver the rail capacity and connectivity required to help deliver growth in the Wiltshire area?
- How can rail provide improved connectivity within, into and out of Wiltshire, to support modal shift?

Why are we asking these questions?

The work done by Network Rail on the Devizes Gateway Interim Feasibility Study (IFS) in 2023 highlighted the need to develop a holistic plan for rail investment and enhancement in Wiltshire that encompassed local aspirations for new stations and improved services. The current study is a recommendation from the IFS.

Sub-national Transport Bodies, Train Operators, and Local Authorities represent Network Rail's key partners in the development of the study. The Headline Strategic Question and set of supporting





questions were formed based on stakeholder aspirations and we have worked with stakeholders to ensure their regional and local priorities were reflected in the work. The strategic questions reflect growth on the key routes serving Wiltshire and the aspirations of stakeholders for further development of the rail network.

How has the study been undertaken?

Study Process

This study develops the work carried out for the Devises Gateway Restoring Your Railway (RYR) scheme. The outputs and recommendations of the Interim Feasibility Study (IFS) form a baseline for this study, including timetable and infrastructure interventions. This study builds on that base to develop further recommendations to respond to the headline question of how rail can best support sustainable economic and housing growth in the Wiltshire area.

The key stages and components in the development of the study are:

- Inclusion of outputs of Devizes IFS in core service proposition. This informs Phase 0 Indicative Train Service Specification (ITSS).
- Collective of various stakeholder and industry led studies relating to the Wiltshire area and stakeholder engagement which forms the agreed ITSS and approach.
- Capacity testing for ITSS options and associated interventions.
- Economic analysis of ITSS options.
- Recommended approach with evidence and next steps.

Study Scope

The geographical scope of the study has been agreed in consultation with stakeholders. It includes all passenger and freight services serving transport markets to, from and within the Wiltshire area. It covers the Berks & Hants line from Southcote Junction (near Reading) to Cogload Jn (near Taunton), the Great Western Main Line between Swindon, Bath Spa, and the Melksham single line and Heart of Wessex lines running from north to south.

The West of England line from Basingstoke to Exeter and the route from Salisbury to Romsey are not included in this study. The West of England Line as a whole was subject to the West of England Line CSMP, undertaken by the Wessex route with Salisbury area currently being examined through the Salisbury Area Strategic Study.

The geographic scope of the study is shown below in Figure 2.





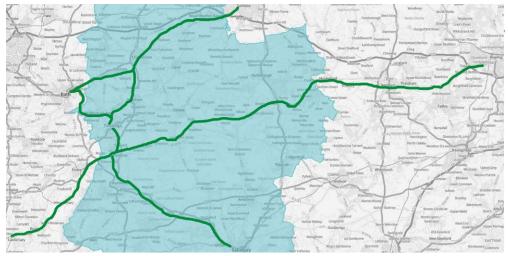


Figure 2 - Map of Wiltshire and railway corridoes within study scope boundaries

For the purpose of analysis, the ITSS focuses on services in Wiltshire and to/from key markets outside the Wiltshire area, including services between the following locations:

- Bristol Temple Meads
- Exeter
- Oxford
- Paddington
- Salisbury
- Swindon
- Westbury

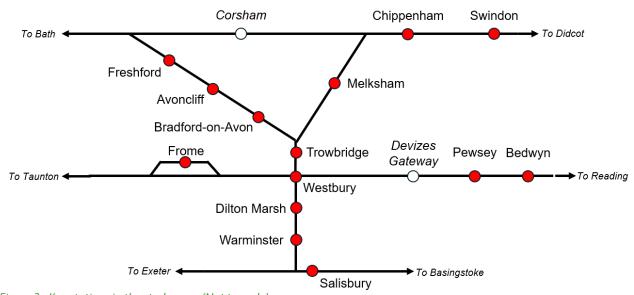


Figure 3 - Key stations in the study area. (Not to scale).

Figure 3 above shows a simple schematic of the corridors and stations within the study scope.





The study does not provide recommendations for interventions needed outside the study boundaries but will highlight where there are known constraints outside the area that need to be addressed.

Key stakeholders have been engaged to develop an ITSS comprising their aspirations. A steering group consisting of representatives from relevant stakeholders have directed development of the study. Organisations represented include Great Western Railway, South Western Railway, Wiltshire Council, TransWilts Community Rail Partnership, Bedwyn Trains Passenger Group, Pewsey Vale Rail User Group and Western Gateway sub-national transport body.

In addition to steering group engagement, working groups have been established with GWR, SWR and the Network Rail route freight team along with specialists from the relevant areas within NR for purposes of in-depth analysis into timetable interventions and economic analysis.

The support and assistance provided by the above-named organisations through the course of the study is gratefully acknowledged.

What role has economic analysis played?

Quantification of the current and potential markets for rail in the corridor is critical in shaping and supporting the study recommendations. This includes:

- a) The development of forecast scenarios and the identification of rail demand growth rates, including a local population driven scenario (housing and jobs)
- b) Quantification of benefits delivered by the chosen ITSS option, to inform choices within it.
- c) Collation of a final recommended ITSS which optimises user benefit whilst delivering against stakeholder objectives.
- d) Assessment of General Journey Time Improvements.
- e) Socio-economic assessment of the Wiltshire area

This analysis supports development of the recommended ITSS, detailing additional services which meet the identified connectivity gaps, whilst balancing journey times and calling times to maximise user benefit. Recommended services are conditional on operational feasibility, affordability, value for money and an assessment of agreed wider socio-economic criteria.

What role has timetable analysis played?

The Indicative Train Service Specification (ITSS) is assessed and tested against the base system capability in order to understand whether the new and improved passenger and freight provision outlined in the ITSS options could be accommodated.

The December 2023 timetable has been used as the baseline with the addition of the committed Mendip Quarry freight service changes. The Phase 0 ITSS is formed of the necessary service and infrastructure changes to enable the delivery of Devizes Gateway station (removal of Bedwyn shuttle, hourly Paddington-Westbury service calling at Devizes Gateway station, and Westbury Platform 0) plus an additional Western Gateway aspiration, for which an SOBC is currently being development, for an





additional Bristol – Weymouth service. The timetabling work assesses a 3-hour window in the off-peak hours between 1100-14:00.

Rolling stock assumptions include IETs (Class 80x, DMU (Class 153,158,165)

The timetable analysis considers interventions that have been previously identified in response to other known operational challenges in this route section (e.g. Old Oak Common new station), and any other necessary interventions. The analysis considers future service reliability and resilience, alongside direct operational needs.





2. What is the Wiltshire area like today?

The Wiltshire area

The Wiltshire area comprises two unitary authorities – Wiltshire Council and Swindon Borough Council. As shown below in Figure 4, the Wiltshire area sits in South-West England and is bordered by Oxfordshire to the north-east and Gloucestershire to the north-west, Dorset to the south, Somerset, Bath and Bristol to the west, Berkshire to the east, Hampshire to the south-east.



Figure 4 - Wiltshire area and neighbouring authorities (visitnorthwest.com)

Wiltshire has an area of approximately 3,485km2 (Draft Wiltshire Local Plan) and is a largely rural area compromising of market towns, service centres, urban areas and tourist, leisure and business hubs. The largest settlements in Wiltshire include Swindon and Chippenham in the north, Salisbury in the south and Trowbridge in the west. The area is home to the significant training area for the British Army on Salisbury Plain, key national sites such as Stonehenge and several other historical landmarks which attract tourism.

It is a region that is experiencing significant growth, and demand needs to be supported by the development of the railway to ensure the growth is sustainable. With population growth at 8.4% for Wiltshire and 11.6% for Swindon, higher than the England average of 6.6% (ONS, 2021), the region population is growing at an above average rate, making transport improvement a key priority.

Population and housing

The Wiltshire area has seen population growth of 17.2% between 2002 and 2020, which is faster than the national average of growth at 13.5% in England and Wales (ONS, 2021). The steady rate of growth continued in 2021, making the total population at the time of the 2021 National Census approximately 744,000 combined.





The Wiltshire Council area covers approximately 1,257 square miles and is home to a population of roughly 510,400 people (Draft Wiltshire Local Plan). This is an 8.4% increase from 2011 (471,000) and is forecasted to grow a further 22% by 2031, making Wiltshire Council the 9th largest local authority in England (ONS, 2021) and highlighting the significant opportunity for growing rail usage. Population density in Wiltshire is generally low, with approximately 1 person per football pitch sized area (ONS, 2021), reflecting the largely rural nature of the county.

Swindon has a population of 233,400 (11.6% increase from 2011 (209,200) but covers a much smaller area than Wiltshire Council at 89 square miles and is therefore ranked 76th largest of all local authorities in England (ONS, 2021). The population has seen an above average level of growth in the past decade and is forecasted to grow by a further 8% between 2023 and 2046 (Draft Wiltshire Local Plan). However, population density in Swindon is higher than in Wiltshire Unitary Authority, with approximately 7 people per football pitch sized area (ONS, 2021), reflecting its more urban nature.

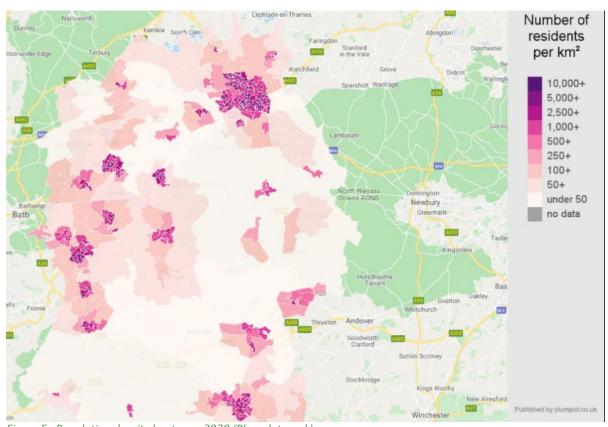


Figure 5 - Population density heatmap, 2020 (Plumplot.co.uk)

This is illustrated in the heatmap above which illustrates population density in the Wiltshire area in 2020. The map shows a higher number of pink and purple areas concentrated in Swindon. Population density in Wiltshire is primarily concentrated around Chippenham, Trowbridge and Salisbury with other small clusters concentrated around the east of the county, and roughly follows the road and rail network.





The area has 310,943 houses combined, with 95,862 households in Swindon and 215,081 in Wiltshire. There is significant population growth proposed in both areas which will be supported by a forecasted 14% growth in housing in Swindon and an additional 36,740 houses in Wiltshire by 2038.

On average house prices in the Wiltshire area are £338k compared to the national average of £351k making it 20th most expensive place to buy out of all 55 counties in England and Wales (plumplot, 2020). With house prices lower than the national average, and lower than that of its neighbouring counties, they can be an economically attractive option to buy a property, but good transport links are vital to support commuting.

The graph below shows the house-price-to-earnings ratios for Swindon and Wiltshire, compared to the national average. The ratio of 7.5 for Swindon is lower than the national average of 8, whilst the ratio of 9.3 for Wiltshire is significantly higher than the national average.

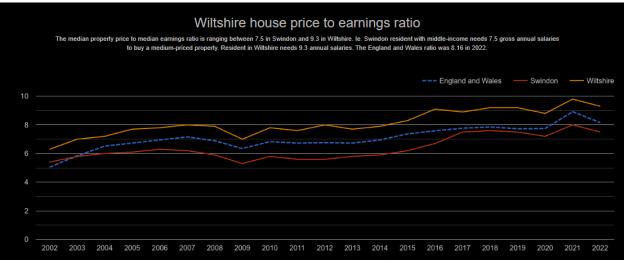


Figure 6 – Wiltshire house price to earnings ratio comparison, (Plumplot, 2022)

While deprivation is generally low, there are pockets of deprivation in some areas, with 28 LSOA neighbourhoods (20 in Swindon and eight in Wiltshire) ranked among the most deprived 20% in England (Needs Analysis for Wiltshire and Swindon 2023). The average salary in Wiltshire is significantly lower than both Swindon and the national UK average, which can adversely impact local spending and can reflect the challenge of accessibility to higher education and high-skilled jobs. Along with pockets of deprivation, there is an evident need to provide improved access to higher paying jobs and upskill residents through access to higher education facilities.

Economy

The area is relatively productive, with a combined Gross Value Add (GVA) of £21bn in 2019, contributing 15 % to the South West region. Swindon has seen above average growth rates in GVA and generates almost half (45 %) of the total output (SWLEP Economic Assessment, 2022). Growth zones in Wiltshire are focused around Chippenham, Trowbridge and Salisbury, demonstrating the demand for strong transport links to support proposed economic growth.





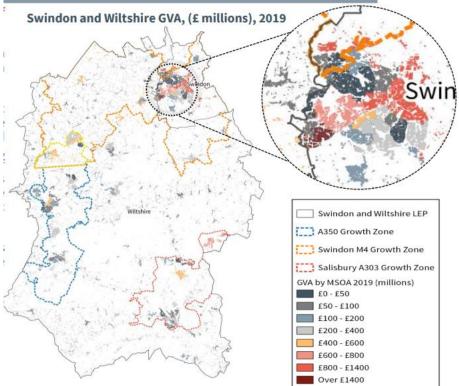


Figure 7 - Swindon and Wiltshire Gross Value Added (GVA), (SWLEP Economic Assessment, 2022)

The growth rates identified in the map above generally have higher employment catchments and are supported by good transport links to rail and the M4 corridor, demonstrating the importance of strong transport links and improved connectivity to support proposed economic growth.

Employment rates are relatively strong too, with 78.1% of Swindon's residents in employment (ONS 2021), an increase of 0.8% from the previous year. 82.5% of Wiltshire's residents are in employment, which is above the national average. Forecast average annual rate of employment growth to 2038 is between 0.1% and 0.7%, which is lower than recent decades, demonstrating the pivotal role that rail will need to play to support sustainable employment growth.

Average salaries in Wiltshire and Swindon are below the national average at £37.9k and £41.4k respectively as shown in Figure 8 below. Swindon's higher figure reflects its proximity to key universities and high-value business hubs.





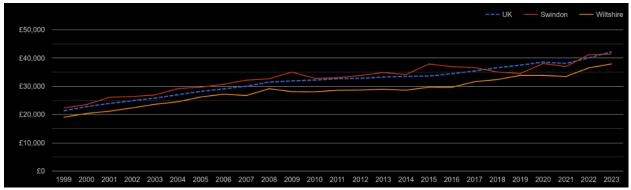


Figure 8 - Wiltshire average salary comparison, (plumplot 2023)

The combination of lower-than-average salaries, large numbers of jobs, and higher than average productivity in Swindon is attractive for employers and businesses and demonstrates Swindon's pull factor for Wiltshire and wider South West residents. High quality transport links are an essential component.

Average earnings paid by workplaces in Wiltshire are below the average earning of Wiltshire residents. This discrepancy reflects the composition of the job market in Wiltshire, with the Army the largest local employer, and a higher proportion of lower-skilled jobs. It also reflects a strong outward commuting market, to Bristol and to hubs in the South East particularly.

Good public transport links are required to support sustainable commuting both within and to and from the area. They can also help grow the high-skilled jobs market in the Wiltshire area and reduce outcommuting.

Education

Wiltshire's share of working age (16-64) residents qualified to NVQ4+ level was 40% in 2020 (Wiltshire Intelligence, Education and Employment JSNA 2022). This is in line with the South West but below the national average of 43%. However, Younger people across Wiltshire also experience specific challenges. Children are more likely to be in low-income households and young adults are more likely to be unemployed than the wider population across Wiltshire and Swindon. Six of the largest towns in Wiltshire and Swindon have a higher youth unemployment rate than the national average. Relatively high levels of youth unemployment are likely to be linked with low levels of Higher Education participation and low educational attainment of disadvantaged pupils across Wiltshire and Swindon.

Educational disadvantage extends into young adulthood, with both Wiltshire and Swindon having lower proportions of pupils from state schools entering Higher Education (39.4% and 30.7%, respectively) than the national average (40.3%), with Swindon also considerably lower than the regional average (35.8%). 10 out of the 15 largest towns in Wiltshire and Swindon have a lower proportion of pupils in Higher Education compared to the national average (SWLEP Economic Assessment, 2022).

There are local aspirations to increase the number of residents who are in high-skilled jobs or Higher Education level STEM training to support growth in advanced engineering and high-tech digital innovation which must be supported by a reliable transport network.





Key business hubs are located in Reading, London, Bristol and Oxford, and Higher Education campuses located in Salisbury, Chippenham and Trowbridge, demonstrating the need for strong regional and local transport links to provide improved connectivity to regional and local science, tech, business and educational facilities.

Existing Transport Network

The Wiltshire area is largely rural and therefore links to proximate economic hubs are crucial. As well as Swindon itself, these include Bath, Bristol, Southampton, Oxford and London. These large towns and cities surrounding Wiltshire provide a wider range of employment, leisure and cultural opportunities and drive significant travel flows from the Wiltshire area.

Figure 9 below shows commuting patterns for Swindon and Wiltshire have a net outflow of commuters of 16,500.

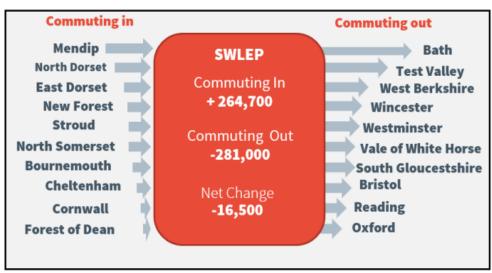


Figure 9 – Commuting origin / destination patterns (SWLEP Economic Assessment, 2022)

Inward commuting is significant however, with key drivers being Swindon and smaller hubs in south and west Wiltshire, in particular from neighbouring areas that have lower productivity, fewer jobs, or lower salaries. The Wiltshire area's cultural offerings and leisure opportunities also drive inflows from these areas and from much further afield.

Mode share

Reflecting its rural nature, reliance on car travel is relatively high in the Wiltshire area. Approximately 85% of households own one or more cars – nearly 10% above the national average (ONS, 2021). Encouraging modal shift is a major opportunity as well as a significant challenge.





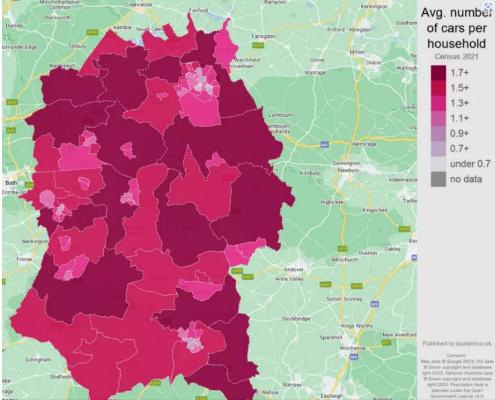


Figure 10 - Car ownership per household heatmap, (plumplot, 2021)

The map above illustrates the density of car ownership per household, showing the significant reliance on cars to travel. Comparison of this map to the population density map shows that car ownership is higher in those areas where population density is lower, i.e. the more rural parts of the county. Hubs are concentrated along the key rail and road transport corridors which provide the local and inter-regional connectivity for Wiltshire to the rest of the UK.





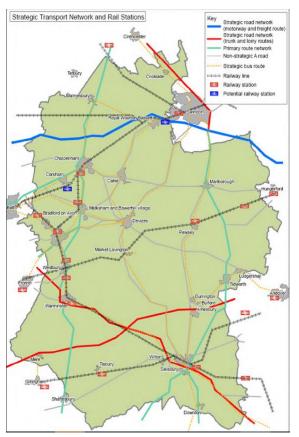


Figure 11 - Wiltshire's Strategic Transport Network and Rail Stations (SWLEP, 2022)

The map to the left shows the strategic road, rail and bus networks that serve Wiltshire.

The networks are concentrated to the north of the area, around Swindon, a western corridor around Bath, and the south, around Salisbury. Central and eastern Wiltshire are notably less well served. The M4 corridor runs through the north of Wiltshire, passing through Swindon and Chippenham.

The rail network includes three main lines that cross the area east to west. However, the limited north-south connectivity that is provided is restricted to the west of the area. There is little rail connectivity for anything other than east – west journeys in the south and east of the area.

These networks dictate the location of key hubs and growth areas, with the north of the area seeing a much higher employment catchment which are further supported by key hubs such as Bristol, Bath, Oxford and Gloucestershire within a 45-minute journey.

The Road network

The M4 corridor is the key route on the Strategic Road Network that connects the Wiltshire area to Reading, London, and the South East, and Bristol, the South West and Wales.

Other strategic roads include the A350 and A303 which joins up to the M3 to the east, providing a key strategic road link which connects Wiltshire with Basingstoke, Taunton and Exeter. All support large freight volumes, which are critical to Wiltshire's economy, with a high proportion of manufacturing and industrial services. Highlighted in red in the map above, strategic routes primarily focus on movement of people and goods between Westbury and the south and off the M4 up towards Oxford, Birmingham and the north.

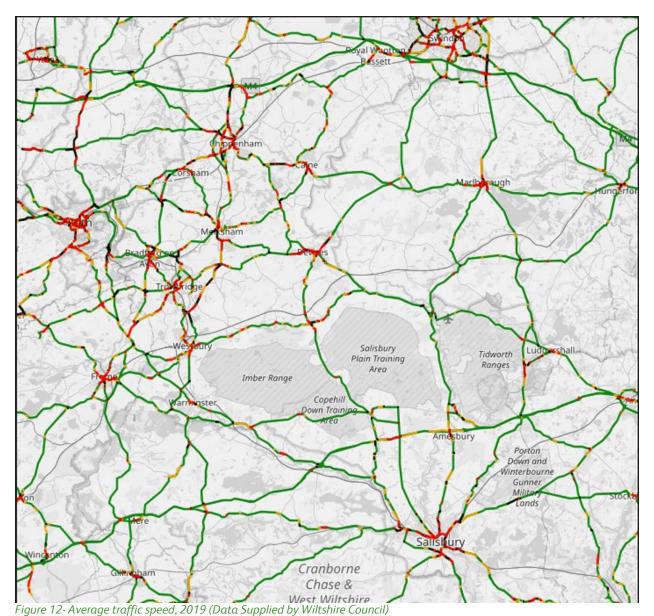
In 2022 4.79 billion vehicle miles travelled on roads in Wiltshire and Swindon and this number is increasing (roadtraffic.dft.gov.uk). Congestion is a common occurrence, leading to slower bus and car journeys, and increased carbon emissions.

The map below shows average traffic speed on weekdays and highlights areas of significant congestion, with areas of red representing higher levels of congestion. Congestion is concentrated around the key settlements and hubs including Swindon, Chippenham, Frome (in Somerset), Trowbridge, Salisbury, Devizes and towards Bath. All of these locations, with the exception of Devizes,





currently have railway stations and the TransWilts corridor is connected by rail services, meaning rail can be a viable alternative to journeys on the congested road network.



Many of the destination hubs also experience significant congestion, slow journey times, and – increasingly – restrictions on car usage. As well as London and Bristol this includes Reading, Bath, and Oxford. Rail options exist for these journeys and can play a greater role in inducing modal shift.

What are rail services like?

The Wiltshire area spans two Network Rail routes – Western and Wessex. It features three main lines that radiate from London and therefore cross the area in an east-west orientation: the Great Western Main Line in the north of the area, serving Swindon and Chippenham; the Berks & Hants Line, serving





Westbury in the centre of the county; and the West of England Line, in Wessex Route, serving Salisbury in the south of the county. These lines feature predominantly high-speed, long-distance services that provide relatively good connectivity to key regional hubs. Therefore, each of these four stations (Swindon, Chippenham, Westbury, and Salisbury) has an important interchange function.

North-south connectivity is provided by the Heart of Wessex line between Bristol and Weymouth which serves all stations between Bath Spa and Westbury, the TransWilts service between Swindon and Westbury which serves Melksham and Trowbridge (the county town), and the Wessex Main Line which connect Westbury and Salisbury. These routes deliver local connectivity alongside longer journeys. However, connectivity is constrained by variable connection times and irregular or low frequency of services partially owing to limitations with capacity and infrastructure.

Despite being served by the two key corridors in the route, local connectivity in Wiltshire is relatively poor, and is focused to the west of the county. Whilst connectivity between stations on the Heart of Wessex line is good, connectivity between these stations and Swindon is poor, due to infrequent and irregular services on the TransWilts single line via Melksham. Poor connection times between certain services at Westbury limit the attractiveness of journeys via this station and hinder its ability to fulfil its potential as a significant hub for public transport within Wiltshire.

Westbury is, however, a significant hub for freight services, with heavy aggregate trains from the Mendip quarries at Whatley and Merehead in Somerset being regulated here. The station is also a significant location for Network Rail's supply chain operations (SCO), with regular trains of track materials and ballast in and out of the yards to the west of the station. Frequent shunting between these yards is time consuming.

The rail network through Wiltshire accommodates several of the key flows in the South West, including freight, long-distance high speed, inter-regional and local passenger services. Each serve a different market and have different characteristics, which can bring challenges associated with capacity and calling patterns. Freight services run at a significantly lower speed than many passenger services due to their length and weight, meaning they consume a lot more capacity than a passenger service and often provide a point of constraint in the timetable that has to be worked around. The higher-speed inter-regional passenger services aim to provide long-distance connectivity at relatively low journey times, meaning they often only call at a small number of key locations. While this does provide some long-distance connectivity for Wiltshire it does not provide the local connectivity that is needed to respond to the needs of Wiltshire's markets. Furthermore, reliable and frequent rail services which call at the local stations are required to transport local residents to the key markets and interchange stations for onwards travel.

In summary, Wiltshire enjoys strong regional rail links, with many population centres being within commutable distance of London, Bristol, Swindon, South Wales, and the south coast. However other than the Great Western Main Line corridor, journey times are relatively slow and connectivity to the north is limited. Stations in the area lack direct connectivity to Oxford and the Oxford-Cambridge Arc, Birmingham and the West Midlands, the East Midlands, the North West, or the North East. Connectivity within the county is also limited. The Wessex Main line provides regular journeys between Bath Spa





and Salisbury but does not serve Swindon, and the TransWilts service between Swindon and Westbury is irregular and infrequent.

Key rail corridors:

- Great Western Main Line runs from Paddington to Bristol and South Wales via Swindon. Carries key inter-reginal passenger and freight flows.
- Berks & Hants Line runs between Reading and Taunton via Westbury and is a key freight route between the Mendip quarries and the South East as well as the fastest route for passenger services between London and the South West.
- West of England line runs from Basingstoke to Exeter via Salisbury. Carries inter-regional passenger services to London Waterloo and intersects the Heart of Wessex line at Yeovil.
- Melksham Single line runs from Swindon to Westbury and is known as the TransWilts line. It is a key freight route for aggregates from the Mendip quarries to the Midlands and North. It is the only direct rail connection between Swindon and the south of the Wiltshire area. It joins the two key interchange locations of Swindon and Westbury, which provide onward connectivity to Oxford from Swindon, the South West from Westbury and London/Bristol from both. It is also an important diversionary route for passenger and freight services when the Berks & Hants is blocked.
- Heart of Wessex line runs from Bristol Temple Meads to Weymouth via Westbury and Castle Cary. Carries inter-regional passenger services as well as providing local connectivity in west Wiltshire. There is a Strategic Outline Business Case work for enhanced services between Westbury and Weymouth undertaken by the Wessex Route for the Western Gateway Subnational Transport Body.
- Wessex Main Line runs between Westbury and Southampton.

Figure 13 below shows a simple schematic of the existing calls and services for each key corridor in the study area.





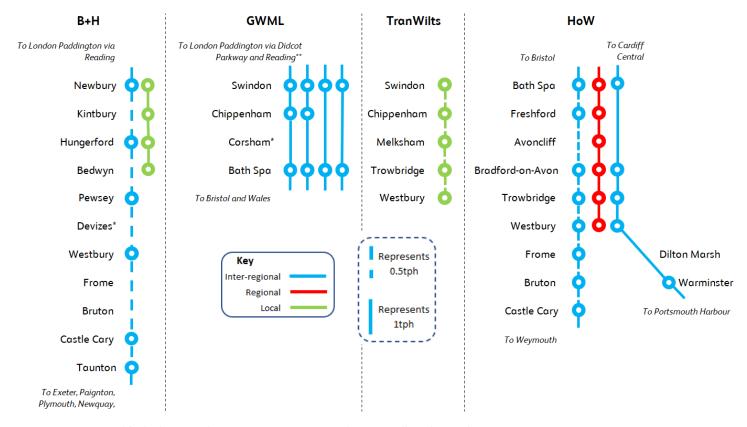


Figure 13: Simplified schematic showing existing services and station calls within study area.

Passenger services

Passenger services that use the railway within this area are listed below. The majority are operated by Great Western Railway, with South Western Railway operating services in the south of the county.

Passenger services in the Wiltshire area can be divided into three categories: inter-regional, regional and local.

Inter-regional services are fast, limited stop services that cover large distances across the country. Regional services are also fast, limited stop services that primarily link regional hubs. Local services call at all or nearly all stations and offer slower end-to-end journey times.

Table 3 below shows the service type and frequency of off-peak services that serve Wiltshire as per the December 2023 timetable.





Service type	Origin	Destination	Calls in scope area	Tph
Inter-regional	Paddington	Exeter/ Plymouth/ Paignton	/mouth/ Pewsey, Westbury, Castle	
Inter-regional	Paddington	Bristol	Swindon, Chippenham, Bath Spa	2
Inter-regional	Paddington	South Wales	Swindon	2
Inter-regional	Cardiff Central	Portsmouth Harbour	Bath Spa, Bradford-on- Avon, Trowbridge, Westbury, Warminster	1
Inter-regional	Bristol Temple Meads	Weymouth	Bath Spa, Freshford, Bradford-on-Avon, Trowbridge, Westbury, Frome, Bruton, Castle Cary	0.5
Regional	Bristol Temple Meads	Westbury	Bath Spa, Avoncliff, Bradford-on-Avon, Trowbridge, Westbury	1
Local	Swindon	Westbury	Chippenham, Melksham, Trowbridge	0.5
Inter-regional	Yeovil PM	Waterloo	Warminster, Westbury, Frome, Bruton, Castle Cary	<0.5
Local	Bedwyn	Newbury	Bedwyn, Kintbury, Hungerford, Newbury	1

Table 3 - Current service level and type of services in study's geographical scope (December 2023, standard hour)

Freight services

The Wiltshire area has many key freight flows running through it. Examples of regular rail freight movements in Wiltshire include the following:

- Mendip Quarries transporting aggregates to London and the South East, and some smaller flows to the South West. Includes some of the heaviest freight trains on the network.
- Intermodal services from Southampton to Midlands and the North.
- Westbury yard. Hub of activity for Network Rail Supply Chain Operations (SCO)
- Container trains between Southampton and South Wales via Salisbury, Westbury and Bristol and also between East Anglian ports and South Wales via Swindon and Bath/Badminton.
- China clay from Cornwall sometimes runs via Westbury and trains of fuel from West Wales run to Theale via the B&H.
- MOD traffic from Warminster runs only sporadically.





Westbury

Westbury is a significant hub for freight traffic and engineering trains. The Network Rail Supply Chain Operations (SCO) waste ballast facility and DB Cargo-leased sidings are adjacent to the south side of the railway (Down side); the SCO new ballast facility, rail recycling facility and stabling yard are on the north (Up side) of the railway. Ad-hoc (untimetabled) freight shunt moves take place from Down-side to Up-side frequently and irregularly during the day.

Propelling moves are undertaken at walking pace (4mph) with a shunter walking in front of the train and maintaining communication with driver using hand-held radios. This is time consuming, with moves taking 20-60 minutes.

Freight trains to and from the quarries regularly halt at Westbury on the Up and Down Reception lines to effect crew changes and/or await an onwards path. As the Down sidings are leased to DB Cargo and the Mendips traffic is now operated by Freightliner, these services to not routinely go into the yard at Westbury. Some services use the former cement works sidings to recess and run round, depending on their routing. Movements fluctuate throughout the day, but on average there are two freight services an hour in each direction along the Berks & Hants.

In December 2023, Freightliner undertook a major recast of their Mendip freight paths. Involving the replacement of older, low-speed wagons, this was done with the aim of making the operation of these services more efficient. The removal of Class 7 (45mph limited) freight paths, which is due to complete by the end of 2025, has the benefit of reducing the amount of time the B&H route is occupied by freight services, which take longer to traverse the route than faster and quicker accelerating passenger services.

In addition to the aggregates traffic, there is also a regular intermodal (container) flow through Westbury from Southampton to South Wales. A greater number of these services run along the GWML, in addition to petroleum trains from South Wales.

Station usage

There are 14 stations in the Wiltshire area, 10 of which fall in the study scope. Table 4 below lists the stations in the study scope alongside annual usage for 2022/2023.

Stations	Annual demand – Entries and Exits (2022/23)	Interchanges	Station facility owner	Accessibility
Avoncliff	23,402	0	GWR	В
Bedwyn	81,534	0	GWR	В
Bradford-on-Avon	426,700	6,234	GWR	В
Chippenham	1,444,874	26,946	GWR	Α
Dilton Marsh	12,076	0	GWR	В
Melksham	64,206	0	GWR	Α
Pewsey	181,100	0	GWR	В





Salisbury	1,621,562	217,777	SWR	В
Swindon	2,588,014	189,382	GWR	Α
Trowbridge	734,768	36,255	GWR	В
Warminster	295,452	12,008	GWR	В
Westbury	518,996	246,705	GWR	Α

Table 4 - Station usage (ORR, 2023), facility owner and accessibility rating (GWR.co.uk)

Swindon sees the highest annual usage in the study area, followed by Salisbury and Chippenham. Local hubs such as Trowbridge and Bradford-on-Avon also see high station usage per year despite having fewer services, showing strong demand for rail at these locations.

Westbury is key hub for passenger as well as freight services and sees the highest level of interchange, followed by Salisbury and Swindon. Connection times at Westbury are therefore vital to improving the journey attractiveness.

Accessibility:

All stations are categorised for their level of accessibility:

- A: This station has step-free access to all platforms / the platform
- B: This station has a degree of step-free access to the platform, which may be in both directions or in one direction only.
- C: This station does not have step-free access to any platform

All stations within Wiltshire are category A or B.

The 2021 Census showed that Wiltshire's population is ageing. 21.8% of people are aged 65 and over (compared to 18.4% in England), with 3% aged 85 and over. Wiltshire was one of only three local authorities in the South West whose 65+ population grew by more than 30% between 2011 and 2021. There is therefore an increasing need for the rail network to become more accessible to enable an increasingly older population to use the railway. Doing so will help reduce reliance on private car usage.

Based on their level of usage, it is recommended that accessibility improvements are prioritised for Bradford-on-Avon, Trowbridge and Warminster:

Bradford-on-Avon – whilst there is step-free access to both platforms, access to Platform 1 from the station building can only be achieved by an indirect route via local roads, of circa 325 meters. An accessible footbridge would remove this issue. As the station is Grade 2 listed, consideration will need to be given as to if and how step free access can be delivered within the constraints this imposes. The station also currently lacks full tactile paving to aid those with visual impairments, which should also be addressed.

Trowbridge – as with Bradford-on-Avon, both platforms have step-free access, but step-free access between one side of the station and the other is only possible via a circa 360 meter journey via local roads. An accessible footbridge would remove this issue. Toilet facilities are available at Trowbridge, but not an accessible toilet. Provision of one should be considered alongside proposals for a footbridge.





Given the relatively high level of interchange for such a station (over 31,00 per annum), and the potential for this to increase if TransWilts services are improved, accessibility between platforms is an important consideration here.

Warminster – there is step-free access to both platforms, but no step-free access between platforms via the footbridge. For step-free access, passengers must make a circa 190-meter journey via the road to the station car park. Unlike Bradford-on-Avon and Trowbridge, there is no consistent paved route that can be followed all the way, meaning the accessibility gap is greater here than at the other two stations. An improved pedestrian route via the road would provide some improvement in the short-term. Longer term, an accessible footbridge would resolve the issue. Toilet facilities are available at Warminster, but not an accessible toilet. Provision of one should be considered alongside proposals for a footbridge.

Network Rail Western Route is developing an Accessibility Strategy. A theme of the strategy is that when making improvements at a station all aspects of accessibility should be considered holistically and opportunities for complimentary improvements identified. In addition to the points raised above, we would therefore recommend that a comprehensive appraisal is made of options for improving accessibility at any stations in Wiltshire when works are planned to be carried out at them. Opportunities for making complimentary enhancements at the same time can then be considered.

First and Last mile

Bus

As part of this study, analysis has been undertaken to look at the current levels of connectivity between bus and rail services. It is important that opportunities for people to make sustainable journeys end-to-end, are considered, and not merely rail travel in isolation.

All stations in the Wiltshire area are considered to have good proximity to bus stops, with the farthest (Warminster) being circa 250 meters away, and most stations have specific bus/rail wayfinding signs. For most stations there are sizable populations within 15 minutes of a rail station by bus, as shown in Table 5 below. The percentage of users from the population who could access a station by bus will be influenced by a number of factors, including frequency of bus and train services, how complimentary bus and rail timetables are, whether the bus route mirrors some of the journey options that could be made by train etc. Specific locations therefore need to be considered in more detail to understand the full picture, but the figures nonetheless highlight some points of note.

Station	Population within 15 min by Bus	Population within 15- 25 min by Bus	Ratio: Daily users / population in 15min bus reach
Bedwyn	6,223	-	4%
Bradford-on-Avon	21,131	16,225	6%
Chippenham	29,421	7,511	15%
Dilton Marsh	3,932	9,764	1%
Melksham	22,696	41,698	1%





Pewsey	9,649	-	10%
Salisbury	10,834	2,019	47 %
Swindon	55,718	55,805	17%
Trowbridge	48,657	20,586	4%
Warminster	1,710	13,439	60%
Westbury	4,497	11,638	37%

Table 5 - Ratio of daily users to population in bus station proximity (Station Capacity Planning Team, Network Rail, 2024)

Melksham, Bradford-on-Avon, Trowbridge and Dilton Marsh stand out as having a particularly low ratio of users to population within 15 minutes by bus. However, buses and trains between these towns and Bath are overcrowded, suggesting that there is a high level of in-commuting, particularly for employment and commerce in Trowbridge.

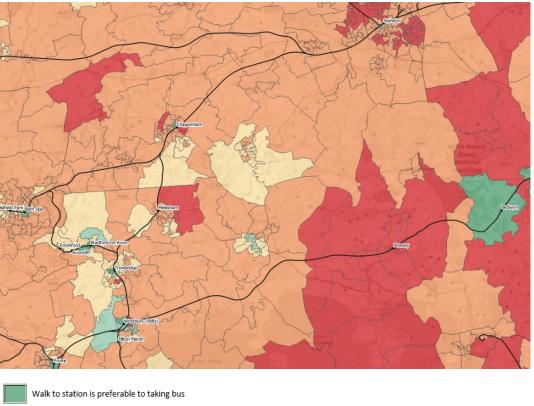
In the case of Dilton Marsh, it is likely there is significant overlap with the population for Westbury, and that many of those who could use Dilton Marsh use Westbury instead; given its greater range of service options, Westbury is probably a more popular choice. The same is likely to be true of Bradford-on-Avon, where there may be some overlap with the catchment for Trowbridge.

Pewsey and Bedwyn are relatively small local areas, therefore the population within 15 minutes encompasses some of the nearby local areas as well. Pewsey Vale has a 'Demand Responsive Transport – Connect Bus Service'. The bus service is a bus/rail link that is funded under the rural mobility grant fund and is also sponsored by GWR. The service links with the trains to take passengers to and from the station and communicates to get train time updates. This is a model which may work well for connecting other more rural parts of the county to the rail network, particularly in the east where rail coverage is more thin.

Melksham appears to be the outlier, with less obvious overlap with neighbouring rail-connected settlements. Figure 14 below shows how Melksham suffers from a lack of effective bus connectivity, with the area immediately to the north and east of the town shown as 'Disconnected, unable to reach the station by bus', and the town itself shown as having high waiting times between bus and train, undoubtedly linked in part to the current irregular train service. Paired with high road traffic levels between Melksham and Bath, this highlights the limited public transport offering in that area and suggests there is scope to improve bus/rail interchange and connectivity opportunities here, also recognising challenges with the location of the station meaning that it is difficult to serve by bus.







Walk to station is preferable to taking bus

Bus service synchronises well with rail departures, minimal wait time at stations

Moderate wait time at stations when arriving by bus to join a rail service (peak direction of travel)

High waiting times at station resulting from 'thin' bus service

Disconnected, unable to reach station by bus from here.

Figure 14 - Level of bus / rail interchange opportunities ((Station Capacity Planning Team, Network Rail, 2024)

It is also notable from Figure 14 that there are a number of 'disconnected' clusters to the north and south of Swindon, and on a much smaller scale around Chippenham. Given these more urban areas are likely to already have a well-developed bus network, mobility as a service solutions or on-demand bus services may be a better way of connecting these areas to the rail network. Public transport solutions should be reviewed as demographics around the Chippenham area change.

The map also shows that Pewsey is 'disconnected' but recent improvements has seen delivery of on demand transport solutions which support aspirations for integrated transport approaches and can encourage modal shift.

Active travel

Table 6 below shows the car and cycle parking provision at each of the Wiltshire stations (excluding Salisbury). Warminster and Bradford-on-Avon have a high number of daily users per cycle parking space. Consideration could be given to whether more spaces could be provided to meet/encourage cycling demand. At Braford-on-Avon, consideration could also be given to providing covered accommodation, to make the option of parking a bike there more attractive.





Car parking

From Table 6 below, Melksham, Trowbridge and Swindon stand out as having a high number of daily users per parking space. This is unsurprising for Swindon and Trowbridge, given these are fairly large urban areas where many users may access the station through active travel or by bus. The ratio for Melksham is more notable; this may be linked to the presence of private parking near the station which enables more people to drive to the station than the figures suggest. Given the likely increase in patronage that would be expected to follow an improvement in the train service, it is still recommended that consideration be given to enhancing parking provision here, alongside efforts to encourage accessing the station by other means.

Station	No. of car parking space	Daily Users per car space	No. of cycle spaces	Daily Users per cycle space	Cycle storage covered?	Storage CCTV?
Avoncliff	0	0	4	16	N	Υ
Bedwyn	40	6	10	22	Υ	Υ
Bradford-on-Avon	180	6	28	42	N	Υ
Chippenham	640	6	106	37	Υ	Υ
Dilton Marsh	0	0	8	4	Υ	Υ
Melksham	10	18	8	22	Υ	Υ
Pewsey	115	4	20	25	N	Υ
Swindon	591	12	197	36	N	Υ
Trowbridge	117	17	70	29	Υ	Υ
Warminster	112	7	16	51	Υ	Υ
Westbury	321	4	68	21	Υ	Υ

Table 6 - Provision of car and cycle parking spaces at each station in Wiltshire (GWR.com)

What are the strategic transport problems?

Sustained population growth in the Wiltshire area has posed significant strategic transport challenges. Increasing demand for transport across and through the area creates strain on existing systems, and the well-established relationship between transport connectivity and economic activity means that improved strategic transport provision – and in particular public transport provision – is fundamental to supporting deliver of local and regional objectives and sustainable economic and housing growth.

Growth

With population growth higher than the national average the strain on the transport system will increase. Provision of reliable and accessible transport will also be necessary to increase accessibility and connectivity between key local and regional business and education hubs to provide opportunities





for employment and education. Improved transport connections can also encourage in-commuting which will further attract employers to invest in the local area, as can be seen in Swindon and Chippenham. This will subsequently support the economy.

Modal shift

With many key regional hubs experiencing high levels of road congestion and emission-controlled zones, road journey times and costs are set to increase; therefore, public transport needs to provide an attractive and reliable alternative. Increased reliance on cars will also mean that it will be more difficult to reduce overall carbon emissions and achieve net-zero targets.

The rural nature of Wiltshire poses a significant challenge for modal shift to rail transport. With car usage expected to rise from 17% to 28% by 2038, and existing rail offering providing infrequent and irregular local services along the TransWilts corridor to the West of Wiltshire, residents, particularly those in the more rural areas, have few alternative options for sustainable transport.

Population density in Wiltshire is relatively low and concentrated in key hubs such as Swindon, Trowbridge, Salisbury and Chippenham. The population density map shows the more densely populated areas broadly follow the main road and rail network, whereas a large proportion of the county has areas of low density and is poorly connected by the transport network. For residents living in these areas, there will be a higher reliance on cars, and despite improvements to the rail network there are still parts of the county that will experience poor connectivity and modal shift will continue to be a challenge for the region.

Intermodal planning to develop improved bus links between the stations and rural areas will improve accessibility to the rail network and can support development of rail stations as mobility hubs for Wiltshire, giving those in rural populations viable and attractive options for sustainable transport. Improved bus links will reduce the reliance on cars to get to a station and improved rail connectivity will reduce reliance on cars to travel to key local and regional markets.

Service offering

Constraints on the existing transport network have resulted in limited alternative and attractive options for rail travel across and through Wiltshire. Current journey options provide suboptimal connectivity, journey times and frequencies. This results in a sustained reliance on cars and can affect Wiltshire's attractiveness as a place to live but also to visit and work, negatively impacting the local economy.

Table 7 below highlights a selection of connection times in a typical off-peak hour at Westbury during the December 2023 timetable.

From	То	Waiting time
Warminster/Dilton Marsh	Paddington	45 minutes
Warminster/Dilton Marsh	Swindon	50 minutes +
Frome	Salisbury	25 minutes
Swindon	Salisbury	17 minutes +





Paddington	Trowbridge	18 minutes
Trowbridge	Paddington	42 minutes

Table 7 - Connection times in an off-peak hour at Westbury (December 2023 timetable)

The TransWilts route offers the only direct rail connection between Swindon / Chippenham and Melksham, Trowbridge, and Westbury, but it is currently irregular and infrequent. There are gaps between services of 2-2.5 hours in the morning and 4-4.5 hours in the afternoon, making the service unattractive to those travelling for leisure. The route is also an important diversionary route in the event that the Berks & Hants Line is shut for engineering works or during unplanned disruption. The diversion of main line services sees the local service being withdrawn, due to the limited capacity over the route.

Chippenham and Swindon play a similar role to Westbury in terms of interchange for inter-regional journeys, offering fast and regular services to Reading and London, Bristol, and (from Swindon) South Wales. However, there are notable inter-regional connectivity gaps from these stations, including Birmingham and Oxford. Despite its proximity to Swindon, Oxford can only be accessed by interchange at Didcot or Reading.

What are the key capacity and capability constraints?

Linespeed

Although a key main line route, the Berks & Hants line between Southcote Junction (Reading) and Cogload Junction (Taunton) does not allow for consistent high speed running. Linespeed is as high as 110mph in places, but there are sections (such as Kintbury – Bedwyn) where speed drops to between 75 and 90mph. This is linked to the geography of the route, which is difficult to overcome; previous work (the Speed to the West project in 2016) identified significant, costly earthworks and realignment would be needed to enhance linespeeds. However, the mix of fast passenger and slower freight services on this route means the benefits of line speed enhancements would be limited in any case, due to the faster trains catching up the slower ones.

Signalling

Signalling headways are also a limit on capacity within the study area. Headway is the minimum amount of time that must be allowed between one train following another in the same direction. A typical headway for a fast main line would be 3 minutes. On the Barks & Hants, headway is 3.5 minutes, but can be as much as 5 or 6 minutes if a freight train is being followed. West of Castle Cary, towards Salisbury and towards Bath, Absolute Block headway applies, which is more restrictive from a capacity point of view. Re-signalling could reduce these headways and create additional capacity.

Electrification

The Berks & Hants line is electrified from Reading as far as Newbury. The route beyond to Cogload Junction was identified as a high priority for electrification in the Network Rail, Wales and Western Regional Traction Decarbonisation Strategy, 2022. Of six tranches, of decreasing priority from 0-5, Newbury to Cogload is identified in tranche 1. The routes northwards from Westbury are also in tranche 1, on the basis that they provide diversionary routes for the key freight flows. Given the heavy freight on the route there is likely to be a strong case for continuous electrification – at least as far as East





Somerset Junction – despite the industry trend towards hybrid rolling stock. This would enable the heavy quarry traffic to be electric-hauled, which would bring improved pulling power and therefore release capacity. High level analysis suggests the heaviest freight trains, if electrically hauled, could significantly better their existing running times over the route.

There is an increasing focus on hybrid battery electric rolling stock for decarbonising both freight and passenger services. Such a concept could most effectively be delivered at network level by charging batteries via overhead line equipment (OLE), and doing so at key network hubs, where most services pass through and therefore have the opportunity to charge. The Westbury area may be an ideal location for charging via OLE and consideration should be given to the benefits for all services, including freight, in developing options to decarbonise specific passenger fleets.

Gauging

The Berks & Hants has limited capability to take intermodal (container) freight, being cleared to W8 gauge from Reading to Westbury, but only being cleared to W7 gauge from Westbury to Cogload Junction. For carrying modern container traffic, a minimum clearance of W9 or greater is desirable. Container traffic can only be carried on routes with more restrictive gauging if special wagons, or which there are a limited number, are used. Whilst a limited amount of container traffic does pass through Westbury between Bristol and Southampton via Salisbury, greater use of the route could be made for this traffic if a higher level of gauge clearance was possible.

The route between Bradford Junction and Bathampton Junction is currently published as clear to the standard W6a freight gauge. This offers very limited opportunities to move 9' 6" high containers over the route, with only one wagon type, the 'pocket' wagon, able to achieve this, whilst specialised wagons are required even to transport 8' 6" high boxes over this route. It is, however, the shortest route between the Port of Southampton and intermodal rail freight terminals in Bristol and South Wales. As a result of the poor gauge clearance of the Bradford to Bathampton route, the favoured route for traffic over this axis is via Reading West, Didcot, and the Great Western Main Line. The gauge on this route is W10 between Southampton and Didcot, reducing to W8 between Didcot and Bristol and Cardiff. This superior gauge-clearance means that this is the preferred route despite being significantly longer, with the route via Bradford Junction saving up to a third of the distance. A strategic outline business case (SOBC) has been prepared for gauge enhancing this route to achieve W8 clearance, along with the option of additionally clearing W10 gauge.

Track Capacity

The single line between Bradford Junction (Trowbridge) and Thingley Junction (Chippenham) via Melksham is a critical point of constraint for services using that route, as only one train at a time can pass through the circa 9 mile long section. This significantly limits the number of services that can run over that route. This is highly problematic when the line is used as a diversionary route for the Berks & Hants, when the local TransWilts service has to be withdrawn. The single line also limits introduction of new services in the corridor, both as an absolute capacity constraint and by making timetabling less flexible.

Although out of scope for this study, Southcote Junction is a point on constraint for services coming on/off the Berks& Hants route. The Reading Area Rail network Strategic Study February 2023 identified





that up to one additional path per hour each for passenger and freight in each direction may be accommodated across Southcote Junction. The separate Network Rail Reading Area strategic study has identified that up to one additional path per hour each for passenger and freight in each direction may be accommodated across Southcote Junction. Some short-term growth can be accommodated, but capacity could be filled by the CrossCountry fleet upgrade and through increased freight path utilisation. A long-term intervention is required between Southcote Junction and Oxford Road Junction to achieve forecast growth, which may include grade separation. This will need to be borne in mind when considering additional services to/from London, such as the hourly West of England semi-fast service or freight growth.

Single Line sections south of Castle Cary are a known constraint for capacity on the Heart of Wessex Line, examined through Wessex route's Heart of Wessex Line SOBC.

Sections of 2-track railway along the Berks & Hants line between Westbury Line Junction (Reading) and Westbury presents a challenge for capacity to accommodate future growth of passenger and freight services along the route. This is a particular challenge given the need to accommodate a mix of fast inter-regional services alongside slow freight service and limited opportunities to hold freight services to enable passenger services to pass.

Level crossings

There are 63 level crossings of various types on the rail network within the area of Wiltshire covered by this study, with a further 19 on the Berks & Hants in Somerset and 17 in Berkshire (as of June 2024). These range from footpath and farm crossings with no warning systems, to conventional road crossings with barriers and lights. These represent a hazard that is carefully managed and is sensitive to changes in service levels. Level crossings inherently present risk which extends to passengers, railway staff and members of the public. They may also determine lower line speeds in some locations on safety grounds; enhancement of a level crossing may therefore help improve journey times as well as improving safety. The impact of new services operating over these level crossings will need to be assessed and, potentially, mitigations identified and funded.

Areα	Number of level crossings	Crossings with risk rating A-C
Southcote Jn – Westbury	39	28
Westbury – Cogload Jn	25	14
Bathampton – Bradford Jn (near Trowbridge)	16	11
Thingley Jn – Westbury (Melksham Single)	14	6
Swindon – Bristol main line	4	3
Westbury – Warminster	1	0
Total	99	62

Table 8 - Level crossings in study scope by area with associated risk rating





Table 8 shows that more than two thirds of the crossings in the study area are rated relatively high risk for users, under Network Rail's standardised approach to crossing risk management known as the All Level Crossings Risk Model (ALCRM). The risk rating for each crossing is represented by a code comprising a letter and number:

- The letter is for the 'individual risk' which applies only to crossing users. The score is presented as a letter ranging from A to M where A is the highest value and M is the lowest.
- The number is for 'collective risk' which considers the total risk for all people who use the crossing, including pedestrians, road vehicle drivers, train staff and passengers. The score is presented as a number ranging from 1 to 13 where 1 is the highest value and 13 is the lowest. For example, crossings with a risk score of 'M13' have been assessed as having zero risk.





3. What could the Wiltshire Area be like tomorrow?

What are the rail plans and growth opportunities?

Stakeholder strategies

The study must align with and support key stakeholders' aspirations and objectives. Stakeholders' strategies for the Wiltshire area highlight both its growth potential and the potential for rail to play an even more significant role in moving people and goods throughout the study area and across the wider network.

The Wiltshire area study needs to play its role to mitigate Wiltshire's 6 key strategic challenges (Draft Wiltshire local plan):

- Economic development: reducing levels of out commuting
- Climate Change: adaptation and mitigating measures
- **Providing new homes:** planning for sufficient new homes
- Planning for resilient communities: dealing with the varied nature of Wiltshire
- **Environmental quality:** safeguarding high quality environments whilst accommodating increased growth
- **Infrastructure:** ensuring adequate and timely services and infrastructure meet a growing population and economy

Swindon and Wiltshire Local Enterprise Partnership (SWLEP) Rail Strategy (2019)

The SWLEP are the Local Enterprise Partnership covering the area. The organisation's core objective is to support economic growth in the area and their 2019 Rail strategy highlighted the pivotal role that rail could play in supporting their objectives. Their vision for rail included:

- A rail network that supports the economy and improves quality of life for residents and businesses within Swindon & Wiltshire
- A rail network with enhanced connectivity to other key regional centres
- Improved access to the rail network for residents and businesses through new stations and better integration
- Maintaining and improving existing links to key regional and national centres

The study made several key recommendations for further development which are accounted for in the development of the ITSS for this study, including journey time improvements, improved service frequency, new stations and improved local and national connectivity (Paddington -Westbury, Oxford-Southampton/Bristol and Cambridge)

Restoring Your Railway - GOV.UK

In January 2020 the Department for Transport (DfT) launched the Restoring Your Railways (RYR) programme to reopen old railway lines and station that were closed following the publication of the Beeching Report in 1963. There have been several RYR bids within Wiltshire, but this study accounts for Corsham and Devizes Gateway as bids that were successful in progressing to Strategic Outline Business Case. Whilst government funding for the RYR programme has been withdrawn, there are still aspirations to deliver the stations.





Greater Bristol Rail Network Strategic Study, 2023

The Greater Bristol Strategic Study (GBSS) 2022 makes recommendations for development of rail services required to support planned growth in the Greater Bristol Area. The study includes improvements for freight growth, extension of Bristol – Westbury services to Weymouth and highlighted the importance of Westbury as a corridor and interchange station.

Western Gateway

Western Gateway are a Sub-national Transport Body (STB) that focus on supporting improvements to the regions transport network.

The <u>Strategic Transport Plan 2020-2025 - Western gateway</u> and <u>Western Gateway Rail Strategy (2019)</u> identified 5 key themes for areas of focus for the railway:

- Choice
- Decarbonisation
- Social Mobility
- Productivity
- Growth

Priorities within these themes included improved frequency and improved rail journey times and new and direct journey offerings.

Their Rail strategy identified key journey improvements which have been accounted for in this study including:

- A Gap for services in Cardiff Southampton and Exeter-Reading, both via Westbury.
- Service frequency between Westbury Chippenham, Westbury Taunton, and Weymouth Bristol, regular Westbury Salisbury.
- Longer than desired interchange times at Westbury.

The Wessex route have undertaken a Strategic Outline Business Case which will deliver enhance services on the Heart of Wessex line between Westbury and Weymouth.

Western Gateway have an aspiration for increasing rail freight and rail freight terminals at Westbury. This study has not looked at provision of new freight terminals, but has considered how freight can be accommodated, including more services to Westbury.

Devizes Gateway Interim Feasibility Study (IFS)

The Devizes IFS provided additional analysis to bolster the original Strategic Outline Business Case (SOBC) for Devizes Gateway, a new station proposal as part of the Restoring Your Railways (RYR) programme. The proposal explored options for an hourly service which serve the station and the preferred option for the reinstatement of the hourly Paddington – Bedwyn service (an existing aspiration for GWR) was identified. The analysis showed that there were a number of difficulties the prevented the introduction of the hourly service which could be addressed by changes to freight operations and wider changes driven by the introduction of Old Oak Common station.

To enable the reinstated service to call at Devizes, the service would need to extend to Westbury, which would deliver connectivity benefits, but would also require an additional platform (Platform 0) at Westbury to accommodate and turn-around the service. The service and infrastructure recommendations of this IFS have been taken forward into "Phase 0" of the ITSS.





The Devizes IFS concluded that the development of Devizes Gateway needed to be considered in a broader context and as part of a wider range of changes and interventions for the route. It recommended that Network Rail lead a Wiltshire Rail Strategic Study to consider Devizes Gateway alongside other aspirations for the Wiltshire rail network, with this work building a strategic case for investment in the area and identifying which other service enhancements would benefit from a new platform at Westbury.

The changes required for Devizes Gateway prompted discussions into additional benefits that could be delivered to maximise the additional platform capacity at Westbury and the Old Oak Common / and freight changes.

Freight growth

The Reading – Newbury and Salisbury – Bathampton/Thingley Junction route sections are in the top 10 route sections for forecast freight train mile growth, with Newbury – Cogload Junction in 12th place (out of 44 route sections).

With the Mendip quarries already representing a nationally significant freight flow, and with several year's worth of aggregates remaining (British Geological Survey) to be exploited in the quarries, it is inevitable that there will be further growth in this market. This may partly be achieved through the running of longer trains, but it can be assumed that additional services will also run.

Renewed growth in the intermodal (container) market is already being driven through a Modal Shift Programme incentive scheme run by DP World for business through its Southampton site. The incentive was initially set at £70 per applicable container for the period between 1st September 2023 and 31st December 2023. Starting from 1st January 2024, the Incentive was increased to £100 per applicable container (Modal Shift Programme - dpworld.com). From 1st April 2024, the MSP Incentive was reduced to £80. This trial runs until September 2024, and has seen rail services uptake at Southampton increase from 21% (January to June) to 27% (September to December) last year. This traffic is most relevant to the GWML through Swindon and, to a lesser extent, the route from Salisbury – Bath.

There is potential for parcels/light logistics rail traffic to commence in the near future to locations along the GWML, such as Swindon and Bristol. The Panattoni development in Swindon has potential to act as a railhead for such traffic, subject to private investment in the necessary facilities at the site.

In December 2023 the DfT released its rail freight growth targets, outlining aims for at least 75% growth in freight carried by rail by 2050 (<u>Rail freight growth target - GOV.UK</u>). Network Rail has subsequently published a plan of how this will be achieved over the coming control periods. 6.9% growth is targeted in Wales and Western region by 2029.

It is envisaged that growth will be realised through delivering a more reliable railway, thus giving greater certainty and confidence to users, and through increased network efficiency, development of terminals and enhancements, where funding is available.





For Wiltshire, this is likely to be reflected in the running of both more, and longer, aggregate trains from the quarries, as well as new traffic opportunities developing on the GWML, such as express parcels traffic to Swindon and/or Bristol and scrap traffic to South Wales.

Population growth

Table 9 below focuses on growth forecasts of the primary settlements served by the stations and highlights the proposed growth in population, housing and employment by 2038 for each of the settlements.

Settlements	Population	Housing growth forecast	Forecast Employment land supply per (HA)
Bedwyn	1,363	26	-
Bradford-on-Avon	10,405	140	-
Chippenham	36,548	5,850	42.5
Corsham	10,888	360	-
Dilton Marsh	1,958	61	-
Melksham	27,898	2,160	5.5
Pewsey	18,113	137	-
Salisbury	41,820	4,500	12.3
Swindon	233,400	13,420	20
Trowbridge	43,744	4,420	27.4
Warminster	18,173	1,780	5.6
Westbury	16,404	1,400	16.7

Table 9 - Housing and employment growth forecasts by settlement (ONS 2021 and Draft Wiltshire Local Plan)

The table shows that population is concentrated around Swindon and principal settlements of Trowbridge, Salisbury and Chippenham.

Swindon, Chippenham, Salisbury, Trowbridge have the highest levels of forecasted growth in housing and employment, followed closely by Melksham, Trowbridge and Westbury, demonstrating the need to meet a growing demand and improve connectivity to and between these regions. The key areas highlighted for growth are linked primarily by TransWilts services and include three of the main interchanges for services in Wiltshire to wider regions, demonstrating a significant opportunity to increase patronage and modal shift.

Improvements to service frequency will improve generalised journey times and attract more passengers to rail with more rail services connecting Swindon, Westbury, Bristol, London and the South-West.





4. How could stakeholder aspirations be met for tomorrow's railway?

Evidence-based research and stakeholder consultation of the Wiltshire area carried out as part of this study highlighted aspirations for the Wiltshire area and key challenges in achieving the relevant aspirations. Of those aspirations and challenges, this study explores how the railway can address the strategic transport problems identified and support Wiltshire in delivering their aspirations through a set of proposed service enhancements to the existing rail network.

Workshops were held with relevant stakeholders to identify their aspirations for future passenger service changes and enhancements. Freight growth forecasts were also consulted to understand what provision would need to be made for additional freight trains. The outcome of this was the agreed Indicative Train Service Specification (ITSS) that has been used for the Wiltshire study.

Findings and recommendations from the Devizes IFS have also been considered and included for identification of priority flows which warrant further analysis as part of this study which will contribute towards building a strategic case for investment in the area and identifying which other service enhancements would benefit from a new platform at Westbury.

The four key themes that came from discussions with stakeholders were:

1. Improved connectivity within Wiltshire

The provision of an improved (ideally hourly) TransWilts service is a long-standing aspiration for local stakeholders. This would be an important link in strengthening connectivity within the county and for Melksham in particular.

2. Improved regional connectivity.

As well as improving connectivity within the county, stakeholders have highlighted a desire for improved connectivity to other regional centres, with the South West, south coast and Midlands highlighted. An hourly Paddington – Exeter semi-fast service would improve connectivity to the west (as well as aligning to aspirations for improved connectivity in Devon); an improved TransWilts service would have the potential to be extended to Southampton, subject to capacity being available on the Wessex route; and the introduction of a Bristol – Oxford service would give improved connectivity from Swindon towards the Midlands, with further connectivity opening up to the east once East West Rail is opened.

3. Improved connections at Westbury

Poor connections at Westbury have been consistently raised as a concern for stakeholders. Increasing the frequency of services on the TransWilts and B&H routes would naturally reduce connection times and make interchange more feasible and attractive. Timetable analysis has shown that there is scope to provide improved connection times; the nature of the improvements will depend on the mix of train service enhancements taken forwards.





4. Freight growth

Preserving capacity for future growth, whilst optimising operations, is a key consideration for freight traffic. There will be challenges in accommodating both freight and passenger growth on the B&H, both locally to Wiltshire and further afield. Some of these challenges can be addressed through timetabling solutions, but infrastructure enhancements will also be necessary.

Overview of the train service development options

Baseline enhancements

The study's baseline specification assumes five key improvements to services and infrastructure in the study area which will improve service provision and capacity in the area. These have been identified through schemes which are currently committed and in progress or priority schemes which have been identified in the Devizes IFS and form 'Phase 0'. They will have been fully delivered or assumed to be fully delivered prior to delivery of the aspirations highlighted in the ITSS and were therefore integrated in the timetable prior to the incremental assessment of services in the ITSS.

Scheme	Status	Anticipated Railway output
Mendip freight services recast	Committed To be fully operational 2025	The Mendips recast will achieve consistent paths at 60mph from the quarries by replacing wagons limited to 45mph and double-heading (using of two locomotives) some services. This will improve freight journey times as well as providing a more consistent timetable, making it easier to accommodate additional passenger services.
Hourly Bristol - Weymouth	Proposal Assumed operational for this study	The hourly Bristol - Weymouth was a recommendation of previous NR strategic studies and there is ongoing development of an SOBC to support its introduction, making it a more advanced proposition than other services in the ITSS.
Westbury Platform 0	Proposal Assumed operational for this study	Westbury platform 0 was proposed as part of the Devizes Interim Feasibility Study. The platform will serve the hourly Paddington – Westbury service and provide additional platforming capacity.
Hourly Paddington – Westbury	Proposal Assumed operational for this study	1tph service provided by GWR. The re-instated service would serve a new Devizes Gateway station and provide an hourly service between Paddington and Bedwyn, Pewsey, and Westbury, increasing service frequency from the current 0.5tph service level.
Devizes Gateway station	Proposal Assumed operational for this study	The station would be served by the hourly Paddington-Westbury service.





Corsham station	Proposal	The station could be served by a new hourly Bristol-
	Assumed operational for this study	Oxford service.

Table 10 - Committed or assumed schemes accounted for in the study.

These enhancements will improve rail capacity and connectivity in the Wiltshire area. However, there remains an opportunity to further improve services and address specific connectivity issues that may remain. This study looks at how the proposed/existing enhancements in the area will support additional service improvements that will deliver the connectivity benefits and solve the transport problems identified. The study has also identified further options which will inform choices around how any proposed services will be developed and delivered.

This includes delivering a balance between the need to accommodate inter-regional connectivity improvements – strengthening connections between educational and business hubs – and to provide better local connectivity in light of the largely rural area, poor north-south connectivity, and need to encourage modal shift.

The ITSS

An Indicative Train Service Specification (ITSS) was developed in conjunction with local stakeholder, train operator and freight teams' input, taking account of their aspirations for future passenger service changes and enhancements. Recommendations from other relevant rail studies (such as the Greater Bristol Strategic Study) and the recommendations from the Devizes Gateway Initial Feasibility Study were also considered and included Having identified the services for inclusion, an initial prioritisation was proposed and agreed by stakeholders and taken forward for analysis.

The services have been grouped into 4 phases depending on the level of priority agreed with stakeholders. The outputs of the Devizes RYR feasibility study and Mendips freight service recast have been incorporated into the base timetable, as 'Phase 0' as it is assumed these changes will be delivered as a minimum. The subsequent three Train Service Specification (TSS) phases which form part of the Wiltshire area Strategic Study analysis delivers service improvements in incremental stages and was formed with proposed industry service changes (e.g. growth forecasts/freight/TOC) alongside stakeholder aspirations.

The ITSS options focus only on the pathing requirements within the study area. This means that paths for flows which originate/terminate beyond the study's geographical scope have not been assessed in detail but, where relevant, has been considered as part of the Wessex routes Salisbury masterplan and Western Route's Greater Exeter strategic study. Development of Southcote Junction has been recommended by the Reading area study and any interface will be further explored at the next stage where relevant.





Phase 0 – These are assumed as delivered for the development of options in this study.

Service Enhancement	Test	Calling Pattern	Source	Rationale for ranking
Bedwyn - Newbury	Remove service	N/A	GWR / Devizes SOBC	Removed as it is being replaced by Paddington – Westbury
Paddington – Westbury	New service – 1tph	Newbury, Kintbury, Hungerford, Bedwyn, Pewsey, Devizes Gateway, Westbury	GWR / Devizes SOBC	Reinstatement of the Paddington – Bedwyn service, extended to Westbury is the preferred option to deliver Devizes.
Bristol - Weymouth	Make regular hourly	Bradford-on-Avon, Trowbridge, Westbury, Frome, Bruton	GWR	GWR and Wessex route aspiration.

Service Enhancement	Test	Calling Pattern	Source	Rationale for ranking
Tαunton - Newbury	Two return paths in study window	N/A	GBSS / Freight	Route identified as priority route for freight growth in the shorter term.
Paddington – Exeter	Uplift of service frequency from 0.5tph to 1tph.	Newbury Westbury, Castle Cary. Hungerford and Pewsey calls have been removed.	Devizes SOBC	Aspirations for an uplift in service frequency for the semi-fast. The Devizes IFS concluded that the intermediate calls could be removed from the semi-fast service as they would be served by the hourly Paddington – Westbury service.
Cardiff Central – Portsmouth Harbour	Uplift of service frequency from 1tph to 2tph	Bradford-on-Avon, Trowbridge, Westbury, Warminster, Salisbury	GBSS / Western Gateway Rail Strategy.	GBSS identified aspiration of faster journey times between Cardiff and Bristol which could be achieve by increasing service frequency to 2tph.
Swindon - Westbury	Uplift service frequency from 0.5tph to 1tph with a regular pattern.	Swindon, Chippenham, Melksham, Trowbridge, Westbury	TransWilts CRP / SWLEP Rail Strategy,	Improves North-South connectivity in Wiltshire. Recognising that both stations are key interchange stations, there is strong aspiration to increase service frequency and reliability.





			Wiltshire Council LTP3.	
Taunton – Westbury / Swindon	New open access service	Swindon, Chippenham, Melksham, Trowbridge, Westbury, Frome, Bruton, Castle Cary	Go-Op	Service proposal is a long-standing aspiration by Go-Op, an open access operator. Service provides improved connectivity across Somerset and Wiltshire.

Service Enhancement	Test	Calling Pattern	Source	Rationale for ranking
Westbury – Warminster / Frome	Extention of hourly Swindon – Westbury service	Dilton Marsh and Warminster OR Frome	TransWilts	Provides improved connectivity and frees up platform capacity at Westbury.
Westbury – Bristol	One return path in study window.	N/A	GBSS / Freight forecasts	Freight forecasts have indicated long-term growth on this route
Bristol Temple Meads – Oxford	A new service 1tph service.	Bath Spa, Corsham, Chippenham, Swindon	GBSS / RYR / ORCS / SWLEP	Various studies across the region highlight the aspiration for direct service and supports the case for a new proposed station serving Corsham.
Westbury – Swindon	One return path in study window.	N/A	GBSS / Freight forecasts	Freight forecasts have indicated long-term growth on this route
Westbury – Salisbury	One return path in study window	N/A	Freight forecasts	Freight forecasts have indicated long-term growth on this route





Westbury Downside/ Upside	Timetabled shunt move to / from Up-Down sidings	N/A	Operanonai	With increasing services through Westbury, there is a need to protect opportunities to shunt between the Up and Down yards.
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Service Enhancement	Test	Calling Pattern	Source	Rationale for ranking
Bristol Temple Meads – Oxford	Uplift of service frequency from 1tph to 2tph.	Bath Spa, Corsham, Chippenham, Swindon	GBSS	Aspiration to deliver service at a 2tph frequency to realise the maximum benefits. Test relies on delivery of the 1tph service.
Salisbury – Yeovil Pen Mill	0.5 tph for diverted WoE services	Salisbury - Yeovil Pen Mill	SWR	Gives operational flexibility, but not a franchise requirement

Table 11 - Proposed ITSS





Table 12 below summarises the key changes proposed by this study, within the study's geographical scope, proposed by the study compared to the December 2023 service level and train type.

Service type	Origin	Destination	Tph	Change
Inter-regional	Paddington	Exeter/ Plymouth/ Paignton	0.5	Uplift to 1tph Hungerford and Pewsey calls removed
Inter-regional	Cardiff Central	Portsmouth Harbour	1	Uplift to 2tph
Inter-regional	Bristol Temple Meads	Weymouth	1	Standard hourly path
Regional	Bristol Temple Meads	Westbury	1	-
Local	Swindon	Westbury	0.5	Uplift to 1tph
Inter-regional	Yeovil PM	Waterloo	0.5	-
Inter-regional	Paddington	Westbury	1	New service picking up calls removed from semi-fast
Inter-regional	Bristol Temple Meads	Oxford	1-2tph	New service - Corsham
Shuttle	Bedwyn	Newbury	1	Removed and replaced by Pad-Westbury

Table 12 - Changes to the December 2023 service level and type in study's geographical scope

What are the options for improvements other than to train service specifications?

Decarbonisation

Future rolling stock changes should reflect the decarbonisation proposals for the Wiltshire area in the Wales and Western Regional Traction Decarbonisation Strategy. Whilst the rail industry may be moving towards bi-mode battery electric units and locomotives as a way of decarbonising that avoids the cost of full electrification the solution needs to be fit for all services, including freight. Wiltshire's railways, and particularly the B&H, may warrant full (continuous) electrification to permit electric-only freight haulage and the improved capability this provides. High level analysis suggests the heaviest freight trains, if electrically hauled, could run from Westbury to Reading without needing to be looped, reducing their journey times by around 50 minutes and improving capacity. Any mainline electrification could be utilised by existing IET rolling stock, whilst continuous electrification of the B&H could permit the proposed Paddington – Westbury service to be a fully electric operation. Decarbonisation strategies must include collaboration with operators to understand which decarbonisation technologies are likely to come forward. Opportunities to use solar and wind energy as a sustainable power source at stations should be considered in future work streams.





Station Accessibility

Three stations – Bradford-on-Avon, Warminster and Trowbridge – have been highlighted as having poor connectivity between platforms for those with mobility issues. This could be addressed with, as a minimum, provision of clearly signed and lit, level walking routes. Preferably, and subject to funding availability, accessible footbridges could be provided, with Trowbridge being a priority due to the level of interchange seen there. Extending this approach to all other stations will deliver significant improvements to rail accessibility.

First & Last Mile

Improved first/last mile connectivity could be delivered through enhancing cycle parking provision where a need has been identified (with Bradford-on-Avon and Warminster being priorities for consideration). The signage between stations and bus stops, including the provision of real time bus service information at railway stations, should be reviewed and improved where necessary and is highlighted in Wiltshire Council's Bus Service Improvement Plan, 2024, Some improvements to bus/rail signage have already been delivered by Wiltshire Council, in partnership with GWR at stations including Bradford-On-Avon, Melksham, Westbury and Pewsey and Warminster. Schemes were proposed to improve first/last mile connectivity at Willshire stations in 2015/15 which can support current aspirations.

The Wiltshire Connect DRT service is a new on-demand and timetabled bus network which now serves Pewsey and Bedwyn. Consideration of whether bus/rail interchange can be improved at Melksham in the short term is highly desirable, to help maximise the public transport options available there. Connectivity between rural settlements and their nearest railway station, via either bus or 'on-demand' services, has the potential to develop stations as mobility hubs for their surrounding rural hinterland. Coordination of bus and train times will be key to making this an attractive option for people to use.

What is the new evidence on demand for passenger services change?

Analysis of each proposed passenger service demonstrates the value of each change and its potential contribution to the capacity and connectivity challenges established. The analysis focuses on three overarching objectives, shown below in Figure 15 informed by stakeholder consultations, local and regional plans, and wider policy and socio-economic factors:





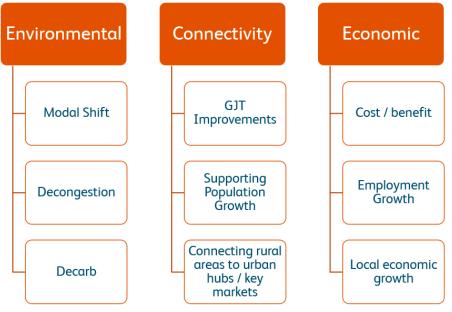


Figure 15 - Economic analysis themes and objectives

The proposed services identified in the ITSS are assessed against each of the objectives. The analysis comprises of three different elements:

- Economic and environmental benefits based on demand forecasting using MOIRA (a rail timetable model which can compare the demand and revenue impacts of different rail timetables)
- Generalised Journey Time (GJT) improvements considering connectivity and overall journey time improvement.
- Multi-Criteria Assessment (MCA) considering wider potential socio-economic benefits including connectivity and economic growth.

The recommendations are based on a composite of all three methods of analysis which have equal weighting. Any significant timetable or infrastructure interventions proposed following the timetable analysis will also be considered for the recommendations.

MOIRA assessment

The outputs for the service enhancements are improved connectivity including: reduced journey times, increased service frequency or removal of interchanges. The benefits included in the assessment are:

- Value to users from improved connectivity
- Value to non-rail users from taking cars off roads including reduced road congestion, carbon emissions etc.
- Additional rail revenue from more people travelling as a result of improvements to connectivity.

While there will also be improvements in capacity resulting in crowding relief, it has not been considered as part of the economic assessment for this stage.





The benefits and revenue generated by the improved connectivity are estimated using the established industry modelling tool MOIRA and exogenous growth was based on the DfT's DDG demand generator framework.

This assessment considers the operational cost of providing the service but not the capital cost of any associated interventions in order to indicate which best address the identified objectives.

Table 13 captures the output of the MOIRA assessment and ranks each service in order of potential economic benefit.

Service Enhancement	Test	Economic Analysis Ranking
Swindon – Frome	Extension of hourly Swindon – Westbury service	1
Bristol Temple Meads – Oxford	A new service 1tph service.	2
Bristol Temple Meads – Oxford	Uplift of service frequency from 1tph to 2tph.	3
Swindon – Warminster	Extension of hourly Swindon – Westbury service	4
Swindon – Westbury	Uplift service frequency from 0.5tph to 1tph with a regular pattern.	5
Taunton – Westbury/ Swindon	New open access service	6
Cardiff Central – Portsmouth Harbour	Uplift of service frequency from 1tph to 2tph	7
Paddington – Exeter	Uplift of service frequency from 0.5tph to 1tph.	8
Swindon – Southampton	Extension of hourly Swindon - Westbury	9

Table 13 - MOIRA assessment outputs

Extension of the Swindon Westbury service to Frome offers the most benefits compared to costs, followed by the Bristol – Oxford service.

Introduction of a direct Swindon – Frome service will provide a regular connectivity between Swindon and Westbury but also provides a new direct service beyond Westbury to Frome. A Bristol – Oxford direct service provides a new option for direct connectivity to Oxford for Chippenham and Swindon while improving service frequency to Bath and Bristol. The new rail offerings will serve and attract new markets which will bring in new revenue opportunities and increase rail patronage.

The proposed uplift in frequency and new journey opportunities delivered by the TransWilts and Bristol – Oxford services will also improve rails options for existing users and provide attractive sustainable options for travel to / from the key regional and local growth hubs. Local employers will benefit from improved connectivity benefits, attracting investment, economic development, and employee retention.

Modal shift and decarbonisation benefits are also considered in the MOIRA assessment. The TransWilts services has the most notable benefits. The changes proposed can also provide a faster alternative to





using the road network and could encourage modal shift to meet Wiltshire's decarbonisation targets and present decongestion benefits to non-rail users.

Whilst the inter-regional services also presented high benefits, the costs to operate the longer end-end journey outweigh the benefits presented and result in a less valuable change for Wiltshire compared to the TransWilts services. While the longer-distance services provide connectivity to some of Wiltshire's priority regional locations, high operating costs incurred over longer distances can impact the economic value.

GJT improvements

A key metric in the assessment is the General Journey Time (GJT) improvement for each service proposition. GJT is a measure that captures journey attractiveness by accounting for in-vehicle time (e.g. time on train), frequency of services, and any requirement to interchange. This enables identification of the proposed services that result in improved journey times and therefore improved connectivity.

Table 14 below outlines the weighted GJT change (by journeys) and ranks each option in order of largest GJT improvement. The GJT has been calculated based on the stations impacted by the option.

Service Enhancement	Test	GJT improvement %
Bristol Temple Meads – Oxford	Uplift of service frequency from 1tph to 2tph.	-10.85
Bristol Temple Meads – Oxford	A new service 1tph service.	-8.20
Swindon - Frome	Extension of hourly Swindon – Westbury service	-6.72
Swindon – Warminster	Extension of hourly Swindon – Westbury service	-6.17
Swindon - Westbury	Uplift service frequency from 0.5tph to 1tph with a regular pattern.	-5.48
Cardiff Central – Portsmouth Harbour	Uplift of service frequency from 1tph to 2tph	-3.92
Swindon - Southampton	Extension of hourly Swindon - Westbury	-3.78
Taunton – Westbury/ Swindon	New open access service	-2.16
Paddington – Exeter	Uplift of service frequency from 0.5tph to 1tph.	-1.95

Table 14 - GJT improvements and ranking of economic assessment.

The Bristol – Oxford direct service shows by far the largest GJT improvement of 10.85% as it will eliminate the need for an interchange at Didcot Parkway. Next, the TransWilts service improvements and extension options show sizable GJT improvements.

The longer distance services including Cardiff – Portsmouth, Swindon – Southampton and Paddington – Exeter see smaller GJT improvements as these services generally serve a larger market end-end compared to the local TransWilts services, therefore the percentage change applied to a larger market results in a higher absolute figure of passengers that would benefit from the GJT improvement.





However, this assumes the majority of passengers will be making the full end-end journey which is more unlikely for the inter-regional services compared to the local TransWilts services, and it can be assumed that the GJT changes for the TransWilts services will result in a more notable benefit, particularly for Wiltshire residents, while the inter-regional services deliver broader benefits on a regional level.

The improvement in generalised journey times will encourage modal shift from road to rail and increase accessibility to key employment, academia and leisure hubs. Reduction of GJT will lead to an increase in demand and encourage new passengers and modal shift, particularly on the TransWilts and Bristol – Oxford corridors and existing passengers will benefit from the time saved.

Multi-Criteria assessment

The multi-criteria assessment (MCA) is an is evidence led appraisal of the impact of service enhancements against the identified objectives using local socio-economic and transport data. It offers another, more sensitive appraisal of the growth and connectivity benefits for Wiltshire. The MCA assesses and ranks each passenger service proposed in the ITSS against the following criteria:

- Population of Settlements served by stations.
- Forecasted housing growth.
- Forecasted employment growth.
- Current demand by station catchment area.

Each service is assessed by the sum of the respective criteria of each settlement served and given a RAG status depending on the number of criteria met.

The criteria also include local and regional locations, which Wiltshire Council identified as priorities for improved connectivity. Services which provide improved connectivity to a higher number of the identified locations receive a higher score. Table 15 below shows the outputs of the MCA.

Service Enhancement	Test	MCA Ranking
Swindon – Frome	Extension of hourly Swindon – Westbury service	
Swindon - Warminster	Extension of hourly Swindon – Westbury service	
Swindon - Westbury	Uplift service frequency from 0.5tph to 1tph with a regular pattern.	
Tαunton – Westbury/ Swindon	New open access service	
Swindon - Southampton	Extension of hourly Swindon - Westbury	
Bristol Temple Meads – Oxford	A new service 1tph service.	
Bristol Temple Meads – Oxford	Uplift of service frequency from 1tph to 2tph.	
Cardiff Central – Portsmouth Harbour	Uplift of service frequency from 1tph to 2tph	





Paddington - Exeter

Uplift of service frequency from 0.5tph to 1tph.

Table 15 - Multi Criteria Assessment outputs

Similar to the outputs of the MOIRA assessment, the TransWilts services have ranked the highest in the MCA. They provide the most benefit across the majority of the criteria, with the exception of long-distance connectivity.

The inter-regional services demonstrate fewer benefits to Wiltshire against the criteria as they serve fewer Wiltshire stations compared to the TransWilts services. However, they do provide key regional connectivity required to Wiltshire's priority regional locations Furthermore, paired with improvements to local services which connect the two key interchange stations within Wiltshire, inter-regional services can support accessibility for Wiltshire's population to key facilities for higher education and better paid "knowledge-jobs" whilst also attracting inwards investment for growth in housing and employment.

While the inter-regional services serve fewer Wiltshire stations and provide and serve limited connectivity to Wiltshire's key growth and employment hubs outside of Westbury, they do provide key regional connectivity required to Wiltshire's priority regional locations and support broader strategic benefits beyond Wiltshire.

Connectivity

Following the introduction of new Bristol-Oxford services, East West Rail and further phases of MetroWest, improved levels of connectivity will be provided to some of Wiltshire's priority inter-regional locations, including Cambridge, Birmingham and Oxford, while improvements to the TransWilts services proposed in this study will improve local connectivity.

Error! Reference source not found. and Figure 17 below shows the comparison between current and future (assuming all services proposed in this study are delivered) service level and number of interchanges required for journeys by rail from Wiltshire stations to key local and inter-regional

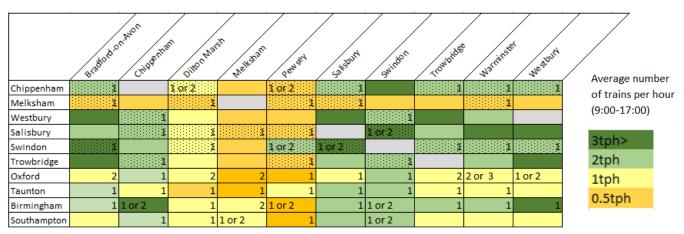


Figure 16 - Current service and interchange level for rail journeys from Wiltshire to priority stations

locations identified by Wiltshire.





	Bradondo	n Avon	r / d	şr /	7/	7/	7/	/.6	//	//	7
	Bradford	Chipp ning	Dilton Mar	Melk sharr	Penge4	Salisbury	Swindon	Trowbridge	Warninste	Westury	
Chippenham	1		*		1	*		*	*	*	
Melksham	1		*		1						
Westbury		*					*				
Salisbury		*	*	*	1		*				
Swindon	1		*		1*	*		*	*	*	
Trowbridge		*			1		*				
Oxford	1	*	1	1	1	1	*	1	1	1	
Taunton	1	*	1	*	1	1	*	*	1		
Birmingham	1	1 or 2	1	2	1 or 2	1	1	1	1	1	
Southampton		*	*	*	1		*				

^{*}Indicates through journey now available, but previous levels of indirect journey opportunities remain Figure 17 – Potential future service and interchange level for rail journeys from Wiltshire to priority stations

The proposed ITSS delivers considerable connectivity benefits with introduction of services which provide direct journey opportunities, reducing the number of interchanges needed. Service frequency is also improved, particularly for services along the TransWilts corridor, demonstrating considerable benefit to Wiltshire's residents.

How could new services be accommodated?

Timetable analysis has been carried out to assess whether the existing timetable structure and infrastructure has the capacity to facilitate the proposed services without interventions and identify at which point a service enhancement will cause constraints and identify high level solutions to facilitate them.

Table 16 below explains the outputs of the timetable analysis for each service and whether or not it can be accommodated. Where this hasn't been possible, the constraints have been highlighted followed by the recommended intervention to resolve the constraints.

Service Enhancement	Timetable Outputs
Paddington - Westbury	Uses Platform 0. 20-minute dwell time in Westbury
Bristol - Weymouth	There were some orphan paths which were incorporated into other services.





Service Enhancement	Timetable Outputs			
Tαunton - Newbury	ITSS amended to compromise 1tph freight between Merehead Quarry and London formed of 2x class 66 hauling 4400 tonnes and 2 freight services in each direction between Taunton and Reading formed of single class 66 hauling 2200 tonnes. Paths found for 1ftph between Merehead Quarry and London by extending existing Westbury-London paths to/from Merehead. Requires reconciliation with existing paths to/from Merehead Quarry as challenges with operating proposed regular path with existing irregular services. Paths found for two freight services an hour, one being a Mendip quarry service and one a Class 6 from Taunton. Tonnage of Class 6 had to be reduced from 2200 to 1600 to be accommodated.			
Paddington – Exeter	Line will be at capacity once this is implemented			
Cardiff Central – Portsmouth Harbour	Possible to find 1tph between Cardiff and Salisbury. Path hasn't been validated beyond Salisbury – thought unlikely that there is capacity at Portsmouth, so Southampton would be the likely destination. Some minor retiming is needed for services between Cardiff and Severn Tunnel Jn.			
Swindon - Westbury	Possible to find regular 1tph path but intervention is needed in form of passing loop at Melksham. Previously identified Old Oak Common interventions may allow different service path to operate.			
Taunton – Westbury/ Swindon	Not been possible to operate to Swindon due to constraints with single line around Bradford and Thingley Jn. Extension of Swindon-Westbury service to Taunton has been explored and is found possible. Operational capability of Frome North Loop will need to be tested if this is to be taken forwards.			

Service Enhancement	Timetable Outputs
Westbury – Frome	Not been possible to path due to conflicts with Bristol - Weymouth (via Frome) service at Westbury Moving the Swindon-Westbury service around the clockface would allow this service to operate.
Westbury – Warminster	Reliant on proposed loop at Melksham and minor re-timings there. Only has 3 minutes turnaround time if terminating at Warminster, which is insufficient time to shunt between platforms. Further extension to Salisbury is feasible, although services don't match up well with Romsey services.
Bristol Temple Meads – Oxford	It has been possible to find a return path, however, the corridor between Swindon and Didcot has been identified as a congested section of the route and there are a small number of conflicts with freight services which will require further analysis to resolve them.
Westbury - Swindon	There is already a freight path between Westbury and Swindon in each hour. These would have to be substituted by retimed paths identified in the study. Only one path available owing to other freight services operating on the route.
Westbury - Salisbury	It has been possible to find a return freight path, but there may challenges with finding path on a regular hourly pattern.





Westbury Downside/ Upside	Paths have been found for shunt moves between Westbury Up TC and Westbury Down TC, and between Westbury Down TC and Westbury Up TC in each hour during the study period, but not at standard intervals due the irregular pattern of other services, particularly freight in the Westbury area. Further analysis will be required to understand operability due to the complexity of movements at the yard.
Swindon - Southampton -	As αbove

Service Enhancement	Timetable Outputs
Bristol Temple Meads - Oxford	In the hours where the Westbury – Bristol freight service operates, it has not been possible to find a second path. In the other hours, it has been possible to find a path in the opposite half hour to the 1tph Bristol – Oxford service, however, there challenges with pathing between Swindon and Thingley Junction and Bathampton Junction and Bristol which require further analysis.
Salisbury – Yeovil Pen Mill	It has been possible to find 2 paths in each direction between Salisbury and Yeovil Junction, however, there may be challenges with platforming at Westbury.

Table 16 - Outputs of timetable analysis

Freight growth:

Two significant findings from this study are:

- a) the need to re-time existing freight services into standardised paths
- b) the fact that additional freight paths on the B&H were not possible without the assumed benefits of electrification.

It should be noted that in practice, re-timing of freight services can only be undertaken with input and agreement from the relevant freight operating company. The timetabling work at this stage has proven a concept, but in the next stage of development it will be necessary to consider the practicalities of this in more detail with freight operators.

In the context of growth, it is untenable that freight growth will not be accommodated on the Berks & Hants, therefore electrification, whilst not needed in the short term to enable passenger service uplifts, should be considered as a definite long-term requirement. As freight growth could potentially come in advance of developing/delivering a passenger uplift, electrification should not be considered as purely a freight enabling scheme, but rather a way of enabling more capacity for both passenger and freight services over the route. As noted elsewhere, this will need to be done in conjunction with increasing capacity at Southcote Junction.





5. What is the recommended course of action?

The study looks at a range of service enhancements to address the identified challenges. Recommendations are informed by the outputs of the timetabling and economic analysis as well as assessment of the wider socio-economic benefits. They also consider wider changes to the railway system, its resilience, and accessibility and informs an incremental programme for development which supports sustainable housing and employment growth in the Wiltshire area.

The recommendations for train service improvements are based on the following principles:

- Support demand, economic and housing growth in the Wiltshire area recommendations are based on the service options that will provide improved opportunities to travel to/from the key employment, economic, and leisure hubs and key areas for growth/development (population, demand, housing).
- **Providing improved local and regional connectivity** with multiple railway corridors serving the Wiltshire area improved frequency and a wider range of direct connections will improve the rail offering for local and regional travel. Wiltshire also has multiple stations that provide good interchange opportunities. Improving services to these stations, including increased frequency which will improve connectivity times for onwards journeys.
- **Support government targets for freight growth** the DfT announced a rail freight growth target for the UK at the end of 2023. With key freight corridors passing through Wiltshire, growth forecasts need to be incorporated to ensure network capability and capacity for sustainable freight growth on these corridors alongside passenger growth, without compromising the resilience of the railway.

Train service recommendations are supported by infrastructure recommendations, where these are required to accommodate new services. There are critical wider system enablers that must be considered, including rolling stock, and depots and stabling provision.

A key consideration for new services is the availability of rolling stock. There are opportunities to align service changes to wider procurement of new stock and as such there is a link to operators' emerging fleet strategies. Most of the diesel multiple unit trains operating in the Wiltshire area are due for replacement in the early 2030s.

What service improvements are we recommending?

The recommendations have been split into three stages to build an incremental programme of development as shown in Table 17. Allocation of the services in Stage 1, 2, or 3 are determined by outputs of the economic appraisal, stakeholder priorities, and level of timetable or infrastructure requirement identified by the timetable analysis. Services recommended in Stage 1 will be prioritised for progression to further development, followed by Stage 2 and finally Stage 3.





Bristol-Weymouth hasn't been included in the recommendations as a full SOBC is currently being progressed for the service by GWR and Wessex route have also undertaken an SOBC for Western Gateway STB for enhanced services on this route

Delivery	Service type	Service Enhancement	Tph	Intervention required?	Recommended
Stage 1	Regional	Paddington – Westbury	1	Υ	Υ
	Regional	Bristol Temple Meads – Oxford	1	N	Y
	Local	Swindon – Westbury	1	N	Υ
Stage 2	Local	Swindon – Salisbury	1	N	Υ
	Local/ Regional	Swindon – Frome/ Taunton*	*	Υ	Υ
	Regional	Swindon – Southampton#	#	N	Υ
Stage 3	Regional	Paddington – Exeter	1	Υ	Υ
	Regional	Bristol Temple Meads – Oxford	2	N	Y
Not recommended	Regional	Cardiff Central – Portsmouth Harbour	2	N	N

^{*} Is an option to alternate with/instead of Swindon – Salisbury service #Would be an extension of Swindon – Salisbury service

Table 17 – Recommended services

The economic analysis shows TransWilts services and Bristol Oxford amongst the top 3 across all 3 methods included in the appraisal and have therefore been prioritised for further development.





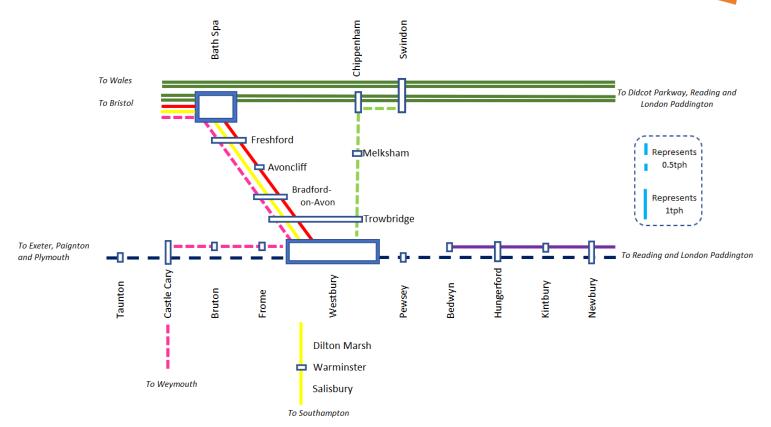


Figure 18 - Existing Service Level within scope of study

Stage 1

New direct hourly service between London Paddington and Westbury (calling at Bedwyn and Pewsey)

This new service would provide a direct hourly connection between London and Bedwyn, Pewsey and Westbury, providing some local connectivity and additional inter-regional connectivity to London and Reading. In the longer-term it could also serve Devizes Gateway and has potential to be extended to Frome, though this option requires further development. The current offering is the 0.5tph 'semi-fast' service between Paddington and Exeter, or interchange at Newbury for Bedwyn only. A new hourly service will provide improved connectivity between communities through the centre of Wiltshire on an east-west axis and improve interchange opportunities at Westbury, helping make rail a more attractive option for travel. It will also enhance connectivity to Reading and London. If combined with enhanced bus or on-demand services linking to the stations, such as the on Demand Bus Service at Pewsey, this service could improve rail connectivity to the rural central – eastern portion of the county, which does not currently enjoy good connectivity.

Introduction of this service would permit existing calls at Hungerford and Pewsey to be removed from the semi-fast Paddington-Exeter service whilst still doubling the level of service at these stations. PVRUG have expressed concerns with service amendments and impact his can have on commuter flows





and whilst journey times between London and these stations would be increased slightly (approximately 10 minutes) by the additional stops in the new service, and direct connections to the South West would be lost, the doubled level of service which provides a consistent hourly service and improved local connectivity outweigh these disbenefits.

Options can be explored to retain the calls in the semi-fast services at peak times, recognising stakeholder concerns about impacts on established commuting flows.

Infrastructure constraints and rolling stock availability mean that this service is not immediately deliverable but is considered a high strategic priority that should be introduced as soon as is reasonably practical.

New direct hourly service between Bristol and Oxford (calling at Chippenham and Swindon)

This service has been a long-standing industry aspiration and also provides significant benefit to the Wiltshire area with minimal intervention. The service also ranked highly across the economic appraisal. A Strategic Outline Business Case for the service is being developed.

There is currently no direct connectivity between Oxford and Swindon or Chippenham, with journeys requiring an interchange at Didcot Parkway or Reading. Journeys further south into the Wiltshire area require two interchanges. Introduction of the new Bristol-Oxford service would provide regular, reliable and direct hourly connectivity between Oxford, Swindon and Chippenham, reducing overall journey times and connecting the Wiltshire area to Oxford which was highlighted as one of the priority regional locations due to business and education opportunities. Improved accessibility to and from Oxford will encourage modal shift and encourage pursuit of higher education and employment in STEM based roles. Direct connectivity will also make Swindon and Chippenham more attractive for housing growth. It will also provide improved journey opportunities eastwards once East West Rail services are introduced, negating the need to travel into London to access Milton Keynes, and ultimately Bedford and Cambridge.

Once introduced, this service may offer an opportunity for serving the proposed new station at Corsham, which cannot be accommodated in existing services.

Direct hourly service between Swindon and Westbury

The existing TransWilts service, running approximately every two hours, provides vital north-south connectivity in the Wiltshire area. It is the only service connecting Westbury and north Wiltshire and Swindon, with the current offering limited in terms of frequency and regularity, with approximately one train every two hours at an irregular pattern. Increasing the service to run every hour is a long-standing aspiration for Wiltshire Council, Swindon Borough Council and the TransWilts Rail User Group.

The improved service would provide regular and reliable connectivity between the north and south of the area via Melksham, providing local connectivity for Wiltshire's residents between key local growth and employment hubs and to the 2 key interchange stations which provide inter-regional connections via the GWML at Swindon and B&H line at Westbury. Improved connections will support Wiltshire's planned housing and employment growth by increasing accessibility to key employment hubs and attracting investment. Analysis supports the significant benefits of such a service.





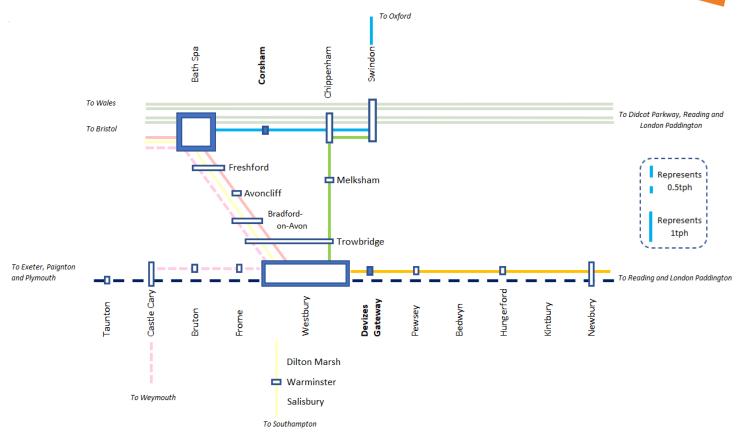


Figure 19- Stage 1 recommended service enhancements

Stage 2

Extension of the direct hourly Swindon Westbury service

There are different options for extending the hourly Swindon-Westbury service (Stage 1 recommendation) to further improve local connectivity across the Wiltshire area. These include: Frome, Taunton, Warminster, Salisbury and Southampton. These extension options offer benefits but require further interventions and should be regarded as a stage 2 recommendation. Extensions of the direct service provide entirely new service offerings, serving a larger market and providing new rail opportunities to connect Wiltshire and encourage modal shift and planned growth. The extensions will also free up platforms at Westbury where trains currently terminate.

- To Salisbury

The first of the extension options recommended for development in Stage 2 is extension of the Swindon-Westbury service to Salisbury. The original ITSS tested for timetable and economic analysis included a TransWilts service from Swindon – Warminster, rather than Salisbury. Analysis of this option is amongst the highest scoring in the economic analysis and further timetable analysis suggested that Salisbury could be a viable destination for TransWilts services from Swindon with minimal intervention required, and we have therefore concluded that while running to Warminster demonstrates a good benefit, running to Salisbury would be even stronger. This would provide direct connectivity between





the major Wiltshire area hubs of Swindon, Chippenham and Salisbury, providing a degree of north-south connectivity which is currently lacking. This would have the potential to generate modal shift for those travelling between these key hubs; the journey time between Salisbury and Swindon would be circa 1h 15m, saving 10-15 minutes on making the journey by car. It would also improve onward connectivity to the south coast. Development of this service would need to align with the outputs identified in the Salisbury Area Strategic Study, led by Wessex Route who are looking at the necessary infrastructure needed around Salisbury to accommodate the service.

- To Frome / Taunton

The second extension option is to Frome. A Frome service is amongst the highest scoring options in the economic analysis.

Although sitting outside of Wiltshire, Frome has close links with the county and would benefit from direct connectivity to the key hubs of Chippenham and Swindon. This service would also give improved connection opportunities to access Salisbury by rail. As an area seeing significant housing growth, an enhanced rail service will be important in promoting sustainable transport for the town.

It should be noted that an hourly Swindon – Frome service is an alternative option to the more easily introduced Swindon – Salisbury service. Stakeholders will need to consider which direct connectivity they would value more. One option could be for the service to alternate between Salisbury and Frome every other hour. With improved interchange options at Westbury this would still give a much-improved level of connectivity to both locations.

Go-Op intend to introduce open access services between Taunton and Westbury service with some services extending to Swindon. It is assumed that should the Taunton - Swindon services be introduced they will run in place of the TransWilts service in the relevant hours. This would result in the same number of paths required on the Melksham single line. However, this would further constrain capacity along the Melksham line and we have concluded that an hourly TransWilts service provides sufficient frequency to meet current demand.

- To Southampton

The third extension option is to Southampton (via Salisbury). This option scored relatively poorly in the economic analysis owing to the high operational costs associated with the longer distances. However, it provides new direct connectivity between Swindon and Southampton where current journeys require two interchanges (Westbury and Salisbury). Southampton is identified by Wiltshire Council as a key location for improved regional connectivity. This option could function as an extension of a Swindon-Salisbury service, being developed as a service extension once the core service is established.

As well as regular hourly extensions there may be opportunities to deliver extensions to more than one of the options, including at a less than hourly frequency. High level timetable analysis indicates opportunities to deliver all of the options:

a) Extend the hourly TransWilts service to Frome and Salisbury in alternate hours.

This option provides regular hourly connectivity between Swindon and Westbury and also provides direct connectivity between Swindon-Salisbury in one hour and Swindon-Frome in the alternate hour.





A loop at Frome would still be necessary and a trade-off would be required which would result in direct connectivity between Salisbury and Swindon reduced to 0.5tph as opposed to 1tph.

b) Retain the hourly Swindon-Salisbury service and provide alternative connectivity between Westbury and Taunton (via Frome)

Timetabling analysis suggests this option is feasible but further analysis is required to understand the operational capability at Frome and will likely require an additional loop at Frome. Further analysis will also determine if delivery of a loop at Melksham will support Go-Ops proposal of circa 3 services per day between Taunton and Swindon.

c) An alternative option enables Westbury to be used as a hub for the required interchanges.

This option will require timetable intervention to allow coordination of arrivals at Westbury to provide easy interchange between services. This option would extend one of the three Bristol-Westbury service to Salisbury on an hourly basis and deliver a direct hourly service between Swindon and Frome.

With similar benefits currently identified for different options, there is ultimately a choice for stakeholders as to where they would most value directly linking to Swindon. Network Rail's recommendation is that strategically there is a strong case for an hourly Swindon to Salisbury service, giving a strong north – south link across the county.

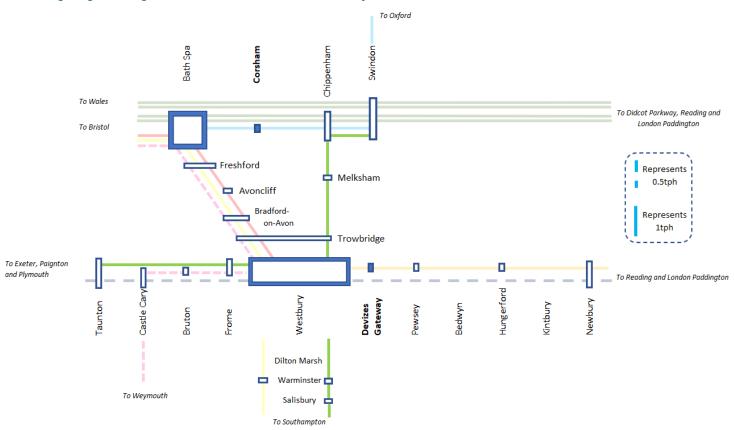


Figure 20 - Stage 2 recommended service enhancements





Stage 3

Hourly 'semi-fast' service between Paddington and Exeter

This option provides increased frequency and journey times to/from Exeter and Paddington hence improving regional connectivity benefits. Although the economic appraisal of the service didn't demonstrate the level of benefits compared to the other services, it does deliver benefits beyond financial value and delivers broader strategic benefits beyond Wiltshire. Furthermore, once improvements to local connectivity have been delivered, the opportunity to improve inter-regional connectivity will improve the connection times at Westbury between the inter-regional service and the local TransWilts services.

In addition to the low ranking from the economic appraisal, delivery if this service is reliant on Westbury Platform 0 and the hourly Paddington-Westbury service being delivered, and has therefore been listed as a stage 3 recommendation.

Increase to half-hourly service between Bristol and Oxford (calling at Chippenham and Swindon) This option builds upon 1tph to deliver increased, direct service frequency between Bristol and Oxford. Delivery of this service would rely on the 1tph service being delivered successfully would also require further timetable analysis.

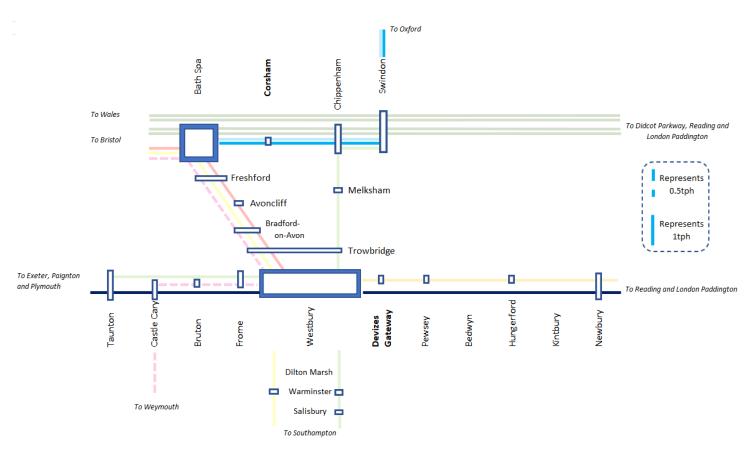


Figure 21 - Stage 3 recommended service enhancements





Not recommended

An additional service every hour between Cardiff and Portsmouth (i.e. a half-hourly service) was assessed but is not recommended. Economic analysis suggests that the operational costs mean it would have a poor case. Any further consideration of this service should focus on a more local service with lower operating costs. Whilst sections of this new journey may deliver local connectivity benefits – e.g. between Bristol and Bath Spa – introduction of a new service between Bath Spa and Westbury is not recommended unless operational constraints dictate it is necessary. Other higher priority service recommendations make use of available capacity around Westbury, whilst extending the TransWilts service to Southampton would provide enhanced connectivity from Wiltshire to the south coast.

What Infrastructure interventions are we recommending?

The mix of services and constraints imposed by the busy network 2 track or single-track railway means capacity for enhanced services is quickly exhausted, triggering the need for infrastructure interventions to accommodate the recommended ITSS. The proposed interventions shown in Table 18 below can be delivered incrementally to support the phased service enhancements and have been suggested through a mix of recommendations from previous studies or through this study, with the support of timetable analysis to determine the most appropriate intervention that will release the additional capacity required.

Proposal	Required	Stage intervention is triggered	Services which trigger intervention
Melksham loop		Stage 1	Westbury – Swindon passenger and freight services
Platform 0		Stage 1	Hourly Paddington – Westbury service
Loop/Platform at Frome		Stage 2	Extension of hourly Swindon – Westbury service to Frome/Taunton
Signalling and Headway improvements at Westbury			Will need to be considered in the longer-term to enable continued
Southcote Jn			growth and alignment to route objectives.
Berks & Hants capacity improvements - Electrification			
Station Accessibility			
Level Crossing upgrades			
Stabling facilities at Westbury/Salisbury			

Table 18- Infrastructure recommendations

Melksham loop





A new loop along the Melksham single will provide additional capacity on the significantly constrained corridor. Any additional services beyond existing freight and a regular 1tph TransWilts service will require additional infrastructure. Extension of the timetable analysis beyond the 3-hour scope of this study may identify the need for this intervention to support the hourly TransWilts service given the additional constraints presented by freight services and the capability of the corridor for use as a diversionary route.

High level analysis undertaken in this study identified 2 potential locations for the loop:

- a loop at Melksham station, as shown in Figure 22, which allows the hourly passenger service to pass. This option is a smaller intervention which allows provision of 1tph Swindon-Westbury but doesn't provide much additional capacity for further freight and passenger growth. The station site at Melksham is constrained; whilst there is space for a loop, there is insufficient space for a second platform to serve passenger trains heading towards Swindon. For these reasons, this option is not recommended.

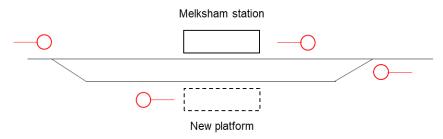


Figure 22 - Proposed loop at Melksham

- a longer section of redoubling at the Thingley Junction end, to provide a dynamic loop. This option is a larger intervention but provides the additional capacity required for the hourly passenger service and an hourly freight or diverted passenger services, ensuring a more resilient and robust timetable. It could be extended up to Thingley Junction if desirable.

Although not done as part of this study, separate work by Network Rail has also previously identified a site for a potential loop towards the southern end of the line, between $102m\ 0220y - 103m\ 0198y$.

It is also recommended that signals are added at Melksham station that will enable trains to be turned back there in the event of disruption further along the route. They will also have the benefit of splitting the long block section, creating more capacity.

Platform 0 at Westbury

Delivery of a new platform at Westbury was recommended in the Devizes IFS to enable delivery of the hourly Paddington-Westbury service. Currently there is no available capacity at Westbury to hold the service for the required dwell time of circa 20 minutes. High-level assessment and design work, shown in Figure 23 below, has been included as part of the Devizes IFS. Timetable analysis of this study also indicated that Platform 0 is required for a Swindon-Westbury service depending on which timetable option is progressed.





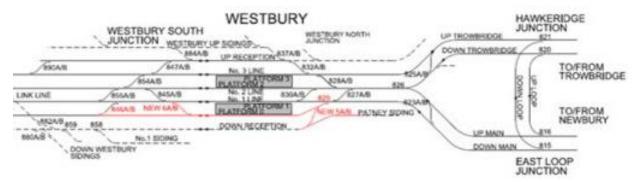


Figure 23 - Proposed Platform 0 at Westbury station

There are two pathing options for the enhanced TransWilts service. The first is based on the existing timetable and requires a new loop along the Melksham single line to accommodate the new service alongside existing freight paths. The second is an alternative path in the timetable (falling at a different point in the hour). Initial assessment for this study suggests this may not require a new loop but may be achievable with retiming other services. However, this would not allow for flexibility and growth in the timetable.

The second option utilises Platform 0 at Westbury, but further analysis may show that the existing platforms offer sufficient capacity. This analysis will also need to consider a full day timetable, with particular consideration to the impact on the Melksham single line being used in a diversionary capacity every 6 weeks. It may be that a new loop on the Melksham single line is required for either option of this service to support resilience and network capability.

Further analysis and development will identity of the two should take priority for detailed development.

Loop at Frome

Intervention would be required at Frome to accommodate the extended Swindon - Westbury service to avoid holding the train for 10 minutes outside Frome, which reduces the benefits of the service and also offers poor passenger experience. It would also conflict with increased volumes of freight traffic. This could be avoided by reintroducing platform 2 at Frome and providing an accessible footbridge as shown in **Error! Reference source not found.**. Another option could be to add a loop to allow the existing platform at Frome to be used as two platforms as shown in **Error! Reference source not found.**.

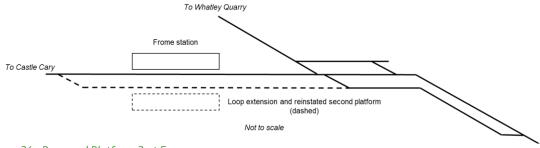


Figure 24 - Proposed Platform 2 at Frome





The concept would be as per the loop at Penryn in Cornwall. Further analysis is required as a next phase of development.

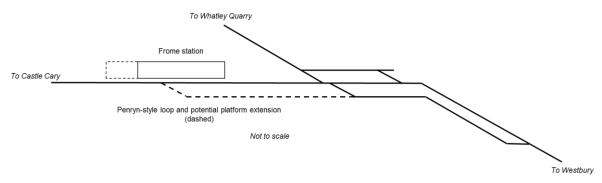


Figure 25 - Proposed Penryn-style loop and platform extention at Frome

Headways and signalling improvements.

Improvements to headways and signalling, particularly around Westbury, will release additional capacity and support aspirations for future growth and increase the level of resilience for the future timetable. Analysis did not identify a hard requirement for these improvements, but it is likely they will be needed to support a robust and reliable timetable in future. Specific locations will be considered in future assessment of recommended ITSS.

Berks & Hants capacity

There is limited additional capacity on the B&H Line to accommodate future growth. It is recommended that, in line with Network Rail's Traction Decarbonisation strategy, the route from Newbury to the Mendip quarries be prioritised for electrification. This would enable electric freight trains with improved acceleration, which would free capacity over the route and enable more freight services in addition to the recommended improvements to passenger services. It would also permit electric operation of the new Paddington-Westbury service. Electrification would provide general capacity and decarbonisation benefits and is not specifically a freight scheme.

The Traction Decarbonisation strategy also had the sections of route from the Mendip quarries to Taunton and Westbury to Bath and Swindon as priorities for electrification. This study does not change that view, but highlights that for the purposes of delivering the service enhancements covered here, the Newbury-Mendip section is key.

Aside from capacity over the B&H itself, separate studies have identified there is limited capacity for additional trains through Southcote Junction. Therefore, any work to enhance capacity over the B&H must be done in conjunction with development of a scheme for unblocking this bottleneck, to ensure that benefits from schemes designed to increase capacity on the B&H can be realised.

Accessibility

This study highlights constraints in accessing the rail network in the Wiltshire area, both in terms of getting to stations via public or active transport and in terms of accessing services at stations.

Specific multi-modal integration recommendations:





- connectivity between bus and rail services at Melksham should be reviewed and enhanced where appropriate (especially when rail services are increased), both regarding signage/wayfinding and timing of services.
- the number of cycle parking spaces at Warminster and Bradford-on-Avon should be reviewed and increased if appropriate. At Bradford-on-Avon consideration should also be given to providing covered cycle parking. It may be appropriate to review facilities at other stations one the Western Gateway STB's Cycling Strategy is released to ensure alignment with this.

Specific accessibility recommendations:

- improvements to accessibility between platforms are made at Bradford-on-Avon, Warminster and Trowbridge. As a minimum these should ensure there is a well surfaced, signed and lit accessible route between platforms, preferably also an accessible footbridge between platforms. At the same time, consideration should be given to any complimentary improvements that could be made, e.g. provision of tactile paving or an accessible toilet.
- of the three stations, Trowbridge should be a priority for a new bridge due to the levels of interchange recorded there, as well as it having the longest step-free distance between platforms.
- overarching station improvement plans should be developed for these stations that encompass the above recommendations and consider other improvements that could reasonably be delivered as a package of works.

Level crossing upgrades

There are 63 level crossings of various types on the rail network within the area of Wiltshire covered by this study, with a further 19 on the Berks & Hants in Somerset and 17 Berkshire. Increases in train service levels will alter the risk profile of these crossings and potentially drive a need for additional protection to be provided, e.g. installing miniature stop lights (MSLs) at footpath crossings. With one train service potentially traversing a large number of crossings over the course of its journey, there is a need for the Network Rail Route Level Crossing team to be engaged at an early stage when developing service proposals so any requirements for mitigations can be understood early on. It is recommended that this information is sought from the level crossing team as part of the next steps from this study, based on the recommended ITSS.

The interventions suggested will require further timetable and economic analysis development which should be carried out in conjunction with Network Rail and key industry partners.

Stabling facilities

Although not within scope for this study, at a later stage of development the implication of train service changes on stabling requirements at Westbury will need to be considered. There are some existing constraints around this which are being captured as part of a separate Depots & Stabling strategy.

The introduction of new services may drive the need to stable more trains overnight at Westbury – a location where stabling options are already limited. As a future train service specification is developed in more detail, consideration will need to be given as to where additional trans can be stabled and whether this will require new facilities at Westbury. There are efficiencies to be explored in GWR stabling units at a redeveloped Salisbury depot, as is being considered through the Salisbury area study being conducted by Wessex route. As well as avoiding duplication of facilities, this option could also tie in well with the delivery of a regular Swindon – Salisbury service.





Improvements to local connectivity are recommended, which will be delivered by providing a regular 1tph service between Swindon and Westbury (with extension options to Frome / Warminster / Salisbury). Connectivity between the two key interchange hubs are improved, with each hub providing inter-regional connectivity via the GWML, B+H line and HoW line.

The recommendations for service enhancements and proposed infrastructure interventions will require further development work to establish the cost and viability for delivery.





6. What is the answer to the headline Strategic Questions and the sub-questions?

The strategic question set out at the beginning of the study aims to identify how rail can best support sustainable economic and housing growth in the Wiltshire area.

How can rail best support the sustainable economic and housing growth in the Wiltshire area?

To do this, the study addressed the following supporting questions:

- What are the capacity and connectivity requirements for key markets operating within, into and out of Wiltshire?
- What interventions are necessary to deliver the rail capacity and connectivity required to help deliver growth in the Wiltshire area?

How can rail best support the sustainable economic and housing growth in the Wiltshire area?

The Wiltshire area is served by a number of key rail corridors which provide good opportunities to connect local hubs to each other as well as to further, regional locations. However, the study demonstrates that the Wiltshire area currently experiences challenges with rail connectivity and capacity.

Considerable forecasted growth will continue to put pressure on an already constrained railway. Combined with local policies to meet government net-zero targets, the reliance on rail will increase and Wiltshire needs a reliable and robust railway to support forecasted levels of housing and economic growth.

The study identifies that on a significant number of flows the current rail provision does not provide the required levels of connectivity, with infrequent and irregular services. Paired with the largely rural nature of the Wiltshire area rail's mode share is low.

Service frequency and irregularity also impacts interchange connectivity and flexibility for passengers which limits connectivity for onwards journeys to key regional hubs which can provide Wiltshire residents with good opportunities for higher education and higher paid employment opportunities.

Analysis carried out in this study shows that the key local settlements, growth areas and interchange locations for Wiltshire sit along the TransWilts corridor. Improved connectivity to the local growth areas and economic hubs would support growth locally, while improved connectivity to the key interchange locations including Swindon, Westbury and Salisbury will provide improved interchange connections for onwards services to London, Reading, Oxford, Bristol and Southampton.

Furthermore, the government's net-zero targets are driving the implementation of policies which aim to reduce car usage. Paired with increased levels of congestion both within Wiltshire and into the key





cities, enhancing Wiltshire's ability to accommodate local and inter-regional journeys is the key to rail being best able to support economic and housing growth.

From the analysis carried out in this study, rail can best support economic and housing growth in the Wiltshire area by improving connectivity through incremental delivery of enhancements to existing services and delivery of new services to support new stations.





Dependent on:	Intervention required	Connectivity Benefit	Growth benefit
Hourly frequency on TransWilts services and through connectivity from Swindon – Salisbury	Yes Melksham loop	Improved service frequencyNorth-south connectivityDirect connectivity between Salisbury, Trowbridge and Swindon	- Areas along the corridor will become more attractive areas for investment, development and new residents.
Bristol – Oxford		 Direct connectivity from Chippenham and Swindon. Reduced number of interchanges required. With improved TransWilts services, residents will have good rail options to travel to Chippenham and Swindon where they can interchange for a direct service to Oxford. Supports potential future delivery of Corsham station, making rail more accessible for those in and around Corsham. 	 Improves accessibility to a key academic, life sciences and technological hub. Supports growth in and around Corsham
Paddington – Westbury stopper and hourly semi- fast	Yes Westbury Platform 0	 Improved service frequency Direct and regular connectivity between Paddington, Westbury and the South West Supports potential future delivery of Devizes Gateway station 	 Improves accessibility into London, supporting a commuter, tourist and leisure market. Supports growth in and around Devizes
Optimising connection times at Swindon, Westbury and Salisbury		- Optimisation will be driven by more services running which will provide better interchange opportunities for onwards connections from Swindon, Westbury and Salisbury to regional locations.	- Improved connectivity to interchange stations will result in improved opportunities for onwards journeys to key regional locations and will increase accessibility to top higher education facilities and higher paid employment opportunities.
Providing new services that facilitate the opening new stations at Corsham and Devizes Gateway	Yes New stations and delivery of supporting services	 Delivery of new stations will provide more opportunities to connect settlements and regions locally and regionally. It will provide residents in and around Corsham and Devizes with a more attractive rail option and makes rail more accessible. 	- Improved accessibility in Corsham and Devizes will encourage investment from businesses and support opportunities for local housing and employment growth.





		- Increases the proximity of residents to a railway station, reducing end-end journey times.	- Improved rail accessibility to key education, economic and leisure hubs.
Hourly service at Pewsey	Yes Westbury Platform 0 and new Paddington – Westbury service	 Improved service frequency gives a more attractive service. In conjunction with TransWilts improvements, this offers much improved opportunities for interchange at Westbury, giving at least an hourly journey opportunity or better to all other key stations in Wiltshire 	 Areas along the corridor will become more attractive areas for investment, development and new residents. Improved linkage to Westbury and beyond will open up more opportunities to travel for work, education and leisure, providing economic stimulus

Table 19 - Benefit delivered and intervention required for recommended services





7.Next Steps

This study sets out a vision for improvements to Wiltshire's rail system that can support sustainable growth in Wiltshire. The recommendations made in this study draw from and align with the industry vision, stakeholder strategies for rail and Wiltshire's local strategic vision for growth and should be adopted as the bases for development plans and strategic vision for the rail system in Wiltshire.

Improvements are recommended in stages and the study sets out some choices for stakeholders around the train service options that could be pursued., which will inform a programme to develop the strategic and investment cases to deliver the suite of enhancements incrementally.

The study should be endorsed as the proposed strategic baseline for rail system planning and should be used as the basis for further detailed analysis on the feasibility and requirements for delivery of the proposed recommendations.

Having agreed the preferred options, a refined ITSS can be re-tested, constructing a whole-day train plan to confirm its viability, along with early development work of the proposed infrastructure interventions to provide an indication costs and operability for freight and passenger services that utilise the line. The service recommendations and further detailed analysis will also inform feasibility of peak-hour amendments that can be made to the semi-fast calling pattern to retain current connectivity and the prioritisation of development work on interventions including Westbury Platform 0 and Melksham loop. Any other relevant changes, such as the latest iteration of a post-Old Oak Common timetable, GoOp proposals or potential for a Paddington – Frome service should be reflected in this next phase of work.

High level design work has already been undertaken by the Old Oak Common impacts workstream for interventions at Melksham and the Devizes IFS workstream for Westbury Platform 0 and Devizes Gateway station. High level analysis has also been carried out for a new station at Corsham. Further development work will incorporate and build upon this study and high-level development work already undertaken via the individual workstreams to deliver viable business cases.

Devizes and Corsham new stations are likely to be dependent on delivery of new services, which are included in the recommended ITSS in the form of the hourly Paddington – Westbury, for Devizes, and the hourly Bristol – Oxford, for Corsham. A separate SOBC considers the case for the Bristol – Oxford service. Prioritisation of an intervention at either Melksham or Westbury Platform 0 will also be determined via further analysis of a refined ITSS.

Ultimately interventions should be developed in association with the service enhancements that they help deliver. However, this study shows that the requirements for different new services are highly interconnected in the Wiltshire area, such that the case for an intervention may sit across numerous service outcomes. Further development and refinement of the ITSS will help to confirm these interdependencies and provide a sufficient level of maturity for identification of business cases for investment that supports multiple outcomes.





Further development needs to include all the areas for intervention identified that are not considered directly in this study but has an interface including Wessex aspirations, The Greater Exeter Rail Study and proposals for Southcote Junction.

Infrastructure interventions should inform industry enhancement priorities and funding requirements to deliver the strategic vision for Wiltshire, which delivers benefits further to passenger and freight services utilising the line, including uplift in frequency of services and enhanced local and regional connectivity to key growth hubs.

Evidence from analysis conducted as part of this study shows the network in the Wiltshire area to be nearing or at capacity and it should be recognised that these system constraints in the Wiltshire area mean that most enhancements to services will likely depend on system interventions. Further development should be undertaken to strengthen the link between interventions and benefits and to support the development of an investment case for enhanced services, new stations and recommended infrastructure.

This analysis should also consider safety considerations, such as impacts on level crossings and cross platform interchanges.

As these programmes progress, individual projects can be accelerated for delivery as appropriate. Further development should be completed prior to submitting a Decision to Initiate to enter the programme(s) into the Rail Network Enhancements Pipeline (RNEP). The RNEP process and associated business case development is shown below in Figure 26. Network Rail must work with STB's and other stakeholders to identify best the use of rail budgets to undertake the necessary development of identified schemes.

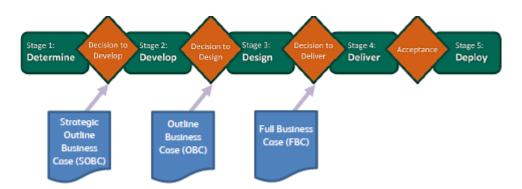


Figure 26 The Rail Network Enhancements Pipeline process, with business case development stages

Whilst it's likely that delivery of some of these enhancements will require central government funding, there are opportunities to progress development more swiftly through other funding sources, including blended funding. It is important that the collaborative work undertaken for this study is used to enhance the case for future programmes.





The large majority of information required for development of the strategic and business cases is contained within the Wiltshire study and development work should focus on building upon this with further detailed analysis.

We will also use the information gained to inform future strategies and plans. The suite of interventions identified sets out an incremental investment programme which should be used to inform future investment programmes and studies including Western Gateways strategic vision and Wiltshire's CTP and LTP and be used to support development of an integrated, inter-modal transport system in Wiltshire so that growth in Wiltshire can be fully supported. Further development of the proposed interventions will require active engagement with all stakeholders.

Close engagement with partner organisations outside the rail industry who have interests in supporting growth within Wiltshire should continue. The study and proposed programme should function as a baseline for the strategic vision for rail in Wiltshire for all beneficiaries of the rail system and those who have a role in supporting the housing and employment growth in Wiltshire. The recommended programme should engage with potential funders and make the study information available to facilitate the development of business cases outside the RNEP process.





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