NetworkRail

Dorset Metro Service Enhancement

Strategic Outline Business Case (SOBC)

Western Gateway
Sub-national Transport Body

July 2025

Contents

1 Foreword

This Strategic Outline Business Case (SOBC) presents a proposal for service changes that seek in improve connectivity from wider Dorset and New Forest areas into and out of the Bournemouth, Christchurch and Poole conurbation. These connectivity improvements could encourage economic growth and productivity, whilst improving social mobility and opportunity across the region.

The production of this document has been led by Network Rail, with additional funding from Dorset Council and Western Gateway Sub-national Transport Body (STB). Additional support has been provided by South Western Railway (SWR), Bournemouth, Christchurch and Poole Council, Purbeck CRP and Swanage Railway.

The SOBC aligns to recommendations from the Dorset Connectivity strategic study, published in 2022, and represents Western Gateway's priorities for rail, as outlined in their Rail Strategy, published in 2020.

2 Executive Summary

2.1 Strategic Case

This Strategic Outline Business Case (SOBC) sets out the rationale for investment in the Dorset Metro rail corridor, which spans from Brockenhurst to Weymouth, incorporating key regional centres such as Bournemouth, Poole, Wareham, and Dorchester.

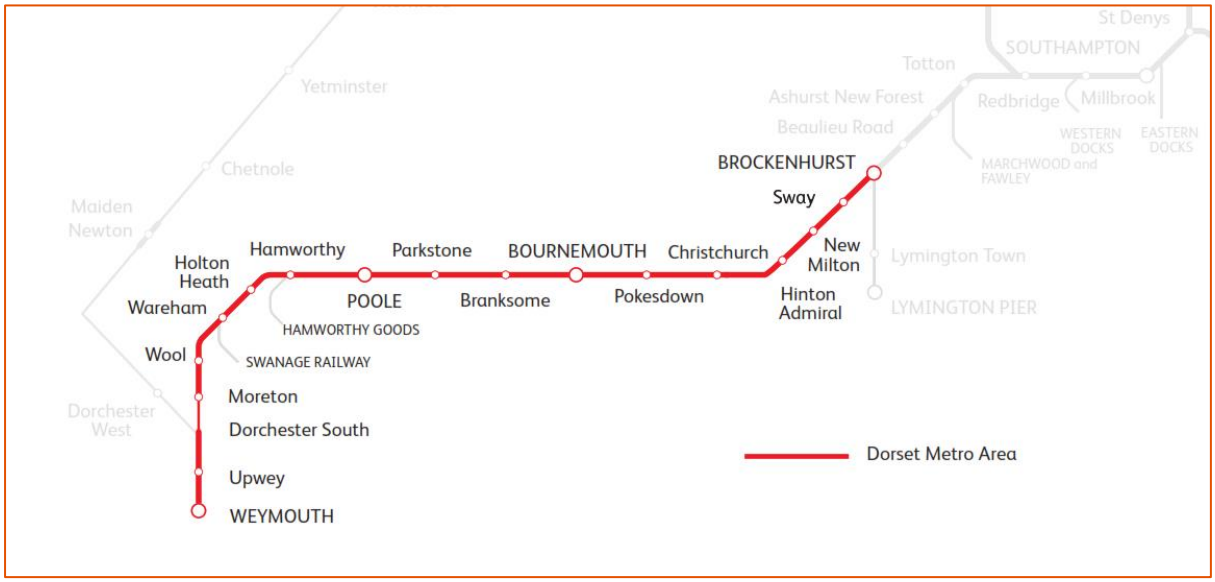


FIGURE 2-1: DORSET METRO AREA

Passenger rail services are broadly Main Line services between Dorset and London Waterloo, with the addition of regional services from Bournemouth to Manchester or Birmingham. Important interchange opportunities for passengers are provided with the Heart of Wessex Line for services to Bristol, the Lymington Branch for the New Forest and Isle of Wight, and at Southampton Central for connections along the South Coast and towards Salisbury and beyond. In addition, there are proposals for regular aggregate freight services to be operated from the Poole area.

The case is developed in partnership with and jointly funded by Network Rail, the Western Gateway Sub-national Transport Body (STB), and Dorset Council, with the support of other local and rail industry stakeholders.

The SOBC aligns with national, regional, and local transport and economic strategies. It responds to the pressing need to improve rail connectivity, support economic growth, enhance social mobility, and contribute to the decarbonisation of transport in the South West.

The Dorset Metro area is characterised by a high reliance on private vehicles, low rail mode share, and limited service frequency, particularly outside peak periods. Despite competitive rail journey times compared to road, rail commuting remains significantly below the national average.

The area also exhibits pockets of deprivation and transport-related social exclusion, particularly in rural and coastal communities. The visitor economy, which contributes over £900 million annually across Dorset and the New Forest, is also constrained by limited public transport options, particularly for intra-regional travel.

The strategic case identifies five core objectives:

Objective A ***Choice***	Increase train frequency to encourage more journeys to be made by rail, making rail a viable choice for residents, businesses, and tourists, by better connecting rural and urban areas.
Objective B ***Environment***	Increase rail's modal share to deliver environmental benefits including reduced traffic congestion, improved air quality and carbon reduction, through service level improvements and better connectivity with other public transport modes.
Objective C ***Social Mobility***	Improve local rail services to better connect residents to education, employment, goods, services, and leisure/ visitor attractions, enabling people that do not have access to a private car or who are socially isolated to benefit from the opportunities provided through travel.
Objective D ***Growth/Productivity***	Improve rail services to deliver significant economic benefits through better connections to education, employment, goods, services, and leisure/ visitor attractions, improved Generalised Journey Times (GJT), as well as attracting inward investment through new and emerging employment and housing sites that can be located sustainably near railway stations.
Objective E ***Resilience/Reliability***	Enhance railway infrastructure to unlock opportunities to increase the resilience and reliability of railway assets as well as enabling the robust operation of rail services under normal running and at times of disruption.

These objectives are closely aligned with the Western Gateway Rail Strategy themes and the UK Government's five national missions, including "Get Britain Building Again" and "Break Down Barriers to Opportunity."

To address these challenges and opportunities, a series of service enhancement options have been developed and appraised. These include the introduction of a new hourly shuttle service between Brockenhurst and Wareham, and the regularisation of services between Weymouth and Bournemouth/London. Each option has been assessed for its operational feasibility, infrastructure requirements, and alignment with strategic objectives.

Option 1 proposes a +1 train per hour (tph) service between Brockenhurst and Wareham, delivered as an enhanced renewal alongside planned signalling upgrades. This option offers the most cost-effective solution, with estimated costs ranging from £33.6 million to £52.3 million depending on the level of junction improvements required at Brockenhurst. Sub-options include both all-stops and limited-stop service patterns, with the latter offering improved performance resilience.

Option 2 mirrors the service uplift of Option 1 but is delivered as a standalone enhancement, independent of the signalling renewal programme. While operationally identical, this approach

incurs significantly higher costs (estimated between £56.7 million and £81.2 million) highlighting the value of integrating enhancements with planned renewals.

Option 3 explores the regularisation of services at Weymouth, with two sub-options: **Option 3A** provides a consistent half-hourly service to London Waterloo (2tph), supplemented by a local shuttle 1tph, between Weymouth and Bournemouth, to maintain regional connectivity; **Option 3B** focuses on regional travel by reducing London services to 1tph whilst enhancing local frequency with a 1tph Weymouth to Brockenhurst service. Both options require infrastructure upgrades, including the doubling of the single-track section between Moreton and Dorchester South and headway improvements between Bournemouth and Brockenhurst. Estimated costs for these options range from £78.3 million to £91.4 million.

A fourth option, **Option 4**, was considered for a shuttle service between Wareham and Swanage utilising the Swanage Railway's heritage infrastructure. This was only considered at a high-level, so no infrastructure interventions were identified. Whilst not yet costed, this option is recognised for its potential to support tourism, improve access to the Isle of Purbeck, and enhance regional connectivity. The economic analysis concludes that the volume of passengers required to breakeven, i.e. for farebox revenue to cover the train operating costs, does not seem unattainable and that there is capacity on the trains to accommodate average demand per single journey per day. Overall, while the shuttle service shows potential for financial viability, further analysis is needed to address broader economic, seasonal, and integration factors.

Each option has been assessed against the SMART spending objectives and demonstrates clear alignment with wider policy goals. The preferred options offer significant potential to improve rail accessibility, reduce car dependency, support economic development, and contribute to environmental sustainability. As well as supporting the Government's five missions.

TABLE 1-2-1: ALIGNMENT TO 5 GOVERNMENT MISSIONS

1.	**Get Britain Building Again:** • Greater connectivity into the BCP conurbation could make housing developments more attractive in the wider Dorset Metro area and incentivise local authorities to build housing with good access to the railway network.
2.	**Switch on Great British Energy:** • Provision of additional electrified rail services (a greener mode than car) and modal shift resulting from increased frequency can contribute to net zero targets and declared climate emergencies.
3.	**Get the NHS Back on its Feet:** • More consistent and reliable options for NHS employees to travel to work and patients to travel to appointments, particularly those who do not own a car or cannot drive.
4.	**Take Back Our Streets:** • Remove cars from the road through increased rail service frequency, allowing for faster police response times. • Opportunity to improve station and public realm integration on back of service change
5.	**Break Down Barriers to Opportunity:** • More consistent and reliable options for travelling to work and interviews, and to educational establishments, particularly for those who do not own a car or cannot drive.

However, as is shown in the economic case, low Benefit Cost Ratios (BCRs) mean that this SOBC does not recommend the delivery of these service changes as a standalone rail scheme. The SOBC highlights the potential for improved local connectivity but concludes that, at this stage, the rail infrastructure and operational costs outweigh the benefits. A multi-modal approach is recommended to maximise value and address connectivity challenges across the region.

Wider Recommendations (Led by Local Stakeholders):

- **Adopt a Multi-Modal Strategy:** Integrate rail with bus, light rail, active travel, and park-and-ride solutions to improve access and connectivity. This should include further examination of the Swanage Railway service and how best to encourage traffic off the roads
- **Align Housing and Employment Growth with Rail Corridors:** Encourage development near stations to boost rail demand and support economic viability; this is perhaps the most important of the recommendations and needs to be seriously considered as Local Plans are developed
- **Leverage Regeneration Projects:** Incorporate rail improvements into urban redevelopment plans, such as Poole town centre, and explore developer contributions
- **Enhance Other Public Transport Modes:** Use BSIP funding to improve bus services and integrate them with rail, reinforcing the case for a connected transport network

Railway Recommendations (Led by the Rail Industry):

- **Utilise the Renewals Workbank:** Influence Network Rail's renewals programme to deliver incremental infrastructure improvements aligned with Dorset Metro goals
- **Pursue Incremental Service Enhancements:** Explore incremental timetable changes and service extensions to improve frequency and coverage
- **Investigate Alternative Service Patterns:** Assess new hourly service options, such as New Milton–Wareham and Bournemouth–Swanage, for feasibility
- **Conduct Performance Analysis:** Evaluate the operational impact of proposed service changes to ensure reliability and resilience

These recommendations collectively aim to build a robust, integrated transport system centred on rail, but supplemented by improvements to other modes, while delivering short-term benefits and laying the groundwork for future enhancements.

2.2 Economic Case

The Economic Case for this SOBC weighs the proposed rail improvements' benefits against their costs over 60 years, following Department for Transport guidance. The principal benefit is reduced journey times for passengers, enabled by more frequent or regular services; costs include building new infrastructure and running additional trains, though ongoing maintenance and some unmodeled benefits are not included in the current evaluation.

Six options were analysed, covering hourly shuttle or regularised services delivered either in conjunction with scheduled renewals or as stand-alone projects. All options showed low BCRs: the shuttle service options scored between 0.16 and 0.20 (rated Poor Value for Money), while the service regularisation options received negative BCRs (rated Very Poor Value for Money) due to losses in connectivity to London outweighing any local benefits. Sensitivity analysis confirmed these findings would not change, even if further costs arose.

TABLE 1-2-2: BENEFIT COST RATIOS (BCR)

Option	Description	Benefit Cost Ratio (BCR)	Value for Money Rating
Option 1A	+1tph Wareham to Brockenhurst (all stops), delivered with planned renewal	0.20	Poor
Option 1B	+1tph Wareham to Brockenhurst (skip stops), delivered with planned renewal	0.19	Poor
Option 2A	+1tph Wareham to Brockenhurst (all stops), stand-alone scheme	0.17	Poor
Option 2B	+1tph Wareham to Brockenhurst (skip stops), stand-alone scheme	0.16	Poor
Option 3A	Service regularisation: 2tph fast Weymouth to Waterloo plus local shuttle	-0.63	Very Poor
Option 3B	Service regularisation: 1tph fast Weymouth to Waterloo, 1tph fast Southampton to Waterloo, plus local shuttle	-0.60	Very Poor

Given these results, the Economic Case does not support advancing the scheme to the next business case stage, instead recommending further work on timetable modelling, performance impacts, and potential extra infrastructure costs. Overall, the costs of the Dorset Metro proposals outweigh their benefits, resulting in poor value for money across all options considered.

2.3 Financial Case

The Financial Case outlines the affordability and funding considerations for the Dorset Metro proposals. Early development has been funded by Western Gateway STB, Dorset Council, BCP Council, and Network Rail, with these costs excluded from the final capital estimates.

Order of Magnitude cost ranges have been developed for each shortlisted option, reflecting varying infrastructure requirements. Enhanced renewal options, delivered alongside planned signalling upgrades, offer significant cost savings compared to standalone delivery.

These costs are indicative, and the estimate will be refined as the project proceeds through the RNEP process (if applicable) and PACE stages.

TABLE 1-2-3: ANTICIPATED FINAL COSTS (AFCS)

Capital Costs	Option 1A/1B: Dorset Metro, enhanced renewal	Option 2A/2B: Dorset Metro, stand-alone	Option 3A/3B: Weymouth service regularisation
Anticipated Final Costs (includes contingency)	£37.3m	£66.7m	£86.2m
Interventions	Headway reductions BMH-BCU, delivered as **enhanced renewal**	Headway reductions BMH-BCU, delivered as **stand-alone scheme**	Headway reductions BMH-BCU and redoubling of track MTN-DCH, delivered as stand-alone scheme

Note: BMH = Bournemouth; BCU = Brockenhurst; MTN = Moreton; DCH = Dorchester South

Future funding remains unconfirmed. The primary route is through the Department for Transport's Rail Network Enhancements Pipeline (RNEP), which this SOBC is intended to support. Alternatively, third-party funding may be pursued, with Network Rail able to facilitate such investment.

The financial case will be refined in the Outline and Full Business Cases, with further detail on funding contributions and delivery arrangements. While funding is not yet secured, the case presents a clear and credible pathway for progressing the scheme through established mechanisms.

2.4 Commercial Case

The Commercial Case outlines the potential procurement and delivery approaches for the Dorset Metro scheme, demonstrating that the project is commercially viable and capable of being delivered through established industry frameworks. While a preferred commercial strategy will be developed during P Project Acceleration in a Controlled Environment (PACE) Stage 1, this SOBC sets out a range of viable options for both project sponsorship and delivery.

Four sponsorship models are considered: sole sponsorship by the Department for Transport (DfT), Western Gateway STB, joint sponsorship between DfT and Western Gateway, and third-party sponsorship. Each model presents distinct advantages and risks, with joint sponsorship offering a balanced approach that leverages DfT's delivery experience and Western Gateway's regional insight.

Two delivery models are proposed: a traditional Design, Build & Maintain approach led by Network Rail, and a Design & Build model involving a third-party contractor. The former offers a proven delivery route with embedded governance, while the latter may provide innovation and flexibility, subject to close coordination with Network Rail as asset owner.

All combinations of sponsor and delivery agent remain viable at this stage. A qualitative assessment of these options will be undertaken during PACE 1 to inform the Outline Business Case (OBC), at which point a preferred procurement strategy will be confirmed.

2.5 Management Case

The Management Case demonstrates that the Dorset Metro scheme is deliverable and outlines the project's approach to governance, risk, assurance, and stakeholder engagement. It provides confidence to funders that the proposal can be effectively managed through future development and delivery stages.

At this SOBC stage, the project has been led by Network Rail's Southern Region Strategic Planning team, supported by Engineering Services Design Delivery. In future stages of development, the scheme will adopt the PACE methodology, alongside Project SPEED and Minimum Viable Product (MVP) principles, to streamline delivery and control costs.

Governance arrangements will be confirmed at the next stage, depending on the chosen sponsorship and funding model. Assurance processes will include industry consultation through Network and Station Change, cost and schedule risk assessments (QCRA and QSRA), and adherence to safety and investment protocols. Independent reviews may also be undertaken to strengthen oversight.

Risk management will follow established Network Rail procedures, with a live risk register and quantitative assessments informing future business case submissions. The project will also consider interdependencies with related studies and initiatives, including the Dorset Connectivity Strategic Study and the Bournemouth Strategic Station Plan.

In summary, the project is underpinned by a robust management framework, with clear processes in place to support its progression through the next stages of development and delivery.

3 Strategic Case

3.1 Background

3.1.1 Geography and train services

The Dorset Metro area is defined, for the purpose of this study, as the railways connecting Brockenhurst with Weymouth, Wareham, and Swanage via Bournemouth (Figure 3-1). Services are primarily operated by South Western Railway (SWR) and CrossCountry (XC), with interfacing services from Great Western Railway (GWR) joining at Dorchester Junction and terminating at Weymouth. Swanage Railway runs an off-peak heritage steam or diesel service from Swanage to Norden, which does connect to the main line at Wareham, although no services run there today.

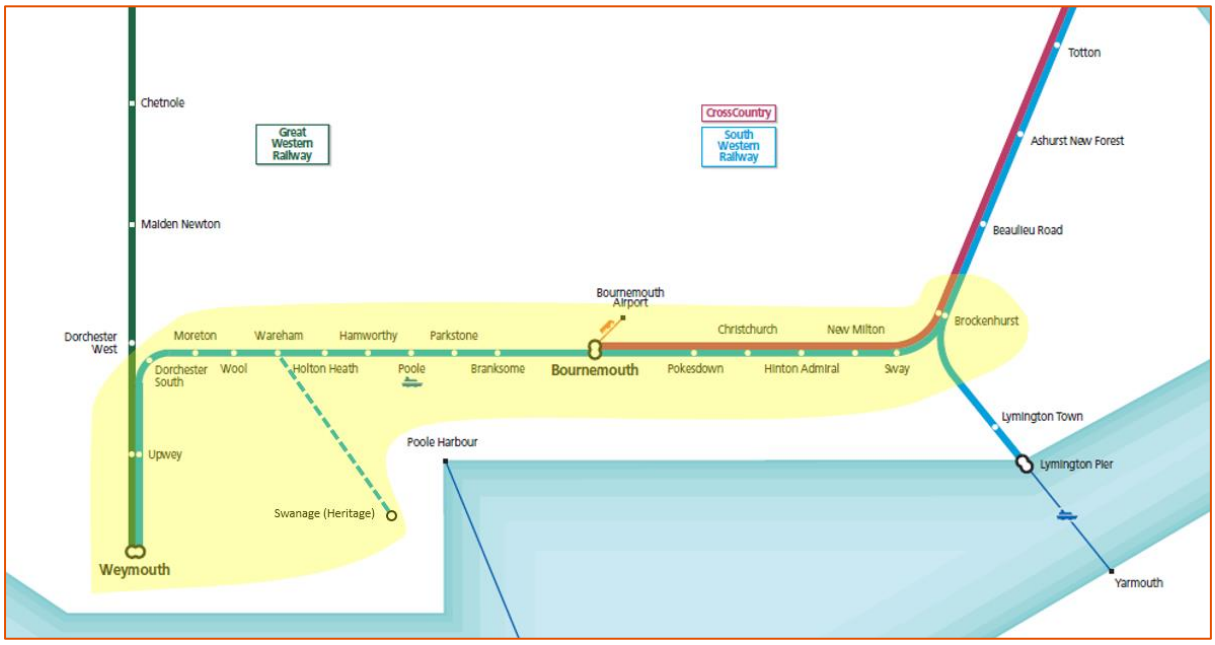


FIGURE 3-1: DORSET METRO AREA RAILWAYS

The service pattern in the area during the hour of 09:00-10:00 is shown in Figure 3-2.

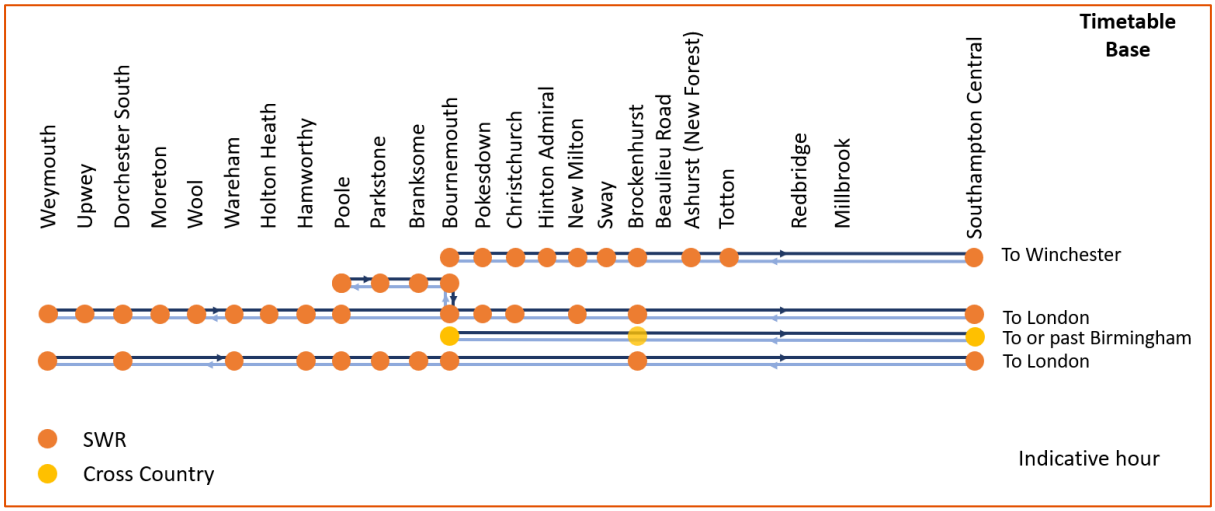


FIGURE 3-2: CURRENT SERVICE PATTERN AT BOURNEMOUTH

CrossCountry services generally originate or terminate at Bournemouth and Birmingham New Street or Manchester Piccadilly, and only call at Brockenhurst twice a day. For most of the off-peak, outside of the shoulder peaks, the Winchester to Bournemouth services originate from Southampton Central. The longer distance services from London to Weymouth split and join at Bournemouth due to lower demand and power restrictions to the west of Bournemouth, for example the Poole to Bournemouth train joining the Weymouth to Bournemouth train to form the Bournemouth to Waterloo service.

In terms of other relevant interfacing services, the 1tp2h Heart of Wessex Line service, operated by GWR, runs between Weymouth and Bristol Temple Meads/ Gloucester. There is also a 2tph shuttle service from Brockenhurst to Lymington Pier. The Swanage Railway is a heritage railway which operates between Swanage and Norden. A trial 90 day Swanage to Wareham service was operated in 2023 and a Restoring Your Railway's proposal was in being considered when the programme was terminated in 2024. No services currently operate between Swanage and Wareham.

3.1.2 Freight

There is little freight traffic on this section of the SWML with most freight from Southampton Docks heading towards the Midlands and the North. Potential new freight markets, such as express parcel logistics, may provide opportunities to operate freight through Dorset.

There are proposals to refurbish and enhance the rail infrastructure within the Port of Poole to enable marine dredged aggregates traffic via the Hamworthy Branch. There has been aggregates traffic to and from the Hamworthy Branch in previous years, although not currently, and the track and infrastructure is in place to potentially allow the reinstatement of this traffic. Network Rail is actively involved in progressing this ambition with local stakeholders and freight customers. There are also aspirations to operate intermodal container train flows in the future from the Port.

Aggregates traffic also used to operate from the Wool area and could potentially come back into use should the market require it in alignment with the decarbonisation agenda to get freight off the roads and on to rail. Other freight flows may be required for the decommissioning of the Winfrith facility.

At Furzebrook Sidings, to the north end of the Swanage Railway, between Norden and Worgret Junction, there was a terminal for liquified petroleum gas traffic from Avonmouth, but this is also no longer in use and may be required for future expansion of the Swanage Railway.

There have been previous aspirations for timber traffic from Brockenhurst, but this was not deemed a viable freight flow and has never been progressed.

The spacing and design of the signalling through parts of the scope area of this SOBC are such that they do not inhibit or restrict future freight movements.

3.1.3 Dorset Metro area: demographics

In order to capture key demographic statistics, an area around the relevant lines and stations has been selected (Figure 3-3) to view Office of National Statistics (ONS) data around a wide variety of measures. Please note this is not the area used for demand analysis or the economic case and is for illustrative purposes only.

FIGURE 3-3: CUSTOM AREA SELECTED FOR DEMOGRAPHIC ANALYSIS OF THE DORSET METRO AREA. SOURCE: ONS "*BUILD A CUSTOM AREA PROFILE*"

The population of the area which has been used for this demographic breakdown is around 300,000 people. The total rail catchment of the area is likely higher than this.

The age profile shows more young people and less elderly people than the national averages (Figure 3-4).

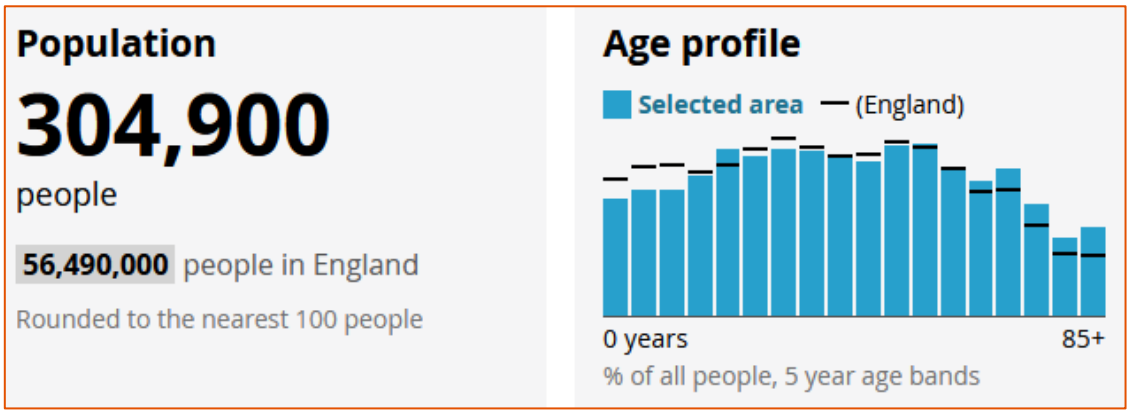


FIGURE 3-4: POPULATION AND AGE PROFILE FOR THE DORSET METRO AREA

In terms of travel to work, the 2021 census was carried out during the Covid-19 pandemic, with restrictions on travel and increased working from home in effect. Therefore, the data for "works mainly at home" statistics will be over-represented. However, the outcome of this census (Figure 3-5) does show that car ownership is high despite shorter distances travelled to reach work compared to the national average. Commuting by train is at less than half of the national average at 0.8 % , while bus travel is near the national average at 4.5 % .

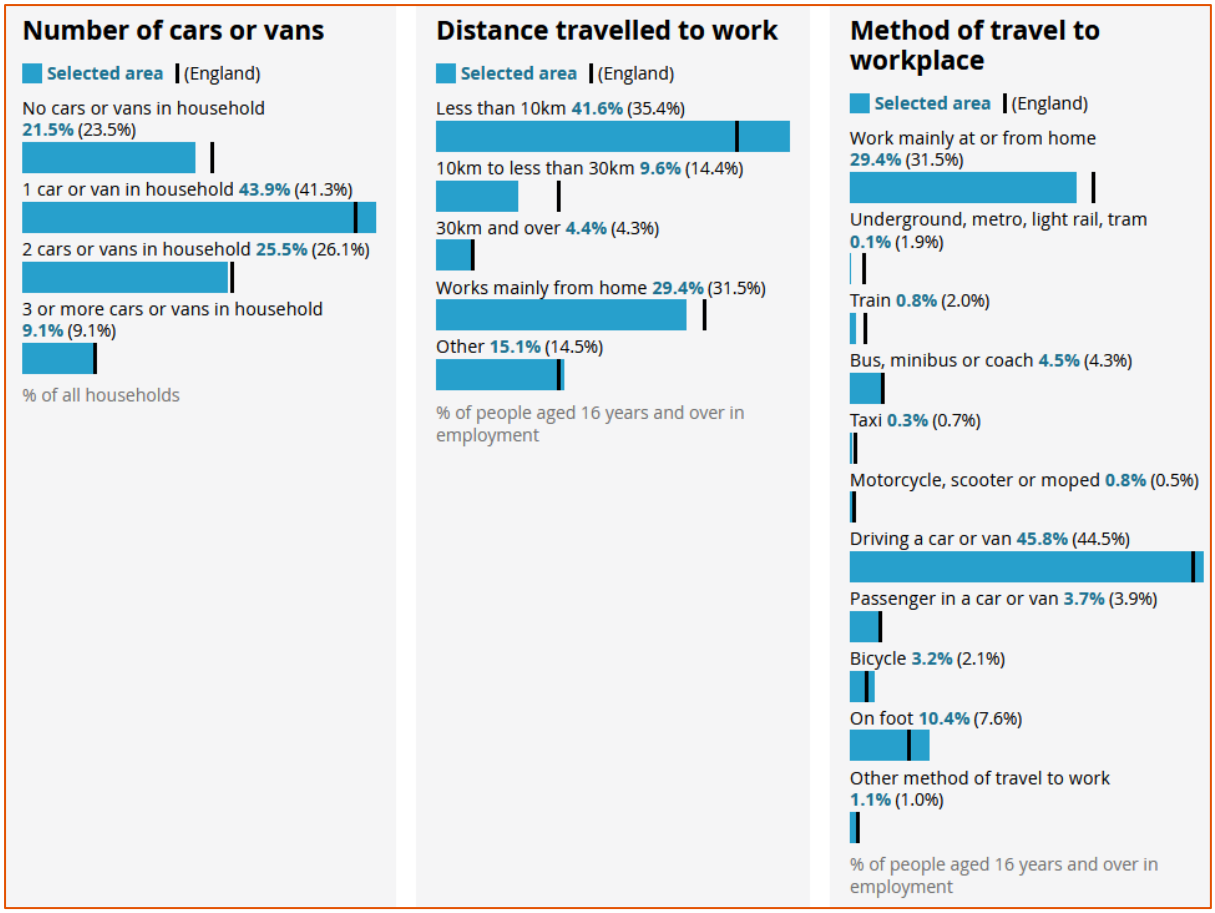


FIGURE 3-5: TRAVEL TO WORK STATISTICS FOR THE DORSET METRO AREA. NOTE THE IMPACTS OF COVID-19 ON THE 2021 CENSUS RESULTS.

Given the lower level of rail commuting and the higher car ownership, there is an opportunity for growth in the rail commuting market, particulary considering the competitive journey times offered by the railway in the peaks (Table 3-1).

TABLE 3-1: JOURNEY TIME COMPARISON BY RAIL AND ROAD FOR THE TOP 5 TRIPS ENTIRELY WITHIN THE STUDY AREA.

Origin	Destination	Journey Time by Rail (range stopping pattern dependent in the peak)	Journey Time by Road (range traffic dependent in the peak)
Bournemouth	Poole	9-13 minutes	20-40 minutes
Bournemouth	Brockenhurst	14-26 minutes	35-55 minutes
Bournemouth	New Milton	14-17 minutes	26-50 minutes
Dorchester South	Weymouth	11 minutes	18-28 minutes
Bournemouth	Christchurch	7 minutes	14-28 minutes

Deprivation statistics (Figure 3-6) are broadly in line with national averages, noting a slightly higher incidence of disabilities and unemployment (economic inactivity) in the area.

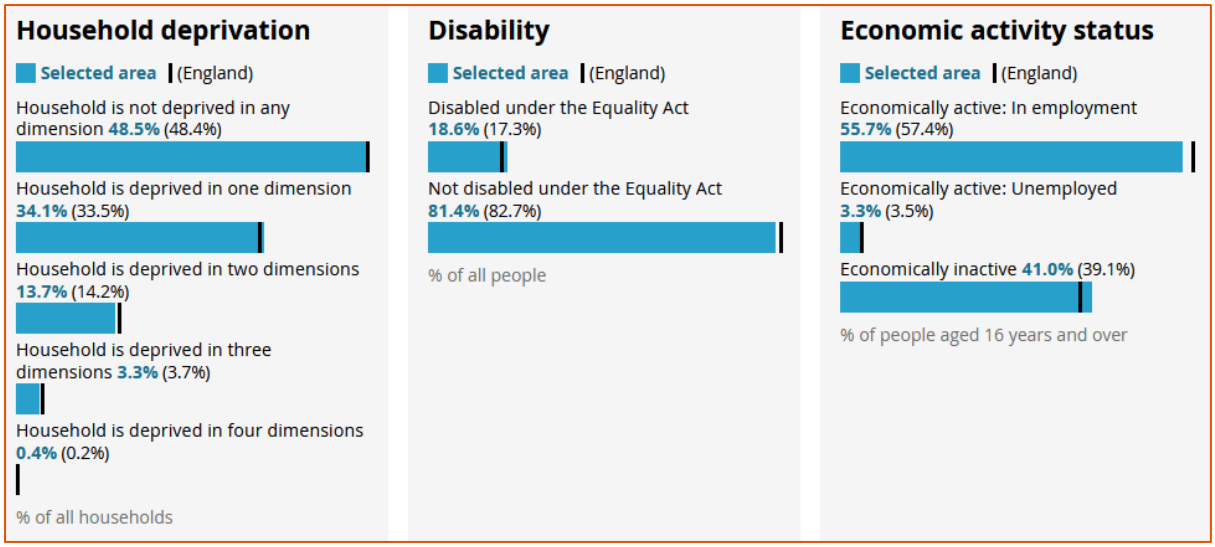


FIGURE 3-6: DEPRIVATION, DISABILITY AND ECONOMIC ACTIVITY FOR THE DORSET METRO AREA

3.1.4 Visitor economy

The "visitor economy" is an important aspect of the overall economy of the wider South West; the statistics for Dorset show that tourism has an impact on employment, businesses and the wider economics of the county.

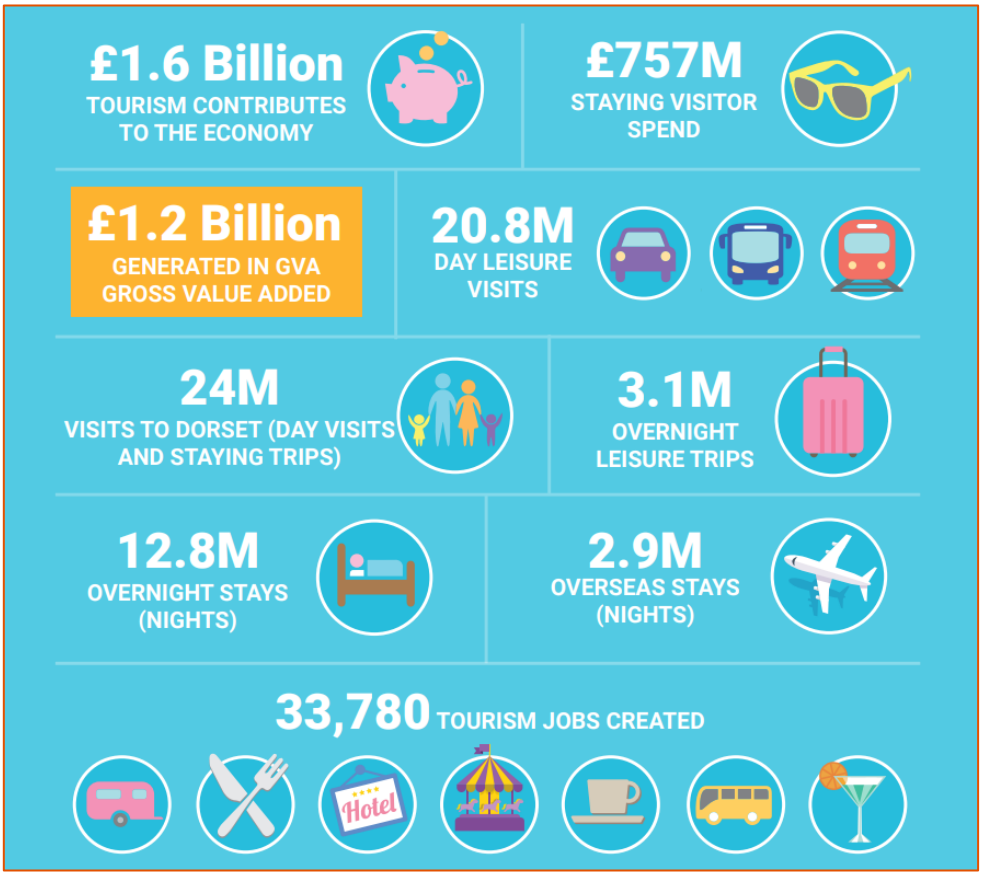


FIGURE 3-7: THE ECONOMIC IMPACT OF DORSET'S VISITOR ECONOMY 2022, VISIT DORSET

The Bournemouth Christchurch and Poole Tourism Strategy[1] states that the visitor economy provides a £418 million GVA contribution to the local economy in 2021 and that tourism accounts for 0ver 12,000 jobs. In addition, the New Forest's visitor economy is worth in excess of £491 million per year and provides approximately 9,000 local jobs.[2]

The number of visitors, their associated spend, and the employment generated in Dorset, the BCP conurbation, and the New Forest, highlights an opportunity for rail to provide a service that brings visitors to the area, enables visitors to travel around the wider area, and connects residents to employment in the sector as well as leisure opportunities.

3.1.5 Demand, growth and Covid-19 recovery

3.1.5.1 Demand

ORR Station Usage data shows that Bournemouth is the largest station for entries and exits in the Dorset Metro area, likely due to the abundance of jobs, housing and education in the town centre, while Brockenhurst has the most interchanges due to its links to Lymington and on to the Isle of Wight. The top 5 stations are shown in Table 3-2.

TABLE 3-2: TOP 5 STATIONS IN THE DORSET METRO AREA BY FOOTFALL. SOURCE: ORR STATION USAGE 2023-24

Station Name	Entries and Exits	Interchanges
Bournemouth	2,520,904	62,051
Poole	857,240	4,925
Brockenhurst	838,388	216,713
Weymouth	687,030	40,642
New Milton	517,988	0

London dominates the top destinations from the area, but Bournemouth and Southampton and Bournemouth and Poole are also key journey pairs (Table 3-3).

TABLE 3-3: TOP 5 JOURNEY PAIRS ORIGINATING WITHIN THE DORSET METRO AREA. SOURCE: ORR ORIGIN DESTINATION MATRICES (ODM) 2022-23

Origin	Destination	Annual Journeys
Bournemouth	London Waterloo	267,900
Bournemouth	Southampton Central	165,500
Poole	London Waterloo	72,400
Brockenhurst	London Waterloo	68,500
Bournemouth	Poole	67,700

For journeys which are entirely within the Dorset Metro area, Bournemouth is present in 4 of the top 5 journey pairs, with Dorchester South and Weymouth making up the other pair (Table 3-4).

[1] https://www.bcpcouncil.gov.uk/Assets/About-the-council/Bournemouth-Christchurch-and-Poole-Tourism-Strategy.pdf
[2] New Forest District Council

TABLE 3-4: TOP 5 JOURNEY PAIRS ENTIRELY WITHIN THE DORSET METRO AREA. SOURCE: ODM 2022-23

Origin	Destination	Annual Journeys
Bournemouth	Poole	67,700
Bournemouth	Brockenhurst	63,000
Bournemouth	New Milton	45,100
Dorchester South	Weymouth	41,800
Bournemouth	Christchurch	27,700

When all destinations with over 5,000 passengers per year (~15 per day) originating in the study area are visualised, local journeys and regional hubs are identifiable as the key destinations (Figure 3-8).

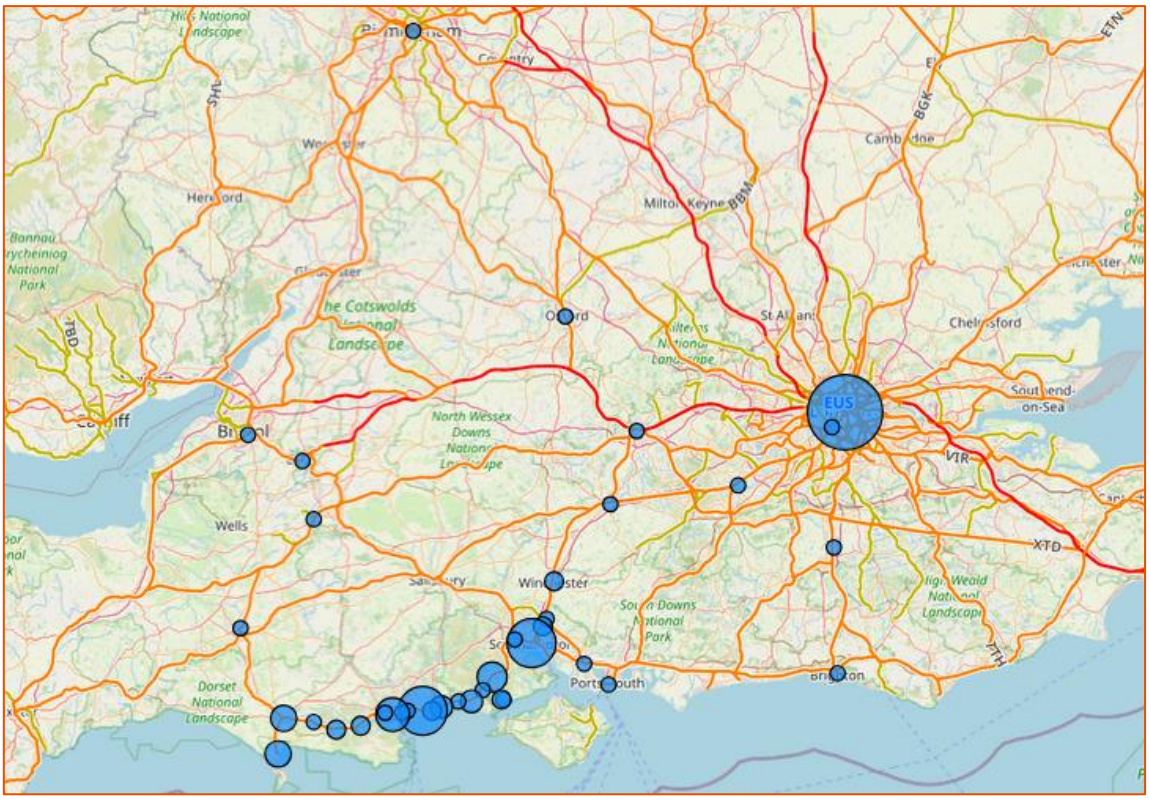


FIGURE 3-8: DESTINATIONS FROM ORIGINS WITHIN THE STUDY AREA WITH MORE THAN 5,000 JOURNEYS PER YEAR. SOURCE: ODM 2022-23

Network Rail's Strategic Rail Analysis Model (SRAM, Beta), allows for a visualisation of all-day demand originating in the study area, to see where the ultimate destinations of passengers are (Figure 3-9).

Wide connectivity around the entire rail network can be seen, with notable demand lines east of Bournemouth to Brockenhurst, Southampton and London.

FIGURE 3-9: ALL-DAY DEMAND ORIGINATING IN THE STUDY AREA. SOURCE: NETWORK RAIL STRATEGIC RAIL ANALYSIS MODEL (SRAM RUN 62)

3.1.5.2 Covid-19 recovery

Following the Covid-19 pandemic and changes to working culture, stations have recovered at different rates across the country, with the plurality of stations recovering at around 80 %-90 % of pre-pandemic passenger numbers and a median recovery of 87 %. Stations in the Dorset Metro area are broadly representative of national trends, but Bournemouth has showed stronger recovery than other regional hub stations.

The largest recovery was at Moreton, with the slowest at Branksome, however the largest increase in raw passenger numbers was at Wool and the biggest decrease was at Brockenhurst. The full data is shown in Table 3-5.

TABLE 3-5: COVID RECOVERY WITHIN THE DORSET METRO AREA

Station name	Recovery	Change from 2019-2024
Moreton (Dorset)	135 %	19,000
Wool	120 %	32,000
Upwey	109 %	4,000
Pokesdown	106 %	20,000
Holton Heath	105 %	1,000
Weymouth	102 %	15,000
Bournemouth	100 %	-5,000
Parkstone (Dorset)	97 %	-7,000
Dorchester South	96 %	-19,000
Hamworthy	94 %	-7,000
New Milton	91 %	-54,000
Wareham (Dorset)	90 %	-31,000
Christchurch	88 %	-59,000
Poole	85 %	-147,000

Station name	Recovery	Change from 2019-2024
Hinton Admiral	85 %	-22,000
Brockenhurst	84 %	-164,000
Sway	82 %	-17,000
Branksome	81 %	-55,000

It should also be noted that patterns of travel have changed since the Covid pandemic, with leisure travel at up to 120 % of 2019 levels across South Western Railway services in November 2024.

3.1.5.3 Future growth

Rail growth for the study area has been forecast using the DfT's Exogenous Demand Growth Estimator (EDGE) model. While a more granular growth rate can be calculated for each station, this is ultimately dependent on local housing developments and choices. Using Bournemouth as a proxy for the overall area, as it is representative of the wider line of route growth, we would expect passenger demand to increase by 38 % from January 2024 to March 2045 (Figure 3-10).

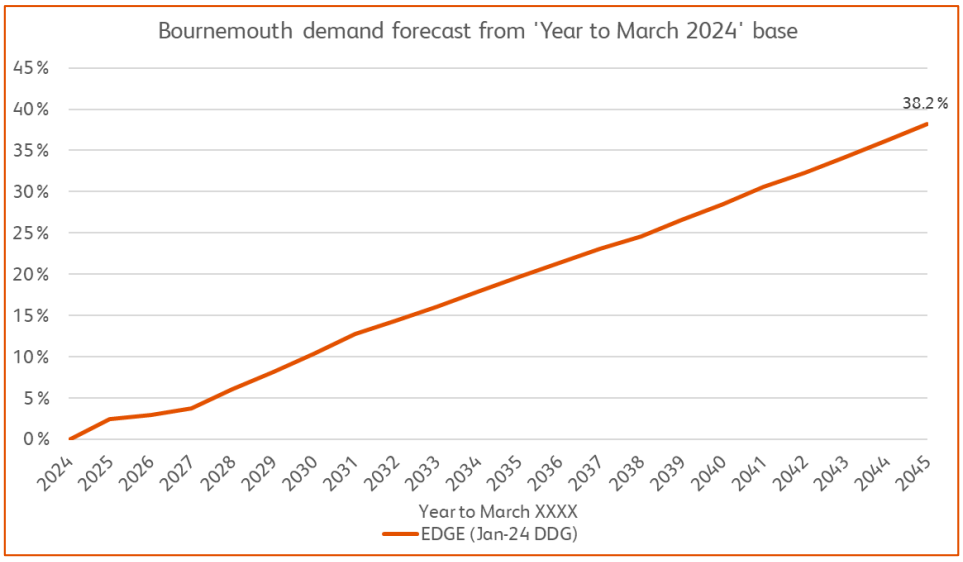


FIGURE 3-10: DFT EDGE GROWTH FOR BOURNEMOUTH STATION FROM 2024 TO 2045

3.2 Policy context

3.2.1 The role of Sub-national Transport Bodies (STBs)

Western Gateway STB is a joint partner in developing this SOBC. In their Western Gateway Rail Strategy, the STB have set out the viewpoint of the DfT for what their role should be for transport:

- Provide strategic consideration of transport needs at a pan-regional level aligning with economic and industrial strategies for the region
- Provide advice to Government on prioritisation of schemes at the sub-national level
- Undertake agreed activity on behalf of Government in their region, for example connectivity studies
- Support other Departmental priorities

It is clear that STBs, in this case Western Gateway, are ideal partners for the railway industry to collaborate with on rail service improvements that have a local, regional, and national benefit to passengers and the economy.

3.2.2 Labour Government 5 Missions

The Labour Party formed a new Government following the general election on the 4th July 2024. The Government has announced '5 Missions to Re-build Britain', these 5 Missions have then been considered in light of how transport can impact and support the delivery of each mission.

FIGURE 3-11: HOW TRANSPORT CAN SUPPORT THE 5 MISSIONS, DFT 2024

Rail improvements and other wider transport initiatives that rail could be a catalyst for, can be aligned to these 5 Missions and will be explored later in this SOBC.

3.2.3 The local planning process

One of the key processes that will influence the need for changes to rail service provision is the local planning process. The Local Planning Authorities (LPA) are in scope of this SOBC include Dorset Council, Bournemouth, Christchurch & Poole (BCP) Council and Hampshire Council.

One of the key parts of the planning process is the production of a Local Plan for the local authority area. The Local Plan sets out the vision for future development in the local authority area. In England and Wales, every LPA should have an up-to-date Local Plan in place which is reviewed at least every five years.

Railways are a major driver of economic growth, specifically, rail can unlock housing supplies to bring communities that have traditionally been cut off within reach of major urban conurbations, employment, and services. An increase in housing inevitably draws employers and business into an area to be connected to the workforce.

It is therefore essential that Local Authorities, both through the STB and independently, are partners in the development of this SOBC.

It should be noted that in line with the Government's mission around building the economy, the planning system is under review, with an onus on building more houses and setting higher targets

for LPAs to meet. It is imperative that housing allocations are situated close to the railway or that the railway is easily accessible to ensure that demand is sufficient to justify rail investment.

3.2.4 Government focus on rail and public transport

3.2.4.1 DfT 5 key priorities

Following the 4th July 2024 election, the Transport Minister announced the five key priorities for transport, these are:

1. Improving performance on the railways and driving forward rail reform
2. Improving bus services and growing usage across the country
3. Transforming infrastructure to work for the whole country, promoting social mobility and tackling regional inequality
4. Delivering greener transport
5. Better integrating transport networks

The rail improvements included in this SOBC align to these objectives or are a catalyst that will encourage the development of other initiatives in other transport modes, this will be discussed later in this document.

3.2.4.2 Future of Rural Transport (DfT)

Published by DfT in 2023, this policy is focussed on providing rural communities with travel options that are convenient, safe and at a reasonable cost. The document recognises that for many in rural areas, this means completing most journeys using a private car. It states that the current provision of walking, cycling, public transport and taxis does provide additional travel options, but does not always fully meet the needs of local people.

This policy looks at the technologies and innovations emerging within the transport sector, and how rural areas might benefit from their introduction. There is reference to the need to improve rail and bus services and the opportunity for new innovations in transport to connect with these services in improving rural connectivity.

3.2.4.3 Rail Network Enhancement's pipeline (RNEP)

RNEP is the established mechanism for funding railway enhancements. The proposal outlined in the SOBC aligns with three of the RNEP's four strategic priorities for investment as follows:

Priority 1 - Keeping people and goods moving smoothly and safely.	• Improved frequency of services • Improved interchange opportunities
Priority 2 - Delivering the benefits from committed programmes and projects already underway.	• Informing the scope of renewals in order to reduce the cost of the enhancement or provide passive provision for strategic objectives
Priority 3 - Offering more: new and better journeys and opportunities for the future.	• Better connectivity to other modes • Potentially re-opening the Swanage branch to a regular national network passenger service

3.2.4.4 Williams-Shapps 'Plan for Rail'

The 2021 Williams-Shapps 'Plan for Rail' outlines proposals for reforming Britain's rail industry. Key outcomes include the creation of Great British Railways (GBR), which will consolidate existing rail functions, manage infrastructure, revenue, and network planning. In addition, the plan

outlines proposals to reform the franchise system. The overall aims are to enhance efficiency, collaboration, and value for passengers and taxpayers.

The new labour Government, elected in July 2024, have expressed a wish to continue with a version of rail reform and the establishment of GBR. Shadow Great British Railways (Shadow GBR) was launched in September 2024, and the Rail Reform Bill continues to progress through the parliamentary process.

3.2.4.5 Decarbonisation

Another key focus for Network Rail and the UK Government is decarbonisation and promoting sustainable travel. The Government aims to achieve a net-zero rail network by 2050 through several initiatives: eliminating diesel-only trains by 2040, implementing cost-efficient electrification programs, investing in environmentally responsible technology, and enhancing railway accessibility as a means of sustainable travel.

Additionally, expanding rail infrastructure can contribute to broader decarbonisation efforts beyond rail. For instance, encouraging active transportation modes like cycling to railway stations not only reduces car journeys but also enhances air quality and reduces traffic congestion. This approach benefits those without private cars, fostering better connections to education, employment, and leisure opportunities.

3.2.4.6 Bus Back Better

The Bus Back Better: National Bus Strategy published in 2021 sets out the vision and opportunity to deliver better bus services for passengers across England. The bus network within the SOBC scope area is noted as seeing a reduced level of patronage. It may be that an improved rail service combined with a push toward bus travel to connect rural areas with the network could cause a drop in private car usage. This has benefits in decarbonisation, increasing transport connectivity, boosting living standards, improving health, and fostering pride in local areas.

In response to the Bus Back Better Strategy, Local Authorities have produced and published 'Bus Service Improvement Plans' (BSIP).

The **Dorset BSIP** aims to deliver:

- Better network coverage and scale – more frequent services between hub locations, with feeder services enhancing rural mobility for communities across Dorset
- Better integration between modes – always integrated bus services with all other modes including through timetable coordination, multi-modal travel information, and ticketing
- Better and clearer information – information that is consistent, accessible, simple, clear, and coordinated, enabling the public to confidently plan and undertake connected journeys across the local bus network and wider public transport system
- Better journey time reliability – faster and more reliable services through targeted corridor improvements
- Better value and integrated fares – targeted fares designed to attract more bus passengers, and the roll-out of multi-operator, and multi-mode ticketing
- Better vehicle standards and lower emissions – a modern, high standard zero-emission bus fleet by 2035

The **BCP BSIP** aims to deliver:

- More frequent services – increased frequency and Sunday services
- Faster and more reliable – including bus priority

- Cheaper – BSIP funded initiatives to promote special fares
- More comprehensive – serving new markets
- Easier to understand and use – combine fare areas, provide better passenger information
- Better integration with other modes – integrated travel planning, bike and e-scooter spaces
- Better to ride on – higher capacity and new features such as USB chargers
- Greener – new vehicles and charging facilities for electric fleet to be explored
- Accessible and inclusive by design – passenger information, infrastructure
- Innovative – including high definition cameras for security
- A safer mode of transport – CCTV and reporting channels, transport safety officers

The **Hampshire BSIP** aims to deliver:

- Regulation – use existing legal powers available to HCC effectively to improve the reliability of local bus services building on the roles and responsibilities set out in the Hampshire EP scheme.
- Customer focus – put bus passengers at the heart of everything we do.
- Infrastructure, network management and bus priority – seek to improve bus journey times on key congested corridors in order to deliver improvements in air quality, journey time reliability and passenger usage.
- Public transport information – Improve the quality and accessibility of information, including the provision of bus times and fares information and make greater use of technology.
- Accessibility – improve the levels of physical and digital accessibility both on buses and through infrastructure to ensure a fully accessible network for disabled passengers.
- Investing in zero emission buses to improve air quality – Promote the role of buses in resolving air quality issues and work with operators and other stakeholders to seek funding from DfT to support the move from diesel to zero-emission buses.
- School and college transport – promote the bus as the most convenient, cost effective and sustainable means for travel to School and College and higher education.
- Support socially necessary bus services – secure and deploy all available funding and prioritise its use to support services that meet a social need and work in partnership with the community transport sector to supplement the core bus network.
- Innovation and digital accessibility – embrace innovative transport solutions such as DRT and MaaS models as possible alternatives to the private car and develop Bus Rapid Transit (BRT) and Mass Rapid Transit (MRT) solutions where appropriate.
- Fares and ticketing – provide flexible and better value ticketing options and use technology to provide a range of convenient and simple ticketing solutions on all operators' services.

The BSIP aims align with improvements in the rail service, which would provide increased opportunity for bus-rail integration. This is particularly important when considering the role that the Dorset Metro Area plays in both rural and urban travel across the South West.

3.2.5 Alignment with Western Gateway

3.2.5.1 South West Rural Mobility Strategy

The South West Rural Mobility Strategy was developed jointly by the Peninsula Transport and Western Gateway and sets out their joint mobility policy for the whole South West of England. It aims to support the levelling up of local rural communities and economies.

FIGURE 3-12: FRAMEWORK FOR THE DELIVERY OF FUTURE MOBILITY, SOUTH WEST RURAL MOBILITY STRATEGY (WESTERN GATEWAY AND PENINSULA STB)

The framework for the delivery of future mobility in the rural South West has interfaces that an improvement to the Dorset Metro area could support. For example, an improved rail service can support the strengthening of larger rural settlements and provide 30 minute rural communities by linking the growing communities to employment, health and education.

3.2.5.2 Western Gateway Strategic Transport Plan 2024-2050

The Western Gateway STB have published their Strategic Transport Plan 2024-2050, this sets out how they plan to meet their vision for transport in the Western Gateway area.

FIGURE 3-13: WESTERN GATEWAY STB VISION, STRATEGIC TRANSPORT PLAN 2024-2050

The Strategic Transport Plan (STP) is aligned with plans produced by National Highways and Network Rail, including the outputs of this SOBC.

There are several key policies that relate to this SOBC:

- **A1:** We will undertake research, seek opportunities and conduct pilot studies to improve connectivity in rural areas and make rural transport services more affordable for both users and providers.
- **A5:** We will work with Network Rail and GWR to complete Business Case assessments for service enhancements on the Heart of Wessex Line and the Bristol to Oxford line and take forward recommendations from Network Rail's strategic studies including **Dorset (Dorset Metro),** Wiltshire, West of England Line, Bristol to Exeter and Birmingham, Greater Bristol, Gravity Park to Bristol Port and Salisbury, Wareham and Bournemouth stations.

3.2.5.3 Western Gateway Rail Strategy

This SOBC has been produced in partnership with Western Gateway STB and other local stakeholders, including Dorset Council; Somerset Council; and Wiltshire Council. It is therefore important that the objectives of the railway in improving the service in the Dorset Metro area align with those of our partners and collaborators.

Through consultation with the rail industry and other partners, the Western Gateway STB produced their 'Rail Strategy'. Building upon the STB's vision of being a region that is sustainably connected and provides high quality and value for money travel opportunities; five themes were identified:

- Choice
- Decarbonisation
- Social mobility
- Productivity
- Growth

Objectives and priorities were designated for each of the five themes as shown in the following table.

TABLE 3-6: WESTERN GATEWAY RAIL STRATEGY THEMES

Theme	Objective	Priority 1	Priority 2	Priority 3
Choice	To make rail a realistic and viable option for journeys to, from and within Western Gateway	**Improve frequency of services to provide more flexibility in travel options**	**Make rail to rail interchange (where direct services are not possible) as seamless as possible**	**Improve operational reliability of the network to give confidence in rail as a mode of choice**
Decarbonisation	To enable rail to contribute more actively towards the decarbonisation of the Western Gateway	Identify ways to reduce the carbon emissions per passenger of rail journeys on diesel rolling stock	Identify alternatives to diesel rolling stock including priorities for electrification	Identify ways in which more freight can be transported by rail rather than road, in particular to deep-sea ports
Social Mobility	To provide equal journey opportunities by rail for all residents of Western Gateway	**Improve multi-modal interchange to rail through improving access to stations by car, bus and active modes**	Create new direct journey opportunities by rail between places that are not currently rail connected, particularly north – south and rural areas	Make rail travel more affordable through fares management and incentives
Productivity	To enable rail to contribute more actively to improvements in productivity across Western Gateway	**Improve rail journey times/ speeds and Generalised Journey Time (GJT) to make rail competitive with the equivalent road journey**	Provide improved rail connectivity (passenger and freight) to international gateways – airports and ports	Improve strategic connectivity with cross-border economic hubs
Growth	To enable rail to provide sustainable travel options for housing and job growth across Western Gateway	**Align rail investment, including new stations/lines with future growth areas**	Identify opportunities to develop and invest in Transit-Oriented Communities	Promote and maximise resilient design principles to protect the region against the implications of climate change

The priorities most relevant to this SOBC are highlighted in **Orange**. Although no specific decarbonisation priorities are addressed, the theme remains important and relevant. Data from the Rail Delivery Group (RDG) shows that rail travel creates 10 times less carbon emissions per passenger than the equivalent car journey and 13 times less than travelling by plane[3]. Therefore, modal shift from road to rail can result in decarbonisation.

[3] https://www.raildeliverygroup.com/?view=article&id=469776947:gtp&catid=104&highlight=WyJncmVlbiIsInRyYXZlbCIsInBsZWRnZSJd

3.3 Case for Change

3.3.1 Theme 1: Choice

'Choice', as a theme, aims to make rail a realistic and viable option for journeys to, from and within the corridor.

Connecting communities and improving access to employment, education, amenities/services, and leisure are key objectives of regional and national Government. It also supports the breaking down of barriers to opportunity and encouraging economic growth as set out in the Government's '5 Missions'.

Increased frequency and regularity of rail services can increase options by improving the convenience of rail travel and providing more regular connections to other modes of travel.

3.3.1.1 Priority 1: Improve frequency of services to provide more flexibility in travel options

Priority 1 of this theme is to encourage improved service frequency and provide greater travel options and flexibility for residents.

A frequent rail service is key for reducing potential social isolation, supporting the movement of people to access employment, education, and health, and promoting economic development. Frequency is also a key driver behind both service quality and mode share, and an increase in frequency would enable rail to become a more attractive mode of choice along this corridor.

The reasons why more people are not choosing rail to make their journeys, particularly local journeys, are complex and no one change will on its own provide a step change in passenger numbers. However, there are improvements to train frequency, that when combined with other, wider, changes could elicit modal shift to rail.

Therefore, the existing level of service, although not poor, may be seen as a constraint to the ability of residents along the corridor to sufficiently access and explore education, employment, and leisure opportunities without the need for a private vehicle. This is particularly the case when considering the cost and availability of parking, the ability to use other public transport or active travel modes, and the convenience of the private vehicle. Service frequency on this line therefore presents a driver for change in combination with other changes.

3.3.1.1.1 Commuter Travel

The three hour peak, in the Up direction, based on arrivals at Bournemouth can be seen below.

Stations	1B22	1W92	1M30	1B24	1W94	2B28	1B26	1W06	1M34	1W96
Weymouth	-	06:25	-	-	06:55	-	-	07:24	-	07:55
Upwey	-	06:29	-	-	06:59	-	-	07:28	-	07:59
Dorchester South	-	06:37	-	-	07:07	-	-	07:36	-	08:07
Moreton	-	06:44	-	-	07:14	-	-	07:43	-	08:14
Wool	-	06:50	-	-	07:20	-	-	07:49	-	08:20
Wareham	-	06:57	-	-	07:27	-	-	07:56	-	08:27
Holton Heath	-	-	-	-	07:31	-	-	07:59	-	08:30
Hamworthy	-	07:04	-	-	07:36	-	-	08:04	-	08:35
Poole	06:50	07:11	-	07:20	07:41	-	08:04	08:10	-	08:41
Parkstone	06:54	07:15	-	07:24	07:45	-	08:08	08:14	-	08:45
Branksome	06:57	07:19	-	07:27	07:49	-	08:11	08:17	-	08:48
Bournemouth	07:04	07:26	07:30	07:34	07:56	08:02	08:18	08:24	08:40	08:56
Pokesdown	07:08	-	-	07:38	-	08:06	08:21	08:27	-	-
Christchurch	07:12	-	-	07:42	-	08:10	08:25	08:31	-	-
Hinton Admiral	07:17	-	-	07:47	-	08:15	-	08:36	-	-
New Milton	07:21	-	-	07:51	-	08:19	08:32	08:41	-	-
Sway	07:26	-	-	07:56	-	08:24	-	08:45	-	-
Brockenhurst	07:33	-	-	08:02	08:11	08:30	08:40	08:51	-	09:11

Stations	2B32	2W52	1W52	1M38	1W08
Weymouth	-	-	08:20	-	09:03
Upwey	-	-	08:24	-	-
Dorchester South	-	-	08:33	-	09:13
Moreton	-	-	08:39	-	-
Wool	-	-	08:45	-	-
Wareham	-	-	08:53	-	09:28
Holton Heath	-	-	08:56	-	-
Hamworthy	-	-	09:01	-	09:35
Poole	08:53	08:58	09:07	-	09:40
Parkstone	-	09:02	-	-	09:44
Branksome	-	09:06	-	-	09:48
Bournemouth	09:05	09:11	09:22	09:45	09:59
Pokesdown	09:09	-	09:26	-	-
Christchurch	09:13	-	09:30	-	-
Hinton Admiral	09:18	-	-	-	-
New Milton	09:22	-	09:37	-	-
Sway	09:27	-	-	-	-
Brockenhurst	09:33	-	09:44	10:00	10:14

Working eastward from Weymouth, it is clear from the ORR Origin and Destination data that although Waterloo looms large, the majority of journeys are made to and from Dorchester South and other local destinations. Note the changing scales on the journey axis for each station.

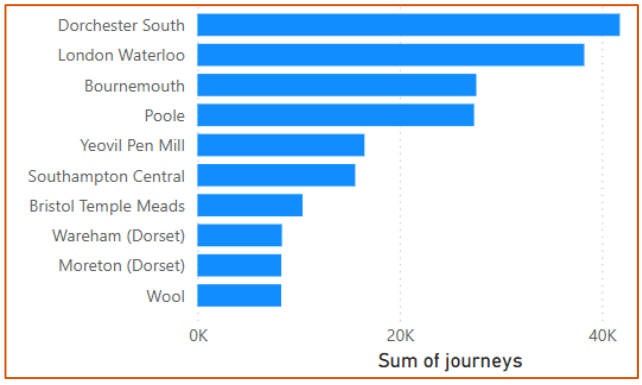


FIGURE 3-14: JOURNEYS FROM WEYMOUTH

The timetable shows that in the peak, trains are approximately spaced at half-hourly intervals. After 09:00, the interval between services stops being so evenly spaced, making the service potentially less attractive to passengers.

Arrival times at Dorchester South, Wool, Wareham, Poole and Bournemouth in the peak are at times that would enable passengers to arrive at their place of work at a reasonable time.

Arrivals at Dorchester South are supplemented by GWR Heart of Wessex Line arrivals at Dorchester West. Proposals for a 1tph service on the Heart of Wessex Line would further supplement this important passenger flow between Weymouth and Dorchester.

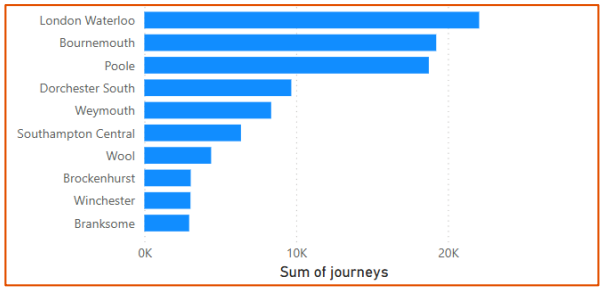


FIGURE 3-15: JOURNEYS FROM WAREHAM

From Wareham, the majority of journeys are to Waterloo, however, this is closely followed by Bournemouth, Poole and other local destinations.

Arrival times at Bournemouth, Poole and Brockenhurst are relatively good, but the 2tph service frequency could be improved to encourage modal shift and attract commuters out of their private vehicles and on to rail.

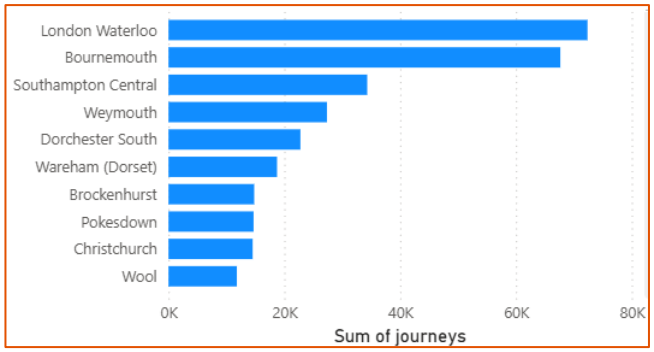


FIGURE 3-16: ANNUAL JOURNEYS FROM POOLE

From Poole, itself a destination, there are 3 or 4tph that connect passengers to Bournemouth and other locations.

Waterloo and Bournemouth attract the most passengers from Poole, with other local and regional destinations such as Southampton Central, Dorchester South, Brockenhurst and Pokesdown are also key. This suggests a market for local services that could be enhanced by an increase in service frequency that encourages modal shift

The three hour peak, in the Down direction, based on arrivals at Bournemouth can be seen below.

Stations	2W05	1W91	2W09	2B89	1D34	1W93	2W13	1B87	1O02	1W95	2B15
Brockenhurst	06:41	07:18	-	07:57	08:10	08:20	-	08:44	-	09:13	09:25
Sway	06:46	07:23	-	-	-	08:25	-	08:49	-	-	09:29
New Milton	06:51	07:28	-	08:04	-	08:30	-	08:54	-	-	09:34
Hinton Admiral	06:55	07:32	-	-	-	08:34	-	08:58	-	-	09:38
Christchurch	07:00	07:37	-	08:11	-	08:39	-	09:03	-	-	09:43
Pokesdown	07:03	07:40	-	-	-	08:42	-	09:06	-	-	09:47
Bournemouth	07:12	07:46	08:04	08:18	08:24	08:48	09:04	09:12	09:13	09:32	09:53
Branksome	07:17	07:51	08:09	08:23	-	08:53	09:09	09:17	-	09:37	-
Parkstone	07:20	07:54	08:12	08:26	-	08:56	09:12	09:20	-	09:40	-
Poole	07:25	07:58	08:17	08:30	-	09:00	09:17	09:23	-	09:44	-
Hamworthy	07:30	08:03	08:22	-	-	09:05	09:22	-	-	09:49	-
Holton Heath	07:34	08:07	08:26	-	-	-	09:26	-	-	-	-
Wareham	07:39	08:12	08:31	-	-	09:12	09:31	-	-	09:56	-
Wool	07:45	08:19	08:37	-	-	09:19	09:37	-	-	10:02	-
Moreton	07:51	08:25	08:43	-	-	09:25	09:43	-	-	-	-
Dorchester South	07:59	08:33	08:51	-	-	09:33	09:51	-	-	10:13	-
Upwey	08:06	08:39	08:58	-	-	09:39	09:58	-	-	-	-
Weymouth	08:10	08:44	09:02	-	-	09:44	10:02	-	-	10:25	-

The timetable shows that there is an uneven service pattern from Brockenhurst. However, there are services that call at Brockenhurst and then arrive at key locations, such as Bournemouth, Poole and Wareham, at times that would be attractive to commuters.

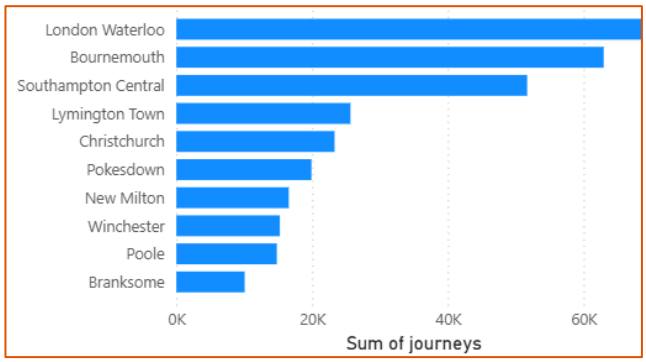


FIGURE 3-17: ANNUAL JOURNEYS FROM BROCKENHURST

It is clear from the ORR Origin and Destination data that although Waterloo is the top destination, Bournemouth, Lymington Town and other local or regional destinations make up a large proportion of passenger flows.

An increase in frequency could encourage modal shift for these local journeys, by reducing the interval between services leaving Brockenhurst.

Other key locations from which commuters travel into or across the conurbation such as New Milton, Christchurch and Pokesdown have a less frequent service and therefore less connectivity to local centres.

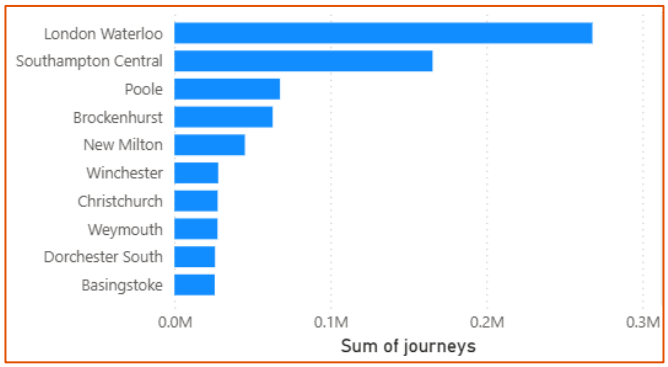


FIGURE 3-18: ANNUAL JOURNEYS FROM BOURNEMOUTH

Bournemouth has been shown to be a huge draw for passengers in the area.

Journeys from Bournemouth are dominated by Waterloo and Southampton Central, to which Bournemouth is well served by train services.

Destinations within the scope area of this SOBC are represented in the top 10 destinations, but to a significantly lesser extent than Waterloo and Southampton Central.

The following map shows public transport access to employment centres on weekdays, taken from the Dorset Council BSIP. There are locations along the route of the South West Main Line and towards Swanage and north of the BCP conurbation where there is a 60 minute catchment or higher.

Better bus and rail connectivity and frequency could help to reduce these times and provide better connections for residents to employment. Allocating future housing developments close to a railway station will improve access to employment by public transport and encourage economic growth by connecting residents to jobs.

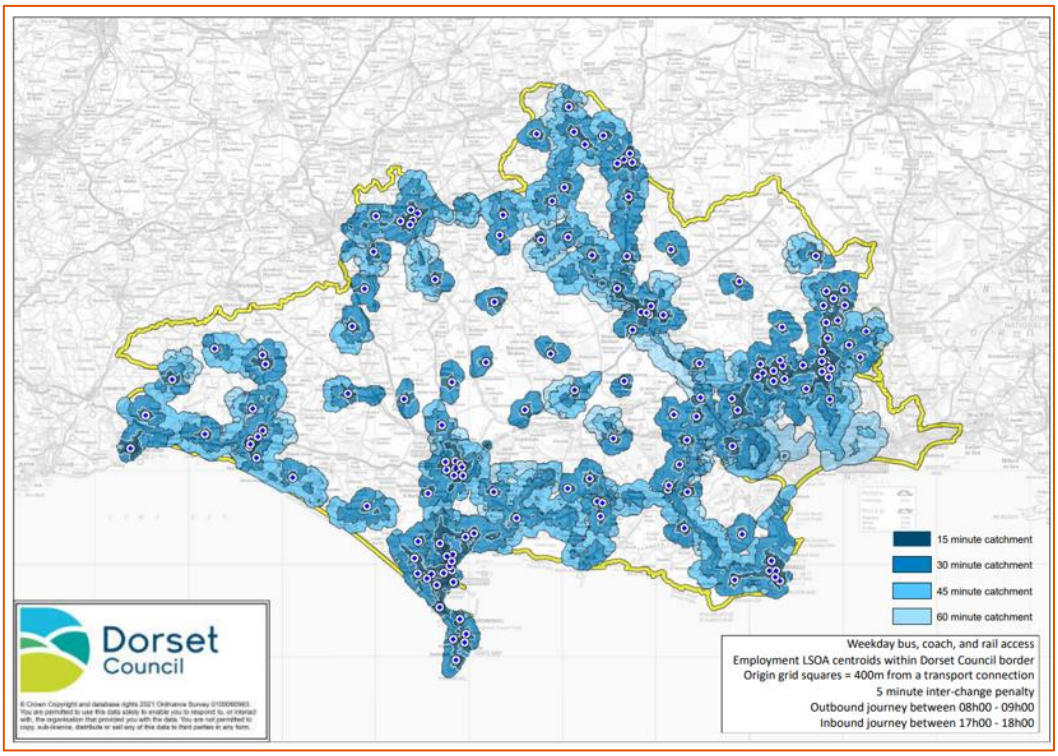


FIGURE 3-19: PUBLIC TRANSPORT ACCESS - EMPLOYMENT ON WEEKDAYS, DORSET COUNCIL BSIP

3.3.1.1.2 Education

Along the line, educational facilities are mostly located within the urban centres with a low occurrence amongst rural communities. The map below shows the catchments for residents travelling for education by public transport.

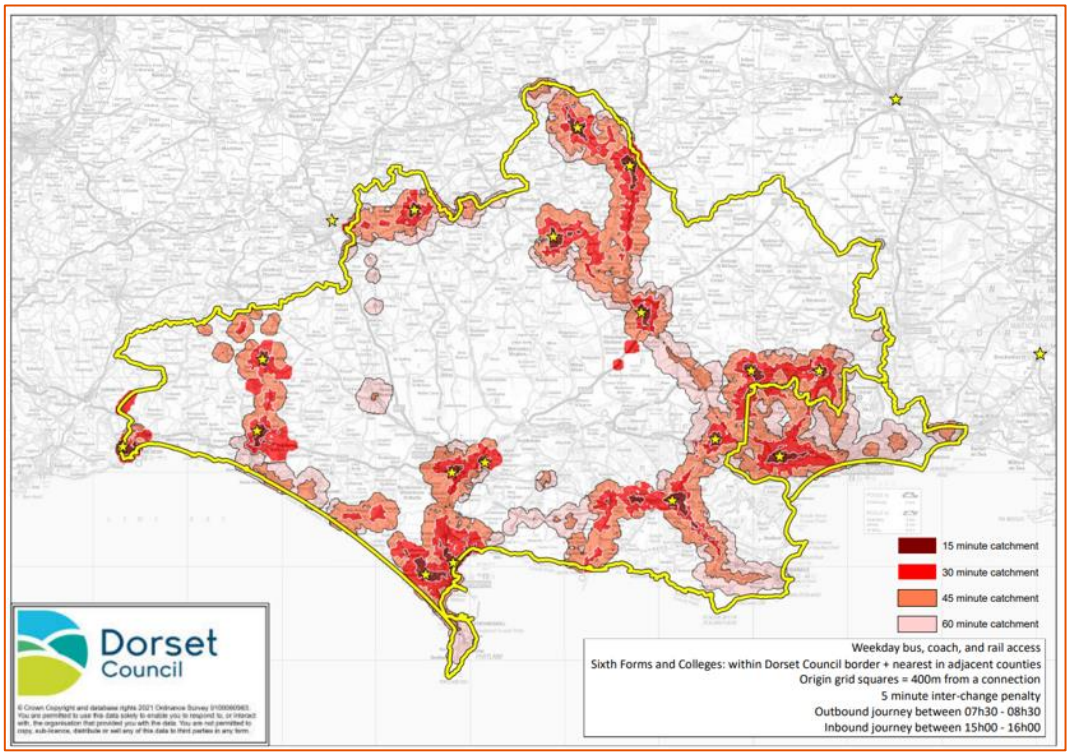


FIGURE 3-20: PUBLIC TRANSPORT – SIXTH FORMS AND COLLEGES, DORSET COUNCIL BSIP

Improvements in service frequency would provide additional journey opportunities by rail and although not necessarily providing shorter journey times, would improve the Generalised Journey Time (GJT), see section 3.3.4.

3.3.1.1.3 Healthcare and Services

Typically, hospitals are one of the hardest services to reach in the UK without a car, with two-thirds of elderly people (7.8 million) unable to reach a hospital within 30 minutes by public transport. A report in 2012 found that an estimated 10 % of hospital outpatient appointments were missed due to transport problems.[4]

The following map shows the catchments for residents travelling to access healthcare services by public transport. Improvements in service frequency would provide additional journey opportunities by rail and although not necessarily providing shorter journey times, would improve the Generalised Journey Time (GJT), see section 3.3.4.

[4] Sustrans, "Locked Out: Transport Poverty in England", 2012

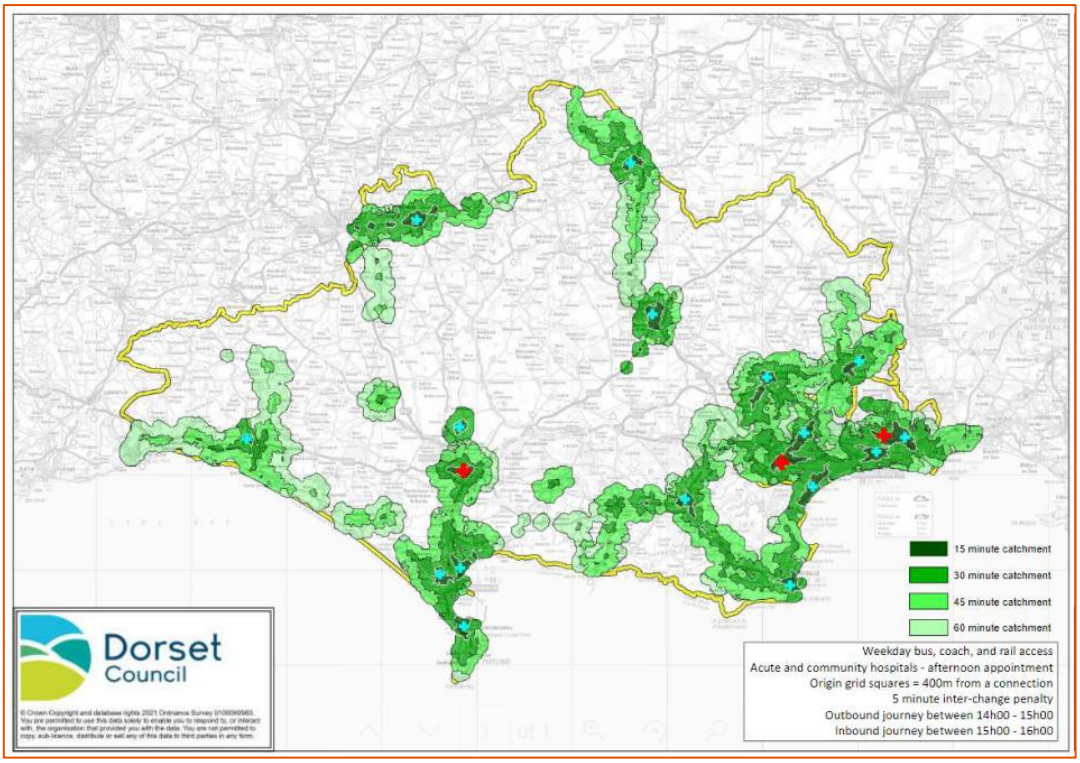


FIGURE 3-21: PUBLIC TRANSPORT – ACUTE AND COMMUNITY HOSPITALS, DORSET COUNCIL BSIP

3.3.1.1.4 Leisure

Leisure and tourism on the South West Main Line is dominated by seasonal travel including to the south coast, the New Forest, Bournemouth, Poole and Weymouth. Leisure is a key driver of travel along this corridor, yet for many leisure journeys, particularly day trips, rail doesn't necessarily offer a realistic or viable option. This may particularly be the case when considering onwards travel from railway stations to the tourist or leisure attractions themselves.

FIGURE 3-22: WEYMOUTH BEACH

The tourism industry is important to the wider Dorset and Hampshire areas, including the BCP conurbation. Attractions within the scope area include seaside resorts, such as Bournemouth and Weymouth, the Swanage Railway, the New Forest, the Jurassic Coast UNESCO World Heritage Site and designated National Landscapes.

The rail network, Bournemouth International Airport, ferry services to Poole Port and Lymington, as well as cruise ships into Portland Port, all bring visitors into the area included in the scope of this SOBC. In addition, Southampton Airport and Southampton Docks (for cruise ships) are sufficiently close to provide additional access routes to the area.

A more frequent rail service along this route, particularly for visitors to make local journeys, would improve connectivity, increase journey opportunities, and enable better integration with the wider transport network (Figure 3-23). In addition, an increase in frequency on this line could act as a catalyst for wider economic and transport improvements related to leisure.

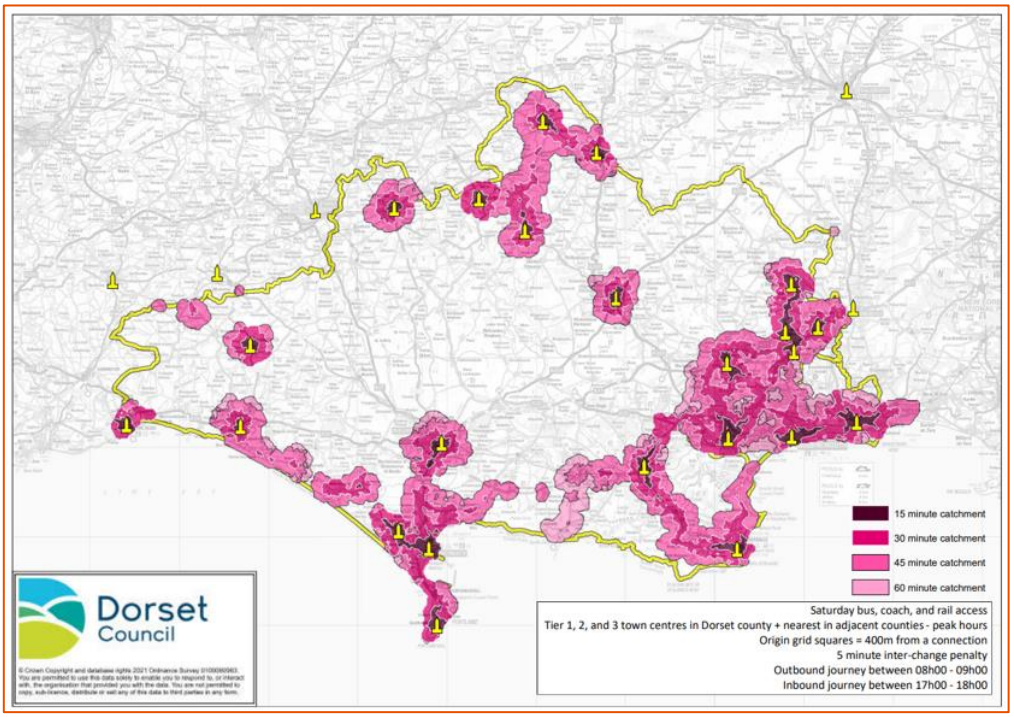


FIGURE 3-23: BUS, COACH AND RAIL ACCESS CATCHMENTS TO TOWN CENTRES

3.3.1.2 Priority 2: Make rail to rail interchange (where direct services are not possible) as seamless as possible

Ensuring rail to rail interchange (where direct services are not possible) is as seamless as possible within the Western Gateway area is the second priority of the 'Choice' theme. Although direct services will always be preferred by passengers, it is incumbent on the railway industry to make indirect services as easy, accessible, and reliable as possible.

Indirect rail to rail interchange within the Western Gateway region between South West Main Line services and other rail services principally happen at Weymouth/ Dorchester with Heart of Wessex Line services, at Brockenhurst with Lymington Branch services, and at Southampton Central with services to Manchester, Salisbury, Brighton, Cardiff and Portsmouth.

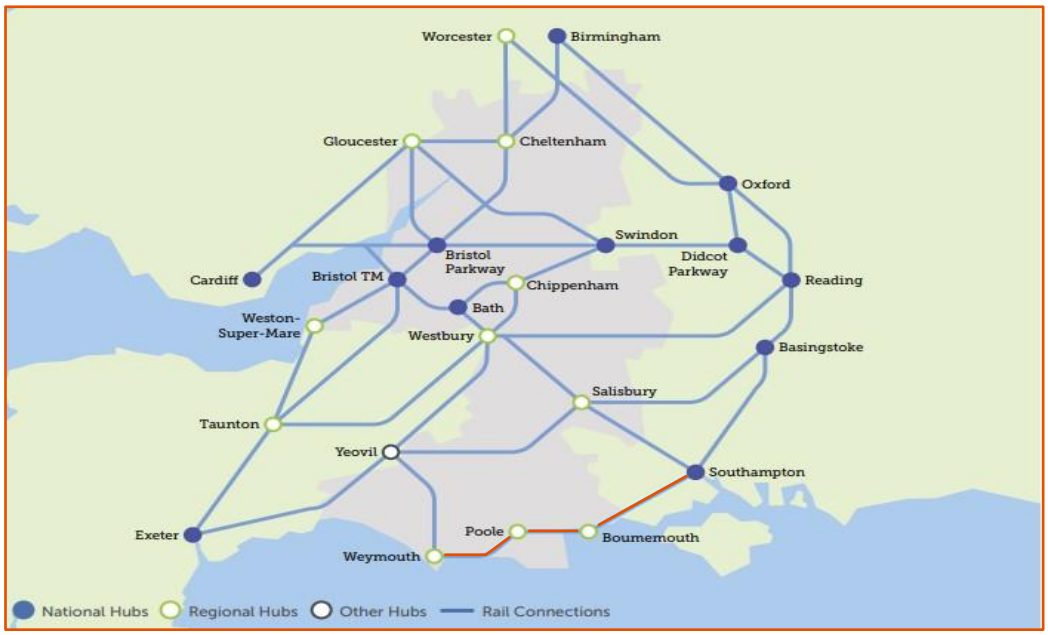


FIGURE 3-24: MAP SHOWING THE SOUTH WEST MAIN LINE (IN RED) AND THE CONNECTING REGIONAL RAIL NETWORK (ADAPTED FROM WESTERN GATEWAY STB MAP)

Owing to the infrequent Heart of Wessex Line service, one train every two hours, interchange times at Weymouth are not ideal. However, these could be improved by the proposed service increase on the Heart of Wessex Line to 1tph and a more clockface interval between South West Main Line services at Weymouth.

FIGURE 3-25: DORCHESTER WEST TO DORCHESTER SOUTH WALKING ROUTE

For passengers who wish to interchange between Heart of Wessex and South West Main Line services in Dorchester an eight minute walk between Dorchester West and Dorchester South station is required.

Dorset Council are working to improve the walking route between the two Dorchester stations to make this a safer and much improved interchange opportunity.

The photo to the left shows the walking route map that is displayed at Dorchester West station.

Alternatively, and depending on interchange timings, passengers can change trains at Weymouth or Upwey.

Interchange times between SWR and CrossCountry services at Bournemouth are relatively useful as passengers may have luggage and therefore require a more time to change between platforms. For instance, the 12:17 arrival from Weymouth at Platform 2 gives passengers ample time to disembark the train, visit the café or other facilities, and be ready for the 12:45

CrossCountry service to Manchester Piccadilly, also leaving from Platform 2. Passengers from Brockenhurst wishing to access the 12:45 CrossCountry service would arrive at Platform 3 on the train from Waterloo at 12:20, disembark and then cross to Platform 2 via the footbridge or subway. This could be complicated for passengers with reduced mobility as Bournemouth is not fully accessible.

Increased service frequency could provide more journey opportunities, particularly for some intermediate station which see a lower service frequency. In the example of passengers on the train arriving from Waterloo, there were no intermediate calls between Brockenhurst and Bournemouth and therefore passengers from those "missed out" stations could not access the 12:45 CrossCountry service as conveniently.

At Brockenhurst, services from the west arrive at Platform 2 with ample time for passengers to utilise the accessible bridge to Platform 4 for a train to Lymington Town or Pier. For passengers arriving from the east, a cross platform interchange between platforms 3 and 4 is available. Additional services could provide more journey opportunities and give passengers improved flexibility.

3.3.1.3 Priority 3: Improve operational reliability of the network to give confidence in rail as a mode of choice

Train performance is key to passenger experience, demand generation and the reputation of the railway. Brockenhurst to Bournemouth is responsible for the 7th most delay minutes of any section on the Wessex Route with 1,599 reactionary delay minutes recorded since the start of the December 2024 timetable. There is also a moderate amount of delay in the opposite direction, and some minor delay around the Moreton single line between Wool and Dorchester South (Table 3-7).

TABLE 3-7: REACTIONARY DELAY EVENTS AND MINUTES ON THE WESSEX ROUTE BY LOCATION FROM DECEMBER 2024-MARCH 2025

Rank	Route	Congestion Events	Delay Minutes
1	Wimbledon to Clapham Junction	1,188	3,808
2	New Malden to Wimbledon	1,334	3,762
3	Motspur Park to Wimbledon	847	2,675
4	Eastleigh to Winchester	545	2,597
5	London Waterloo	635	2,173
6	Surbiton to Woking	556	2,154
7	Brockenhurst to Bournemouth	268	1,599
8	Farnborough (Main) to Woking	463	1,483
9	London Waterloo to Vauxhall	546	1,479
10	Clapham Junction to London Waterloo	447	1,423
11	Guildford to Woking	409	1,333
12	Hampton Court to Surbiton	305	892
...			
49	Bournemouth to Brockenhurst	103	571
...			
173	Wool to Dorchester South	14	66
...			
256	Dorchester South to Wool	4	0

Reactionary, or secondary, delay is the best measure of infrastructure and timetable limitations. The main limitation impacting trains between Bournemouth and Brockenhurst is the combination of large signalling sections (3-5 minutes) and a heavily used network. This is evident in the most common delay pairs, with the 1B Southampton Central to Poole services responsible for 417 minutes of delay on the 1O Manchester Piccadilly to Bournemouth services and 233 minutes in the reverse (1O on 1B delay). These services run at peak times (1B) and hourly (1O) with a narrow margin at the busiest time for the local network.

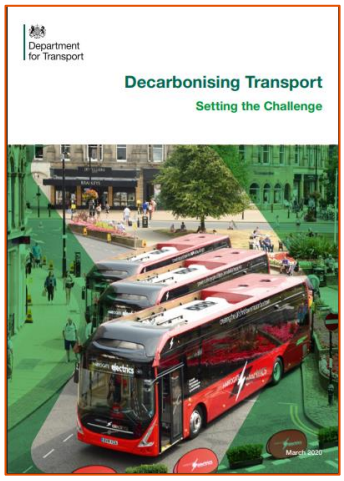
While some of this delay can be solved by eliminating the primary cause (e.g. late departures from Southampton), an improvement in signalling headways will have a material impact on reactionary delay and allow for faster service recovery in times of disruption. It should be noted that these benefits would likely be reduced if additional services were run in the section.

Similarly, although resulting in significantly less delay at present, the single line at Moreton would become a more prevalent performance issue with any service uplift. The combination of fast and slow trains on the same route means that the main cause of reactionary delay is from the Waterloo to Weymouth XX:35 trains catching up with the XX:05 trains. A more even spread of these services would also improve performance in this section.

3.3.2 Theme 2: Decarbonisation

3.3.2.1 Climate Emergencies

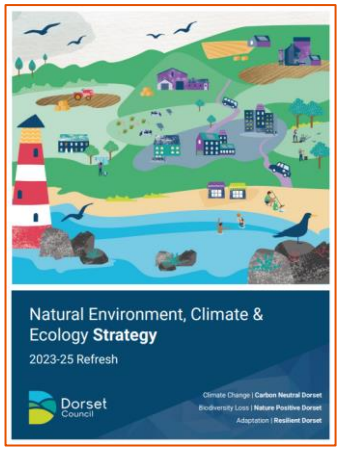
Decarbonisation aims to significantly reduce or eliminate carbon dioxide (CO_2) and other greenhouse gas emissions from human activities. In the context of transportation, decarbonisation involves transitioning away from fossil fuel-dependent vehicles and utilising low-carbon or carbon-neutral alternatives like rail.



New data, which forms part of the Green Travel Pledge, led by the Rail Delivery Group (RDG), shows that rail travel can create 10 times less carbon emissions per passenger than the equivalent car journey and 13 times less than travelling by plane.[5] The Government's 2020 Decarbonising transport strategy refers to the acceleration of modal shift as one of six strategic priorities to delivering a vision of a net zero transport system.[6]

Rail positively contributes to climate change mitigation, net zero targets, and local decarbonisation efforts. For journeys in the Dorset Metro area, which are primarily undertaken using petrol or diesel powered cars, successful decarbonisation through increased rail mode share would help to reduce emissions, improve air quality, and enhance residents' quality of life.

[5] RDG Green Travel Pledge
[6] Decarbonising Transport: Setting The Challenge



All three counties in the scope area have laid out 'Climate Emergency' targets.

In Dorset Council's 'Climate and Ecological Emergency Strategy', published in 2021 and refreshed in 2023, the paper relays the dependence of the county on car ownership setting out a need for significant shift towards active travel and public transport as the first transport mode of choice.

Dorset's study cites infrastructure designed around private vehicle usage, a lack of rail service frequency and a 'car culture' as some of the key obstacles required to overcome.

Bournemouth, Christchurch and Poole (BCP) Council declared a climate emergency in July 2019. The headline commitments of this declaration were:

- **Strategic Aim 1:** make BCP Council and its operations carbon neutral by 2030.
- **Strategic Aim 2:** work with partners to set a target date for when the Bournemouth, Christchurch and Poole area can be made carbon neutral, ahead of the UK target of 2050

Reducing the number of cars on the road is a key part of BCP Council's zero carbon plan. Improvements to bus and cycling networks, the use of technology to better monitor and control traffic, and improvements to rail services, including an increase in frequency, can all support this aim.

The following motion was passed at a BCP council meeting in November 2022:

> *'In order to meet our climate emergency declaration, we will work to decarbonise the transport network in the BCP area. In order to do this, we will aim to get to 50% of journeys within the BCP area to be done by walking, scooting, cycling or public transport by 2030, in the spirit of the government's 'Decarbonising Transport. A Better, Greener Britain 2021 report'.*

Hampshire County Council declared a climate emergency in June 2019 and published a Climate Change Strategy to cover 2020-2025. Two targets were set:

- Carbon neutrality by 2050
- Preparing to be resilient to the impacts of temperature rise

Hampshire County Council aim to enable, support and deliver both a reduction in transport-related carbon emissions to net zero (neutrality) by 2050 and a resilient transport network. They will work with partners, such as the railway industry, to increase the uptake of walking, cycling and public transport.

3.3.2.2 Car vs. Rail Usage

Carbon and pollution reduction are key focusses of all the climate emergencies that have been declared in the scope area. Rail can play its part in supporting targets to reduce carbon and pollution by impacting the reliance of

3.3.2.2.1 % of households with two or more cars or vans

Currently, residents along the South West Main Line corridor, included in this scope, rely heavily on private vehicle usage to enable them to travel, with high levels of car ownership across all three local authority areas, as shown below.

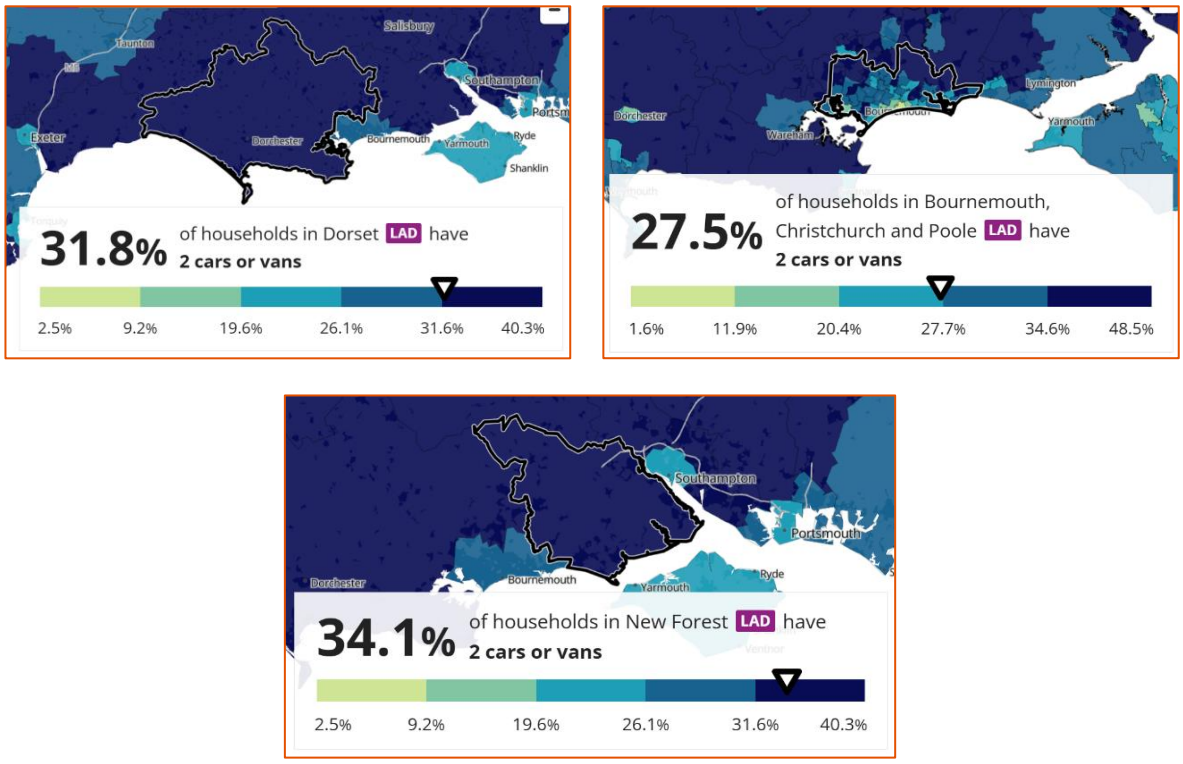


FIGURE 3-26: 2 CARS OR VANS IN HOUSEHOLD BY LOCAL AUTHORITY (DORSET, BCP AND NEW FOREST), ONS

The previous maps show the percentage of households with 2 cars or vans, they reflect the reliance of Dorset, Bournemouth, Christchurch and Poole, and New Forest residents on private vehicle usage, especially when compared to other areas of England.

When interrogated more deeply, it can be seen that along the rail corridor, in the more urban areas, there are less residents with such a reliance on the car, as can be seen in the more detailed view of the BCP conurbation or Dorchester, below.

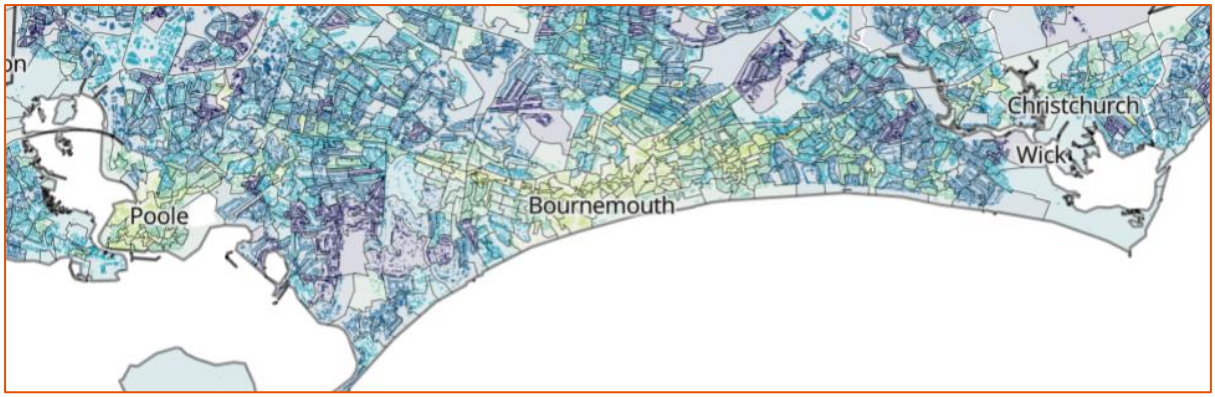


FIGURE 3-27: 2 CARS OR VANS IN HOUSEHOLD – BCP CONURBATION, ONS

FIGURE 3-28: 2 CARS OR VANS IN HOUSEHOLD – DORCHESTER, ONS

The relative availability of public transport in these areas may have an influence on this lower reliance, although other factors such as availability of parking in the urban environment will also play a part.

A 2018 RAC Motoring Report supports the theory that increasing car dependency is intrinsically linked to the success of public transport with 24% of those surveyed blaming deterioration of public transport as a reason for higher car usage, and 44% of that group blaming the reliability of public transport.[7]

3.3.2.2.2 Mode Share

Mobile network data is now available to give an insight into rail vs road usage. The strongest mode share values are around 20% in the urban areas around Bournemouth, with a median mode share of the entire study area at 2.4% (Table 3-8).

[7] RAC Motoring Report 2018

TABLE 3-8: TOP, MEDIAN AND BOTTOM FLOWS BY MODE SHARE

Group	Flow (Two-Way)	Rail Mode Share
Top 5	Poole-Brockenhurst	21.5%
	Bournemouth-Weymouth	20.0%
	Bournemouth-Brockenhurst	18.8%
	Brockenhurst-Weymouth	18.2%
	Sway-Weymouth	15.1%
Median 5	Wareham-Sway	2.6%
	Dorchester South-Wareham	2.5%
	Dorchester South-Holton Heath	2.4%
	Dorchester South-Wool	2.4%
	Pokesdown-Holton Heath	2.4%
Bottom 5	Christchurch-Wareham	0.9%
	Wool-Hinton Admiral	0.8%
	Moreton-Christchurch	0.7%
	Moreton-Hamworthy	0.4%
	Hinton Admiral-Moreton	0.3%

The mode share data can be combined with the data on rail travel to give an approximate "available market" of driving between destinations. This can focus targeted mode share improvement schemes. The top journey pairs (with any pairs with a walking mode share over 5 % eliminated due to the competitiveness of active travel and buses) by driving are summarised in Table 3-9.

TABLE 3-9: TOP FLOWS BY CAR JOURNEYS PER YEAR

Flow (Two-Way)	Rail Mode Share	Road Mode Share	Approx Rail Journeys/ Year	Approx Car Journeys/ Year
Bournemouth-Poole	1.5%	97.99%	140,000	9,200,000
Christchurch-Bournemouth	0.9%	98.61%	60,000	6,100,000
Dorchester South-Weymouth	2.9%	94.97%	80,000	2,900,000
Hamworthy-Bournemouth	1.3%	98.52%	30,000	2,500,000
Poole-Hamworthy	0.5%	94.77%	10,000	2,200,000
Moreton (Dorset)-Weymouth	1.0%	98.47%	20,000	1,600,000
Wareham-Poole	2.3%	96.41%	40,000	1,600,000
Dorchester South-Moreton (Dorset)	1.0%	95.88%	10,000	1,400,000

Improvements to connectivity, journey time and performance between these destinations are most likely to result in a significant uplift in mode share, as there is a clear demand line between the station catchment areas that is not being realised.

3.3.2.2.3 Travel to Work

The reliance on car within this corridor is key for accessing employment. The following maps give evidence to this statement with both showing the extent to which the South Coast is dependent on car travel as a means to access employment amongst other destinations.

Allocating housing and employment to locations that are connected to the railway could reduce the reliance on the car that residents currently have when accessing their place of work.

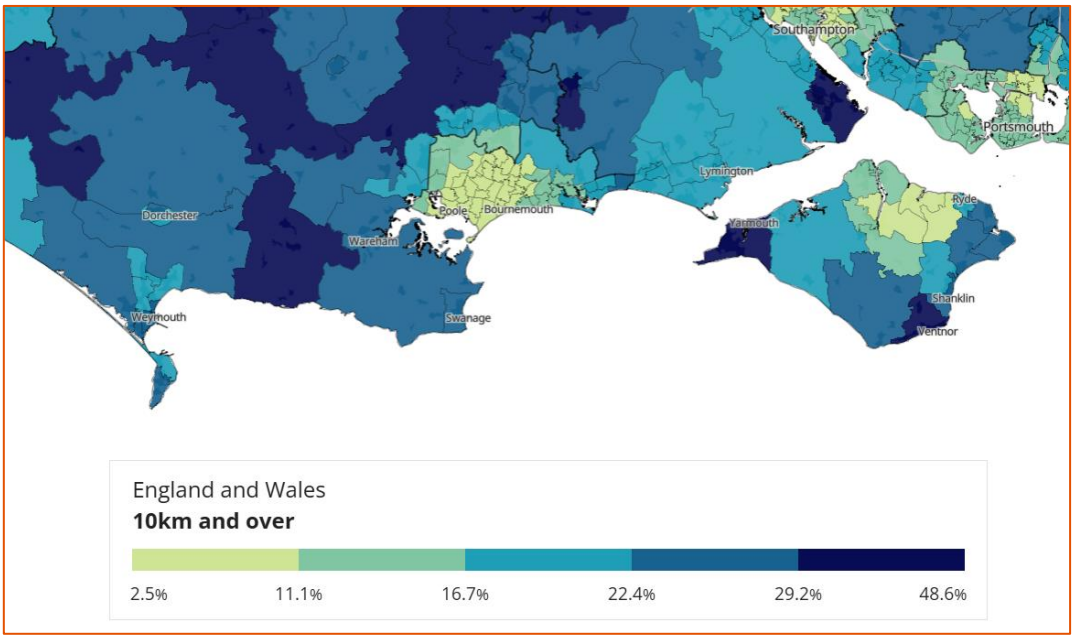


FIGURE 3-29: TRAVEL TO WORK DISTANCE - 10KM AND OVER, ONS

The above map shows that there are high percentages of residents in this area are travelling 10km and more to access their place of work, suggesting there are journeys that could be made by rail, particularly from locations close to railway stations. However, the urban area around Bournemouth and Poole shows that residents are able to access work more easily in the conurbation and therefore do not need to travel so far.

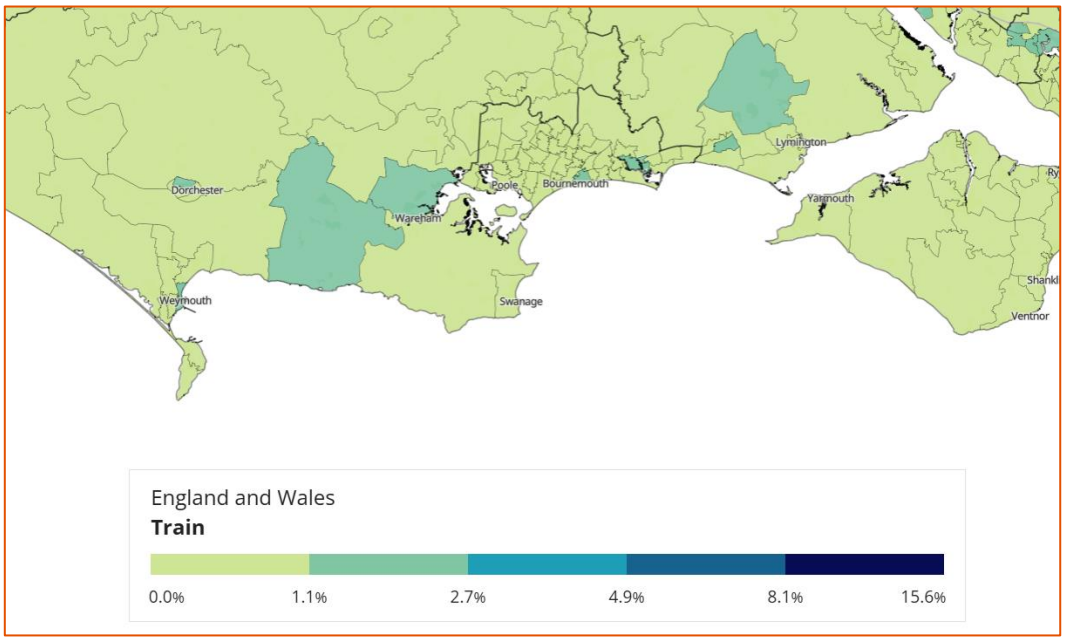


FIGURE 3-30: TRAVEL TO WORK MODE – TRAIN, ONS

The previous map, showing the modal share of rail for journeys to work, suggests that commuter journeys made by rail are relatively low. Train service frequency may impact this, but there are other considerations such as integration between rail and other modes, availability of other modes (such as bus), distance from a rail station, and flexibility.

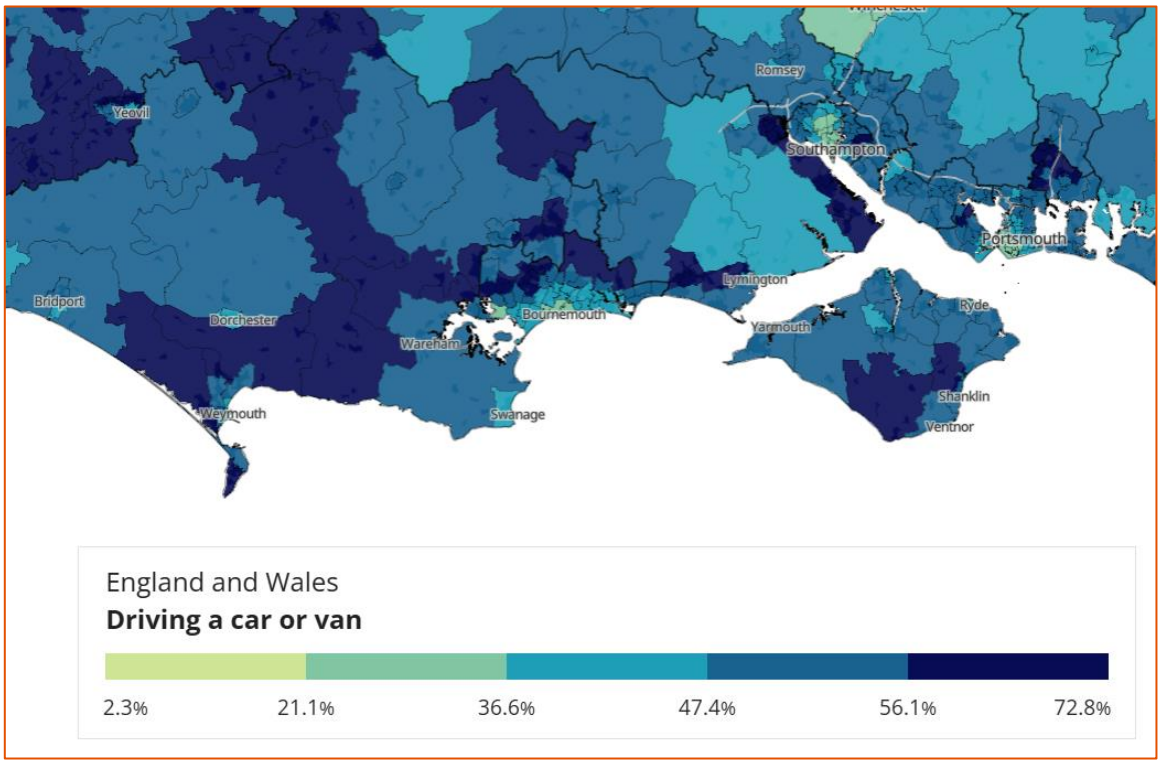


FIGURE 3-31: TRAVEL TO WORK MODE – CAR OR VAN, ONS

In contrast to the rail modal share, car and van is extremely high for travel to work journeys. There will many reasons for this, including the type of work the person is doing, the distance from a railway station, and the need for flexibility.

Rail's modal share compared to that for car or van, the number of cars residents have, and the distance they travel to work highlights that rail frequency improvements in isolation may not be the whole answer to increasing modal shift to reduce car usage and meet environmental target for carbon reduction and pollution.

3.3.2.2.4 Pollution Levels

DfT analysis published in 2023 but based on 2021 data identified that[8]:

- Domestic transport was responsible for emitting 109 MtCO2e (million tonnes of carbon dioxide equivalent) in the UK, a 10 % increase from 2020, though emissions remain well below historic trends
- Transport is the largest emitting sector of greenhouse gas (GHG) emissions, producing 26 % of the UK's total emissions in 2021 (427 MtCO2e)
- An average, 304 kilotonnes of CO2e were emitted by transport in each local authority

[8] https://www.gov.uk/government/statistics/transport-and-environment-statistics-2023/transport-and-environment-statistics-2023

- 32 % of Nitrogen Oxides (NOX) emissions and 14 % of particulate matter less than 2.5 micrometres across (PM2.5) emissions came from transport

The findings coincided with coronavirus (COVID-19) related restrictions, which should be considered when interpreting them, particularly when making comparisons to other years.

Cars produce pollutants that are hazardous to health such as:

- Nitrogen dioxide
- Cyanide
- Hydrocarbons
- Carbon monoxide

The UK Emissions Interactive Map[9] is an interactive application which allows the public to explore emissions data from the UK National Atmospheric Emissions Inventory for 2022. As an example, looking at Nitrogen Oxide as NO_2 the map for the scope area is as follows.

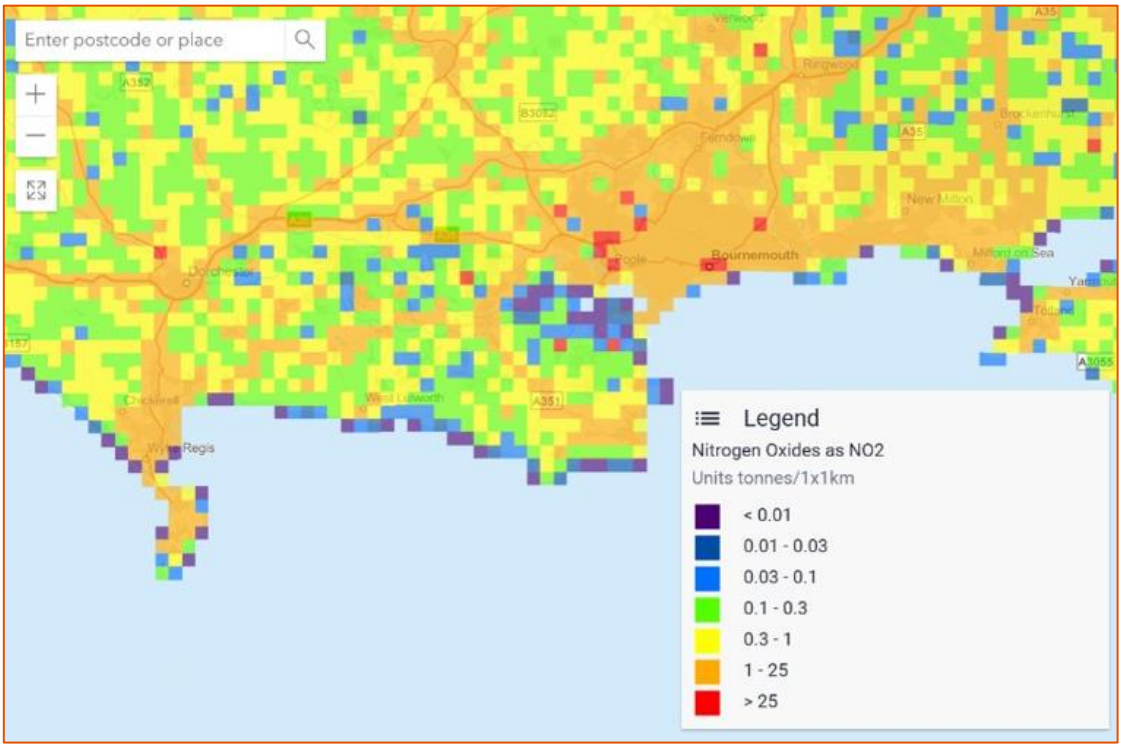


FIGURE 3-32: NITROGEN OXIDE EMISSIONS IN THE SCOPE AREA, NATIONAL ATMOSPHERIC EMISSIONS INVENTORY (2022)

As expected, there are higher levels of NO_2 in urban areas and along the highway network, removal of car journeys on to rail could support a reduction in these levels

3.3.3 Theme 3: Social Mobility

The social mobility theme focusses specifically on addressing the needs of the remote, less connected and/or deprived parts of this corridor, with the priorities set to unlock access to rail in its widest sense – physical, social, and financial.

[9] UK Emissions Interactive Map

The target is to make rail an integral part of connecting rural and deprived communities. Successful delivery of this objective could support the rebalancing of the regional economy, providing equal opportunities to all Dorset, BCP Conurbation and Hampshire residents.

Transport Related Social Exclusion (TRSE) is caused by the combination of fragmentation, unreliability, and high costs in the public transport system; poor conditions for walking, cycling, and wheeling in car-dominated environments; and the high levels of car dependency that result from this. This leads to poor access to key destinations for those primarily dependent on public transport and active travel, alongside forced car ownership, in which households are compelled to have access to a car, despite the costs of car access causing them significant hardship. Together, these impacts can contribute to a cycle of poverty, isolation, and poor access to basic services.

National data on TRSE shows how the risk of TRSE varies across the scope area. It can be seen that there is a higher to highest risk of TRSE at several locations, including Weymouth, Wareham, Swanage and areas in the northern and eastern parts of the BCP Conurbation.

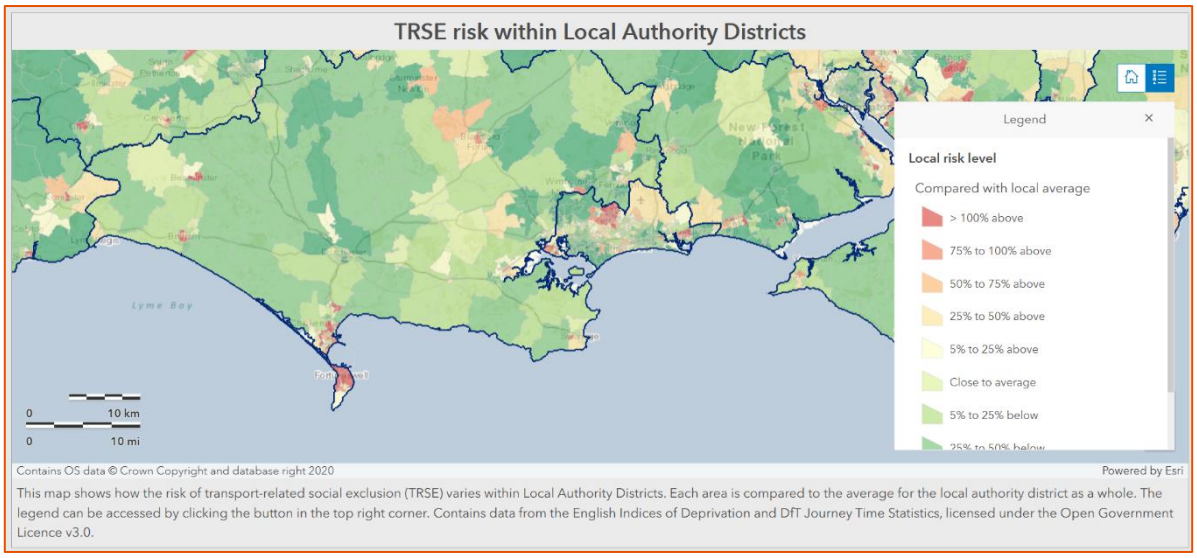


FIGURE 3-33: TRSE RISK WITHIN LOCAL AUTHORITY DISTRICTS, TRANSPORT FOR THE NORTH

3.3.3.1.1 Dorset Indices of Deprivation

The following map shows the local deprivation profile of Dorset local authority area based on the 2019 Multiple Indices of Deprivation.

The key areas of deprivation to note are around Weymouth and Portland, as well as along the corridor to Dorchester. Locations such as Wareham and Swanage also have moderate levels of deprivation too. This includes some neighbourhoods being in the most income-deprived in England. In Dorset, 8.8 % of the population was income-deprived in 2019.

There is some alignment with the areas identified in the TRSE map.

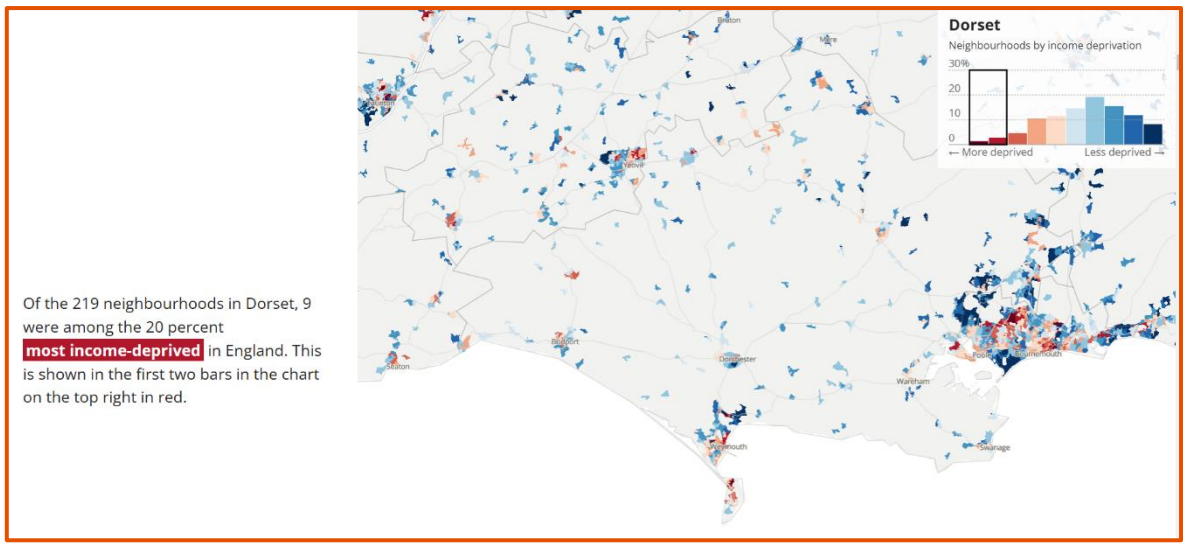


FIGURE 3-34: DORSET - ENGLISH INDICES OF DEPRIVATION, 2019, ONS

Weymouth has received funding from the Levelling Up Fund to kick start a harbourside regeneration programme - The Levelling Up Fund - Dorset Council.

3.3.3.1.2 BCP Indices of Deprivation

The following map shows the local deprivation profile of the Bournemouth, Christchurch and Poole local authority area based on the 2019 Multiple Indices of Deprivation.

Unsurprisingly for an urban area, there are key areas of deprivation in built up areas of the town centre. This includes some neighbourhoods being in the most income-deprived in England. In Bournemouth, Christchurch and Poole, 11.2 % of the population was income-deprived in 2019.

There is some alignment with the areas identified in the TRSE map, particularly in the northern part of the authority area.

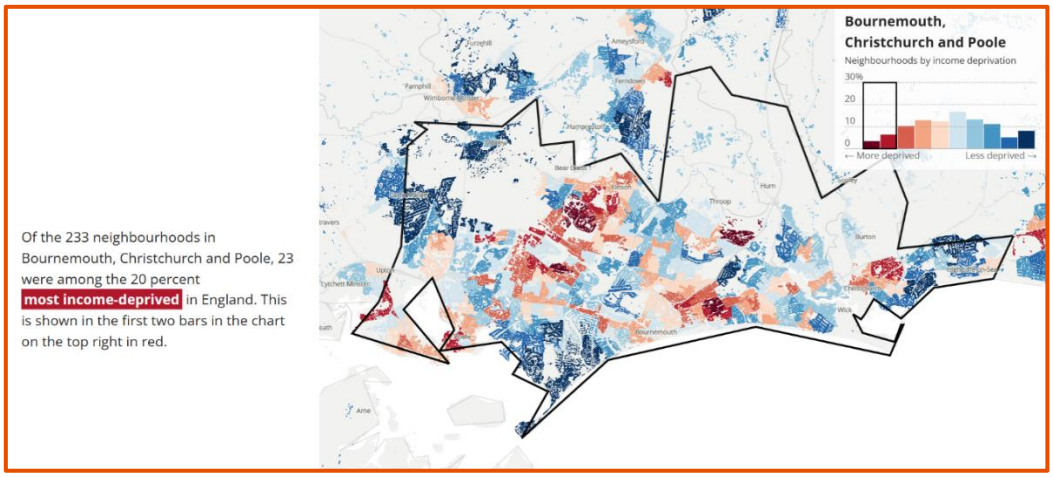


FIGURE 3-35: BOURNEMOUTH, CHRISTCHURCH AND POOLE - ENGLISH INDICES OF DEPRIVATION, 2019, ONS

3.3.3.1.3 New Forest Indices of Deprivation

The following map shows the local deprivation profile of New Forest local authority area based on the 2019 Multiple Indices of Deprivation. Owing to the lack of urban land and the large areas of national park there are fewer locations suffering from deprivation. However, there are key areas of

deprivation around New Milton and Lymington. This includes some neighbourhoods being in the most income-deprived in England. There is some alignment with the areas identified in the TRSE map, particularly in the New Milton and Lymington.

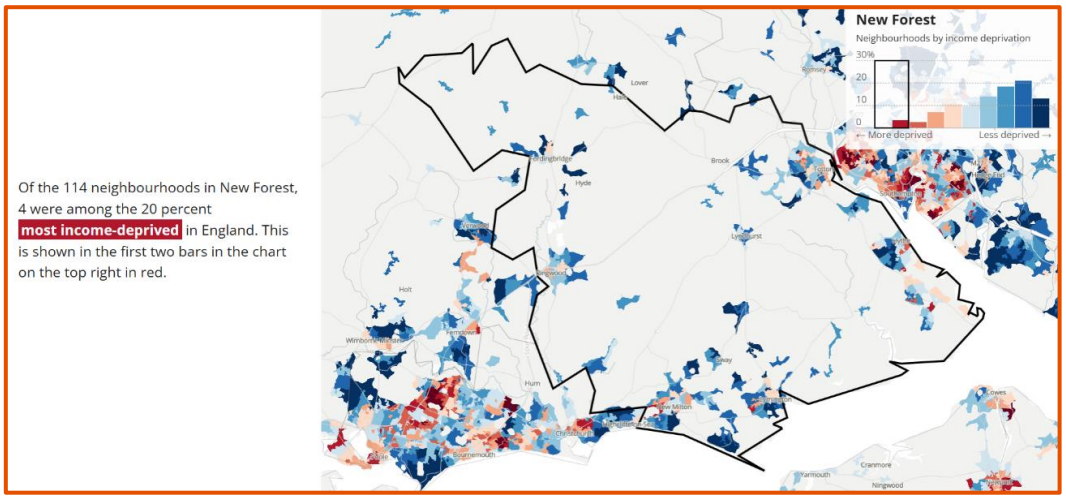


FIGURE 3-36: NEW FOREST - ENGLISH INDICES OF DEPRIVATION, 2019, ONS

3.3.3.2 Priority 1: Improve multi-modal interchange to rail through improving access to stations by car, bus and active modes

Railway connectivity and improved multi-modal interchange at railway stations provides the opportunity for individuals and communities to use public transport as a means of accessing housing, employment, health, and education. Station access can affect social mobility in range of different ways. Station provisions which can help, or hinder access include car parking, cycle spaces, disabled parking, and EV charging, as well as needing stations to provide adequate signage and wayfinding, interchange with other modes, safety, and security.

3.3.3.2.1 EV Charging and Car Parking

SWR and the rail industry work with local authority partners to identify stations where EV charging could be implemented. Although there is not current EV provision at stations within the scope area, between Weymouth and Brockenhurst, it is an area of opportunity.

It is likely that improvements will be observed quickly over the coming years with roll-out programmes underway by TOCs, however, the existing station infrastructure does not promote or facilitate drivers of electric powered cars to use the stations in this area yet.

Although sustainable access to rail should be prioritised and encouraged, it is not always suitable for all passenger and therefore car parking should be improved and made available. In not providing sufficient facilities or access to the station passengers are turned away from rail and public transport and feel left with no choice but to use their own means of travel. This sentiment is echoed in existing industry-led research with a 2018 RDG Station Car Parking Guide[10] acknowledging that passenger satisfaction with car parking has been identified as much lower than other station facilities, as per National Rail Passenger Surveys.

[10] Rail Delivery Group Station Car Parking Good Practice Guide

The majority of stations in the study area offer parking spaces, either at the station or nearby. Having parking available can increase the effective catchment area of the station, particularly for long distance rail journeys.

Only Hamworthy and Pokesdown have no parking available, while Bournemouth (369) and Brockenhurst (242) have the most (Figure 3-37).

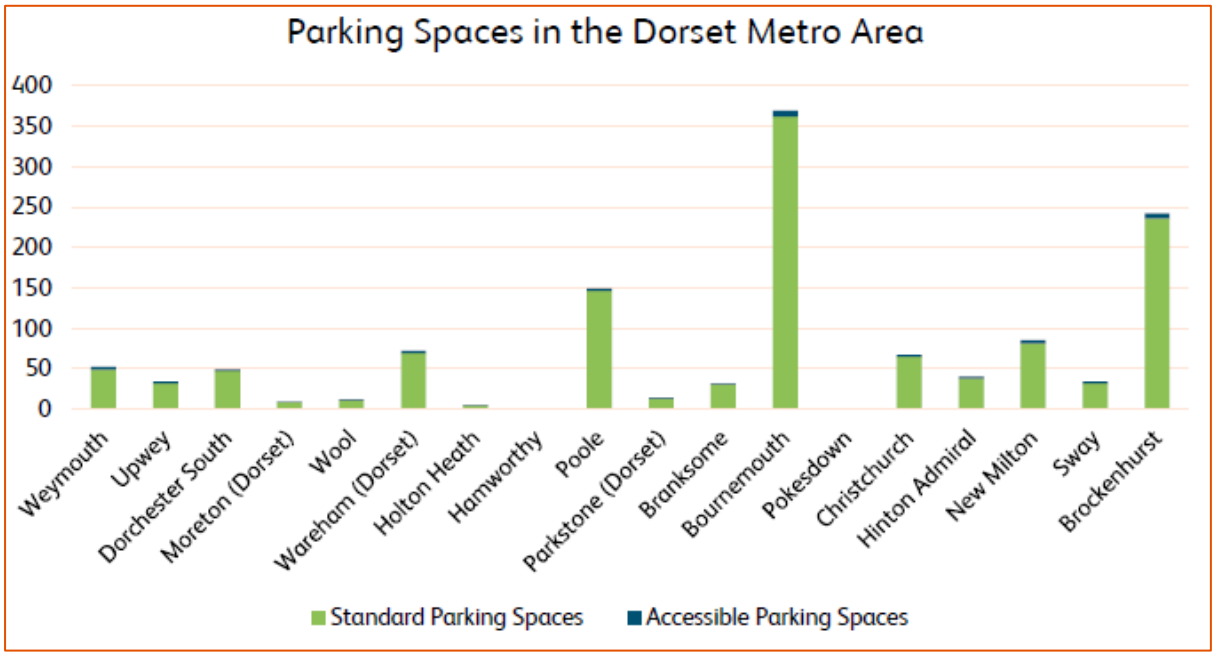


FIGURE 3-37: PARKING SPACES IN THE DORSET METRO AREA

There are potential opportunities for rail park and ride, identified by Dorset Council's Local Transport Plan 3 Paragraph 9.4.2[11] at Holton Heath (currently 5 parking spaces), Hinton Admiral (40) and Wareham (72).

The location of the station can influence the need for car parking. For instance, Holton Heath is a relatively small location in a rural setting where the village is not adjacent to the railway station, and it has very few car parking spaces.

Instead of building a bigger car park at Holton Heath, it may be better to make Wareham more of a transport and community hub, provide additional parking spaces there, whilst increasing the level of train service, and improving access to the station from the surrounding area by active travel and other public transport modes.

3.3.3.2.2 Bus/rail Interchange

The map below shows Dorset's inter-urban bus network.

[11] https://www.dorsetcouncil.gov.uk/documents/35024/288596/LTP3+Bournemouth+Poole+Dorset+Strategy+Document+Final+Chapters+6+to+13.pdf/5dcc94a5-d4a5-6aaf-8204-da35f70049d9

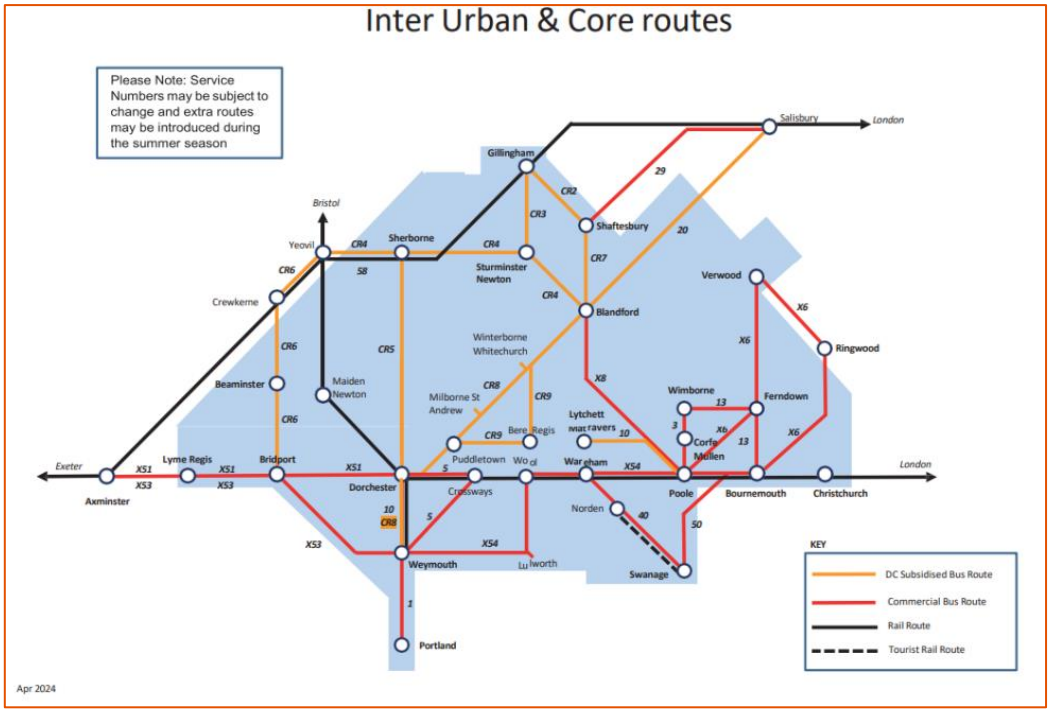


FIGURE 3-38: INTER URBAN BUS NETWORK IN DORSET, DORSET COUNCIL BSIP

Weymouth and Dorchester are relatively well served by buses, with the X53 bus calling at Weymouth station and connecting along the coast to Bridport and Lyme Regis. The only other service to call at Weymouth station is the number 12, which is a local service connecting to a holiday park.

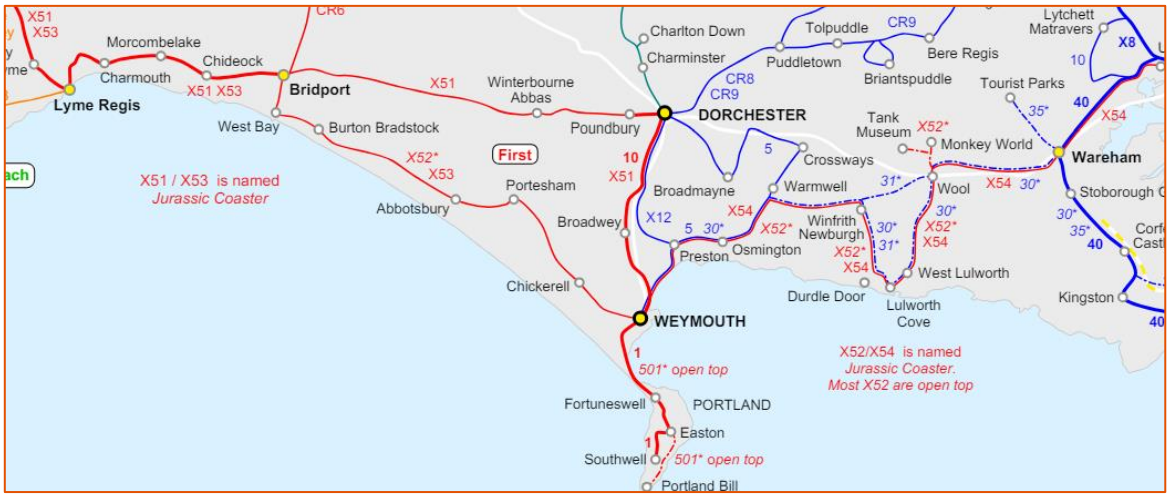


FIGURE 3-39: JURASSIC COAST BUS NETWORK, WWW.BUSATLAS.UK

Although not calling at Weymouth station, the above map shows that the corridor between Weymouth and Dorchester has access to buses, the x51 and the number 10. Both these routes connect directly to Dorset County Hospital, but not to any railway stations.

Bus services such as the X52 (mostly open top) connect locations such as Wool to tourist destinations including the Tank Museum and Monkey World. The X54 bus is an important feeder to stations such as Wareham, with the number 40 bus connecting Wareham to Swanage. There are also seasonal buses that operate during the summer only.

FIGURE 3-40: BUS NETWORK AROUND BCP AREA, WWW.BUSATLAS.UK

There are several bus routes and services operating in and around the BCP conurbation. Some of these services provide connections from locations such as Blandford Forum, Wimborne Minister, Ferndown and Ringwood.

The M1 bus service connects Bournemouth and Poole residents to the Royal Bournemouth Hospital, providing an important link for those working at and visiting the hospital.

The 737 bus connects Bournemouth station to Bournemouth Airport and the Aviation Business Park.

The number 50 bus connects Swanage to Bournemouth via the Sandbanks Ferry.

Dorset Rural Mobility Pilot: Dorset Council is leading on the Dorset Rural Mobility Pilot in partnership with BCP Council and Western Gateway STB. The aim of which is to introduce on-demand services to provide regular connections from rural villages into the core bus network and other local bus routes or rail services. The concept is that bus users will interchange at mobility hubs providing a range of onward travel connections with integrated ticketing. The services will also seek to improve access to tourist and leisure destinations.

This presents an opportunity to think about rail service improvements that could connect with on-demand bus services at railway stations, allowing access to employment, education and health services.

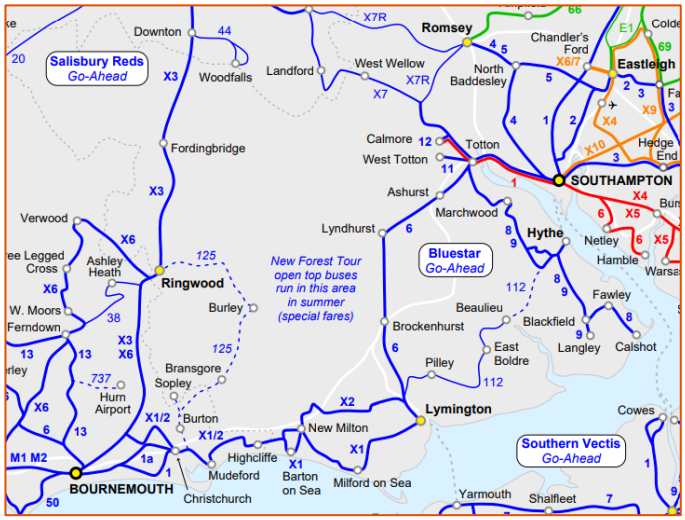


FIGURE 3-41: BUS NETWORK AROUND THE NEW FOREST AREA, WWW.BUSATLAS.UK

The X1 bus connects New Milton to Bournemouth and Lymington, calling at New Milton railway station, allowing a connection into the rail network.

There is no direct bus from Brockenhurst to locations within the BCP conurbation and beyond, highlighting the importance of rail as a means of accessing the important regional economic centre.

The Hampshire BSIP notes that there are pockets of inaccessibility in rural areas of Hampshire such as parts of the New Forest owing to bus services in the area being unable to be run on a commercial basis or because there is poor penetration of commercial services.

Without adequate access to railway stations by bus, residents must rely on the private car and in many cases may be dissuaded from rail use because of this. Where residents are already using their car for one part of a journey it is likely that they will then be more inclined to continue the journey in their car rather than drive to a station and then use the train, whereby the service frequency is poor.

3.3.3.2.3 Active travel

Local Cycling and Walking Infrastructure Plans (or LCWIPs) are focused, 10-year plans for the development of cycling and walking networks within a local area. Where the ability to actively travel to railway stations is restricted by a lack of facilities at the railway station, or a lack of connecting infrastructure, such as cycle paths or adequate pavements, residents are less likely to use the network to reach their desired destination.

It is essential that LCWIP plans and proposals are considered as part of any rail service improvement as a means of encouraging rail uptake and reducing social mobility issues for what is a predominantly rural and high car-reliance corridor.

By working closely with local councils to incorporate these strategies, LCWIPs can act as a driver for rail improvements as demand should increase following greater ability to access the network.

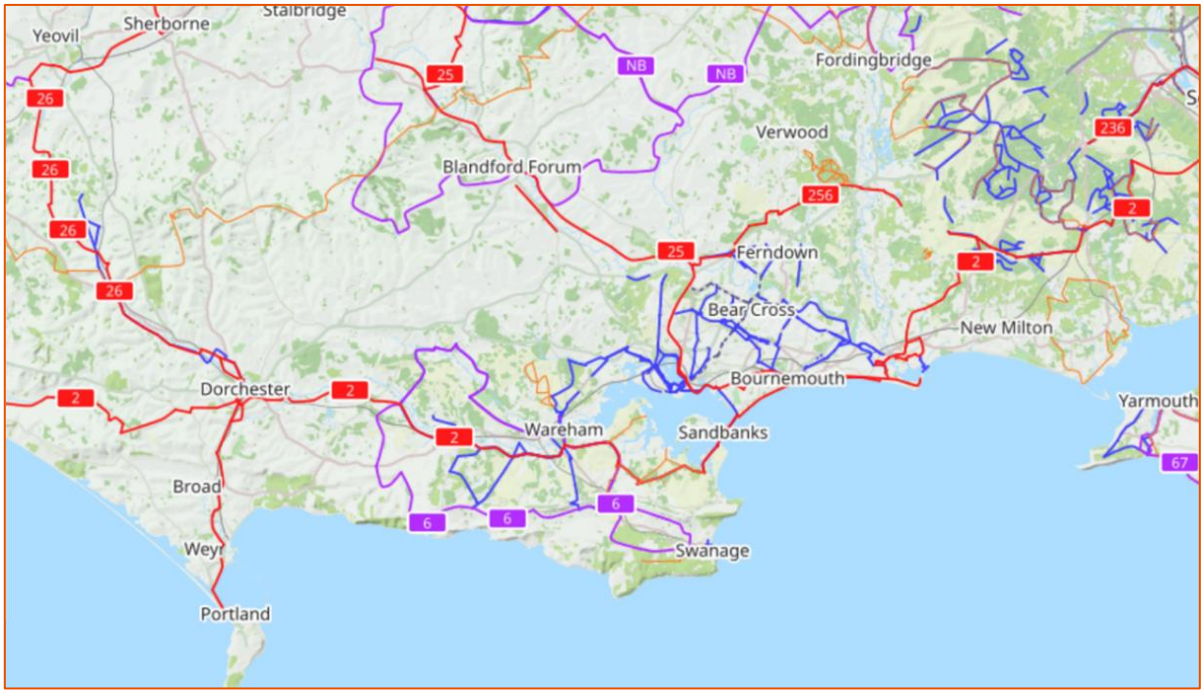


FIGURE 3-42: CYCLE NETWORK WITHIN SCOPE AREA, HTTPS://WWW.OPENCYCLEMAP.ORG/

The above map shows the extent of the national cycle network in the wider Dorset, BCP and New Forest area. These cycleways offer officially marked routes for cyclists to use. Where these cycle routes exist, residents and visitors can make use of active travel opportunities to access the railway network.

3.3.4 Theme 4: Productivity

Over the long term, the sustainable economic growth of regional economies is recognised to be driven by increasing productivity. Investing in infrastructure to increase productivity is therefore a key objective of central Government and has driven much of the investment in the rail industry in the past twenty years.[12]

Many of the barriers to improved productivity have been identified as spatial. For instance:

- Economic activities take place in one place (which enables greater specialisation)
- People that have the right skills tend to live in another area (for a variety of economic, social and environmental reasons)

This means that rail can provide a key role in supporting economic growth by connecting business-to business and business-to-people.

Enabling employers and businesses to gain access to each other and to a wide pool of labour, is essential to higher productivity.

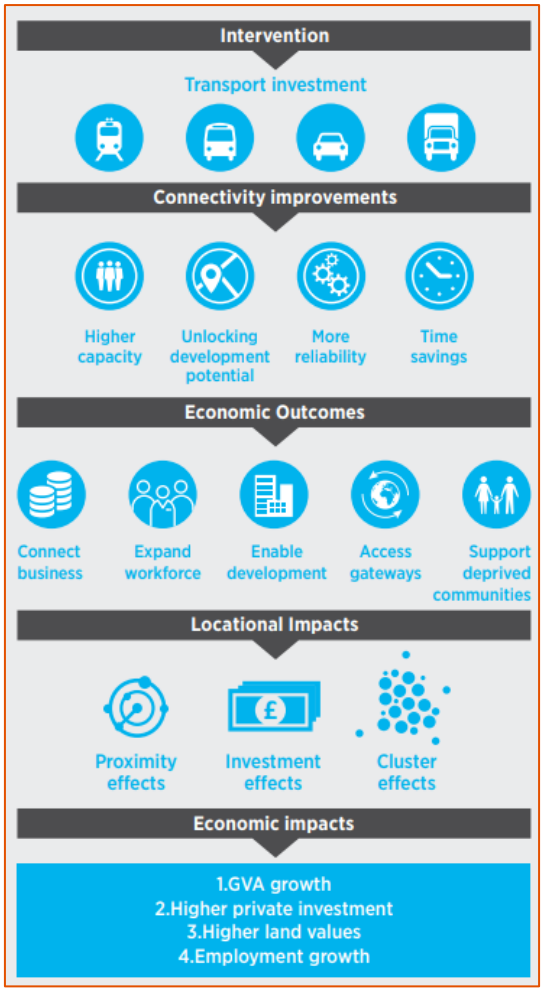
There are three measures of connectivity to business and employment centres:

1. Access to businesses for other businesses which relates to agglomeration resulting from clustering of economic activities and knowledge spill over between sectors
2. Access to labour supply for businesses and increasing labour productivity by reducing the cost of reaching a larger pool of labour
3. Access to employment of a working age population

Office for National Statistics (ONS) data for 'Productivity in towns and travel to work areas, UK: 2019' makes some key points about productivity:

- The most productive Travel to Work Areas (TTWAs) are mainly located on well-connected transport routes in the south of England, in particular motorway and rail routes heading to and from London, with a large town or small city as a focal point
- Labour productivity is lowest in rural TTWAs or those with only small towns in relatively isolated locations such as coastal areas

[12] Guidance on capturing the benefits of rail transport proposals, Better Value Rail Toolkit



Transport can increase productivity of an area in three ways:

- By reducing transport costs and thereby improving accessibility around and between jobs. This, in effect, brings firms closer together. This is described as a 'proximity effect'
- Where transport investment changes the scale or location of employment in an area or between areas. This is termed a 'cluster effect' whereby the change in the number of jobs in an area directly affects the 'effective density'
- By facilitating new jobs through more direct links (e.g. linkages to new business parks, rather than time savings between established locations), where encouraging new business activity (inward investment) to the area will increase the density of activity, and as a result productivity benefits will accrue[13]

This highlights that improvements to rail services within the scope area of this SOBC have the potential to positively impact the economic productivity of Dorset, BCP and Hampshire, as well as contributing to national productivity.

FIGURE 3-43: TRANSPORT AND THE ECONOMY, TRANSPORT FOR THE SE

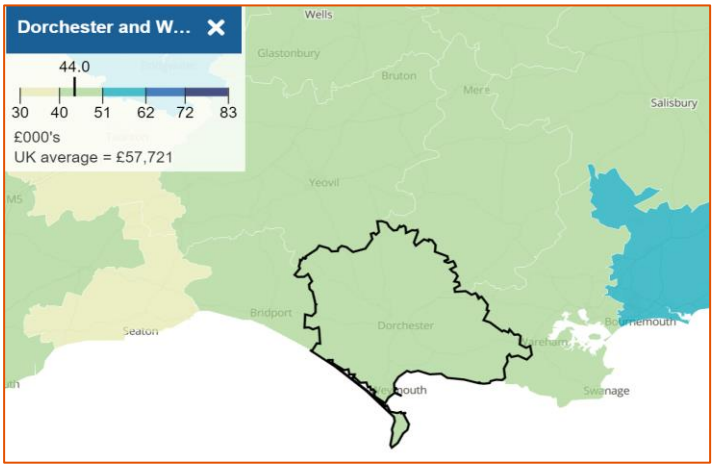


FIGURE 3-44: GROSS VALUE ADDED (GVA) PER FILLED JOB, TTWAS, ENGLAND AND WALES, ONS 2019

The map to the left, taken from ONS data, shows that the area from Weymouth through to Poole has a relatively low Gross Value Added (GVA) per filled job, and is therefore below average in terms of labour productivity (shown in light green). The Dorchester and Weymouth' area is highlighted as an example and shows that at £44k it is lower than the UK average of £57.7k. The Bournemouth area, shown in the mid-blue colour, is slightly higher at £51.9k. The area covered by the New Forest includes Southampton and therefore shows an even higher GVA at £61k.

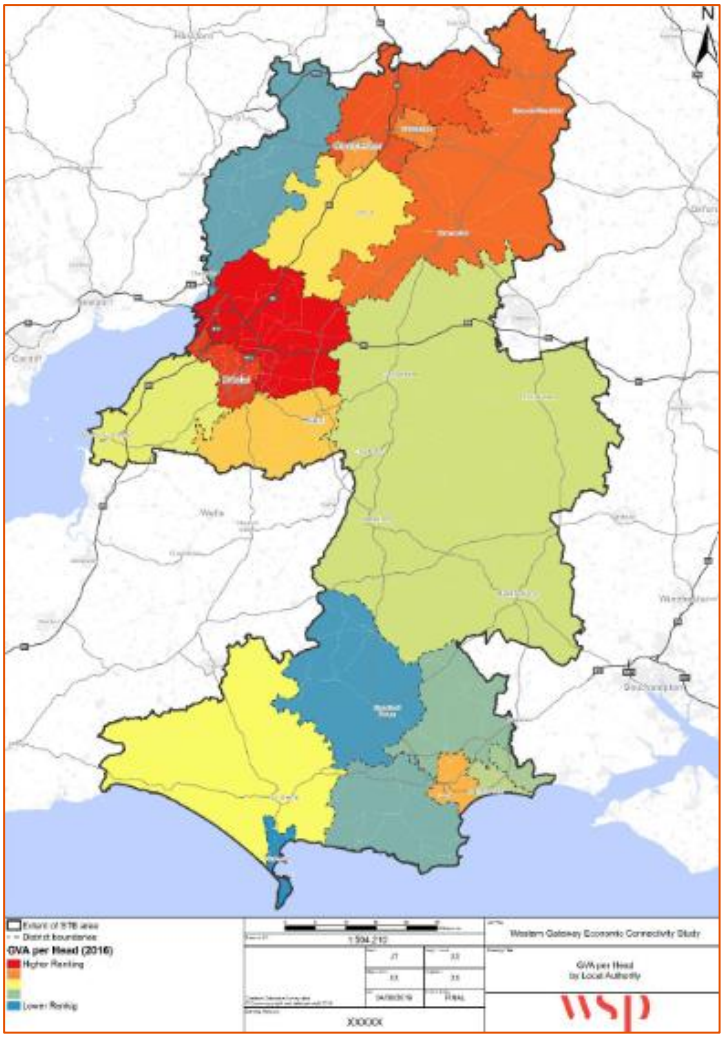


FIGURE 3-45: GVA PER HEAD IN THE WESTERN GATEWAY STB AREA, ECONOMIC CONNECTIVITY STUDY (WESTERN GATEWAY STB)

The Western Gateway STB's Economic Connectivity Study breaks down further the disparity in productivity across their area of influence as shown here.

The Economic Connectivity Study states that there are several areas in the Western Gateway region, such as those in the less well connected Dorset coastal areas, where productivity is below that in other parts of the STB region as well as being below the national average.

The map to left shows this clearly with the Weymouth area coloured in blue. The Bournemouth area is shown as higher, in orange, and therefore a centre for economic activity.

As productivity is such an important indicator of economic activity, enhancing connectivity along the South West Main Line corridor will enable locations in Dorser to have much better access to economic centres of activity such as Bournemouth.

Improving the local rail network could support the maximisation of economic development and be a catalyst for improvements to interchange within and between modes. The Western Gateway STB see transport as a crucial element to supporting economic growth with previous analysis in the West of England area showing that transport schemes could unlock 20,000 jobs and could generate £1.2 billion in additional GVA per annum by 2030. This shows the importance of rail and transport networks in supporting the productivity of an area or region.

3.3.4.1 Priority 1: Improve rail journey times/ speeds and Generalised Journey Time (GJT) to make rail competitive with the equivalent road journey

A priority of the productivity theme, outlined by Western Gateway STB is to 'improve rail journey times/ speeds and GJT to make rail competitive with the equivalent road journey'.

3.3.4.1.1 Generalised Journey Times

One aspect of providing the well-connected transport links noted by the ONS as an essential contributor to productivity is improved journey times. In rail, a measure that exists to reflect the

[13] https://transportforthesoutheast.org.uk/app/uploads/2020/10/FINAL-Economic-Connectivity-Review.pdf

journey time experience of a customer is Generalised Journey Times (GJT). GJT captures, in one single measure, rail journey time, frequency (the interval between trains) and interchange (the inconvenience associated with changing trains to complete a journey).

The following 'decay curve' shows how the willingness to travel varies by journey purpose, and how GJT can impact that willingness to travel (**not** Heart of Wessex Line specific).

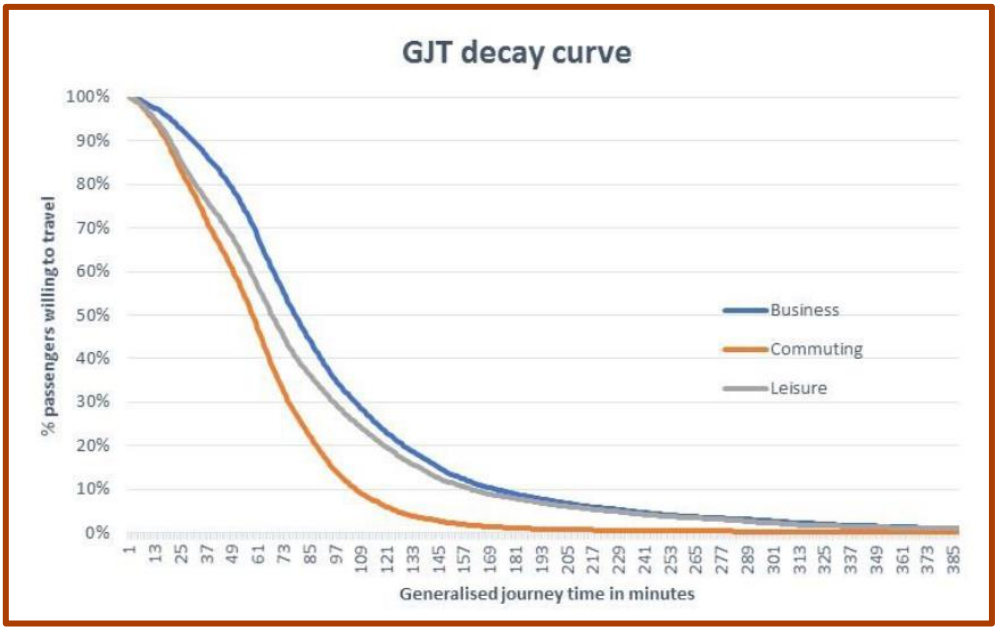


FIGURE 3-46: GJT DECAY CURVE, BETTER VALUE RAIL TOOLKIT[14]

Improving GJT through increased service frequency enables rail to present a more attractive and competitive transport mode. This, in turn, works to promote modal shift and supports business and commuter travellers to be more productive by minimising the disruption that travel has on the working day.

Increasing the service frequency on the South West Main Line would increase the opportunity for convenient onward connections beyond the rail corridor and to the overall accessibility of key destinations within the corridor such as Bournemouth and Poole, and onwards to Southampton or London. Connecting residents to employment is a key driver of productivity that rail improvements can support.

3.3.5 Theme 5: Growth

It is key in making a case for rail investment to show that it can not only support the delivery of currently planned housing and employment growth, but also act as a catalyst for drawing development and growth to an area.

3.3.5.1 Priority 1: Align rail investment, including new stations/ lines with future growth areas

For growth as a driver for change, the priority is the *'Alignment of rail investment, including new stations/lines with future growth areas*'. This priority recognises the importance of considering

[14] Guidance on capturing the benefits of rail transport proposals, Better Value Rail Toolkit (Appendix C.01)

transport and planning policy alongside each other, and making sure, as far as possible, that commercial and housing developments consider sustainable transport opportunities.

Strong public transport infrastructure and services are not only necessary for attracting housing development and investment, but also for growth in business, employment, and economic opportunities. Research by GVA Grimley[15] on transport's influence on business investment suggests that the role of transport – particularly public transport – was viewed as significant in terms of enabling development or investment to take place/ succeed, and that ineffective transport infrastructure represents a potential barrier to future investment in these areas.

An area with less desirable public transport infrastructure may be perceived as less attractive for investment, and it may face challenges in terms of economic development and property value appreciation.

3.3.5.1.1 Housing growth

Dorset has shown strong housing growth from 2020-2023 when compared to other locations around the rest of the country (Figure 3-47). Unsurprisingly, the New Forest has seen less housing growth owing to its status as a national park.

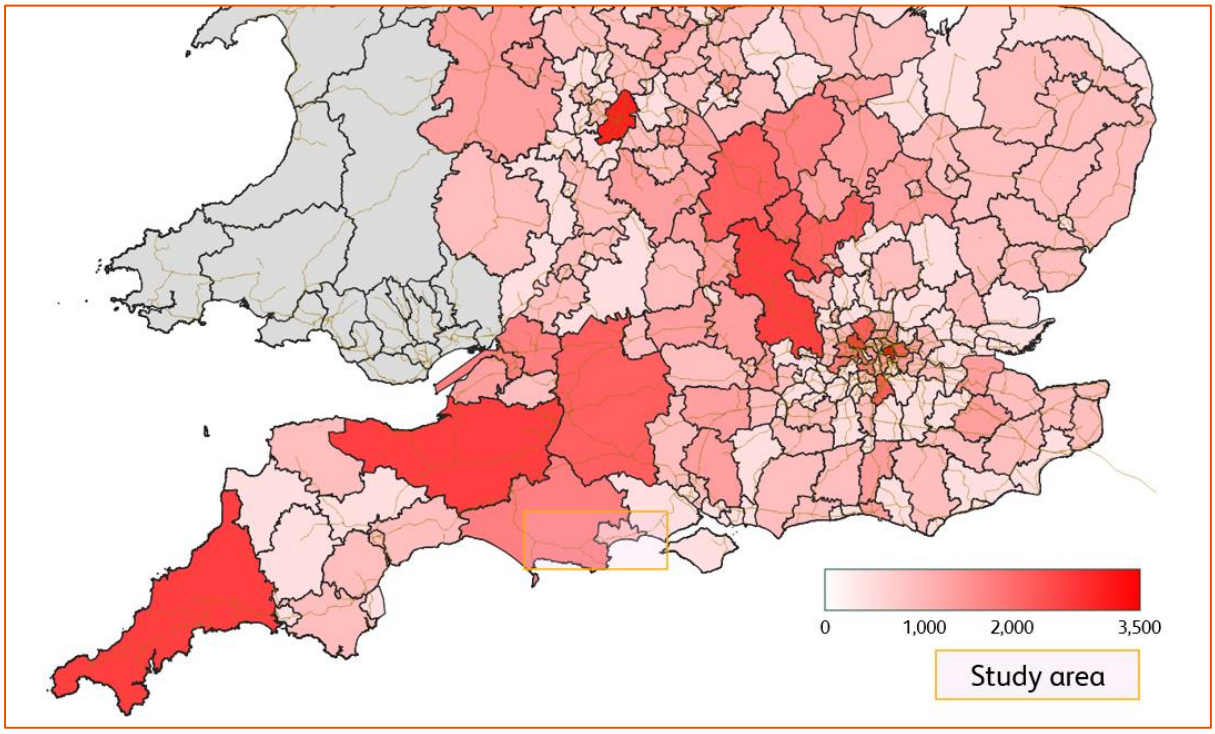


FIGURE 3-47: AVERAGE ANNUAL NET ADDITIONS BY LOCAL AUTHORITY 2020/21-2022/23. SOURCE: MINISTRY OF HOUSING, COMMUNITIES AND LOCAL GOVERNMENT

The National Planning Policy Framework (NPPF) December 2024[16] outlines new higher, mandatory, housing targets. Emerging central government policy is also encouraging growth

[15] GVA Grimley (https://www.urbantransportgroup.org/system/files/general-docs/GVA_transport_and_business_200611.pdf)
[16] https://www.theplanner.co.uk/2025/01/27/approval-by-default-for-homes-near-transport-hubs

around transport hubs such as rail stations. Housing growth targets are expected to increase, including significant commitments in Dorset and Bournemouth, Christchurch and Poole.

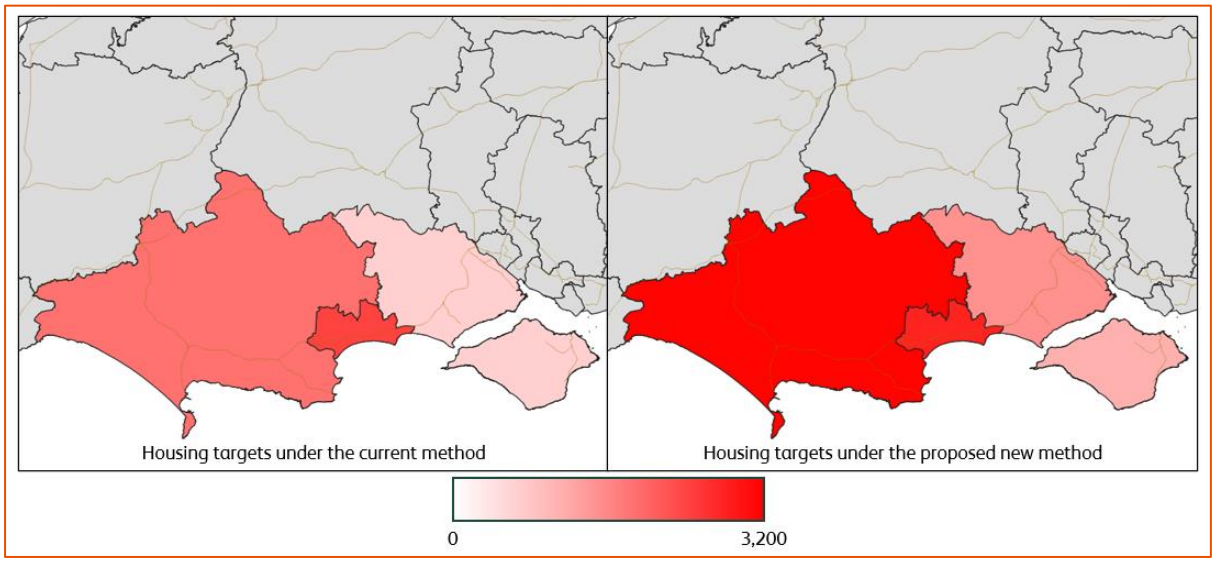


FIGURE 3-48: VISUALISATION OF CURRENT AND PROPOSED HOUSING TARGETS. SOURCE: MINISTRY OF HOUSING, COMMUNITIES AND LOCAL GOVERNMENT

The data visualised above is summarised in Table 3-10.

TABLE 3-10: SUMMARY OF CURRENT AND PROPOSED HOUSING TARGETS AND HISTORIC HOUSING DELIVERY IN THE DORSET METRO AREA

Reorganised Authority Name	Current Method	Proposed Method	Average Annual Net additions (2020/21-2022/23)
Bournemouth, Christchurch and Poole	2,566	2,962	752
Dorset	1,956	3,230	1,646
New Forest	729	1,465	268

Access to frequent and reliable public transport, both from rural areas to employment areas and within town centres, is a key element in supporting growth in housing and jobs.

3.3.5.1.2 Employment growth

The following map shows that there are several 'primary employment areas' within the Western Gateway STB area that are also on the South West Main Line corridor through Dorset and into Hampshire.

Primary employment areas include Weymouth/ Portland; Dorchester; Wool; Poole; and Bournemouth. In addition, Southampton is a significant employment area further along the rail corridor.

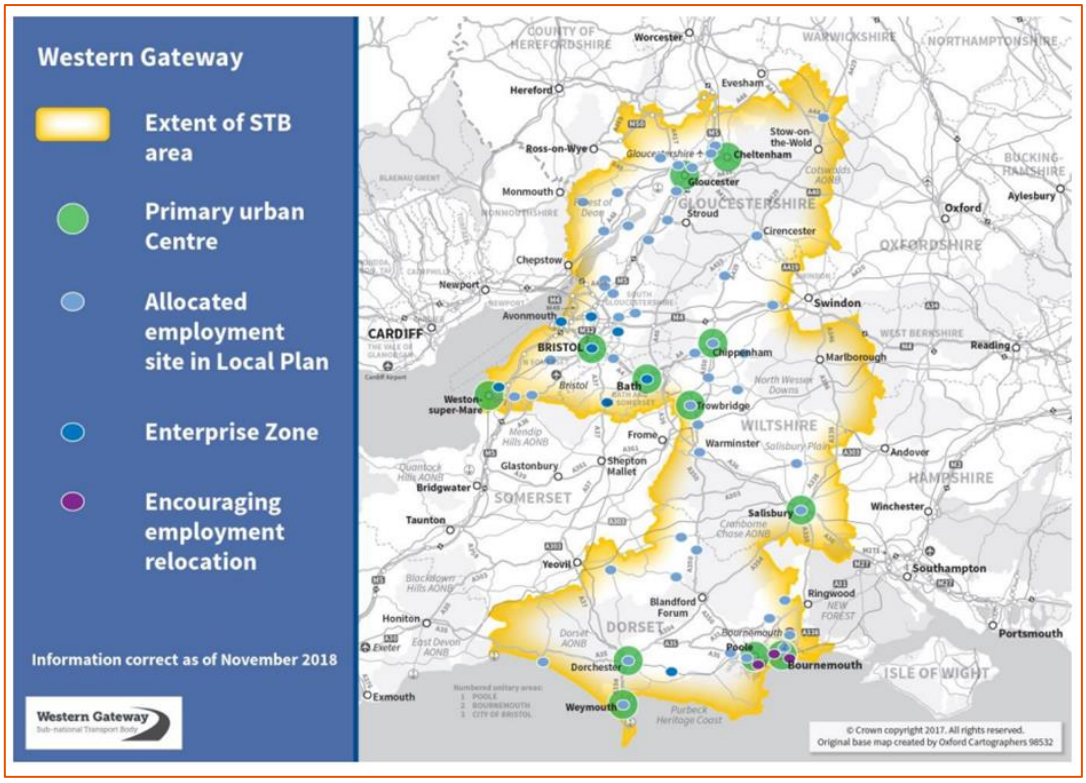


FIGURE 3-49: SITES ENCOURAGING BUSINESS GROWTH IN THE WESTERN GATEWAY AREA, WESTERN GATEWAY STORY OF PLACE

Western Gateway STB's 'Story of Place' sets out a plan to attract and retain businesses within the STB area to ensure the number of working age people increases. Their document demonstrates the scale of this issue: despite ONS forecasts indicating that the population of the Western Gateway area is set to increase by 448,000 people by 2041, only 74,000 will be of working age.

This will have a negative impact on the proportion of the population who will be of working age and will reduce the overall percentage of working age population in the Western Gateway area to 52 % by 2041. Dorset is one of the areas recording the greatest reductions (-8 %)[17].

Strategic Travel Corridor enhancements have the potential to play a major role redressing this negative impact by providing improved connectivity and accessibility to attract and retain businesses within the area which in turn could support the retention of the working age population.

The employment sites proposed throughout the Western Gateway area, as of July 2019 when the document was produced, could generate well over 40,000 additional direct jobs if they can be successfully delivered (indirect jobs in the supply chain and induced jobs supported by the expenditure of the new employees will boost this further). Given the current transport connectivity constraints the full potential of these sites is unlikely to be achieved without investment on the strategic travel corridors.

Similarly, the New Forest is also seeing an aging population which could equally impact the growth of employment and business in the district. Local services represent two thirds of employment in the New Forest.[18]

[17] https://westerngatewaystb.org.uk/wp-content/uploads/2024/10/wg-reb-part-1-story-of-place-1.pdf
[18] New Forest Economic Profile 2022

3.3.5.1.3 Other Growth

There is the potential for a significant expansion to the AFC Bournemouth football stadium, which is an 18 minute walk from Pokesdown station and a 30 minute walk from Bournemouth station, with plans "well on the way" to add 3,000-4,000 extra seats, increasing the capacity to 19,000.[19]

3.3.6 Other drivers

3.3.6.1 Car journey time and road congestion

Where journey times are competitive between rail and car, uptake of rail remains low owing in part to low service frequency, which provides little flexibility, meaning car remains the most common, flexible, and viable form of transport. As a consequence of the high car use, traffic congestion remains an issue across much of the scope area, particularly around Bournemouth, Christchurch and Poole (Figure 3-50).

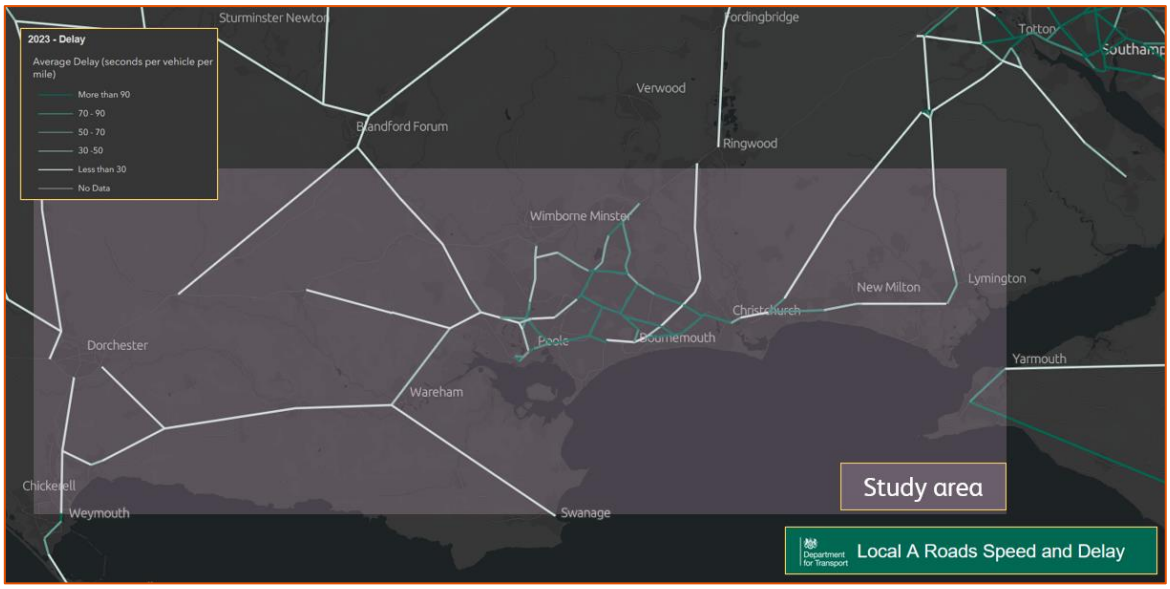


FIGURE 3-50: A-ROAD CONGESTION IN THE STUDY AREA. SOURCE: DFT ROAD CONGESTION AND TRAVEL TIME DATA 2023

3.3.7 Impact of not changing

A 'Do Nothing' scenario would mean the rail service remains as it is and patronage grows within the confines of background growth, but fails to deliver against the value drivers:

- **Choice** – the frequency of service provision will remain as it and therefore provide less flexibility and choice for passengers. The current level of service, if maintained, will not encourage modal shift. Journey opportunities will remain unattractive to potential passengers and interchange opportunities will remain difficult, with operational performance remaining unchanged. Revenue potential will not be maximised.
- **Decarbonisation** – rail mode share will remain low and will not positively contribute to the climate emergencies and carbon targets announced by the local authorities through which the line passes. Road congestion and the associated pollution will continue to rise and adversely impact road users and local communities.
- **Social mobility** – Rail access will remain less attractive than the car and those without cars will continue to be isolated, particularly in rural areas. Opportunities to align other public and

[19] https://www.bbc.co.uk/sport/football/articles/cg45g91q2k3o

active transport mode improvements with an increased rail service frequency will not occur, impacting sustainable journeys. Access to employment, education and services will remain a cause of deprivation and exclusion; the benefits of rail in improving this will not be realised.

- **Productivity –** Overall connectivity, journey times and GJT will remain the same, and therefore not attract new passengers or revenue and limit overall productivity potential. Key regional hubs will be unable to attract and retain a skilled workforce from across the wider region, thereby limiting productivity increases.
- **Growth –** The benefit of building housing alongside the railway and close to railway stations will be restricted by the low service frequency. Developers may be less attracted to development sites where the rail service is unlikely to positively impact their ability to attract potential buyers. Large employers are unlikely to be attracted to locations where they do not have access to a wide pool of potential employees. Conversely, if local authorities do not build their housing and employment allocations with good access to the railway then the case for further rail investment cannot be made and a strong case for service enhancement is unlikely.
- **Road Journeys and congestion** – Without significant improvements to the rail network, making it more attractive and increasing its mode share, road congestion will remain an issue across the geography, as people continue to travel by road instead of rail, further exacerbated by proposed housing growth. Without improved rail frequency and connectivity with other public transport and active travel modes, there will continue to be high traffic and low mode share in the Dorset Metro area.

Additionally, if opportunities to integrate rail enhancements with infrastructure renewals are missed, then the project costs will be significantly higher further .

3.4 The investment proposal

3.4.1 SMART spending objectives

The following objectives have been established through the development of the strategic case and are closely aligned to Western Gateway Rail Strategy themes; they will be used to guide the project's development.

Objective A ***Choice***	Increase train frequency to encourage more journeys to be made by rail, making rail a viable choice for residents, businesses, and tourists, by better connecting rural and urban areas.
Objective B ***Environment***	Increase rail's modal share to deliver environmental benefits including reduced traffic congestion, improved air quality and carbon reduction, through service level improvements and better connectivity with other public transport modes.
Objective C ***Social Mobility***	Improve local rail services to better connect residents to education, employment, goods, services, and leisure/ visitor attractions, enabling people that do not have access to a private car or who are socially isolated to benefit from the opportunities provided through travel.
Objective D ***Growth/Productivity***	Improve rail services to deliver significant economic benefits through better connections to education, employment, goods, services, and leisure/ visitor attractions, improved Generalised Journey Times (GJT), as well as attracting inward investment through new and emerging employment and housing sites that can be located sustainably near railway stations.
Objective E ***Resilience/Reliability***	Enhance railway infrastructure to unlock opportunities to increase the resilience and reliability of railway assets as well as enabling the robust operation of rail services under normal running and at times of disruption.

3.4.2 Scope

In order to fulfil the SMART spending objectives and deliver value for the Dorset Metro area, three key outcomes were identified through collaboration with stakeholders:

- Provide additional frequency in the Bournemouth area through a new shuttle service between Brockenhurst and Wareham.
- Provide a more consistent half-hourly service at Weymouth to Bournemouth and London.
- Provide passenger services to Swanage.

3.4.3 Developing options

To develop options for these outcomes, timetabling and early infrastructure development work were carried out.

3.4.3.1 Initial timetable development

Initial timetable development for the Brockenhurst to Wareham shuttle was carried out by Network Rail's Advanced Timetable Team (ATT) as a part of the Bournemouth Strategic Station Plan. The full report is included as Appendix C: Initial Timetable Analysis Work.

To summarise, four stopping patterns were assessed for the new service, using 08:00-11:00 in the June 2024 Working Timetable (WTT):

- **All stations** (Wareham, *Holton Heath*, Hamworthy, Poole, Parkstone, Branksome, Bournemouth, Pokesdown, Christchurch, Hinton Admiral, New Milton, *Sway*, Brockenhurst)
    - +1 train per hour (ATT- Dorset Metro "1A")
    - +2 trains per hour (ATT- Dorset Metro "1B")
- **Limited stop** (Wareham, Hamworthy, Poole, Parkstone, Branksome, Bournemouth, Pokesdown, Christchurch, Hinton Admiral, New Milton, Brockenhurst)
    - +1 train per hour (ATT- Dorset Metro "2A")
    - +2 trains per hour (ATT- Dorset Metro "2B")

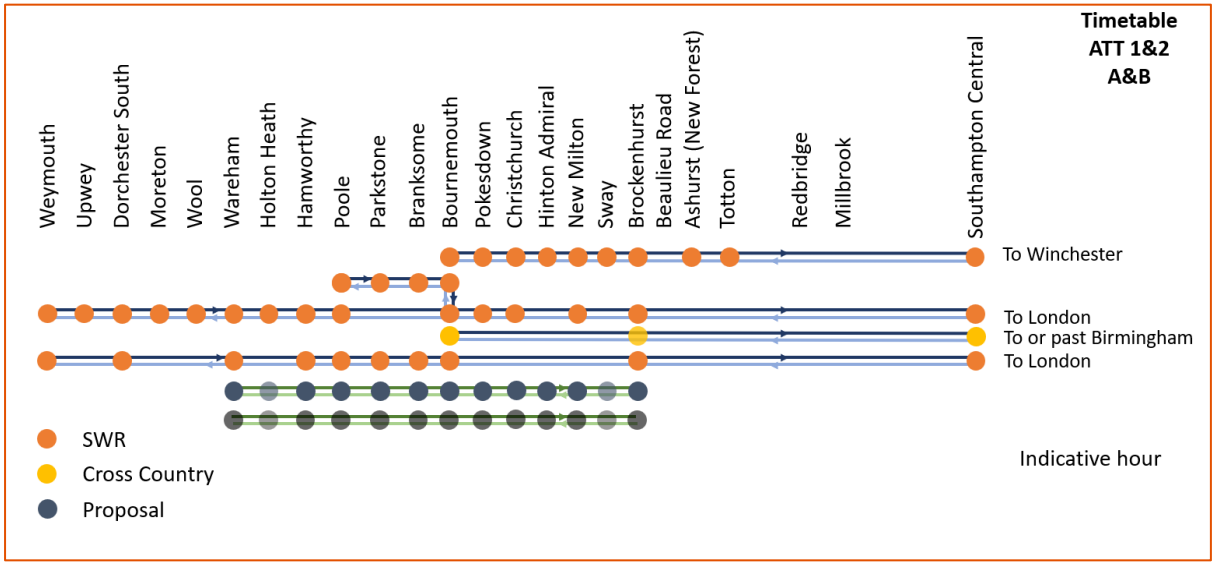


FIGURE 3-51: CURRENT SERVICES AND PROPOSALS FROM THE INITIAL TIMETABLING WORK

There was no significant difference in the Limited stop options in comparison to the All stations options in terms of timetable capacity, although it should be noted that the performance would likely be more robust in the Limited stop options.

For the +1 tph options, two key interventions were identified to deliver compliant paths:

- The headways between Bournemouth and Brockenhurst are currently 5.5 minutes for stopping services. If these could be reduced to 3 minutes this would support the additional service.
- The junction margins leaving Brockenhurst are currently 4-4.5 minutes. If these could be reduced to 3 minutes, this would remove all conflicts from the timetable. This does not impact every service, and extensive re-timings of other services were not investigated.

For the +2tph options, the above interventions were also required, but additional infrastructure requirements were also identified:

- Multiple new passing loops between Brockenhurst and Poole, effectively 4-tracking the line outside of the stations.
- A new platform at Christchurch.
- Remodelling of Bournemouth station, with a new central island platform and middle siding.

Due to the expected high cost and high level of land required, the +2 tph options were discounted. Solutions within the existing footprint at Bournemouth were flagged to be explored separately, as this is a key point for performance and service regulation due to the splitting and joining of trains.

3.4.3.2 Infrastructure development

Pre-feasibility infrastructure intervention assessments were prepared to support the viability and cost estimates for this SOBC. Network Rail Engineering Services Design Delivery (ESDD) were remitted to look at a variety of interventions. The full report is included as Appendix B: Infrastructure Development Work. A summary of the conclusions is included below.

3.4.3.2.1 Brockenhurst to Bournemouth headways

The existing signalling between Bournemouth and Brockenhurst is a mix of 2 and 3 aspect signalling. ESDD identified that through re-signalling of the section to 4 aspect signalling, the stopping headway could be improved to 3 minutes.

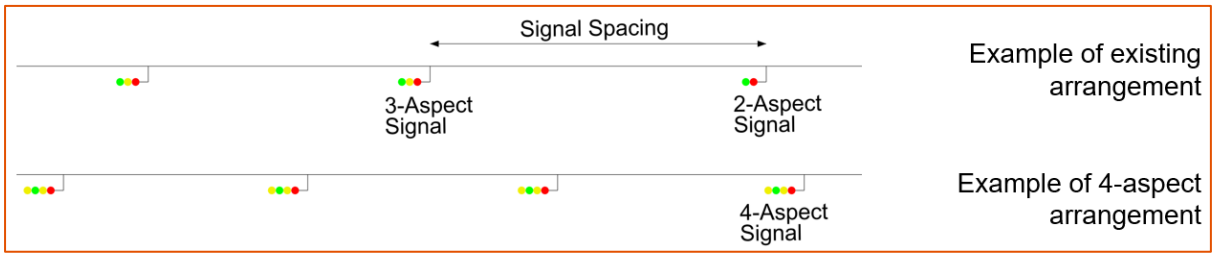


FIGURE 3-52: INDICATIVE DIFFERENCE IN SIGNALLING REQUIRED TO ACHIEVE HEADWAY REDUCTIONS BETWEEN BOURNEMOUTH AND BROCKENHURST

In order to achieve this, approximately 64 new signals are required and 96 track circuit alterations.

Brockenhurst and Bournemouth are both planned for a signalling renewal in CP8 (2033). In this case, there could be significant cost savings in delivering signalling upgrades alongside the renewal. For the purposes of estimating as an enhanced renewal, we have assumed that 16 of the new signals would be paid for by the renewals budget, with a further 16 upgraded by the enhancement and the remaining 31 fully paid for by the enhancement. There would also be an opportunity to integrate access and save on possession costs. Options are included in this SOBC for both a stand-alone project and an enhanced renewal.

3.4.3.2.2 Brockenhurst junction margin improvements

A variety of options were investigated for improving the junction margins at Brockenhurst, but further timetable, infrastructure and operational development is required to understand which is the most likely solution. See Appendix B: Infrastructure Development Work for further explanation of the options. These options are included as cost sensitivities in the appraisal but have not been formally estimated.

- **Sensitivity 1- No cost required:** This option assumes that through other re-timings in the wider timetable or challenging existing timetable planning rules, we can accommodate the additional service with no cost.

- **Sensitivity 2- Signalling changes (£5m):** This option suggests that, coupled with the reduced headways, further signalling changes could reduce the signal section lengths and therefore improve the junction margins.
- **Sensitivity 2- Signalling and track layout changes (£10m):** This option suggests that through creating a higher speed turnout or utilising the existing siding, the junction margins could be reduced.

3.4.3.2.3 Bournemouth Station remodelling

Several options were assessed for Bournemouth station, with a focus on improving the track layout for performance and using the existing space more efficiently (particularly for splitting and joining of trains).

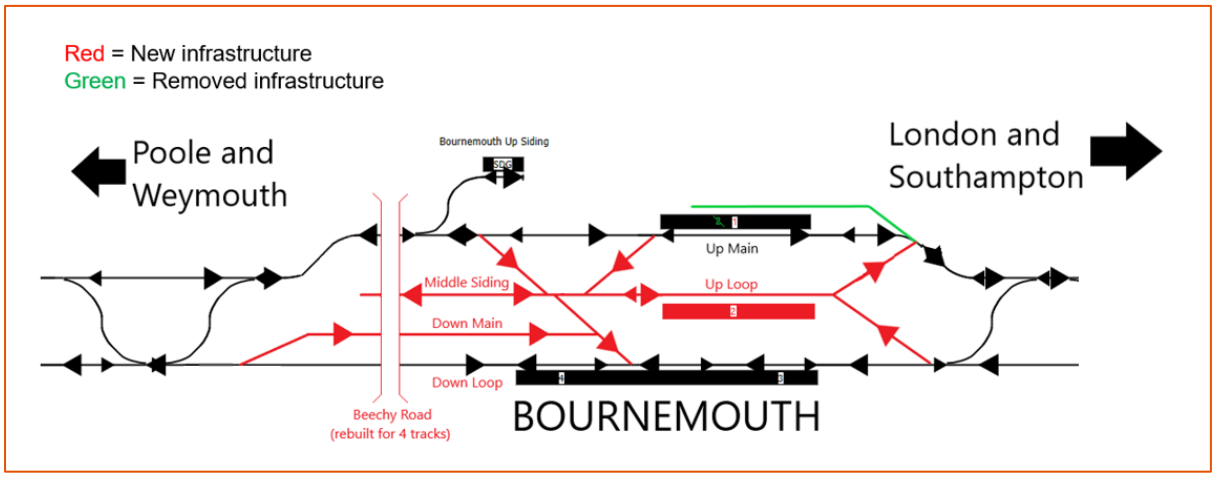


FIGURE 3-53: PROPOSED LAYOUT CHANGES AT BOURNEMOUTH

To fit in a compliant additional platform, the existing platform(s) on either side would need to be modified or cut back by approximately 1.4m to provide space for a lift and 2.5m of single-face platform width. This would likely necessitate the removal and replacement of the existing footbridge, which would be replaced with lifts as the station is not currently step-free compliant (it does have ramps, but they are steeper than the standard).

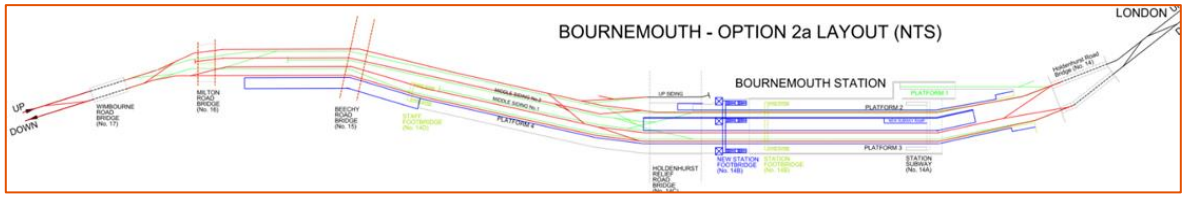


FIGURE 3-54: TRACK LAYOUT DESIGN INCLUDING THE NEW PLATFORM

To fit in the additional tracks, Beechy road bridge would also have to be re-constructed.

The option was discounted due to high cost (indicative £70m-£100m) and unclear benefits, although a further option did emerge considering splitting and joining at Poole, which could have performance benefits for Bournemouth.

3.4.3.2.4 Poole Station

The curvature of the platform at Poole was assessed and deemed a possible solution for splitting and joining 10-car class 444 trains. This would likely require power upgrades but should be considered an option for future development if the power is upgraded separately.

3.4.3.2.5 Weymouth layout improvements

The track layout at Weymouth was assessed to try and facilitate parallel moves into platforms and support the requirement for consistently spaced departures towards London and Bournemouth.

The core option includes doubling of the track on approach to platform 1, with new crossovers to facilitate the parallel moves. A sub-option was also developed with an extension to platform 1 due to the risk that a new buffer stop would be required, or longer trains would use the platform.

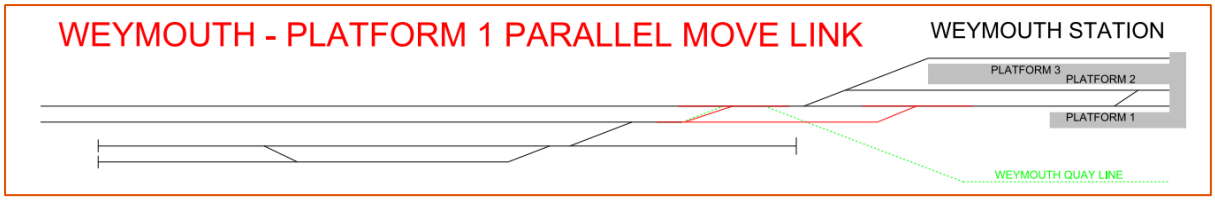


FIGURE 3-55: TRACK DOUBLING OPTION AT WEYMOUTH

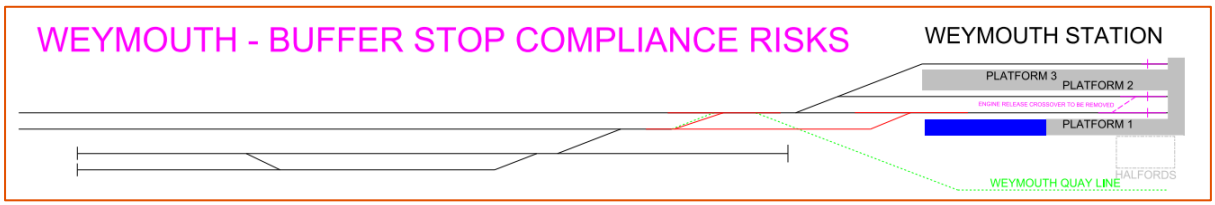


FIGURE 3-56: OPTION TO EXTEND THE PLATFORM AT WEYMOUTH

Finally, the potential of a new "platform 0" at Weymouth was investigated to inform land boundary requirements. Two options were produced: a parallel option which requires a strip of land from what is currently Halfords, and a curved option which only impacts on the car parking area.

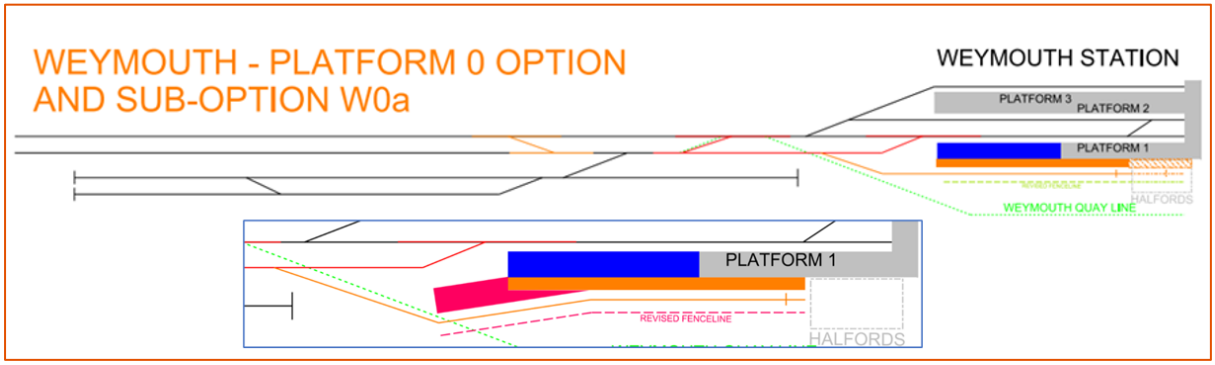


FIGURE 3-57: PLATFORM 0 OPTIONS AT WEYMOUTH

The subsequent timetable analysis undertaken to understand how the timings of the Weymouth to London Waterloo services can be more evenly spaced, has shown that an additional platform is not required at Weymouth. However, this has provided useful information for discussions with Network Rail Property around the future of the overflow car park.

The re-doubling of the Weymouth throat is not required for the ability to retime the SWR services, however, there is the potential that doing so could improve performance by removing the constraint of delayed trains having to wait to access the single track section on leaving or entering the platforms.

Moreton to Dorchester South track re-doubling

ESDD also investigated doubling the track between Moreton and Dorchester South to aid in the ambition for evenly spaces services at Weymouth. The line in this area was previously two-track but was singled during electrification in the 1980s to aid with power supply issues. Because of this, the infrastructure is broadly in place for a second track.

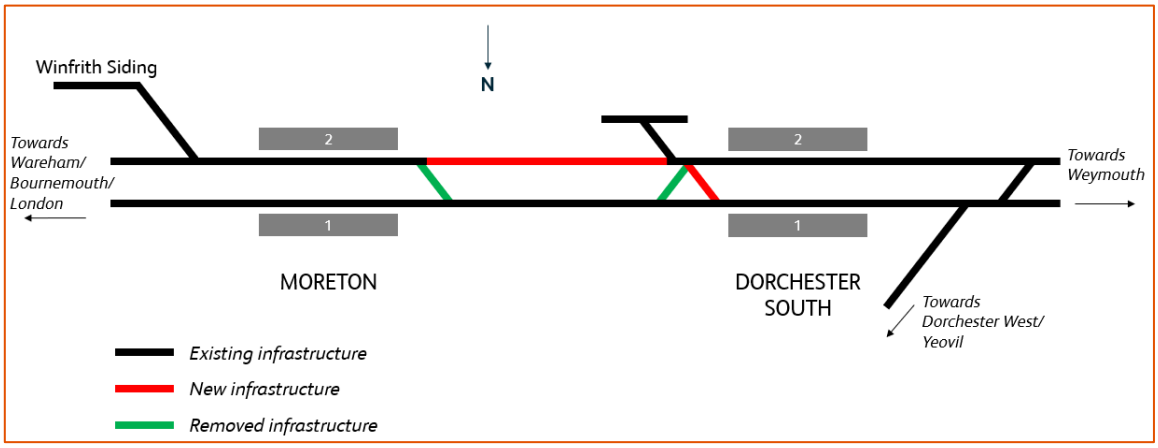


FIGURE 3-58: THE PROPOSAL BETWEEN DORCHESTER SOUTH AND MORETON

The development work identified two areas where existing traction power assets have been built close to the line. For these assets, there are two options: remove and replace the assets elsewhere or re-align the line to allow space for the second track. If power upgrades were also required, the first option would likely be the most efficient, but the latter option has been costed for this SOBC as the cheaper stand-alone solution.

Through consultation with operational colleagues, it was also determined that a facing crossover should be added at the Dorchester end, with the crossover at Moreton being removed.

3.4.3.2.6 Traction Power and Route capability

Power modelling undertaken in 2019 showed that the limitation of longer than 5-car trains running between Bournemouth and Weymouth is valid. Power upgrades would be required in order to facilitate longer or additional services. To lift this restriction enhancement of the High Voltage (HV) network is required, as well as seeking increases to the power supply limits at Bournemouth, Wareham and Redlands Grid supplies. This will need to be confirmed through HV modelling at Outline Business Case stage.

3.4.3.3 Further timetable development

Aecom were remitted to carry out additional timetable development to support the development of this SOBC. For more detail please see Appendix D: Subsequent Timetable Analysis Work.

3.4.3.3.1 Weymouth re-timings

The first question that was looked at involves re-timing services at Weymouth to provide regular 30-minute intervals at the station. The base timetable that was used is summarised indicatively in Figure 3-59.

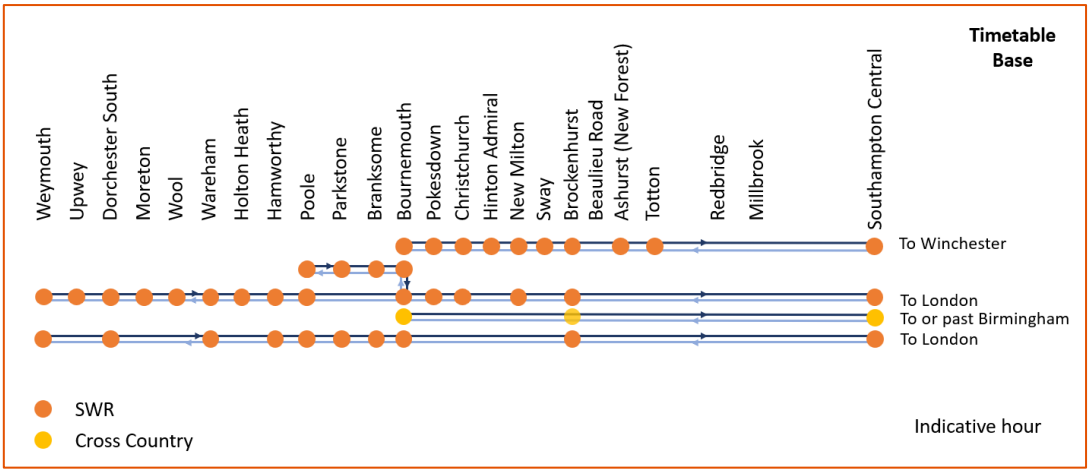


FIGURE 3-59: BASE TIMETABLE USED FOR THE ANALYSIS

Three timetable options were developed (Table 3-11). For the purpose of this exercise, the timetable was assumed to be "fixed" at a 30-minute frequency from Southampton, so options have not impacted this end of the timetable.

TABLE 3-11: SUMMARY OF TIMETABLE SCENARIOS FOR WEYMOUTH RE-TIMINGS

Timetable Scenario	Question developed for	c.30-minute Interval Weymouth	Tph to London	Local Connectivity Maintained	
				East of Bournemouth	West of Bournemouth
1Y	1A	Yes	2 tph	No	No
1X	1A	Yes	2 tph	No	Yes
1W	1B	Yes	1 tph	Yes	Yes

Scenario 1Y (Figure 3-60) provides two fast services per hour between Waterloo and Weymouth, but it does this at the cost of reduced service levels west of Brockenhurst (loss of service at Upwey, Moreton, Wool, Holton Heath, Pokesdown, Christchurch and New Milton), due to the requirement for the same journey time between Weymouth and Bournemouth to achieve the pattern.

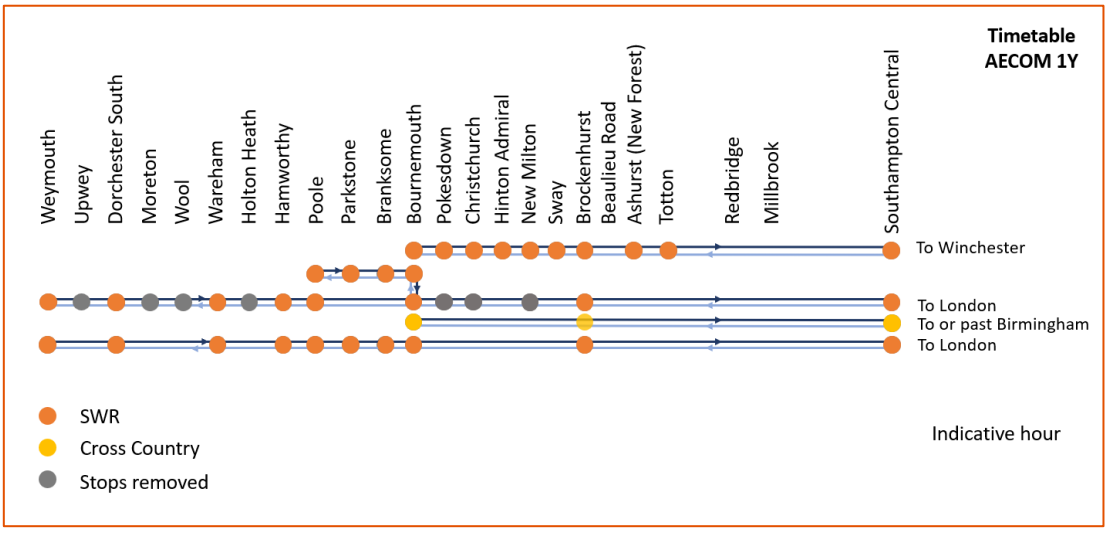


FIGURE 3-60: 1Y TIMETABLE, WITH RE-TIMED WEYMOUTH-WATERLOO SERVICES ONLY

In Scenario 1X (Figure 3-61), this connectivity loss is addressed through providing an additional stopping service between Bournemouth and Weymouth, which joins the fast Weymouth to London service at Bournemouth. This maintains frequency west of Bournemouth but does not address the reduction at Pokesdown, Christchurch and New Milton. It would be possible to consider an offset pattern between the two London services to maintain 1tph from each of these stations while also maintaining equal journey times.

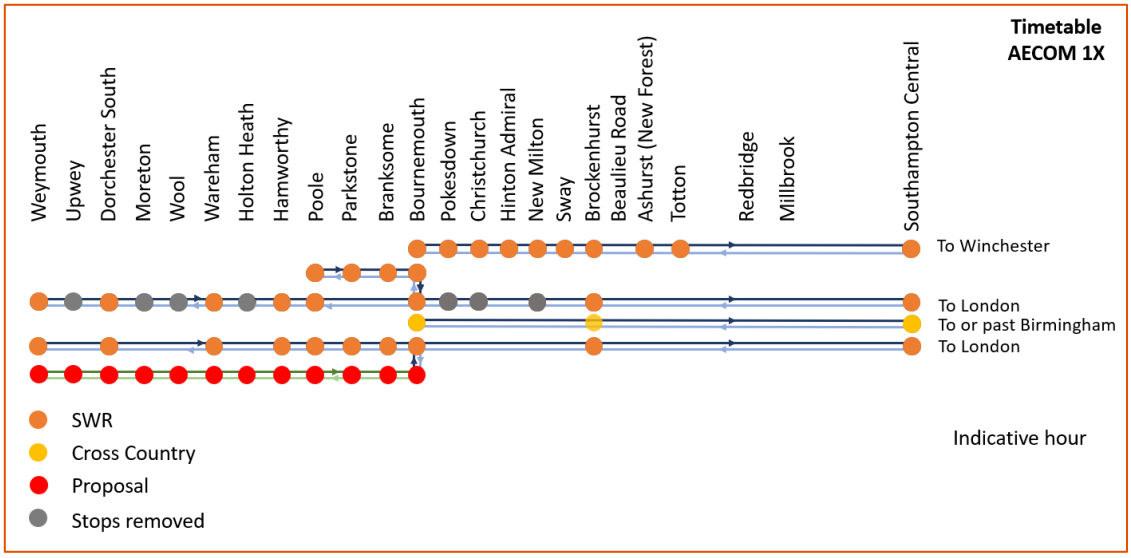


FIGURE 3-61: 1X TIMETABLE WITH RE-TIMED WEYMOUTH-WATERLOO SERVICES AND AN ADDITIONAL WEYMOUTH-BOURNEMOUTH SHUTTLE

An alternative pattern 1W (Figure 3-62) was also assessed, looking at providing half-hourly services between Weymouth and Bournemouth but reducing the service to Waterloo down to 1 train per hour. The additional service in this case is one train per hour from Brockenhurst to Weymouth, which joins with the Weymouth to Waterloo fast service at Brockenhurst. This service maximises connectivity and spread of timings between Brockenhurst and Weymouth but removes direct connectivity from east of Bournemouth (Pokesdown through Brockenhurst) to Waterloo.

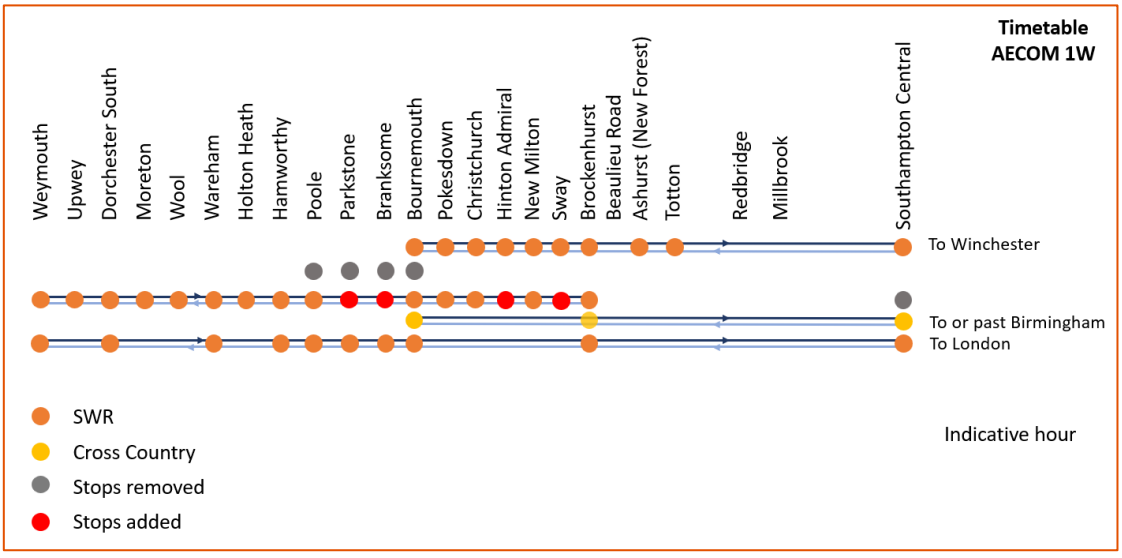


FIGURE 3-62: 1W TIMETABLE WITH REGULAR 30 MINUTE INTERVALS BETWEEN WEYMOUTH AND BOURNEMOUTH, MAXIMISING CONNECTIVITY BETWEEN WEYMOUTH AND BROCKENHURST

For all of these timetable options, it was advised that the headway improvements between Bournemouth and Brockenhurst would be required, as well as the doubling of the Moreton to Dorchester single line. Headway reductions between Totton and Brockenhurst are also recommended, but these were not costed as a part of this SOBC.

It would not be possible to run the above timetables as well as the additional Brockenhurst to Wareham shuttle, as they effectively occupy the same slot in the timetable. For the purpose of this SOBC, they have been considered as separate options for the Dorset Metro service enhancement. If you were to deliver both options, four-track railway would be required for significant portions between Bournemouth and Brockenhurst as well as a major retiming of CrossCountry services between Reading to Bournemouth.

3.4.3.3.2 Extension to Swanage

The Swanage Railway is a heritage railway that operates between Norden and Swanage, as shown in the map below.

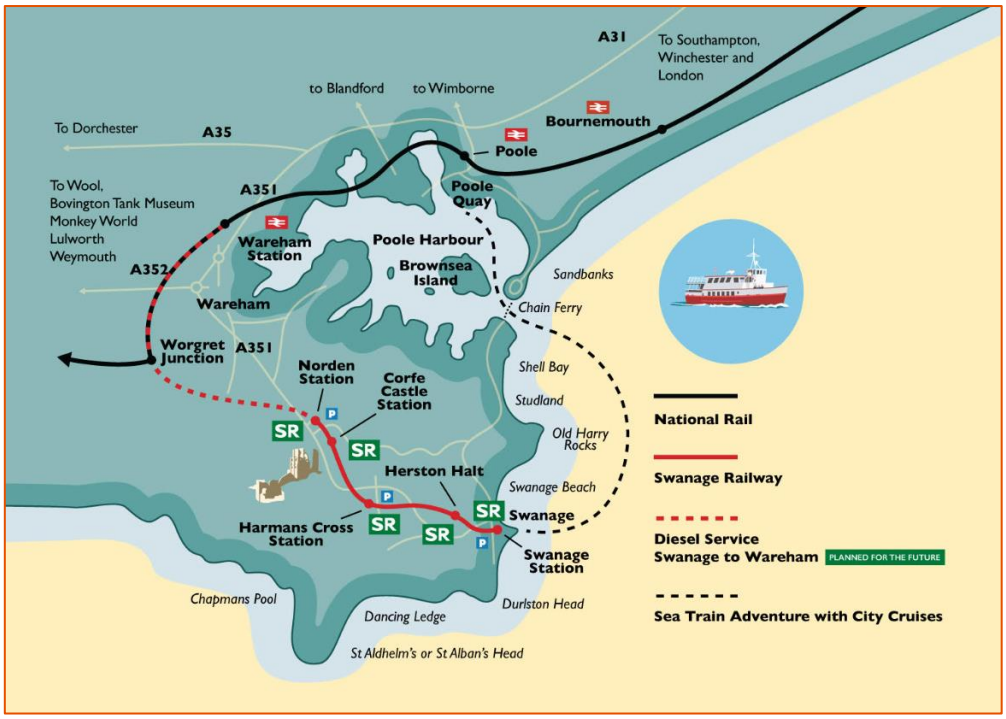


FIGURE 3-63: MAP OF SWANAGE RAILWAY, WWW.SWANAGERAILWAY.CO.UK

There has been an aspiration to operate services off the Swanage Railway through to Wareham on the SWML. This was trialled using a heritage diesel train for a 90 service in 2023, which followed a previous trial in 2017. Unfortunately, neither of these trials were commercially successful, although they did show that in terms of operations it was possible to run a service.

An SOBC was produced for a similar 90 day service as part of the Government's Restoring Your Railway (RYR) fund, but before a decision could be made on further funding the RYR programme was shut down in July 2024.

As part of the scope of the Dorset Metro SOBC, it was suggested that the Wareham to Brockenhurst service could be extended to Swanage. Aecom undertook some analysis to understand the feasibility of this service option. Aecom concluded that based on the base

timetable (the timetable including the Wareham-Brockenhurst shuttle), it is possible to the extend Wareham-Brockenhurst shuttle to Swanage without affecting other NR services. This would have an impact on the number of units required to operate the service. However, no consideration was given to the impact on Swanage Railway infrastructure.

From the Aecom work and the previous trial services it can be assumed that some sort of service operating to Swanage is possible.

For the purposes of this SOBC a benefits appraisal has been conducted based on a Wareham to Swanage shuttle.

3.4.4 Shortlisted options

Based on this development work, a range of options were selected for appraisal and evaluation (Table 3-12).

TABLE 3-12: SUMMARY OF OPTIONS FOR APPRAISAL

Description	SOBC Option	Sensitivity	Infrastructure required	Cost Range	Timetable used
+1tph Brockenhust to Wareham All Stops (Enhanced Renewal)	1A	Low	Headways Bournemouth-Brockenhurst (with renewal)	£33.6m-£42.3m	ATT- "Dorset Metro 1A"
+1tph Brockenhust to Wareham All Stops (Enhanced Renewal)	1A	Medium	Headways Bournemouth-Brockenhurst (with renewal) + £5m for Brockenhurst Junction margins, signalling solution	£38.6m-£47.3m	ATT- "Dorset Metro 1A"
+1tph Brockenhust to Wareham All Stops (Enhanced Renewal)	1A	High	Headways Bournemouth-Brockenhurst (with renewal) + £10m for Brockenhurst Junction margins, track & signalling solution	£43.6m-£52.3m	ATT- "Dorset Metro 1A"
+1tph Brockenhust to Wareham Limited stop (Enhanced Renewal)	1B	Low	Headways Bournemouth-Brockenhurst (with renewal)	£33.6m-£42.3m	ATT- "Dorset Metro 2A"
+1tph Brockenhust to Wareham Limited stop (Enhanced Renewal)	1B	High	Headways Bournemouth-Brockenhurst (with renewal) + £10m for Brockenhurst Junction margins, track & signalling solution	£43.6m-£52.3m	ATT- "Dorset Metro 2A"
+1tph Brockenhust to Wareham All Stops (Stand Alone)	2A	Low	Headways Bournemouth-Brockenhurst (stand-alone)	£56.7m-£71.2m	ATT- "Dorset Metro 1A"
+1tph Brockenhust to Wareham All Stops (Stand Alone)	2A	High	Headways Bournemouth-Brockenhurst (stand-alone) + £10m for Brockenhurst Junction margins, track & signalling solution	£67.7m-£81.2m	ATT- "Dorset Metro 1A"
+1tph Brockenhust to Wareham Limited stop (Stand Alone)	2B	Low	Headways Bournemouth-Brockenhurst (stand-alone)	£56.7m-£71.2m	ATT- "Dorset Metro 2A"
+1tph Brockenhust to Wareham Limited stop (Stand Alone)	2B	High	Headways Bournemouth-Brockenhurst (stand-alone) + £10m for Brockenhurst Junction margins, track & signalling solution	£67.7m-£81.2m	ATT- "Dorset Metro 2A"
Service Regularisation Weymouth-Waterloo	3A	Central	Moreton single +headways Bournemouth-Brockenhurst	£78.3m-£91.4m	Aecom- "1X"

Description	SOBC Option	Sensitivity	Infrastructure required	Cost Range	Timetable used
Service Regularisation Weymouth-Bournemouth	3B	Central	Moreton single +headways Bournemouth-Brockenhurst	£78.3m-£91.4m	Aecom- "1W"
Extension to Swanage- benefits analysis	4	Central	None (if diesel trains are used)	Not costed	Swanage-Wareham Shuttle Options A-C

3.4.4.1 Option 1A/B: +1 tph Brockenhurst to Wareham (Enhanced Renewal)

The first option consists of the additional 1 train per hour between Brockenhurst and Wareham but assumes that the required signalling enhancement is delivered as a part of an enhanced renewal, saving costs.

For the improvements to junction margins at Brockenhurst, three cost sensitivities are included at +£0, +£5m and +£10m, reflecting the uncertainty about the solution at Brockenhurst, ranging from timetable changes through to track and signalling interventions.

There are also two sub-options, reflecting the potential for an All Stops (1A) or Limited Stop (1B) service. Both provide the same frequency, but the Limited Stop option is likely to be more resilient in terms of performance.

The estimated cost for this option is **£33.6m-£52.3m**, depending on which cost sensitivity is used.

3.4.4.2 Option 2A/B: +1tph Brockenhurst to Wareham (Stand Alone)

This option has identical service improvements to Options 1A/B but has been developed as a stand-alone project to understand the benefits of Options 1A/B (delivered alongside a renewal) compared to this option. The same sub-options and cost sensitivities are included, giving an overall cost of **£56.7m-£81.2m**.

Delivering alongside a renewal is likely to save around **£29.5m**, a 44% cost saving.

3.4.4.3 Option 3A: Service Regularisation Weymouth to Waterloo

This alternative option looks at providing regular 30-minute intervals at Weymouth for services through to Waterloo. It uses the "1X" timetable, which provides an additional shuttle between Bournemouth and Weymouth to account for the lost connectivity to the west of Bournemouth.

In terms of infrastructure, the Moreton to Dorchester single line doubling is required, as well as the headway improvements between Brockenhurst and Bournemouth. For this option, only the enhanced renewal version of these costs have been used to limit the options for appraisal. Therefore, the overall cost for this enhancement is **£78.3m-£91.4m**.

3.4.4.4 Option 3B: Service Regularisation Weymouth to Bournemouth

This option also looks to provide regular 30-minute intervals at Weymouth and maximise connectivity between Brockenhurst and Weymouth but reduces the service through to London from east of Bournemouth down to one train per hour.

The infrastructure requirements and therefore costs are the same as Option 2A, giving a range of **£78.3m-£91.4m**. For this option, it is also recommended that headway reductions between Totton and Brockenhurst are investigated in future work for resilience.

3.4.4.5 Option 4: Swanage to Wareham shuttle

This option was initially planned to look at the extension of the Brockenhurst to Wareham shuttle to Swanage. While this is possible to do, it would require the infrastructure interventions from options 1 and 2.

In order to assess the viability of the service in isolation, a benefits assessment will be looked at with an assumed Swanage to Wareham shuttle, to determine if it is operationally viable.

Three sub-options were outlined for the service, based on previous work for the Restoring Your Railways bid[20] and a 2008 report by Halcrow (referenced in the 2011 Bournemouth, Poole and Dorset Local Transport Plan[21]). The sub-options are:

- 7 return journeys per day (2 hour frequency, all day, 1 unit required)
- 5 return journeys per day (2xAM Peak at 2 hour frequency, 2xPM Peak at 2 hour frequency, 1xLunchtime, 1 unit required, illustrated in Figure 3-64)
- 5 return journeys per day (2xAM Peak at 1 hour frequency, 2xPM Peak at 1 hour frequency, 1xLunchtime, 2 units required)

The assumed rolling stock for this service are 2-car class 158s operated by South Western Railway.

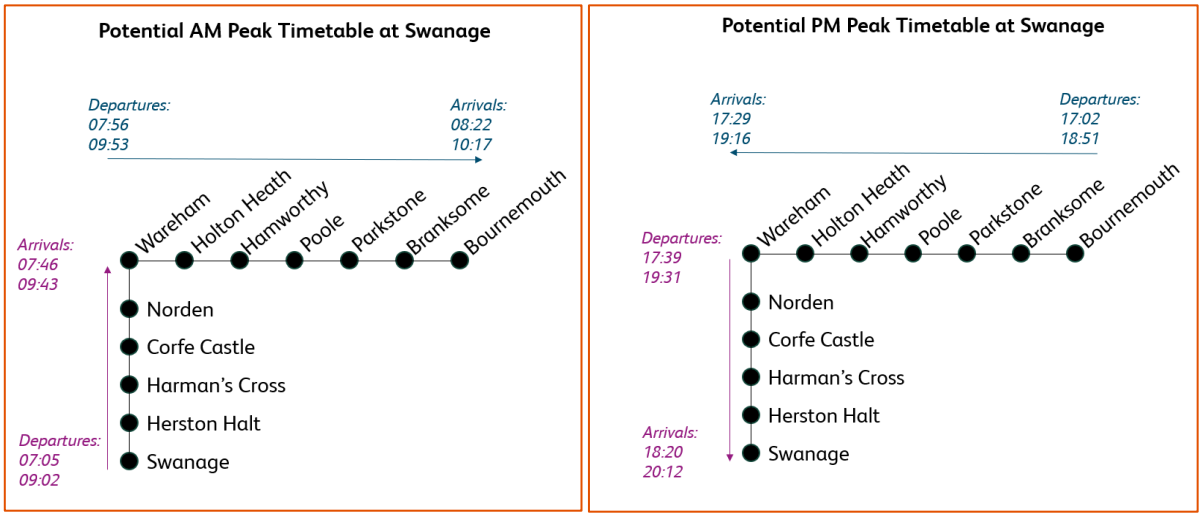


FIGURE 3-64: POTENTIAL AM AND PM PEAK TIMETABLES FOR 5 RETURN JOURNEYS PER DAY, 1 UNIT

The overall journey time for Swanage to Bournemouth is about 1 hour and 15 minutes, including 10 minutes for interchange at Wareham. The Purbeck Breezer bus number 50[22] currently operates hourly in the peaks between Swanage bus station and Bournemouth railway station and has a similar journey time through going via Sandbanks and the town centre of Bournemouth.

A direct journey from Swanage to Bournemouth may be more competitive, and this could be further improved with line speed increases on the Swanage branch, although there would be a cost attached to that improvement.

[20] https://www.railadvent.co.uk/2024/03/swanage-railway-withdraws-plans-for-wareham-train-service.html
[21] https://www.dorsetcouncil.gov.uk/documents/35024/288596/LTP3_Transport_Strategy_to_support_Sustainable_Tourism.pdf/e15eaf27-8d4d-813e-13c3-d02afa3277c7
[22] https://www.morebus.co.uk/services/WDBC/50?date=2025-06-18&direction=inbound

The Purbeck Breezer bus number 40 currently operates with a journey time of around 35-40 minutes to Wareham (compared to 41 minutes by train) and 70-80 minutes to Poole (compared to 65-75 by train).

3.4.5 Project considerations

3.4.5.1 Risks

Risk	Likelihood	Severity
Power supply upgrades may be required in relation to Poole and Moreton redoubling.	High	High
Buffer stop at Weymouth. Any reduction in the platform length may trigger a cost related to buffer stops.	Low	Medium
Funding constraints limit project progress	High	High
Level crossings (see 3.4.5.4)	Medium	High

3.4.5.2 Constraints

Constraint
Land boundary considerations at Bournemouth, Weymouth, Moreton
Funding
Power supply
Timetable structure between Southampton and London

3.4.5.3 Key assumptions/interdependencies

The key assumptions for this project are detailed below:

Assumption	Confidence	Impact
The planned signalling renewal between Bournemouth and Brockenhurst will deliver "like for like" and not upgrade headways	High	High
June 2024 is a representative base timetable for the area	Low	Medium
Timetable frequency is to be fixed at 30-minute intervals from Southampton Central to London Waterloo	High	High
Integrated delivery with the renewal would save money on design and delivery, but the cost of additional signals would need to be funded by the enhancement	Medium	Medium

3.4.5.4 Level crossings

There are two key level crossings to discuss in this SOBC: Poole and Wareham.

Poole Level Crossing

Poole level crossing bisects Poole High Street and is a pedestrian crossing, with access for emergency vehicles. Owing to its position across the High Street, it is a busy and well used level crossing and is considered a top risk for misuse.

FIGURE 3-65: POOLE LEVEL CROSSING

The crossing protection arrangements for Poole level crossing are:

- Train signalling protection
- CCTV monitoring by Signaller
- Road traffic light signals
- Footbridge (not accessible)
- Full barrier equipment
- Audible alarm
- Low linespeed – 20mph
- Signage

FIGURE 3-66: FOOTBRIDGE AT POOLE LEVEL CROSSING

These protection arrangements mean that the level crossing is as safe as it can be except for closure. However, the crossing is subject to misuse which means additional services would increase the level of risk, something that Network Rail must consider extremely carefully.

Proposals for the regeneration of Poole town centre offer an opportunity to consider the closure of the level crossing. Designing the new town centre with an alternative means of crossing the railway could remove or lessen some of the land constraints that currently restrict the options available for closure.

Wareham Level Crossing

This level crossing provides the only pedestrian access between the two sides of Wareham through which the railway passes. This has led to the crossing having a somewhat contentious past, particularly after previous misuse which led to ORR sending Network Rail a warning of a potential enforcement notice. The enforcement notice was avoided by Dorset Council and Network Rail working together to provide a solution.

The level crossing is located on the approach to Wareham station on the London-side.

It provides the only accessible route between platforms for railway passengers. There is a footbridge provided at the station, but it is not accessible.

FIGURE 3-67: WAREHAM LEVEL CROSSING

Dorset Council provide the funding for a level crossing operative to close and secure the gates. These gates are full size and not the usual barriers one would see at a level crossing, as shown in the photo on the left of the operator's cabin and the gates. Whilst Dorset Council continue to provide the funding there is no issue at the crossing in respect to an increase in service level that a Dorset Metro would bring.

FIGURE 3-68: LEVEL CROSSING CABIN AND GATES

However, termination of Dorset Metro services at Wareham would require the use of Wareham East Jn. This is because trains coming from the Bournemouth direction would need to terminate in platform 1 as it would not be operationally desirable to terminate in platform 2 and then shunt on the main line towards Worgret Jn to use Wareham West Jn, see following diagram.

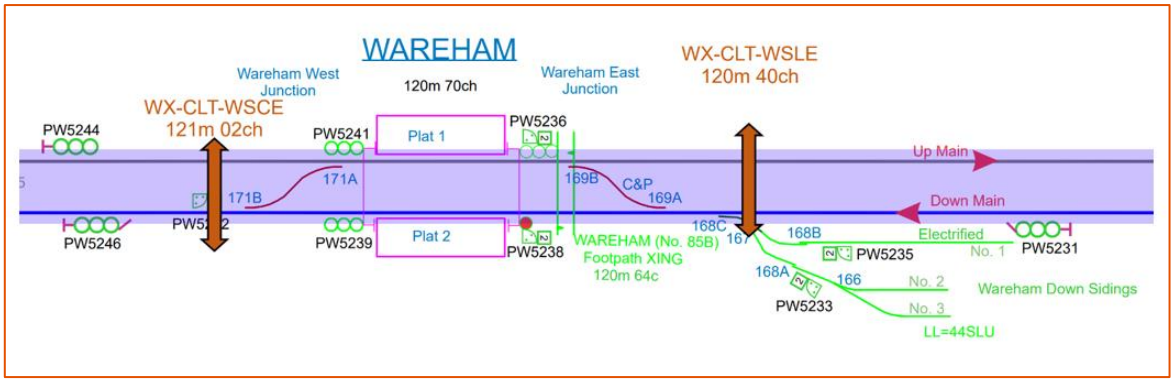


FIGURE 3-69: TRACK DIAGRAM SHOWING WAREHAM

The problem with achieving the ability to use platform 1 from the direction of Bournemouth is that the level crossing was not interlocked into the signalling system when Network Rail undertook the Poole to Wool Re-signalling project. This was because all indications were that the crossing would close, which it didn't when planning permission for a new ramped bridge were not endorsed. By the time the planning committee rejected the bridge it was too late to change the design, and therefore Wareham East Jn and access to the sidings were never commissioned. This means we can't use either because the train movement across the points cannot be signalled safely.

Further discussions on the future of the crossing would be needed should the Dorset Metro concept be taken forward.

3.5 Strategic impacts

Investment as part of this project will deliver a range of strategic outcomes and impacts, this section will explore how these align to the SMART spending objectives, which were developed from Western Gateway STB's themes, see 3.4.1.

The Economic Case suggests that there is not a strong BCR for any of the service options tested through this SOBC, largely due to the high related capital and operating costs, however they do provide connectivity benefits and provide a strong strategic case for investment.

3.5.1 Objective A – Choice: Increase train frequency to encourage more journeys to be made by rail, making rail a viable choice for residents, businesses, and tourists, by better connecting rural and urban areas

The proposed increase in train frequency between rural hubs such as Wareham and Brockenhurst and the urban centre of Bournemouth is a key measure to enhance regional mobility and accessibility. As illustrated in the diagrams for Wareham and Brockenhurst (Figure 3-70, top), current services offer limited options during the morning peak. The introduction of additional shuttle services under Options 1 and 2 fills critical timetable gaps, offering more flexible and frequent travel opportunities. While the diagrams focus on the 07:00-08:00 period, these hours are indicative and represent a proposed hourly pattern that would be replicated throughout the day. This consistent frequency is designed to encourage modal shift from car to rail by making rail a more viable and attractive option for residents, businesses, and tourists, while also supporting environmental and economic goals.

Options 3A and 3B (Figure 3-70, bottom), illustrated for the 10:00-11:00 period from Weymouth, also represent indicative timings intended to reflect a full-day pattern. These options involved retimings that removed existing services and replaced them with slower shuttle services, resulting

in longer journey times and reduced service quality. As a result, they did not demonstrate good value for money. This outcome underscores the importance of ensuring that service enhancements not only increase frequency but also maintain or improve journey times and overall passenger experience.

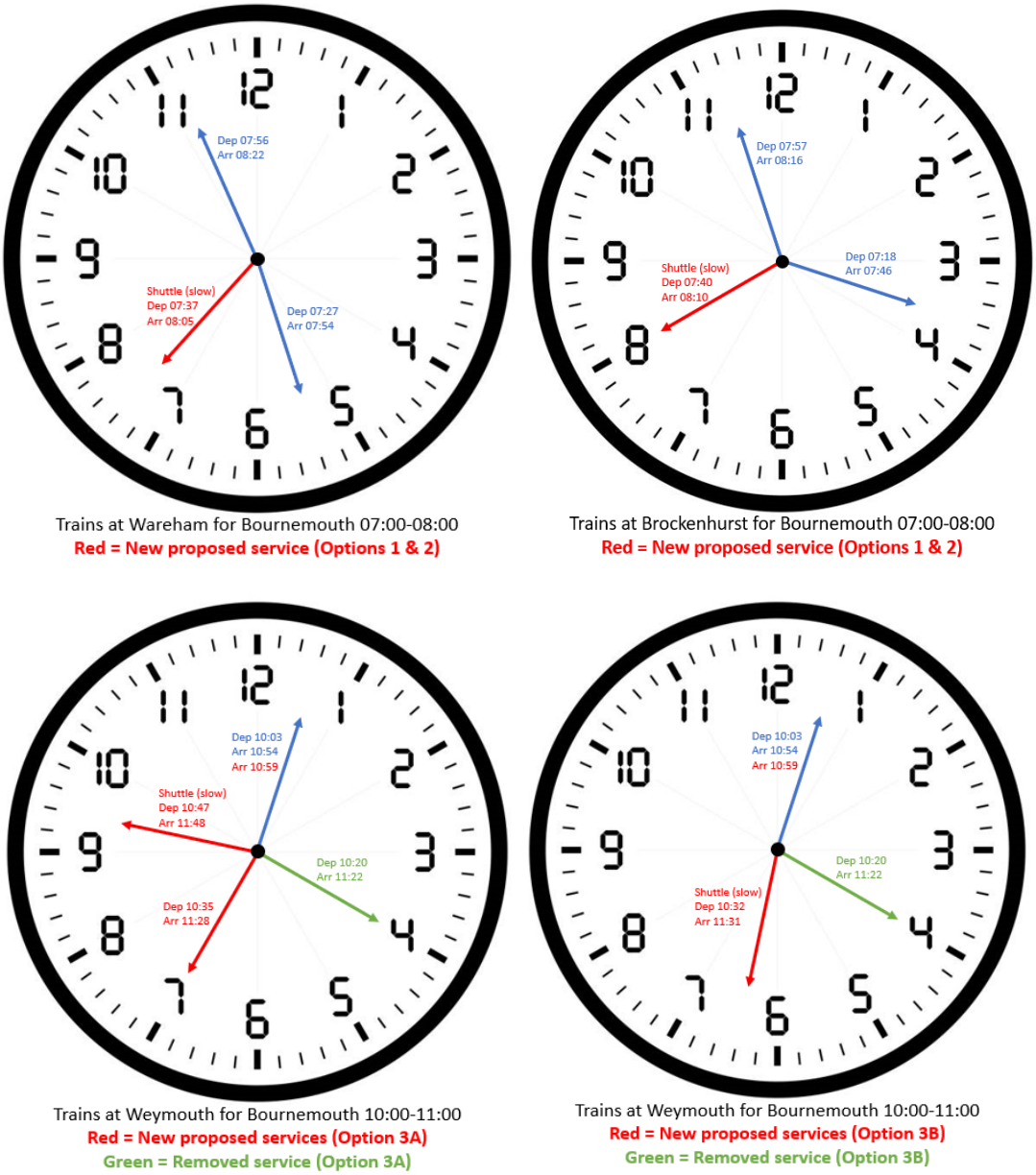


FIGURE 3-70: SINGLE HOUR TIMETABLE PATTERNS SHOWING THE ADDITIONAL SERVICES AND TIMES PROPOSED AT WAREHAM, BROCKENHURST AND WEYMOUTH

With a heritage service currently operating between Swanage and Norden in the off peak, introduction of peak passenger rail services between Swanage and Wareham would also represent a significant change to the rail offering in the area. Direct rail connectivity between Swanage and Bournemouth would be even more beneficial, as would extension of existing heritage services to Wareham in the off-peak to fill in the gaps in the timetable for leisure travellers.

3.5.2 Objective B – Environment: Increase rail's modal share to deliver environmental benefits including reduced traffic congestion, improved air quality and carbon reduction, through service level improvements and better connectivity with other public transport modes

The main method by which this proposal contributes to environmental objectives is through mode share shifts to rail from cars and buses. Increased railway frequency, as discussed in Objective A, is linked to improved mode share for the railway. The result of this would be primarily the reduction in carbon released per journey, but also decongestion of the roads in the area, improving air quality and reducing idle time in traffic, which creates higher pollution levels[23].

The economic case includes details of car kilometres removed and reduction in greenhouse gases for each option, with options 1A/2A and 1B/2B representing a reduction of approximately 22 tonnes of CO_2 from road emissions per annum.

In order to maximise decarbonisation benefits, links with other modes should also be prioritised, allowing for onward travel via public transport or active modes. The primary benefit is decarbonising the first and last mile journeys. However, in an area of high car ownership, only with seamless connections can people be convinced to leave their cars at home, so the secondary benefits of these links are likely even more important.

3.5.3 Objective C – Social Mobility: Improve local rail services to better connect residents to education, employment, goods, services, and leisure/ visitor attractions, enabling people that do not have access to a private car or who are socially isolated to benefit from the opportunities provided through travel

Whilst noting that the cost of new infrastructure and operating additional services is such that the benefits of connectivity by rail are outweighed, resulting in a poor value for money rail business case, the need to integrate rail with other modes is a key to providing a strong strategic case for wider public transport investment in connectivity.

It is suggested that a wider public transport business, as opposed to a rail only business case, may, when looking more broadly, provide a better case for investment in all public transport modes, including rail.

The service change options suggested by this SOBC, including additional services between Brockenhurst and Wareham, Weymouth and Bournemouth, and Wareham and Swanage, will all provide varying degrees of improved connectivity to education, employment, goods and services, and leisure opportunities.

For instance, from an employment perspective, any rail service options that connect communities to employment in regional hubs, such as Bournemouth, Poole and Weymouth are key to widening the pool of prospective employees and unlocking economic growth across the region.

However, this may only be really effective for those residents living along the rail corridor itself as they have more direct access to their local railway station and are therefore more likely to be encouraged to use rail for local journeys by an increase in frequency.

Those residents in the interior of Dorset, the outskirts of the BCP conurbation, and the wider New Forest are more likely to stay in their car, once in it, and therefore may need to be incentivised to use the railway for a local journey.

[23] https://www.ncl.ac.uk/press/articles/archive/2014/12/stop-startdrivingincitycentrescreateshigherpollutionlevels.html

Providing improved access to the railway through fast, efficient, and comfortable bus services, "park and rail" opportunities, safe and segregated cycle paths and walkways, as well as making stations accessible to all passengers, are key ways in which potential passengers can be incentivised to use rail.

This suggests that connectivity needs to be considered more broadly and from a multi-modal perspective. Not only will this provide a plan for an integrated public transport network, but also provide an opportunity to maximise the wider benefits of connectivity, something that this SOBC has shown that a 'railway only' business case cannot do.

Therefore, the connectivity problem experienced in the scope area of this SOBC is not something that the railway can solve on its own. However, the railway has a role to play in the mosaic of integrated public transport and active travel solutions that could improve connectivity across the region.

For instance, the railway industry also needs to show that a reliable and resilient train service can be operated that gives passengers a level of confidence that they will make their hospital appointment or arrive at work/college on time. The railway industry continues to work within available funding to identify efficient ways to deliver performance improvements; the new Alliance structure and introduction of Great British Railways (GBR) seeks to bring track and train closer together to make improvements easier to achieve.

It may be that other service options, stopping patterns, or incremental changes to the timetable could unlock opportunities to improve connectivity without the need for the amount of expensive railway infrastructure identified for the service changes tested through this SOBC. Any further development of connectivity solutions across the scope area should consider incremental changes to the timetable and how they can support and supplement other transport connectivity improvements.

3.5.4 Objective D – Growth/Productivity: Improve rail services to deliver significant economic benefits through better connections to education, employment, goods, services, and leisure/ visitor attractions, improved Generalised Journey Times (GJT), as well as attracting inward investment through new and emerging employment and housing sites that can be located sustainably near railway stations

The Rail Minister, Lord Peter Hendy, has stated on the Green Signals podcast that *"…connectivity drives growth, jobs and homes*". This is an important recognition that improvements to connectivity can unlock economic growth in an area and that transport is a key driver.

However, as already discussed, the cost of rail infrastructure changes and the operation of new services outweigh the benefits identified. It is therefore essential that if rail improvements are to form part of an integrated transport offer for the scope area, the benefits need to be maximised.

Through the Government's planning reforms, there is a desire to modernise the National Planning Policy Framework (NPPF) to ensure that more housing is delivered, including in "grey belt" areas (low-quality land within the Green Belt) and that affordable housing requirements are met. Higher housing targets are being set to stimulate construction and address the housing crisis.

However, if local authorities do not plan for this housing and employment growth to be situated along the rail corridor, with easy access to rail services, then it will be difficult to show that the Dorset Metro concept, whichever service option is preferred, can support growth in the scope area.

Any future investment in rail needs to be aligned to economic growth, the delivery of housing targets and integration with other modes. Without this alignment, it is unlikely that a case could be made for changes to rail services that require enhancement funding.

The analysis of GJTs (Table 3-13) shows that introducing an additional 'Dorset Metro' train per hour improves service frequency between Brockenhurst and Wareham, reducing the average time between trains from 32 to 23 minutes, lowering the frequency penalty from 26 to 23 minutes. However, overall journey times increase slightly from 46 to 48 minutes, and the improvement in total GJT is relatively modest, dropping by just one or two minutes depending on the option. Interchange penalties remain very low, as most journeys do not require changing trains.

TABLE 3-13: WORKED GJT EXAMPLE FOR BROCKENHURST TO WAREHAM

Scenario	Rail Journey Time (In Vehicle Time)	Service Frequency Penalty	Interchange Penalty	Total GJT
Today	46	26	1	73
Option 1A & 2A	48	23	1	72
Option 1B & 2B	47	22	1	70

It should be noted that shorter journeys, such as Wareham to Bournemouth and New Milton to Bournemouth, will have better GJT improvements, but overall the addition of a new slow service does not have a large impact on GJTs across the Dorset Metro area.

3.5.5 Objective E – Resilience/Reliability: Enhance railway infrastructure to unlock opportunities to increase the resilience and reliability of railway assets as well as enabling the robust operation of rail services under normal running and at times of disruption

The delivery of any infrastructure enhancements associated with the service changes proposed in this SOBC would have the consequence of delivering new, reliable, and resilient assets.

More specifically, reducing signalling headways between Bournemouth and Brockenhurst, improves performance by increasing line capacity and potentially reducing delays by absorbing delays and preventing them from spreading. This is achieved by allowing for more trains to operate at closer intervals, increasing network capacity and reducing the likelihood of delays impacting multiple trains. This means that when one train is delayed, the impact on subsequent trains is lessened because the remaining space between trains is smaller, allowing for better recovery.

However, the proposal is to then run additional services within the increased capacity which will then absorb some of the potential performance benefit that the headway reduction would have when applied to the current service level.

From a track perspective, the service options that include the doubling of the Moreton Single line between Moreton and Dorchester could provide performance improvements by increasing the overall capacity and flexibility of the railway. By having more double track sections, trains can move more freely, and delays in one area are less likely to impact trains on other parts of the network.

Double track sections allow trains to move in both directions simultaneously and therefore trains can pass each other without the need to wait for each other at single-track sections. This makes the network more flexible and allows for more efficient train timetabling.

During perturbation when trains are delayed, a double track railway means that trains can generally continue to move in the opposite direction, therefore minimising the impact on other parts of the network. In contrast, a delay in a single track section can block trains in both directions, causing delays to spread, as trains wait their turn to pass over the single line. By increasing the capacity and flexibility of the network, reducing single track sections can make the railway more resilient to disruptions and delays.

More detailed performance analysis and simulation activity would be required to understand what the ultimate impact of headway reductions, track re-doubling and an increase in service frequency would have.

From a power perspective, the power west of Poole is known to be a constraint to service change in the area. The SWML between Bournemouth and Weymouth was electrified in 1988 and it was designed to cater for one 5-car train per hour in each direction. Since then, the service has been increased to 2 x 5-car trains per hour in each direction and the occasional 8-car replacing a 5-car. The additional trains were permitted to operate as a result of a "system test assessment" rather than modelling and theoretical assessment. Modelling and theoretical assessments use assumptions and therefore aren't quite as accurate as doing a system test assessment which involves running services and measuring volts and amps. A system test assessment was carried out and it was shown that the 2 x 5-car service could be operated and since then Weymouth has benefited from this level of service without the need for major power enhancements.

What this means is that the power capability of the rail system has probably been pushed as far as it can go and therefore any change to the service, either through increased frequency, as suggested through the Dorset Metro SOBC, or by extending the current 5-car trains to 10-Car trains, would require some sort of power enhancement to enable that change.

There are two main constraints to operating an enhanced service west of Poole, one external to Network Rail and another related to the design of the system:

- The capacity of the Grid and the ability of the Distribution Network Operator (DNO) to provide the required level of power
- Our 11kV High Voltage (HV) cable that carries the power to the DC system (3rd Rail) was designed for the original permitted load

On the first point, Network Rail have a contract with the Grid/ DNO that only permits a certain power rating and permitted load. Operating a regular 10-car service or additional services now would exceed current permitted system parameters. The Grid/ DNO would need to be able to provide an increase in permitted load to operate this change in service.

If it was possible to increase the power rating and permitted load from the Grid/ DNO then instead of an 11kV HV cable, as is currently in place, we would need a 33kV HV cable. It is worth noting that having an 11kV HV cable means that operating the level of service we currently do is potentially not as robust or resilient as would be ideal if the system had been designed differently when installed in 1988.

Power assets have a life of approximately 35-50 years. Network Rail's renewals programme is condition led and is carried out on a like-for-like basis in modern equivalent form. Therefore, when the condition of the asset dictates that a full renewal is required then the assets would be

replaced with a similar capability. The Dorset Metro proposals could provide the opportunity to consider power supply capability improvements, however, in this SOBC, power supply was not considered owing to the cost of power modelling.

3.6 Swanage Conclusions

The economic analysis for the Swanage to Wareham Shuttle, which forms an appendix to the Dorset Metro Strategic Outline Business Case (SOBC), assesses passenger demand and revenues against the train operating costs required to run a proposed shuttle service between Swanage and Wareham. The analysis confirms the revenues (and therefore passenger numbers) required for the scheme to break even i.e., for the farebox revenues to cover the train operating costs.

This is a one-year financial assessment and not a TAG-compliant 60-year socio-economic appraisal. The analysis considers the following:

- **Passenger revenues:** based on assumptions on yields per passenger journey and representative origins and destinations for journeys to and from Swanage.
- **Operating expenditure:** costs of train leasing, staffing, fuel, and maintenance to provide and operate the proposed shuttle service.

The analysis considers the following shuttle options:

- **Option 1:** All-day service, with seven return journeys per day between Swanage and Wareham. Requires one train unit.
- **Option 2:** Peak and midday service, with five return journeys per day - 2 in the AM peak, 2 in the PM peak and 1 at lunchtime. There is a gap between the two departures in both the AM and PM peaks to allow the service to be operated with one train unit.
- **Option 3:** Peak and midday service, with five return journeys per day - 2 in the AM peak, 2 in the PM peak and 1 at lunchtime. The peak departures are closer together than in Option 2 to provide a service attractive to commuters. However, subsequently the service requires two train units to operate due to insufficient turnaround time.

Results are summarised in Table 4-1. The shuttle service is assumed to be operated by a 2-car class 158 which has approximately 110 seats. This compares favourably to the average passengers per single journey presented in the column below.

TABLE 3-14: SUMMARY OF ANNUAL COSTS AND PASSENGERS REQUIRED FOR SERVICE TO 'BREAK EVEN'

Summary	Annual train operating costs (£, 2025 prices)	Passengers required per year	Average passengers required per day	Average passengers per single journey per day
Option 1: seven return journeys, one train unit	£1,700,780	204,102	561	40
Option 2: five return journeys, one train unit	£1,327,352	159,289	438	44
Option 3: five return journeys, two trains units	£1,884,648	226,167	621	62

The analysis concludes that for each proposed timetabling option, the volume of passengers required to breakeven, i.e. for farebox revenue to cover the train operating costs, does not seem unattainable and that there is capacity on the trains to accommodate average demand per single journey per day. However, the bus service in the Swanage area is understood to be very competitive in terms of fare and service frequency. It is difficult to say how popular a shuttle service may be given the competitive bus service.

Caveats on the conclusions include the omission of any upfront capital investment or ongoing maintenance and renewal costs required to enable the shuttle service to operate. Furthermore, the conclusions do not consider the seasonal fluctuations that affect demand to Swanage and does not address abstraction (and revenue losses) from either the heritage railway or the bus network.

Additionally, onward transport connections from Swanage Railway stations to places such as Studland and Lulworth Cove need to be considered otherwise people will still choose their car over a public transport solution.

A specific report focussed on the Swanage analysis is included as Appendix E: Swanage to Wareham Shuttle Economic Analysis.

3.7 Recommendations

The recommendations for this SOBC have been categorised as:

- Wider recommendations: these are the recommendations that are better led by local stakeholders, such as the local authorities or Western Gateway STB
- Railway recommendations: these are the recommendations that are better led by the railway industry

The recommendations are detailed below.

3.7.1 Wider Recommendations

This SOBC has demonstrated that there are significant benefits and a good strategic case for improving local connectivity in the Dorset Metro area but that the cost of railway infrastructure and operations, at this early stage, outweighs the benefits, based on the service changes looked at so far.

There has been broad agreement between the rail industry and local stakeholders that although rail is a key part of the connectivity solution for the scope area, a multi-modal approach is required to capture all the benefits that an integrated public transport system could offer. This is something that a rail only business case cannot do and highlights that rail improvements on their own do not wholly solve the connectivity problem.

The wider recommendations are as follows.

W1. Take a multi-modal approach to connectivity

This recommendation recognises that rail provides a key link between Dorset and Hamsphire via the BCP conurbation, but that the railway's physical location means that there are large parts of the scope area that are not directly connected to train services.

Consideration needs to be given to how enhancements to the wider transport network can support rail service improvements by making access to the railway easier, more efficient and of a high standard.

It is recommended that a multi-modal study is undertaken, led by Western Gateway STB/ local authorities. This study should use the outputs of this SOBC and any subsequent railway led recommendations (see 3.6.2) to consider how travel modes can be integrated; this could include:

- Bus network integration, particularly from rural area or conurbations away from the railway corridor
- Explore light rail/ tram options, such as those highlighted in the Dorset Area Rail Transit System (DARTS) proposal
- 'Park and Rail' or parkway locations, especially in terms of current stations that could provide a focus for the wider population to access the railway, recognising that the scope area has a high reliance on the car
- Active travel improvements to ensure that those in the wider catchments of individual stations are able to access the railway safely and easily
- Integration with the Swanage Railway through the operation of non-heritage rail services
- Parkway station or Park & Rail opportunities at current station locations, aligned to emerging Local Transport Plan aspirations

Spatial and place strategy are key inputs to this multi-modal approach as housing and employment growth should consider how developments are connected into the transport network.

W2. Focus housing and employment growth on the rail corridor

To improve the economic case for rail service enhancements demand needs to be maximised and rail needs to be a convenient mode of choice. This increase in demand could be achieved by locating both employment and housing developments close to a railway station. This is, perhaps, the most important of the recommendations described here.

The government's National Planning Policy Framework (NPPF) reforms and housing targets will see the need for significant housing to be allocated within the scope area of this SOBC.

Where possible, housing allocations should be made within easy reach of railway stations, this not only supports the case for train service improvements but is likely to require investment in active travel modes rather than other, possibly more expensive, ways of connecting people from further afield.

The local authorities within the scope area of this SOBC are all assessing where their housing and employment allocations should be made, so refreshing the rail only economic case should be considered, as well as incorporating the allocations into the multi-model study, recommended above.

W3. Take advantage of regeneration and development proposals

This recommendation is focussed on incorporating rail improvements into wider regeneration plans. For instance, the proposed redevelopment of Poole town centre offers an ideal opportunity to "design out" the level crossing that is a constraint to train service frequency uplifts owing to the safety risk.

Removal of the level crossing at Poole could have other benefits, such as allowing for trains to operate at a higher linespeed. The current linespeed is 20mph over the level crossing owing to the history of misuse. Timetable analysis would be required to confirm the impact this might have.

Section 106 or CIL funding should be considered for rail improvements, particularly where enhancements can be made to railway stations to improve facilities or accessibility, or to active travel routes to improve permeability and tackle severance. Again, this could support the removal of cost items from the Devon Metro proposals over time and reduce the capital cost of the infrastructure.

Equally, how developer funds could be used as a contribution towards the full cost of the Dorset Metro proposals should also be investigated to show local commitment to central government funders, who it is assumed would need to provide the larger part of the funds required.

W4. Make improvements to other public transport modes

Upgrades to other public transport modes, such as bus services, should be explored to show how local authorities are working with transport operators to provide better access to railway. This has the potential to show central government that there is a commitment to connectivity and reiterate the need for integration with an enhanced rail service offering.

Local Authority BSIP proposals offer a vehicle for seeking funding for bus improvements. BSIP funding for Local Transport Authorities in 2025/26 includes:

- Bournemouth, Christchurch and Poole Council: £6,016,436
- Dorset Council: £3,815,959
- Hampshire County Council: £14,087,588[24]

Local Authorities are already prioritising these funds to support wider connectivity across their respective areas, including community transport schemes, rural accessibility, and service frequency uplifts.

Improvements to all non-rail public transport modes should be considered through the multi-modal approach, mentioned above in recommendation **W1**, with rail service integration and the need for train service frequency increases a key part of the connectivity solution.

These recommendations can be aligned to the Dorset Metro concept to reinforce the importance of an integrated public transport system within the scope area with rail improvements at its core, whilst also providing tangible connectivity benefits in the short term.

3.7.2 Railway Recommendations

Although the service changes tested through this SOBC have not resulted in a value for money business case, there are opportunities for the rail industry to seek incremental improvements that align with the 'wider recommendations' detailed above.

The railway recommendations are as follows.

[24] https://www.gov.uk/government/publications/bus-service-improvement-plans-local-transport-authority-allocations/total-combined-bus-funding-allocations-2025-to-2026

R1. Seek opportunities through the renewals workbank

Network Rail's renewals programme seeks to provide a modern equivalent for infrastructure renewals, replacing assets with modern, technologically advanced equivalents rather than simply replicating the old infrastructure. This approach aims to improve efficiency, reliability, and sustainability.

Improving the capability of rail infrastructure to provide for the requirements of the Dorset Metro is likely to require additional enhancements funding to make a step change in capability. However, it is recommended that Wessex Strategic Planning seek to influence the renewals programme and continue to identify opportunities within the renewals workbank to make incremental changes to the capability of the infrastructure, including that of power supply capability, which has not been included in this SOBC owing to the cost of power modelling.

As well as capability enhancements, there may be the chance to move assets that add cost into the Dorset Metro proposals, such as the power supply assets that are positioned in the old track-bed between Moreton and Dorchester South.

It is shown through the cost estimates for this SOBC that it is more efficient for infrastructure enhancements to be delivered in conjunction with renewals, particularly in the case of signalling. It has also been shown that asset renewals and enhancements can improve infrastructure reliability and performance.

R2. Seek incremental service change opportunities

Network Rail is responsible for coordinating and validating timetables for the national rail network. Each train and freight operating company develops the timetable they would like to run in their area, and Network Rail then coordinates all the different timetables to produce a single national rail timetable.

The timetable is updated for the national rail network twice a year, once in May, and once in December. This allows train and freight operating companies a regular opportunity to make changes to their services – run more or new services, change the timing of their services, and/or change their routes.[25]

Through the timetable change process, the rail industry should identify what service improvements can be progressed in advance of delivering the full Dorset Metro concept. For instance:

- Extending current services to call at more stations, e.g. Winchester – Bournemouth stopping service extended westwards towards Poole or Hamworthy
- Extending peak services for a longer spread of the day, whilst being cognisant of maintenance access
- Improving Sunday and Public holiday timetable to reflect growing leisure demand
- Individual, additional services that are not operated on a repeating, hourly basis but which provide incremental frequency benefits

25 https://www.networkrail.co.uk/wp-content/uploads/2017/11/How-rail-timetabling-works-factsheet.pdf

Over time, these incremental service changes can make the best use of current capability, whilst being aware of the operational, resilience and performance impacts that could occur.

R3. Investigate other hourly service patterns

Owing to available funding, the number of stopping patterns and train service change options that could be assessed through this SOBC was limited. However, through the process of producing this SOBC other suggestions have been identified that could be explored, when funding, either within Network Rail or externally, becomes available. These include:

- **1tph New Milton to Wareham:** this could avoid a potentially expensive solution to constraints at Brockenhurst by turning services back at New Milton. However, there is currently no means of turning services back at New Milton, meaning additional infrastructure will still be required. Origin/Destination data suggests that the Bournemouth to Brockenhurst passenger flow is important and therefore the impact on the benefits of the scheme will need to be assessed
- **1tph Bournemouth to Swanage:** this SOBC has focussed on a Wareham to Swanage shuttle with a limited number of services each day (supplemented by heritage services during the seasonal off-peak periods). There could be options worth investigating that look at how services might be extended beyond Wareham to Bournemouth or how a more frequent Wareham to Swanage shuttle could be operated

These or any other service options should be assessed from a timetable perspective in the first instance and then, if achievable, consideration should be given to how they can be incorporated into the wider multi-modal study described in recommendation **W1**. It may be more appropriate to use the multi-modal study as the vehicle for investigating the feasibility of these service options.

R4. Performance analysis

Subject to funding, performance analysis should be undertaken to understand the impact of the service changes identified in this SOBC and any other options developed at a later date through other recommendations, detailed above.

This analysis may identify additional benefits of the Dorset Metro concept, but equally, it should be noted that additional services may absorb any performance benefit provided by enhanced infrastructure.

Providing a robust timetable that can be operated on resilient infrastructure is key to building passenger confidence and encouraging modal shift away from the car.

3.7.3 Alignment to 5 Government Missions

"The UK government has set out an ambitious plan for change, focused on 5 national Missions: ambitious, measurable, long-term objectives that provide a driving sense of purpose for the country."[26]

For this SOBC, the alignment between the proposal and the 5 missions has been detailed below (Table 3-15).

TABLE 3-15: ALIGNMENT TO 5 GOVERNMENT MISSIONS

1.	**Get Britain Building Again:** • Greater connectivity into the BCP conurbation could make housing developments more attractive in the wider Dorset Metro area and incentivise local authorities to build housing with good access to the railway network.
2.	**Switch on Great British Energy:** • Provision of additional electrified rail services (a greener mode than car) and modal shift resulting from increased frequency can contribute to net zero targets and declared climate emergencies.
3.	**Get the NHS Back on its Feet:** • More consistent and reliable options for NHS employees to travel to work and patients to travel to appointments, particularly those who do not own a car or cannot drive.
4.	**Take Back Our Streets:** • Remove cars from the road through increased rail service frequency, allowing for faster police response times. • Opportunity to improve station and public realm integration on back of service change
5.	**Break Down Barriers to Opportunity:** • More consistent and reliable options for travelling to work and interviews, and to educational establishments, particularly for those who do not own a car or cannot drive.

[26] https://www.gov.uk/government/publications/uk-shared-prosperity-fund-prospectus/uk-shared-prosperity-fund-2025-26-technical-note

4 Economic Case

The Economic Case for the **Dorset Metro** Strategic Outline Business Case (SOBC) assesses value for money calculated from the total benefits to society and the private sector against the costs to government of the scheme over a 60-year appraisal period, in accordance with DfT Transport Analysis Guidance (TAG)[27].

This appraisal models the following benefit drivers:

- **Passenger journey time benefits:** passengers experience an improved timetable offering as new infrastructure enables either a 1tph additional 'Dorset Metro' shuttle service, or re-timings to allow a more regular clockface service at Weymouth.

The benefits drivers are modelled against the following cost drivers:

- **Capital expenditure:** the infrastructure costs of building the proposed schemes.
- **Operating expenditure:** costs of train leasing, staffing, fuel and maintenance to provide and operate the additional services.

Additional benefits deemed likely but not currently modelled include performance benefits on the route, the potential magnitude of which is currently unknown. Costs not modelled include any additional ongoing maintenance or renewals costs associated with the new infrastructure.

The appraisal considers the following options:

- **Option 1A:** Dorset Metro, +1tph Wareham to Brockenhurst (all stops), delivered as an enhanced renewal alongside a planned renewal.
- **Option 1B:** Dorset Metro, +1tph Wareham to Brockenhurst (skip stops), delivered as an enhanced renewal alongside a planned renewal.
- **Option 2A:** Dorset Metro, +1tph Wareham to Brockenhurst (all stops), delivered as a stand-alone scheme.
- **Option 2B:** Dorset Metro, +1tph Wareham to Brockenhurst (skip stops), delivered as a stand-alone scheme.
- **Option 3A:** service regularisation WEY-WAT, with 2tph fast from Weymouth to Waterloo to regulate the service pattern and an additional +1tph Weymouth to Bournemouth shuttle.
- **Option 3B:** service regularisation WEY-BMH, with 1tph fast from Weymouth to Waterloo, 1tph fast from Southampton to Waterloo and an additional +1tph Weymouth to Brockenhurst shuttle.

Appraisal results are summarised in Table 4-1. Under all central case scenarios considered for the +1tph **Dorset Metro** options, the Value for Money rating is **Poor**. The upfront capital costs and the additional ongoing train operating costs outweigh the benefits generated by the proposed new service. This is shown in the waterfall chart in Figure 4-1 which displays the relative magnitude of the cost and benefit drivers for Option 1A.

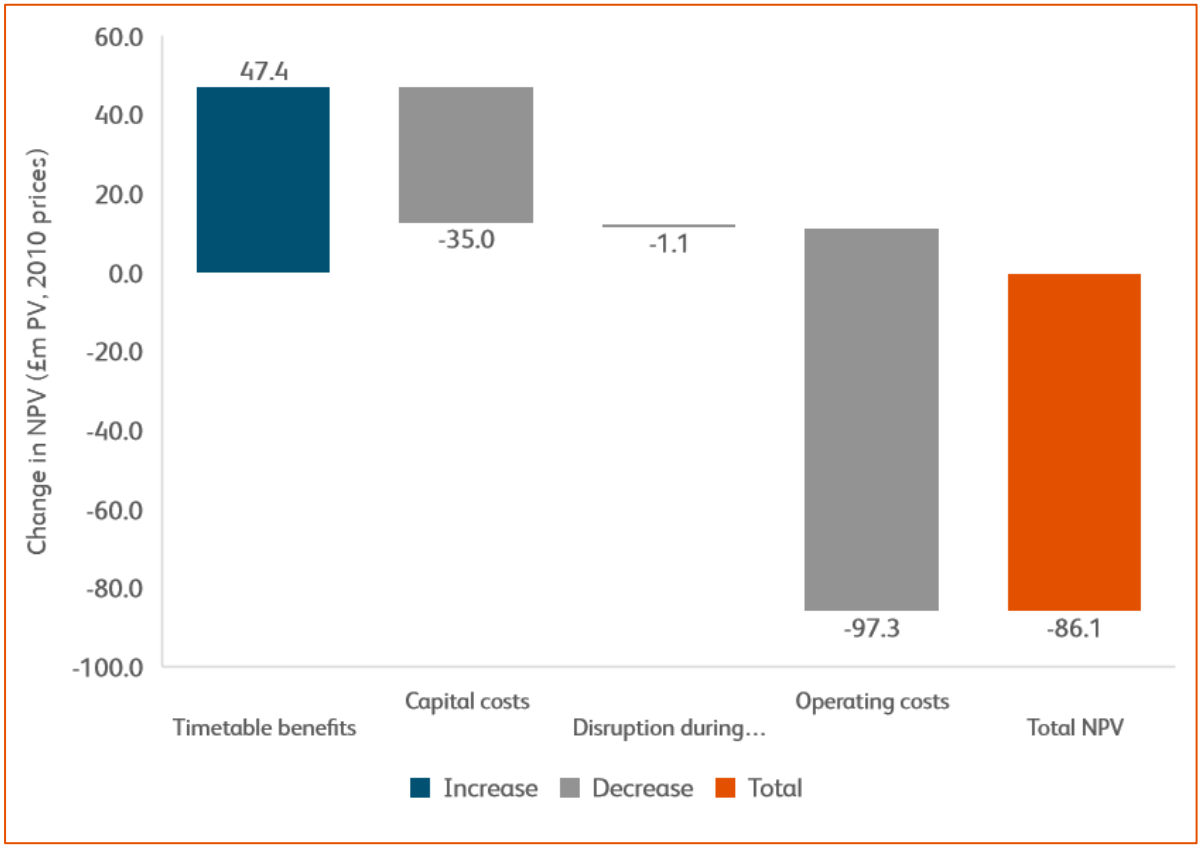
[27] A full explanation of TAG can be found at gov.uk/guidance/transport-analysis-guidance-webtag

Under the two scenarios considering **service regularisation** at Weymouth, the BCRs are below zero which represent **Very Poor** Value for Money. In both these scenarios, the proposed timetables lead to overall disbenefits to passengers as the connectivity improvements in Dorset come at the expense of connectivity to London, which outweighs the benefits of improved local connectivity.

TABLE 4-1. SUMMARY OF CENTRAL CASE APPRAISAL OUTPUTS

Option	Benefit Cost Ratio (BCR)	Value for Money (VfM)
Option 1A: Dorset Metro all stops, delivered alongside renewal	**0.20**	Poor
Option 1B: Dorset Metro skip stops, delivered alongside renewal	**0.19**	Poor
Option 2A: Dorset Metro all stops, stand-alone	**0.17**	Poor
Option 2B: Dorset Metro skip stops, delivered alongside renewal	**0.16**	Poor
Option 3A: service regularisation WEY-WAT	**-0.63**	Very Poor
Option 3B: service regularisation WEY-BMH	**-0.60**	Very Poor

FIGURE 4-1. WATERFALL CHART OF BENEFIT AND COST DRIVERS FOR OPTION 1A: DORSET METRO (ALL STOPS), ENHANCED RENEWAL



For the 'Dorset Metro' options, there is a risk that an additional £10m may be required for further track and signalling works at Brockenhurst to deliver the scheme. This is addressed through

sensitivity analysis. For all options tested, the BCRs are reduced but the Value for Money categories are unchanged.

Background passenger demand growth is included in the appraisal and is assumed to be +38 % (2025-2045). This forecast is based on DfT's EDGE demand forecasting framework.

The SOBC also sought to investigate the feasibility of running passenger services on the line to Swanage that is currently used by the Swanage Railway heritage services. This analysis is included in a separate and stand-alone document, Appendix E.

The economic case concludes that the programme would achieve **Poor Value for Money** through the introduction of a +1tph Dorset Metro service, or **Very Poor Value for Money** through service regularisation at Weymouth. There is a risk that additional infrastructure works at Brockenhurst may be required, which would lower the BCRs further but not change the Value for Money categories. The strategic case concludes with a recommendation to not progress this programme to OBC, and to re-visit the strategic questions from a multi-modal approach to investigate what alternatives could be achieved to improve connectivity in the wider Dorset area. The economic case supports this recommendation.

Although the economic case does not recommend progression to OBC, it does identify areas for further work in this space: all-day timetable modelling with input from TOCs, investigating the performance impacts of any timetable proposals, and confirming the status of the possible additional infrastructure works at Brockenhurst plus any additional ongoing Ops, Maintenance and Renewals (OMR) costs relating to the new infrastructure.

Appendix A provides an overview of the appraisal and the key assumptions, summarises the methodology, addressing each benefit and cost driver in turn. It also presents the full appraisal results, the appraisal risks and analytical assurance statement.

5 Financial Case

5.1 Introduction

The purpose of the financial case is to outline the affordability of the proposal, alongside funding arrangement and technical accounting information. The financial case also outlines the financial profile of the different options.

5.2 Costs

As part of the production of this SOBC, the project has undertaken pre-PACE development work through the form of intervention assessments for each of the proposed options. This has enabled Order of Magnitude capital cost ranges to be produced.

5.2.1 Expenditure so far

Early development work has been funded by Western Gateway, Dorset Council, BCP Council and Network Rail Strategic Planning. No costs up to this point are considered to be a part of the anticipated final costs.

5.2.2 Anticipated final costs

The anticipated final costs for this project are derived from a cost plan developed as part of this SOBC. These costs are indicative, and the estimate will be refined as the project proceeds through the RNEP process (if applicable) and PACE stages.

TABLE 5-1: ANTICIPATED FINAL COSTS (AFCS)

Capital Costs	Option 1A/1B: Dorset Metro, enhanced renewal	Option 2A/2B: Dorset Metro, stand-alone	Option 3A/3B: Weymouth service regularisation
Anticipated Final Costs (includes contingency)	£37.3m	£66.7m	£86.2m
Interventions	Headway reductions BMH-BCU, delivered as **enhanced renewal**	Headway reductions BMH-BCU, delivered as **stand-alone scheme**	Headway reductions BMH-BCU and redoubling of track MTN-DCH, delivered as stand-alone scheme

Note: BMH = Bournemouth; BCU = Brockenhurst; MTN = Moreton; DCH = Dorchester South

5.3 Future funding

5.3.1 Funding sources

The development of this SOBC has been funded by Western Gateway STB and delivered and developed by Network Rail. Funding for post-SOBC stages is uncertain at this time and no commitment has been made by any organisation for future funding. The financial case will therefore set out possible options for funding this scheme going forward.

5.3.1.1 Rail Network Enhancements Pipeline

One option for future funding is the DfT Rail Network Enhancements Pipeline (RNEP). RNEP is the current approach to how rail enhancements are managed and funded in CP7 and beyond (2024-2029). To proceed to the next stage of development and unlock funding for that stage the project must proceed through a decision point. Each decision point must be informed by a business case.

This SOBC could be used to inform a decision to develop which will allow the project to proceed to Stage 2: Develop for development up to a decision to design, supported by an Outline Business Case. However, that is subject to DfT agreement for funding to the next stage, the RNEP process is shown below).

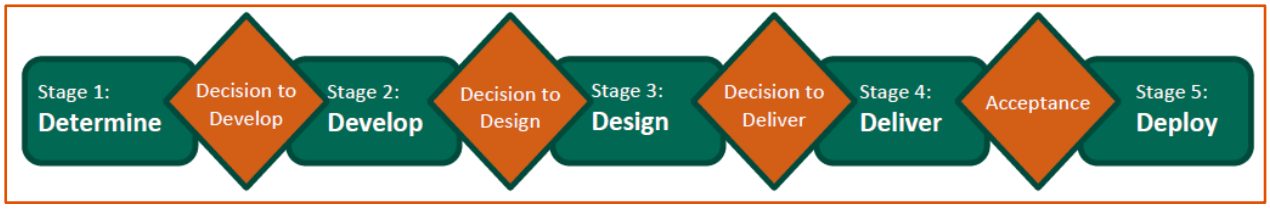


FIGURE 5-1: DIAGRAM SHOWING RNEP PROCESS

5.3.1.2 Third Party funding

Another approach could be that future stages are funded either partly or completely by third parties. The next stage of development could be funded in a similar way to that of the SOBC i.e. Western Gateway STB. Network Rail has clearly defined procedures for third party investment in the railway and can act in an asset protection capacity or as a deliverer.[28]

5.4 Approach for subsequent stages

5.4.1 Development stage

The Strategic Case outlined within this document provides an overview of the key value drivers of the project and benefits it could provide to key stakeholders and communities. As such, opportunities will be explored to seek further funding from key stakeholders to progress part of or all of the project through further development.

5.4.2 Approach to design and delivery stages

The financial case will be updated for the Outline Business Case (OBC) and Full Business Case (FBC) submissions, with further detail outlining any funding contributions and arrangements for the subsequent stages of investment.

[28] https://www.networkrail.co.uk/industry-and-commercial/third-party-investors/network-rail-is-open-for-business/opportunities-for-third-parties/

6 Commercial Case

The commercial case provides evidence on the commercial viability of the proposal and the procurement strategy that will be used to engage the market.

As part of this SOBC, the Commercial Case will not outline a proposed commercial strategy, it will instead set out a range of potential options. A proposal for the preferred procurement strategy will be developed during PACE 1.

6.1 Outline commercial and procurement strategy

6.1.1 Roles and responsibilities

There are a number of options that could be pursued for allocating key roles of project sponsor and delivery agent, if the scheme is progressed. A brief description of the principal options is set out below to inform further discussion. The choice of sponsor would need to be made at the next stage and would usually be aligned to where the primary allocation of funding is coming from.

6.1.1.1 Project sponsor

DfT

Under this option, DfT would hold sole accountability as client of the project and ensuring that it meets the objectives set out in the Strategic Case. DfT working closely with key partners such Network Rail, have extensive experience in managing the development and delivery of large rail projects. A close working relationship with the delivery agent at each 'pipeline' stage will be required, with clearly defined processes for decision-making, communications, and escalation. Dependent on the preferred delivery model (see below), this option would have the advantage of building from prior experience and utilising an existing toolkit of project processes - for example, if Network Rail is the delivery agent, the joint governance processes for enhancements is set out in the 2016 Memorandum of Understanding with DfT. This would require a means of monitoring the long-term critical success factors.

Western Gateway Sub-national Transport Body (STB)

Under this option, Western Gateway STB would take sole accountability for the success (in terms of meeting both the short and long-term objectives) of the project and take on the day-to-day Sponsor role during progression of the infrastructure elements of the project.

The advantages of this option include the project geography fitting within Western Gateway's area of remit which is represented by nine local authorities between Gloucestershire and Dorset, and thus the project objectives having direct linkages to those set out within Western Gateway's 'Strategic Investment Plan' (SIP) and subsequent 'Regional Rail Strategy'. The key disadvantage of this option is the current lack of sponsorship experience and associated processes and toolkits within Western Gateway. In addition, Western Gateway has limited experience of managing financial risk in the development and delivery of large rail infrastructure projects.

DfT & Western Gateway Joint Sponsorship

Under this option, DfT and Western Gateway would take on a joint Sponsorship role, collectively owning the business case and accountability for delivery of the project objectives. This option has the advantage of being able to utilise DfT's organisational experience and tools, and Western Gateway's local knowledge, understanding of key markets and stakeholder relationships. It also provides an opportunity for Western Gateway to gain project Sponsorship experience without taking on sole accountability. In order to mitigate any risk associated with joint sponsorship, a

clear plan would need to be set out detailing; the allocation of financial risk between Western Gateway and DfT, individual roles and accountabilities within the sponsorship team and lines of decision-making and escalation.

Third Party

In this option, the scheme would be sponsored by a Third Party. This option may be suitable, for example, where a third party is providing funding necessary to deliver the scheme and will need to satisfy itself that the intended benefits set out in the business case will be delivered. This option has the advantage of potentially leveraging process and innovation from other sectors, and for some streamlining of the decision-making process (although the RNEP process will remain in place if any form of public funding or Government guarantee is required). Key disadvantages of this option include the potential inexperience of a Third Party sponsor in working with the rail industry, and the uncertain impact of commercial incentives/drivers at scheme Sponsor level.

6.1.1.2 Delivery agent

There are two potential infrastructure delivery options, which could be used to deliver this enhancement scheme, details of which are outlined below.

Design, Build & Maintain (Network Rail)

Under the Design, Build & Maintain model, the Sponsor would appoint an agent responsible for completing [detailed] scheme design and subsequent construction. Network Rail usually undertake this role for DfT, utilising [sub-]contractors where required. This option has the advantage of utilising a 'tried and tested' method, without the risks associated with a more innovative approach. It would also enable the 'lessons learned' from the delivery of recent enhancement projects to be embedded within the process for planning and delivering this scheme.

Design & Build (Third Party)

Under this option, the Sponsor would directly procure a "third party" main contractor to undertake the design and build of the scheme. This mechanism would retain the advantages of early contractor involvement in the design of the scheme, and potentially provide opportunities for alternative allocation of risk. Network Rail's role as asset owner and maintainer would necessitate close engagement with any third-party delivery agent, and a process to ensure that designs and the as-built infrastructure are compliant with the relevant standards. This would be covered under the Asset Protection process. As all of the works are required on the existing infrastructure, interface risks would need to be managed very closely, requiring detailed joint consideration between the Project Sponsor, Third Party delivery agent, Network Rail, and the train operator(s).

6.2 Summary and next steps

The project Sponsor and Delivery Agent options described above offer ultimate flexibility, as any of the four potential sponsorship models could be combined with any of the delivery models described above. These options would need to be considered in further detail via a qualitative assessment against criteria to be defined during PACE1. For the design and delivery stages, the procurement and sourcing strategy will be updated and reviewed to inform the OBC and FBC.

7 Management Case

7.1 Introduction

The management case demonstrates whether a proposal is deliverable. It tests the project planning, governance structure, risk management, communications and stakeholder management, benefits realisation, and assurance, by providing evidence to funders of the competency of the proposal.

7.2 Project management

7.2.1 Approach and roles

For the SOBC stage, the project has been led by the Network Rail Southern Region Strategic Planning team with the Engineering Services Design Delivery team providing project engineering support in the pre-PACE stage.

7.2.2 Management methodology

The project will make use of the new Project Acceleration in a Controlled Environment, or PACE, project management methodology to meet the client's aspiration to accelerate delivery and limit the cost of this scheme. This process is well established in the industry.

Future development stages will apply Project SPEED[29] and MVP principles to streamline delivery, control costs, to ensure robust, achievable outcomes.

7.2.3 Governance arrangements

The governance arrangements for the project will depend on the approach taken to future funding/project management. This will be updated at the next stage of development.

7.2.4 Assurance and approvals

Assurance and approvals activities will occur throughout the lifecycle of the project. Potential significant assurance and approvals considerations are listed below:

7.2.4.1 Industry consent – Station and Network Change

Under the terms of the Network Code, the project will consult the rail industry for approval by means of 'Station Change' and 'Network Change' documentation. Early engagement with TOCs will help ensure buy-in to these processes.

7.2.4.2 Cost estimation

To ensure the final programme and cost estimate for the scheme in the Final Business Case is robust, the project should undertake a QCRA & QSRA in the PACE 1 stage.

7.2.4.3 Other assurance activities

Safety: The Sponsor and project will produce a Construction Design and Management (CDM) plan and follow the Common Safety Method (CSM) requirements.

Gateway reviews: Adherence to NR's new PACE process will ensure phase gate reviews occur.

Investment: Investment Authority will be obtained for any changes to funding, to seek financial guidance on the project and for any next stage.

[29] https://www.networkrail.co.uk/industry-and-commercial/supply-chain/existing-suppliers/rail-speed/

Independent review: Independent review (e.g. Peer Review) could be undertaken to review and critique risks, decisions, designs, or submissions to provide additional assurance.

7.2.4.4 Key milestones

A programme will need to be produced detailing expected milestones at the next stage of project development.

7.2.5 Risk management

7.2.5.1 Approach

Network Rail has established risk management processes in the design and delivery of individual projects as well as part of a complex portfolio of national investment. For the Dorset Metro scheme, the following could be employed:

- Risk register: The ongoing identification and mitigation of risks can be collated in a project risk register and fed into reports to governance structures.
- QCRA (Quantitative Cost Risk Assessment): To primarily manage the risks around cost estimates, a QCRA can be undertaken in the design stage to inform FBC.
- QSRA (Quantitative Schedule Risk Assessment): To primarily manage schedule risks.

7.2.6 Dependencies and interfaces

The following projects and strategic studies should be considered as part of the wider picture for services in the scope area:

- Dorset Connectivity Strategic Study
- Bournemouth SSP
- Swanage RYR bid

7.2.7 Management Case summary

Management of the future development of the proposed service and infrastructure change will be conducted using and be aligned to PACE and SPEED principles as outlined above.

8 Abbreviations and Acronyms

Abbreviation	Definition
AfA	Access for All
AFC	Anticipated Final Cost
AONB	Area of Outstanding National Beauty
BCR	Benefit Cost Ratio
BSIP	Bus Service Improvement Plans
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditure
CDM	Construction Design and Management
CSM	Common Safety Method
DfT	Department for Transport
DMU	Diesel Multiple Unit
EDGE	Exogenous Demand Growth Estimator
EV	Electric Vehicle
FBC	Full Business Case
GBR	Great British Railways
GJT	Generalised Journey Time
GRIP	Governance for Railway Investment Projects
GVA	Gross Value Added
GWR	Great Western Railway
HoW	Heart of Wessex Line
LCWIP	Local Cycling & Walking Infrastructure Plan
LENNON	Latest Earnings Networked Nationally Over Night (ticketing and revenue system)
LPA	Local Planning Authorities
LSOA	Lower Layer Super Output Areas
MND	Mobile Network Data
MOIRA	Industry standard timetable based passenger demand forecasting model
MSL	Miniature Stop Lights
MVP	Minimum Viable Product
NPV	Net Present Value
NR	Network Rail
OBC	Outline Business Case
OMR	Operations, Maintenance and Renewals
ONS	Office for National Statistics
OPEX	Operational Expenditure
ORR	Office of Road and Rail
PACE	Project Acceleration in a Controlled Environment
PDFH	Passenger Demand Forecast Handbook
PV	Present Value
QCRA	Quantitative Cost Risk Analysis
QSRA	Quantitative Schedule Risk Analysis
RDG	Rail Delivery Group
RNEP	Rail Network Enhancements Pipeline
RYR	Restoring Your Railway
SIP	Strategic Investment Plan
SMART	Specific, Measurable, Achievable, Relevant, and Time-Bound
SOBC	Strategic Outline Business Case
SPEED	Network Rail approach to accelerating and reducing the cost of project delivery
SSP	Strategic Station Plan
STB	Sub-national Transport Body
STP	Strategic Transport Plan
SUE	Sustainable Urban Extension
SWML	South West Main Line

Abbreviation	Definition
SWR	South Western Railway
TAG	Transport Analysis Guidance
TOC	Train Operating Company
TPH	Trains Per Hour
TRSE	Transport-Related Social Exclusion
TSS	Train Service Specification
TTWA	Travel to Work Area
UCAS	Universities and Colleges Admissions Service
VfM	Value for Money
WebTAG	Web-based Transport Analysis Guidance

9 List of Figures

10 Appendices

10.1 Appendix A: Economic Appraisal

Included as a separate file

10.2 Appendix B: Infrastructure Development Work

Included as a separate file

10.3 Appendix C: Initial Timetable Analysis Work

Included as a separate file

10.4 Appendix D: Subsequent Timetable Analysis Work

Included as separate file

10.5 Appendix E: Swanage to Wareham Shuttle Economic Analysis

Included as a separate file