Salisbury Area Strategic Study

SOUTHERN REGION
STRATEGIC PLANNING

2024

Contents

1 Executive Summary

Salisbury Station is located on the West of England Line between Basingstoke and Exeter St David's. As well as providing a transport hub for the local area and tourist hotspots, acting as gateway to the west of England's railways, and linking Network Rail's Wessex and Western routes' passenger and freight services, the area also plays host to Salisbury Traincare Depot (TMD), built specifically for South Western Railway's (SWR) Class 158 & Class 159 fleet. The station therefore proves an important strategic location within Wessex route, the Southern Region, and the railway in general.

In addition, Salisbury currently finds itself included within numerous pieces of proposed network change and strategy in the short to medium term, from planned resignalling work in Control Period 8 (CP8: 2029-2034), to SWR's diesel fleet replacement strategy, and Wessex and Western regions' own strategic studies. All of this combines to present Salisbury area itself as in need of serious strategic consideration. The years to 2040 are likely to deliver real change in the Salisbury area, and this document establishes Network Rail Southern Region's strategic vision.

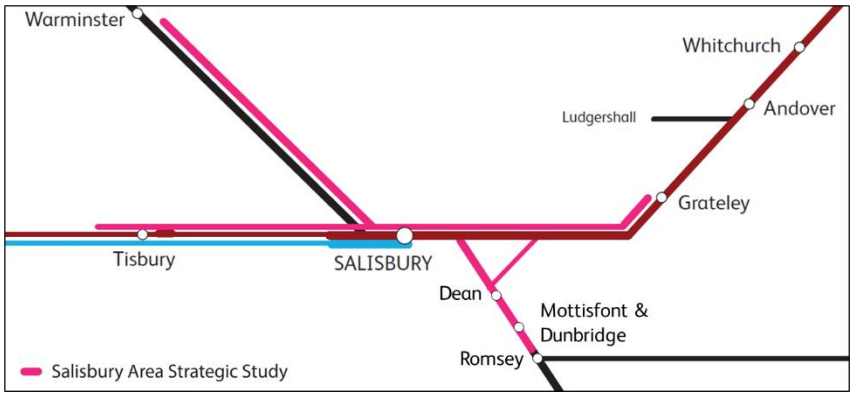

Figure 1 Map showing Study Scope Area

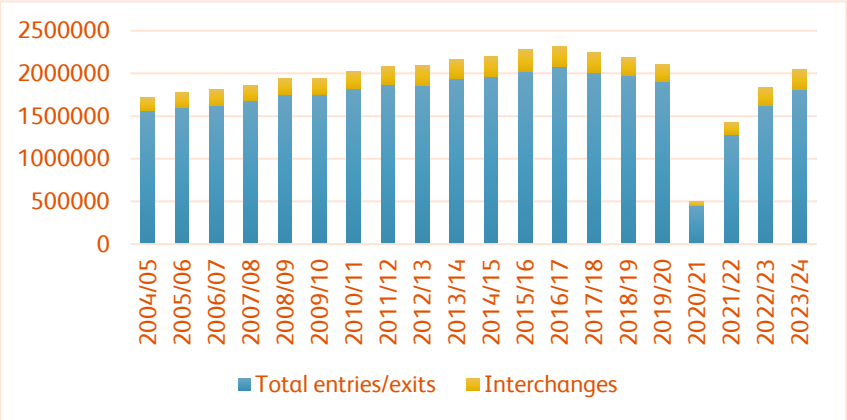

Figure 2 Chart Showing Salisbury Station Usage: ORR

Numbers of passengers using the station have seen a strong recovery from the Covid-19 pandemic with total numbers of passengers using the station in 2023/24 at 97 % of 2019/20 numbers. The number of passengers interchanging at the station has actually increased to stand at 117 % of 2019/20 numbers. The number of passengers using the station peaked in 2016/17 and the latest passenger numbers are currently just 88 % of numbers in that year.

The Salisbury area is therefore at a point of opportunity with strong recovery and forecast growth in passenger demand, emerging and established strategy interfacing in the location, and planned renewals and operational changes set to deliver real change, now is the time to explore the opportunities for efficiencies and improvements across the Salisbury area.

1.1 Train Service

Three Indicative Train Service Specifications (ITSS) were tested by Network Rail's Advanced Timetable Team (ATT) in order to establish the blockers to growth and capacity through the scope area. These timetable specifications were formed of services recommended through wider pieces of work and agreed with an industry working group of operators, the local authority, and Network Rail colleagues. This strategic work does not itself propose any new or additional services.

ITSS	Origin	Destination	TID Class	Rolling Stock
ITSS1	Cardiff Central	Portsmouth Harbour	1	165
	Portsmouth Harbour	Cardiff Central	1	165
	Swindon/Westbury	Southampton Central	2	158
	Southampton Central	Swindon/Westbury	2	158
	Westbury	Basingstoke	6	66S22
	Southampton Western Docks	Reading	4	70S18
ITSS2	Cardiff Central	Portsmouth Harbour	1	165
	Portsmouth Harbour	Cardiff Central	1	165
	Swindon/Westbury	Southampton Central	2	158
	Southampton Central	Swindon/Westbury	2	158
	Westbury	Basingstoke	6	66S22
	London Waterloo	Yeovil Junction	1	158/9
	Yeovil Junction	London Waterloo	1	158/9
	Southampton Western Docks	Reading	4	70S18
ITSS3	Cardiff Central	Portsmouth Harbour	1	165
	Portsmouth Harbour	Cardiff Central	1	165
	Swindon/Westbury	Southampton Central	2	158
	Southampton Central	Swindon/Westbury	2	158
	Westbury	Basingstoke	6	66S22
	London Waterloo	Yeovil Junction	1	158/9
	Yeovil Junction	London Waterloo	1	158/9
	Southampton Western Docks	Reading	4	70S18
	Bristol	Southampton Central	2	158
	Southampton Central	Bristol	2	158

Table 1 Indicative Train Service Specifications

This analysis identified a number of constraints preventing the ability to deliver the specified services. These constraints include long headways between Wilton Junction and Warminster, and between Salisbury Tunnel Junction and Romsey as well as platforming constraints reducing capacity and throughput through Salisbury station, limited passing locations for passenger services to pass slower moving freight services and Empty Coaching Stock (ECS) moves limiting wider service capacity. Timetable analysts proposed infrastructure intervention options which might overcome

these capacity constraints within the Salisbury area. Table 2 captures these infrastructure interventions against which services they help to unlock.

	ITSS 1				ITSS 2	ITSS 3	
	Cardiff - Portsmouth	Westbury - Salisbury / Southampton	Westbury - Basingstoke Freight	Southampton to Reading Freight	Yeovil Junction - Waterloo	Bristol to Southampton	Southampton to Bristol
Reduce headways between Wilton Junction and Warminster	✓	✓	✓			✓	✓
Additional passing Loop between Romsey and Salisbury				✓			
Reinstate Platform 1 at Salisbury for passenger use			✓				✓
Reduce headways between Salisbury Tunnel Junction and Romsey						✓	
Tisbury Loop extension					✓		
Manage ECS moves	✓	✓	✓		✓	✓	✓

Table 2 Infrastructure Interventions Shown Against Services Unlocked

These interventions were then investigated by Network Rail engineers to establish their feasibility as well as high-level costs. These engineers provided diagrams and bills of quantities required for effective estimating of project costs. These cost estimates were provided as standalone enhancements, as well as through enhancements on top of renewals.

Intervention	Cost Range
Wilton Jn – Warminster Headways	**££ - £££**
Salisbury Tunnel Jn – Romsey Headways	**££ - £££**
Salisbury Platform 1	**£**
ECS Management – Option 1	**£££**
ECS Management – Option 2	Unknown
Laverstock South Jn Freight Passing Loop	**£ - ££**

Table 3 Infrastructure Intervention Estimated Cost Ranges

Of the interventions explored by timetable analysts and engineers, some have potential implications for land strategy around Salisbury. This is particularly true of the ECS Management options as these potentially require additional land in order to be delivered.

1.2 Land Strategy

The Salisbury Traincare depot to the north of the station was built specifically for the maintenance of SWR's Class 158 and Class 159 fleet of trains and remains the only place on the SWR network that their diesel fleet can be maintained and refuelled. The depot is not big enough to stable SWR's entire diesel fleet, and many are stabled elsewhere.

Given the unknowns around future fleets serving the Salisbury area, the approach taken to stabling strategy at Salisbury was to explore what opportunities there were to maximise stabling availability and maximise efficiencies of operation within the Salisbury area, rather than aim for a specific number. Through this, three potential rolling stock options have been assumed. The infrastructure requirement stated below is seen as a minimum requirement and additional stabling may also be needed.

Rolling Stock Option	Description	Infrastructure Option
Fleet life extension	Class 158/9 fleet refurbished and retained further into the future than currently expected	Salisbury TMD
Alternative Diesel Stock cascade	SWR to inherit a cascaded, unknown diesel fleet from another operator	Salisbury TMD *and/or* Ex Engine Shed Site (existing depot would need to be adapted for any new fleet)
Alternative fuel rolling stock	fleet of new or refurbished alternative fuel units.	Ex Engine Shed Site

Table 4 Future Rolling Stock Options

1.2.1 Salisbury TMD

To make best use of the existing TMD, alternative access should be provided to the site. As has been noted above, current operations require units to shunt into Platform 1 at Salisbury in order to access the depot. This has the distinct disadvantage of constraining capacity through Salisbury. Providing alternative access points to the depot's reception line could avoid the need for complicated, time-consuming shunting moves into and out of the depot. Network Rail Engineering Services provided a solution which would require the addition of three new crossovers on the mainline to the Country end of Salisbury station.

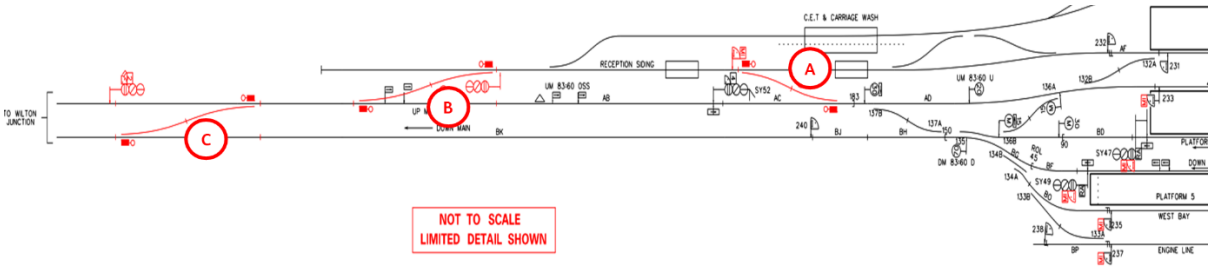

Figure 3 Diagram of Proposed Track Layout Changes

1.2.2 Ex-Engine Shed Site

The Ex-Engine Shed Site to the south west of Salisbury station provides an opportunity to provide additional stabling at Salisbury and improve operational efficiencies. This option sought to identify the potential capacity for stabling on the site and how any such site might tie efficiently into the existing layout at Salisbury.

Figure 4 Proposed Track Layout Changes and New Stabling Site

Through their work, Engineering Services identified the potential for eight new stabling roads of varying length on the site with a head shunt extending into the existing holding siding adjacent to Salisbury Platform 5. These roads could provide the following standages:

Siding	Standage	Class 450 (carriages)	Class 159 (carriages)
1	296m	3 (12)	4 (12)
2	296m	3 (12)	4 (12)
3	233m	2 (8)	3 (9)
4	234m	2 (8)	3 (9)
5	239m	2 (8)	3 (9)
6	239m	2 (8)	3 (9)
7	282m	3 (12)	4 (12)
8	223m	2 (8)	3 (9)
		19 (76)	**27 (81)**

Table 5 Potential Stabling Road Lengths

The plan designed by Engineering Services also provides access to the proposed site from platforms 1-5 at Salisbury as well as from the Main Line for services travelling Up towards Salisbury to access the headshunt without the need to enter the station itself. If combined with the TMD option, this provides a significant increase in stabling capacity in the Salisbury area as well as the opportunity for significant improvements in operational efficiencies.

1.3 Station & Interchange

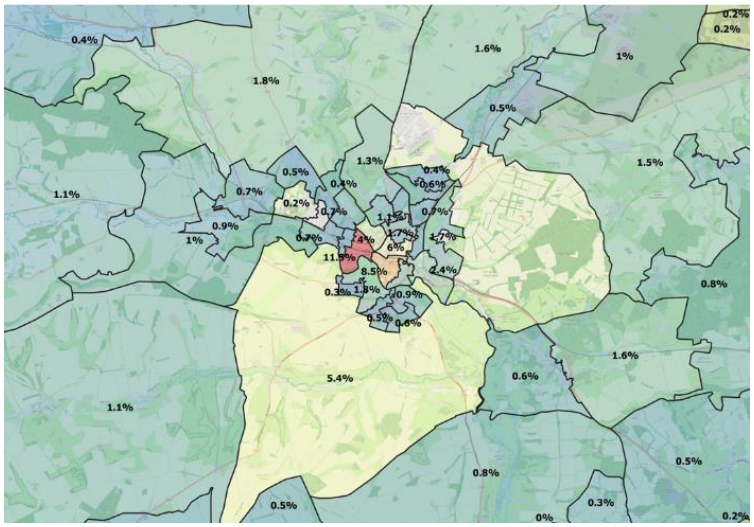

Figure 5 Map Showing MND Breakdown of Salisbury Boarders/Alighters Origins/Destinations

Access from the north of the station via platform 1 was closed to passengers around 2009. Now, passengers arriving from the north of the station (including many by local bus services) must traverse Fisherton Street (including a narrow footpath beneath the railway) and the road junction with South Western Road. Analysis of Mobile Network Data (MND) however suggests that there is not a large market for passengers travelling to, or arriving from, the north of station. In fact, the largest concentrations of passengers captured within this analysis stay

within the immediate surround of the station's southwest (potentially accessing the Churchfield employment sites), or head towards the City Centre to the Southeast of the station.

The existing gateline in the station building to the south comprises six ticket gates (one of which is wide aisle for passengers with wheelchairs, pushchairs, luggage, and bicycles). The 'L' shaped layout of this gateline is inefficient with three gates leading directly onto Platform 4, and two gates plus one wide gate leading onto the subway entrance for connection with platforms 2 & 3. This layout means that not all gates can be efficiently accessed during busy periods with queuing from one gateline blocking access to the other.

This layout, however inefficient, is inflexible. The listed status of Salisbury station building and positioning of internal walls, doorways, and ticket vending makes altering the booking hall to achieve a straight or staggered gateline (which may prove to be more efficient) very difficult.

Given the inability to provide any additional gateline capacity, Network Rail's Passenger & Station Analysis team were asked to produce a set of static analysis in order to establish potential future capacity constraints. This analysis set out that by 2050, a minimum of 2 additional gates would be required to effectively cope with forecast passenger demand. The inability to provide additional gates in the existing entrance implies the need for a future additional entrance.

Were such a new entrance to be located to the north of the station, this unlocks opportunities for Platform 1 itself. As well as the operational and train service benefits already discussed elsewhere within this document, opening platform 1 provides the opportunity to explore potential future uses for units currently vacant on the platform. The benefits of such a move are therefore apparent operationally as well as for passenger experience and revenue generating potential.

1.4 Emerging Strategic Advice

The importance of operational flexibility and associated performance is key. At a junction between routes, the need to optimise capacity and reduce performance risk through improved management of ECS moves around Salisbury is vital. The current requirement of units to shunt around the station and into platform 1 before entering the TMD is a clear capacity constraint and the interventions set out above which seek to address this should be progressed in the appropriate way.

Improved management of ECS moves around Salisbury is key to the future development of the station, and wider economic development in the area. It has been established that current gateline capacity will soon become insufficient on current projected passenger growth.

Through removing the requirement for Platform 1 to act as a reception line, reinstating it for passenger use, and unlocking additional platforming flexibility and capacity, not only can future demand be unlocked through additional gateline capacity, but local aspirations for a northern gateway to the city may also be achievable. Onward travel would also benefit from such a move with St Paul's Church bus stop made significantly more accessible to rail users, and potential future car parking to the north of the station also unlocked. For pick up and drop off of passengers, the northern side of the station also provides easier access to the ring road and removes the need to navigate the Fisherton Street/South Western Road junction.

1.4.1 Efficiency

Opportunities for efficiencies are clear at Salisbury. Whether through the planned relock & recontrol of Salisbury signalling area in CP8, or through future rolling stock strategy, there are multiple opportunities to deliver positive change whilst minimising the cost of time and resource. Through exploring these opportunities and seeking to influence the scope of future works, the case may be more readily made for enhancements and such opportunities should be sought when presented.

1.4.2 Performance

By delivering enhancements through efficient means, performance can be driven up through improved reliability of assets, greater resilience of the timetable, and increased flexibility of operational opportunities. This improved performance has additional benefits of providing a more appealing mode of travel, as well as providing the opportunity for unlocking Platform 1 and the associated Northern Entrance at Salisbury station.

1.4.3 Growth

Through unlocking this improved, safer access to the north of the station and associated onward travel, multiple local, STB and national transport objectives are achieved. This allows for the sustainable growth and access to services aspired to by Western Gateway STB as well as breaking down barriers and taking back streets outlined by national government. The wider benefits of improved efficiency and performance similarly help to improve passenger confidence in the railway, further increasing likelihood of local and national objectives being met.

Figure 6 Emerging Strategic Advice Pathway

1.5 Recommendations

The following sets out a number of recommendations. This list is not exhaustive and further opportunities for the railway in and around Salisbury exist. What the following provides is a clear way forward in focussing on the opportunities present and upcoming for enhanced efficiency, performance and growth.

- Continue with development of Tisbury Loop SOBC. Opportunities for further development funding beyond SOBC should be sought, highlighting the potential performance benefits.
- Continue to influence and input to CP8 Salisbury relock/recontrol work bank. By providing enhanced operational capacity and flexibility through reducing signalling headways, future opportunities can be unlocked and help deliver sustained growth for the railway and the region.
- Work with property colleagues to explore opportunities for the Ex-engine shed site. This site provides an opportunity to deliver enhanced operational capabilities as well as providing a key opportunity for joint stabling across Western and Wessex routes.
- Work with industry colleagues to achieve joint working and efficiencies in pursuit of unlocking future operation of Platform 1. This will provide additional platform capacity, enhanced operational flexibility, and unlock wider opportunities to the north of Salisbury station.
- Continue to engage with local and industry partners to ensure collaborative and integrated land strategies and provide a united approach to funders and government.
- Seek funding opportunities for development of depot access enhancements through the business case process.

2 Introduction

Salisbury Station sits 83 Miles and 43 Chains from London Waterloo along the West of England Line between Basingstoke and Exeter St David's. As well as providing a transport hub for the local area and tourist hotspots, acting as gateway to the west of England's railways, and linking Network Rail's Wessex and Western routes' passenger and freight services, the area also plays host to Salisbury Traincare Depot (TMD), built specifically for South Western Railway's (SWR) Class 158 & Class 159 fleet. The station therefore proves an important strategic location within Wessex route, the Southern Region, and the railway in general.

In addition, Salisbury currently finds itself included within numerous pieces of proposed network change and strategy in the short to medium term, from planned resignalling work in Control Period 8 (CP8: 2029-2034), to SWR's diesel fleet replacement strategy, and Wessex and Western regions' own strategic studies. All of this combines to present Salisbury area itself as in need of serious strategic consideration. The years to 2040 are likely to deliver real change in the Salisbury area, and this document will establish Network Rail Southern Region's strategic vision.

2.1 Scope: Salisbury Signalling Area

The scope area for this Strategic Study is the Salisbury Signalling Area. This extends from west of Grateley and east of Mottisfont & Dunbridge, to just west of Tisbury, and just east of Warminster.

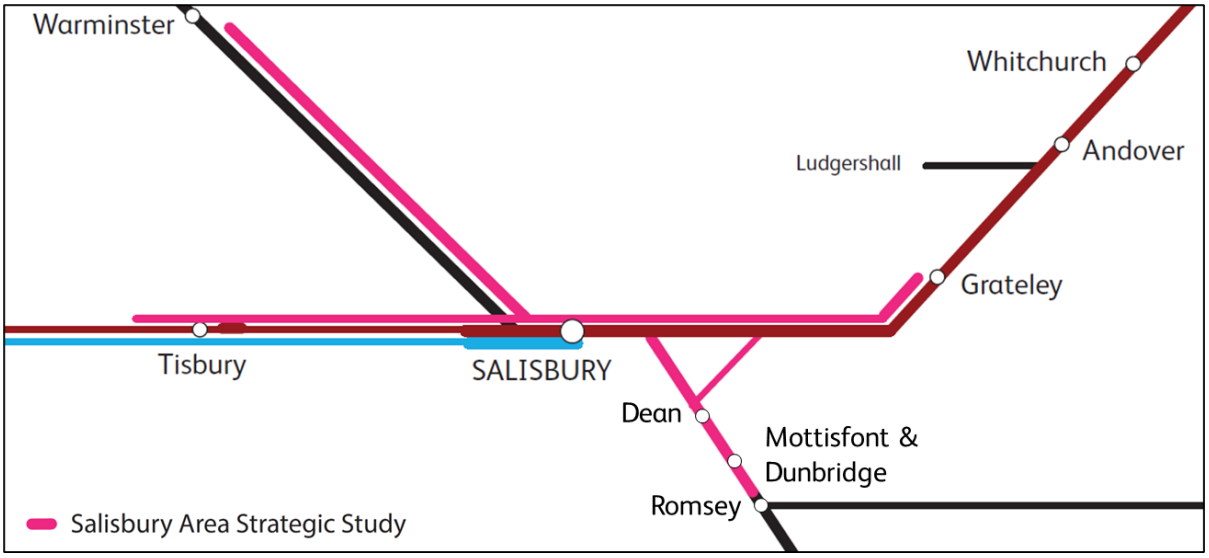

Figure 7 Map showing Study Scope Area

Salisbury is signalled from a panel on the eastern end of Salisbury platform 4 with signallers handing over to Basingstoke, Westbury and Eastleigh signal centres as trains move out of the Salisbury Signalling Area.

Individual stations within the scope area are Dean, Mottisfont & Dunbridge, Salisbury, and Tisbury. Whilst Salisbury is the only station examined in any detail in this document, the wider stations and scope area are considered within the timetable analysis and infrastructure considerations undertaken throughout.

2.2 Salisbury

The city of Salisbury is a major settlement in Wiltshire with a population of 41,820, at the 2021 census, with 9,272 residing within 1km of Salisbury station. Within a 10km radius of Salisbury

station, 17.6 % households have no car or van, 41.9 % have 1 car or van, and 30.1 % have 2 or more cars or vans. Of this same demographic, 36.8 % travel less than 10km to access work, whilst 18.6 % travel more than 10km to get to work.

As a principle town centre within Wiltshire, Salisbury clearly has a draw as an employment centre be that through roles associated with the tourist and hospitality sectors, or through other industries. A site to the South West of Salisbury station known as Churchfields Employment Area comprises around 200 businesses of various types across the 33ha site. It is Wiltshire's aspiration within their 2020-2038 draft local plan[1] to improve the site and boost attractiveness to employers through minimising on-street parking and improving connectivity by active travel modes. This clearly presents an opportunity for the railway to play a role in such improvements given the site's proximity to Salisbury station. The draft local plan also sets out a number of proposed developments in and around the town. This includes the development of a site known as Maltings and Central Car Park. The aspiration is for this site to develop into a mixed-use site comprising residential, retail, and leisure.

As well as employment and residential sites in the area, Salisbury also boasts a number of tourist attractions, pulling in visitors from around the world. Historic sites such as Salisbury Cathedral (and Magna Carta), Old Sarum, and Stonehenge are all accessible from the city via local bus routes and active travel. Additionally, Salisbury offers a popular theatre and many of the retail and leisure options available in many city centres, providing a draw for visitors, local or otherwise.

2.3 Salisbury Station

Salisbury Station comprises a collection of Grade II listed buildings constructed by both the London & South Western Railway and Great Western Railway between 1856 and 1902. The station has 4 through platforms (3 in passenger use) as well as 2 bay platforms (1 in passenger use). A ramped underpass links the station's platforms with each other and the station entrance to the south of the site. Despite the interchange subway being ramped, the gradient of the ramps is such that it is a Category B step-free station under the Office for Rail and Road's (ORR) Accessible Travel Policy. A staff-operated, powered wheelchair is available for passengers unable to use the ramps by themselves, however platforms 4, 5 and 6 have entirely level access from the station booking hall.

Platform 1 is currently not in passenger use despite being one of only four through-platforms at Salisbury station. The platform was taken out of use in the early 1990s with the line becoming the reception line for the adjacent Salisbury TMD. There is a historic station access point on platform 1 which has been discussed as a potential future Northern Station Entrance. The platform also contains a number of vacant station buildings with potential for retail, operational, and community use.

Platform 5, the west-facing bay, is also not currently in use by passenger trains and is instead used to stable passenger units and engineering trains. The platform surface is shared with platform 4 and so is maintained in a usable condition, however there is no main aspect signal for trains departing platform 5.

[1] Wiltshire Local Plan Pre-Submission Draft 2020-2038

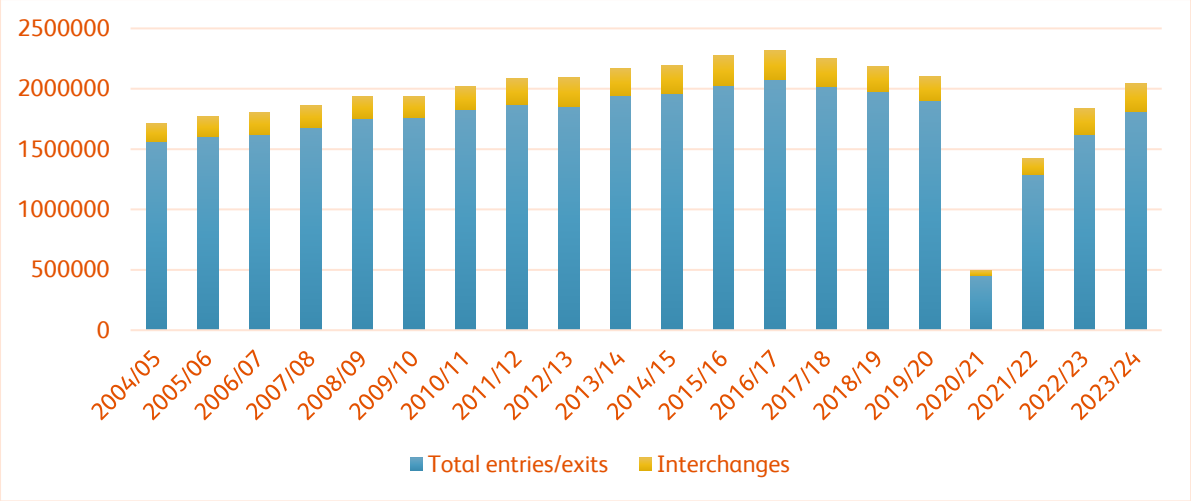

Figure 8 Chart Showing Salisbury Station Usage: ORR

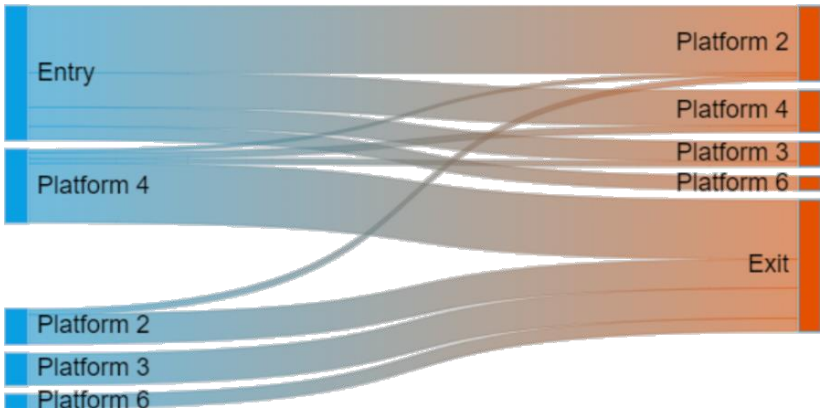

Figure 9 Typical Passenger Use of Salisbury Station

Numbers of passengers using the station have seen a strong recovery from the Covid-19 pandemic with total numbers of passengers using the station in 2023/24 at 97 % of 2019/20 numbers. The number of passengers interchanging at the station has actually increased to stand at 117 % of 2019/20 numbers. The number of passengers using the station peaked in 2016/17 and the latest passenger numbers are currently just 88 % of numbers in that year.

2.3.1 Current Services & Key Flows

A typical, off-peak hour includes the following passenger services at Salisbury station. Services do differ slightly in the peaks with Salisbury starting and terminating services extending further along the West of England Line to Yeovil Junction and Gillingham (Dorset). A number of freight trains also run through the signalling area delivering aggregates materials from the Mendips towards construction markets in the South East and Midlands.

Operator	Origin	Destination	TPH	Info.
GWR	Bristol Temple Meads	Salisbury	1	Keynsham, Oldfield Park, Bath Spa, Freshford, Avoncliff, Bradford-on-Avon, Trowbridge, Westbury, (Dilton Marsh), Warminster, Salisbury
GWR	Salisbury	Bristol Temple Meads	1	Warminster, (Dilton Marsh), Westbury, Trowbridge, Bradford-on-Avon, Avoncliff, Freshford, Bath Spa, Oldfield Park, Keynsham

Operator	Origin	Destination	TPH	Info.
SWR	Romsey	Salisbury	1	Chandlers Ford, Eastleigh, Southampton Airport Parkway, Swaythling, St Denys, Southampton Central, Millbrook, Redbridge, Romsey, Mottisfont & Dunbridge, Dean
SWR	Exeter St Davids	London Waterloo	1	Exeter Central, Pinhoe, Cranbrook, (Whimple), (Feniton), Honiton, Axminster, Crewkerne, Yeovil Junction, Sherborne, Templecombe, Gillingham, Tisbury, Salisbury, Andover, Basingstoke, Woking, Clapham Junction
SWR	London Waterloo	Salisbury	1	Clapham Junction, Woking, Basingstoke, Overton, Whitchurch, Andover, Grateley
GWR	Cardiff Central	Portsmouth Harbour	1	Newport, Filton Abbey Wood, Bristol Temple Meads, Bath Spa, Bradford-on-Avon, Trowbridge, Westbury, Warminster, Salisbury, Romsey, Southampton Central, Fareham, Cosham, Fratton, Portsmouth & Southsea, Portsmouth Harbour
GWR	Portsmouth Harbour	Cardiff Central	1	Portsmouth & Southsea, Fratton, Cosham, Fareham, Southampton Central, Romsey, Salisbury, Warminster, Westbury, Trowbridge, Bradford-on-Avon, Bath Spa, Bristol Temple Meads, Filton Abbey Wood, Newport, Cardiff Central
SWR	London Waterloo	Exeter St Davids	1	Clapham Junction, Woking, Basingstoke, Andover, Salisbury, Tisbury, Gillingham, Templecombe, Sherborne, Yeovil Junction, Crewkerne, Axminster, Honiton, (Feniton), (Whimple), Cranbrook, Pinhoe, Exeter Central
SWR	Salisbury	London Waterloo	1	Grateley, Andover, Whitchurch, Overton, Basingstoke, Woking
SWR	Salisbury	Romsey	1	Dean, Mottisfont & Dunbridge, Romsey, Redbridge, Millbrook, Southampton Central, St Denys, Swaythling, Southampton Airport Parkway, Eastleigh, Chandlers Ford

Table 6 Standard Hour Passenger Services Through Salisbury Station

ORR's Origin/Destination data provides the following key flows for stations within the Salisbury Signalling Area. Southampton and London are clear draws, however a large number of journeys remain within the local area.

Origin Station	Top Destinations				
Dean	Salisbury	Southampton Central	Romsey		
Mottisfont & Dunbridge	Salisbury	Southampton Central	Romsey		
Salisbury	London Waterloo	Southampton Central	Andover	Gillingham (Dorset)	Bath Spa
Tisbury	Salisbury	London Waterloo	Gillingham (Dorset)	Clapham Junction	Sherborne

Table 7 Top Destinations for Stations within Salisbury Signalling Area: ORR

3 The Case for Change

The Salisbury area is at a point of opportunity. With forecast growth in passenger demand, emerging and established strategy interfacing in the location, and planned renewals and operational changes set to deliver real change, now is the time to explore the opportunities for efficiencies and improvements within the Salisbury area. The following takes in turn these proposals and changes, acting here as drivers for change. The summaries given will provide some useful context to proposals set out in later sections of the document, but further detail can be found through the linked documents, or through discussion with the Wessex Route Strategic Planning team.

3.1 Interfacing Workstreams

3.1.1 West of England Line Continuous Modular Strategic Plan

The West of England Line Continuous Modular Strategic Plan (CMSP) published in 2020 sets out the long-term strategic plan for the West of England Line. The line stretches from Basingstoke in Hampshire to Exeter St Davids in Devon, cutting through Wiltshire, Dorset, and Somerset on its way. Salisbury sits on the West of England Line, acting as a key point of interchange between the route and routes to Southampton in the south, and Westbury and Bristol to the North.

The CMSP found a number of challenges along the West of England Line and proposed suggested service enhancements and associated infrastructure in order to improve these. Amongst the areas in need of improvement, the CMSP noted:

- Declining levels of performance and reliability
- Capacity-constraining infrastructure; 75 % of the line West of Salisbury being single-track
- Infrequent service provision
- Overcrowding on Peak services

These were all found within the context of a region with considerable expected housing and rail demand growth.

In order to address these issues, the CMSP proposed a series of infrastructure and service improvements. Of particular relevance to the Salisbury area was the recommendation for an hourly London Waterloo to Yeovil Junction service to complement the existing hourly London Waterloo to Exeter St David's service. This would provide a 2tph service on stations between Salisbury and Yeovil Junction where currently only 1tph called. This service would be formed of the existing off-peak 1tph London Waterloo and Basingstoke – Salisbury services, extending it through to Yeovil Junction where it would turn back towards Waterloo.

Although not a new service at Salisbury, it would change from being a terminating service to a through one. As well as this having platforming implications at Salisbury station, the Salisbury Signalling Area also includes Tisbury where a loop extension would be required to allow the extended services to cross. This is the subject of a Strategic Outline Business Case (SOBC) also being developed by Network Rail Strategic Planners and funded by Western Gateway Subnational Transport Body (STB).

3.1.2 Wiltshire Area Strategic Study

Network Rail's Western Route produced their Wiltshire Area Strategic Study in 2024 which examines the case for changing rail services within Wiltshire. This study has a direct interface with the Salisbury Area Strategic Study, with multiple services outlined in the Western study travelling on to

Salisbury (and beyond). It is from Western Route's work that a number of services described in section 4 of this document originate.

Whilst this study has remained cognisant of the Wiltshire study throughout, there are minor areas of difference in services extended through Salisbury from Western Route. Care was taken to discuss these differences with Western Route to ensure that despite slight differences in approach, findings did not vary greatly.

Given the Wiltshire Area's strategic scope within Western route, Salisbury was included only as a periphery. Detailed discussion was descoped in anticipation of its inclusion in the Salisbury Area Strategic Study instead. As such, this study will not explore opportunities or options outside of our scope area. Any future development work, particularly on the corridor between Salisbury and Westbury, will be carried out with the direct involvement of Western Route colleagues.

3.1.3 Planned Renewals

Network Rail Southern Region's resignalling work bank lists Salisbury as due for relock and recontrol within Control Period 8 (2029-2034). The process of relock & recontrol differs from a resignalling in as much as signals on the ground will not be altered unless asset condition requires change – rather control of the signalling area is moved to a new location (Basingstoke). Whilst not a full resignalling, this nonetheless provides an opportunity to propose enhancements on top of planned renewals with the aim of finding cost and operational efficiencies through utilising planned possessions Design work for the relock and recontrol will be required within Control Period 7 (2025-2029). As such, the route Strategic Planning team are engaged with Asset Strategy Managers to try to influence designs and achieve efficiencies wherever possible.

3.1.4 Rolling Stock Change

SWR's West of England fleet comprises their only diesel rolling stock in the Class 158 and Class 159. This fleet was built between 1989-1992 and consist of ten Class 158 two-car units, and twenty-nine Class 159 three-car units. These units are nearing end of operational life and are expected to be life expired in the early-2030s. There is, as yet no committed strategy from the Department for Transport (DfT) or SWR on how these units will be replaced, and with what alternative rolling stock. The main implication of this for the Salisbury area is the TMD located to the north of the station. This is SWR's only diesel train care depot and was built specifically for the West of England Line fleet. Any changes to the fleet would therefore require significant changes to the depot which is already a constrained site.

Given the uncertainty around the West of England Line fleet, three options are considered within this document. The conclusions of this strategy remain agnostic to the final outcome, and seek only to present what options are available within the Salisbury area. The scenarios considered throughout scoping exercises were:

1. Fleet life extension – Possibly the unlikeliest option, this scenario would see the Class 158/9 fleet refurbished and retained further into the future than currently expected. This would require no changes to the depot site, but increased flexibility around units entering and exiting the depot may be sought to maintain through capacity.
2. Alternative Diesel Stock cascade – A potentially more likely option would be for SWR to inherit a cascaded diesel fleet from another operator. What fleet this may be has not been explored. Instead, this option is only understood as impacting the existing site by requiring significant amendments the existing layout and depot facilities including the length of the existing train shed. These requirements cannot be understood until the specific rolling stock type is known, and as such this option is not explored in any detail.

3. Alternative fuel rolling stock – Another contender for replacement of the West of England Line fleet would be a fleet of new or refurbished alternative fuel units. This option is seen as more likely as it also has the potential to meet industry decarbonisation pledges. Again, the specifics of this fleet are not known and as such, the depot requirements are not known, however the current emerging proposal would see existing EMU rolling stock retrofitted with batteries. This would require islands of electrification along the rolling stock type's journey, and likely charging facilities within any depot or stabling facility. In testing this scenario, a relocated depot away from the existing site is assumed with improved access to and from Salisbury platforms and the mainline at the country end of the station.

3.1.5 Wessex Main Lines Strategic Study

Through demand work completed as part of the Wessex Main Lines Strategic Study, the need for an additional morning high-peak service from Salisbury to Waterloo was highlighted. Through that workstream, necessary platforming and paths were identified and as such, this service has not been tested within the Salisbury Area Strategic Study. This additional high-peak service should, however, be considered when examining peak platform occupancy at Salisbury in future studies.

3.2 Wider Policy

3.2.1 Government

Following the election of the Labour government in July 2024, both the government and DfT have adopted a 'Mission-led' approach to 'rebuilding Britain'. Whilst these missions are the same across government, their interpretation differs on the department in question. For DfT, alongside their focus on enhanced integration and performance, the five missions are approached as per below. Positive changes to the railway as a whole, as well as in and around Salisbury, can play a pivotal role in contributing to DfT's delivering on these missions. Each is taken briefly in turn below.

3.2.1.1 Get Britain Building Again

> *"Ensuring reliable, affordable and accessible transport, which works for passengers and efficiently moves goods around the country, is important to economic growth and productivity."*

As discussed in more detail in section 3.2.4, Wiltshire Council have set out a requirement for delivering 4,500 new dwellings within the Salisbury area between 2020 and 2038, subject to National Planning Policy Framework (NPPF) reform. This clearly demonstrates a significant number of additional people needing to travel to and from Salisbury whether by road or rail. Improvements to service provision and reliability, as well as facilities at Salisbury station, will therefore serve to support this housing growth.

3.2.1.2 Switch on Great British Energy

> *"Accelerating the move to greener transport will reduce our dependence on expensive and volatile fossil fuels, and support the transition to cheap, clean, homegrown power, which will lower costs, boost our energy security, and help deliver the emissions savings needed to accelerate to net zero."*

Rail is an inherently green means of transport, especially when compared to the private car. Through improvement of rail offering at Salisbury, the case can be more easily made for modal shift from private vehicles to public transport. Should changes at Salisbury improve integration between sustainable modes, we may start to see passengers encouraged away from private cars. As future strategies seek to decarbonise the existing diesel rolling stock in use at Salisbury, this argument will only be strengthened.

3.2.1.3 Get the NHS Back on its Feet

"Providing reliable, affordable and accessible transport for key workers is essential in enabling critical institutions like the NHS to operate efficiently and successfully. Making the most of our rail network also helps reduce emissions, which benefits public health."

Salisbury Central Health Clinic sits only 0.5 miles from Salisbury station and Salisbury District Hospital has a direct link from the station via bus route 1. This shows rail as a suitable means of transport for accessing such facilities as well as connecting the people of Salisbury to facilities further afield. Rail also encourages active transport modes and walking where possible. Such modes have the benefit of improving passengers' physical (and mental) wellbeing, as well as reducing emissions produced by private cars and therefore improving the health of the wider public.

3.2.1.4 Take Back Our Streets

"Ensuring our roads and railways, buses and transport interchanges are safe will help make our streets safe."

Improvements to the station and surrounding area provides the opportunity to provide improved security for passengers through additional lighting and designated walkways. As is discussed later in this document, the current walking route to the station from the north of the site requires travelling beneath Fisherton Street over bridge which has a narrow footpath with limited lighting.

3.2.1.5 Break Down Barriers to Opportunity

"Delivering reliable, affordable and accessible transport is vital in helping people to access opportunities through work and education."

Increasing access for residents to rail has the added benefit of improving access to employment and education opportunities. Making this as accessible and integrated as possible through enhancements to the rail offer has the potential to break down a number of exiting barriers which many currently face.

3.2.2 Western Gateway

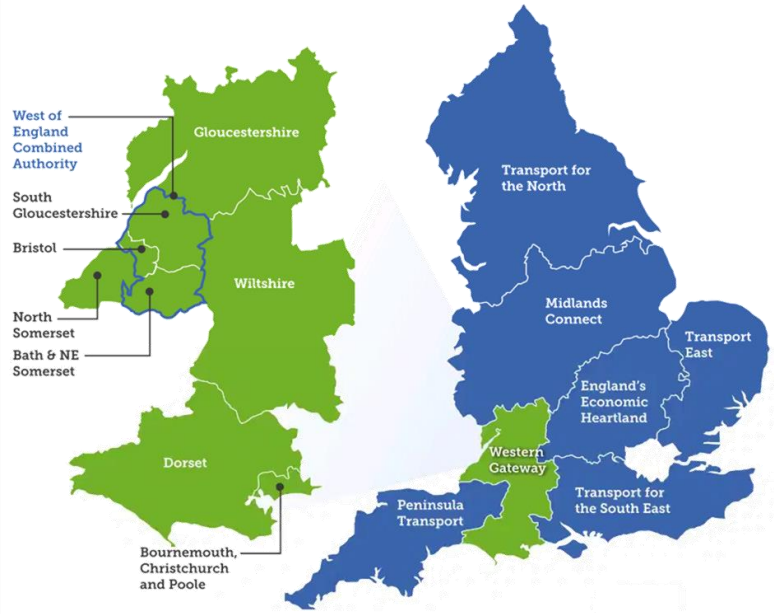

Figure 10 Map of Western Gateway STB Scope Area

Western Gateway Sub-National Transport Body (STB) works with its nine constituent local authorities to set out a broad strategic vision of transport across the region, acting as a 'single voice' in making the case for transport improvements across the region. The constituent local authorities are: Bath & Northeast Somerset; Bournemouth, Christchurch & Poole; Bristol; Dorset; Gloucestershire; North Somerset; South Gloucestershire; West of England Combined Authority; and Wiltshire.

In 2023, Western Gateway produced their Strategic Transport Plan 2024-2050. This plan aligned to DfT priorities at the time, building around five key themes:

3.2.2.1 Theme 1: Sustainable Growth and Economy

Linking with the current DfT mission Get Britain Building Again, Western Gateway's first strategic theme seeks to 'support and inform planned strategic housing and employment growth'. This theme also emphasises the importance of facilitating visitor access to key tourist sites, reducing reliance on private vehicles, and enhancing 'sustainable access for goods and people to national and international gateways'. Improvement of rail facilities at Salisbury provides the opportunity to deliver on this theme through unlocking required housing growth within the Salisbury region whilst ensuring that the increased population has sustainable access to public transport for connectivity to employment, education, and leisure opportunities. An enhanced gateway into Salisbury city also provides the opportunity to boost tourist travel to the city and region.

3.2.2.2 Theme 2: Decarbonisation and Air Quality

Similar to DfT's mission to Switch on Great British Energy, Western Gateway's second strategic theme seeks to achieve net zero carbon emissions by 2050, improve air quality, and deliver infrastructure which will enable 17 % vehicle kilometres to shift to sustainable modes, with vehicles shifting to low-carbon fuels. Rail travel is an inherently lower-carbon mode of transport compared to private car travel and so any measures which encourage uptake of rail travel could be argued to support this objective.

3.2.2.3 Theme 3: Access to Services and Opportunities

Similar to DfT's Break Down Barriers to Opportunities, Western Gateway's third strategic theme seeks to 'level up access to social, educational and economic opportunities in all areas', enhance access to important destinations, shift half of rural car journeys to sustainable modes, and 'improve access to and safety on all modes of transport for vulnerable and disabled travellers'. Salisbury is surrounded by rural communities with limited public transport offerings. Through aiding and encouraging the shift to rail travel through improved connections, greater access to the opportunities that rail travel provides could be achieved.

3.2.2.4 Theme 4: Facilitating Strategic North-South Movement

Western Gateway's fourth strategic theme seeks to improve the rail and road links north to south between the Midlands and South Coast, to 'improve journey time reliability', and to 'increase service frequency, reduce journey times and facilitate interchanges by rail to increase patronage and rail freight opportunities'. Through the additional services explored within this strategy, key north-south corridors could be unlocked and enhanced, connecting residents of Wiltshire with the south coast.

3.2.2.5 Theme 5: Movement of Goods

Western Gateway's fifth strategic theme seeks to 'increase the capacity and access to the network for rail freight services, allowing existing and new markets to facilitate a shift from road to rail transport for freight', 'increase market for coastal shipping to support shift away from road freight', and 'maintain or improve connectivity to ports, rail hubs and airports'. Through unlocking capacity and allowing additional freight paths through Salisbury area, this shift to rail for goods traffic could have wider benefits for the region.

3.2.2.6 Strategic Investment Plan

At the time of this strategy's development, Western Gateway are consulting on their Strategic Investment Plan (SIP). This document sets out 38 investment proposals within the Western Gateway region which the STB believes will help deliver on their Strategic Transport Plan objectives

over the coming ten years. Network Rail's Wessex and Western strategic planning teams have contributed several schemes to the draft SIP including *Salisbury Service Enhancements*, looking at developing the findings of this strategic document, and *Tisbury Loop SOBC* which Western Gateway are funding the development of.

Following the conclusion of consultation, Western Gateway's SIP will serve and important function as a prioritised list of investment opportunities to present to the DfT for further development.

3.2.3 User Groups

3.2.3.1 Salisbury to Exeter Rail Users Group

The Salisbury to Exeter Rail Users Group (SERUG) advocates improvements on the West of England Line between Salisbury and Exeter for users of the line by lobbying local and national politicians, train operators and government bodies. SERUG have provided a comprehensive list of improvements they wish to see at Salisbury with the aim of enhancing the passenger offering at the station. This vision includes, but is not limited to:

- Better bus connections and facilities.
- Improved local car, cycle and pedestrian routes.
- Improved provision and relocation of passenger car parking
- Reinstatement of Platforms 1 and 5
- Depot access to/from all four through platforms

SERUG were consulted during the development of this strategic document and their input has been greatly appreciated.

3.2.3.2 Three Rivers Community Rail Partnership (CRP)

The Three Rivers CRP comprises local authorities, residents and rail industry representatives to promote rail and bus services and seeking to improve stations and services. Representatives from the CRP have been involved with strategy development and their input and feedback has been greatly appreciated.

3.2.4 Local Plan

At the time of this strategy's development, Wiltshire Council is in the process of developing their 2020-2038 Local Plan[2]. In the Salisbury area, the draft plan outlines the requirement for 4,500 dwellings in the Salisbury area between 2020-2038. Of these, some 2,964 were committed or completed as of 31st March 2022, leaving further growth of 1,530 dwellings within Salisbury.

The Local Plan Pre-Submission Draft specifically notes Salisbury railway station as an opportunity site, as well as noting its aspirations for the immediately adjacent Churchfields area. This area is planned to see improvements such that it "integrates better within the city and presents a more attractive location to a greater diversity of businesses, particularly via measures to expand the range of employment uses and improve transport both within and around the locality". The vicinity of Salisbury station to the Churchfield employment area presents a key opportunity for railway enhancements to attract more interest in the site. Such an objective also ties into wider government objectives around economic growth and breaking down barriers to opportunity.

Similarly, the draft plan also sets out aspiration to "Improve affordable housing provision to support needs of an ageing population, key sector personnel and those entering the market for the first time". This also provides an opportunity for the railway to enact positive change and links into

[2] Wiltshire Local Plan Pre-Submission Draft 2020-2038

government objectives around getting Britain building, economic growth, and breaking down barriers to opportunity.

It is important to note that the government is reviewing its National Planning Policy Framework. This policy establishes planning policies for England and how they should be applied. This includes where housing allocations have been made, and where additional capacity can be delivered. Given the review and the government's commitment to deliver more housing, it may be reasonably expected that the numbers set out in Wiltshire's Draft Local Plan are subject to change. Regardless of exact numbers, growth is expected in and around Salisbury which is likely to have some impact on numbers using the railway.

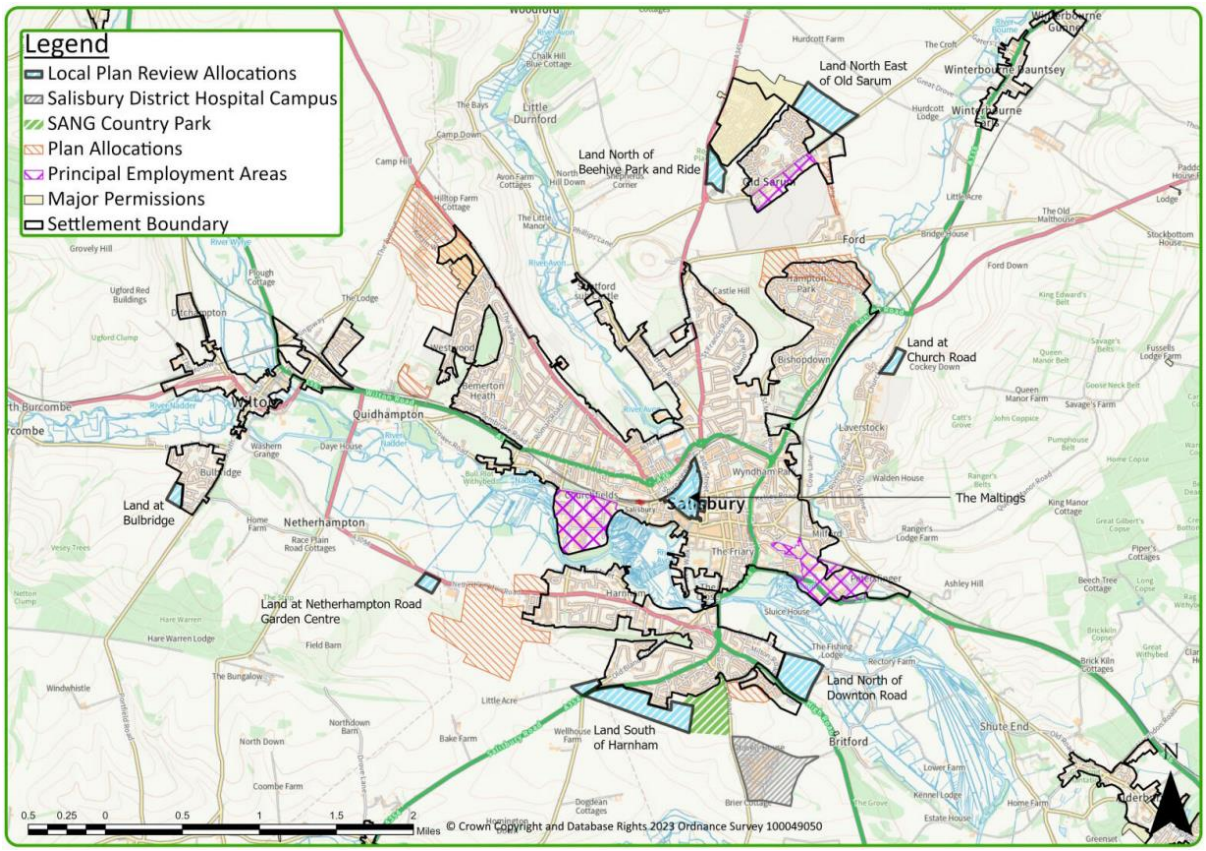

Figure 11 Map of Salisbury Planned Allocations

4 Timetable Analysis

Three Indicative Train Service Specifications (ITSS) were tested by Network Rail's Advanced Timetable Team (ATT) in order to establish the blockers to growth and capacity through the scope area. These timetable specifications were formed of services recommended through wider pieces of work and agreed with an industry working group of operators, the local authority, and Network Rail colleagues.

As the layout of the TMD is already a known constraint, this was not explored within this timetable analysis, rather this was discounted form scope in order to highlight where other constraints would present once issues with trains leaving and entering the depot are resolved.

4.1 Train Service Specifications

Table 7, below, sets out the three Indicative Train Service Specifications (ITSS) tested through the Salisbury Area Strategic Study. Whilst this study does not introduce any new service aspirations for the region, the following sets out what the additional proposed services are and where they originate from.

ITSS	Origin	Destination	TID Class	Rolling Stock	Info.	Source
ITSS 1	Cardiff Central	Portsmouth Harbour	1	165	Additional 1tph on CDF - PMH service, creating 2tph overall	Wiltshire Area Strategic Study
	Portsmouth Harbour	Cardiff Central	1	165	Additional 1tph on PMH - CDF service, creating 2tph overall	Wiltshire Area Strategic Study
	Swindon/Westbury	Southampton Central	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Southampton Central	Swindon/Westbury	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Westbury	Basingstoke	6	66S22	New class 6 freight service, class 66 at 2200t	Wiltshire Area Strategic Study
	Southampton Western Docks	Reading	4	70S18	775m intermodal via Laverstock Curve	Solent to Midlands Freight
ITSS 2	Cardiff Central	Portsmouth Harbour	1	165	Additional 1tph on CDF - PMH service, creating 2tph overall	Wiltshire Area Strategic Study
	Portsmouth Harbour	Cardiff Central	1	165	Additional 1tph on PMH - CDF service, creating 2tph overall	Wiltshire Area Strategic Study
	Swindon/Westbury	Southampton Central	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Southampton Central	Swindon/Westbury	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Westbury	Basingstoke	6	66S22	New class 6 freight service, class 66 at 2200t	Wiltshire Area Strategic Study

	London Waterloo	Yeovil Junction	1	158/9	Extension of Salisbury terminator from Waterloo towards Yeovil Junction as per SOBC work.	West of England Line CMSP
	Yeovil Junction	London Waterloo	1	158/9	Extension of Salisbury starter to Waterloo to begin Yeovil Junction	West of England Line CMSP
	Southampton Western Docks	Reading	4	70S18	775m intermodal via Laverstock Curve	Solent to Midlands Freight
ITSS 3	Cardiff Central	Portsmouth Harbour	1	165	Additional 1tph on CDF - PMH service, creating 2tph overall	Wiltshire Area Strategic Study
	Portsmouth Harbour	Cardiff Central	1	165	Additional 1tph on PMH - CDF service, creating 2tph overall	Wiltshire Area Strategic Study
	Swindon/Westbury	Southampton Central	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Southampton Central	Swindon/Westbury	2	158	Extension of existing Swindon - Westbury towards south coast	Wiltshire Area Strategic Study
	Westbury	Basingstoke	6	66S22	New class 6 freight service, class 66 at 2200t	Wiltshire Area Strategic Study
	London Waterloo	Yeovil Junction	1	158/9	Extension of Salisbury terminator from Waterloo towards Yeovil Junction as per SOBC work.	West of England Line CMSP
	Yeovil Junction	London Waterloo	1	158/9	Extension of Salisbury starter to Waterloo to begin Yeovil Junction	West of England Line CMSP
	Southampton Western Docks	Reading	4	70S18	775m intermodal via Laverstock Curve	Solent to Midlands Freight
	Bristol	Southampton Central	2	158	Extension of GWR Bristol service toward Southampton, replacing current 2R "Romsey 6ers"	Operator Aspiration
	Southampton Central	Bristol	2	158	Extension of GWR Bristol service from Southampton, replacing current 2R "Romsey 6ers"	Operator Aspiration

Table 8 Train Service Specifications Tested

4.1.1 ITSS 1

ITSS 1 provides the following additional services:

1. +1tph Cardiff-Portsmouth in each direction,
2. +1tph TransWilts Swindon-Salisbury (and on to Southampton) in each direction,
3. Additional Class 6 freight in a 3-hour return from Westbury towards Basingstoke
4. Class 4 freight from Southampton towards Basingstoke via Laverstock curve.

Services 1 to 3 are taken from Network Rail Western Route's Wiltshire Rail Strategic Study with additional service 4 being a recommendation for diversionary paths within Wessex Route's Solent

to Midlands Freight strategy. Services 1-3 were tested as part of Western Route's strategic work only as far as Salisbury and their strategic importance is set out in more detail within that document. This piece of timetable analysis work sought to pick up the services at Salisbury and examine potential infrastructure requirements within the Salisbury Signalling Area.

In order to achieve these additional services through the Salisbury area, a number of infrastructure requirements were highlighted including reducing headways between Warminster and Salisbury to 4 minutes, reinstating platform 1 at Salisbury for passenger operation, and the construction of a freight passing loop between Laverstock South Junction and Dean.

4.1.2 ITSS 2

This ITSS builds on ITSS 1 as a base but extends the current Waterloo to Salisbury services westward to Yeovil Junction on the recommendation of Wessex Strategic Planning's West of England Line CMSP, and likewise sees the current Salisbury to Waterloo starters begin at Yeovil Junction. The interventions required for these service changes are being explored through the separate 'Tisbury Loop Strategic Outline Business Case' planned for completion late Spring 2025. The infrastructure requirements noted through this work involve the extension of Tisbury loop towards Salisbury to allow trains to cross before reoccupying the single line at Tisbury.

4.1.3 ITSS 3

This ITSS builds on ITSS 2 as a base but extends the current Bristol – Salisbury services towards Southampton, picking up calls from the existing SWR 'Romsey Rocket' service. This service change requires a reduction in signalling headways on the Romsey line to 3 minutes as well as the reinstatement of platform 1 at Salisbury for passenger services.

4.1.4 Wilton Parkway Station

As a sensitivity, the feasibility of accommodating a new station stop at Wilton Parkway was tested at a high level. This consisted of adding the time required for minimum dwell and appropriate train running time (Sectional Running Time or SRT) adjustments into 1 schedule per hour. This was tested on both the Yeovil-bound West of England corridor, and the Westbury-bound Warminster corridor. Whilst the additional stop could not be accommodated in the West of England services, the sensitivity testing found that it could be accommodated in the Warminster corridor if proposed headway reductions were achieved.

This testing was only indicative and should there be appetite to pursue the option, further, more detailed analysis would be required.

4.2 Timetable Analysis Outputs

None of the additional services outlined in the ITSS can be achieved without additional infrastructure. The constraints found are discussed in what follows.

4.2.1 Headway Constraints

Planning headways refer to the amount of time that must be allowed between two trains travelling in the same direction on the same line of route. They are calculated based on a number of factors such as SRTs and distance between signals (signal block sections). Acting as a key safety mechanism across the railway, suitable headways ensure that no two trains can come into contact with each other on the same section of railway. Longer signal block sections generally result in longer headways, which in turn reduces the capacity of throughput for trains along a line. Shorter sections provide additional opportunities for trains to be safely stopped before coming into contact with a

preceding train, and so headways can generally be shorter, ensuring a higher capacity through that section.

Found within the Timetable Planning Rules (TPRs), planning headways are also based on the actual operation of trains through a section and so can vary from technical (calculated) headways.

4.2.1.1 Warminster Line

SW170 WARMINSTER TO WILTON JUNCTION			
TIMING POINT	**DOWN**	**UP**	**NOTES**
Wilton Junction – Wishford	AB+2	AB+2	TCB plan as AB.
Wishford – Wylye AHB	AB+½	AB+1½	TCB plan as AB.
Wylye AHB – Upton Lovell AHB	AB+1½	AB+1½	TCB plan as AB.
Warminster Signal W308 – Upton Lovell AHB	AB+1½		TCB plan as AB.
Upton Lovell AHB – Warminster Signal W301		AB+1	TCB plan as AB.

Table 9 Current Planning Headways for Warminster Line

Headways along the Warminster line are currently long. This significantly reduces the number of trains that can travel along the section at any one time. ATT found that a reduction in these planning headways to a value around 4 minutes would allow the additional services remitted in the ITSS to be accommodated on the line. The actual difference in headways from current values will differ depending on rolling stock type and move planned for given Absolute Block's (AB) use of SRTs to calculate headways.

4.2.1.2 Romsey Line

SW150 REDBRIDGE JUNCTION TO SALISBURY TUNNEL JUNCTION			
TIMING POINT	**DOWN**	**UP**	**NOTES**
Redbridge – Romsey	4 – Non-stopping 4½ - Stopping	4 – Non-stopping 4½ - Stopping	
Romsey – Salisbury Tunnel Junction	6 – Non-stopping 6½ - Stopping	6 – Non-stopping 6½ - Stopping	

Table 10 Current Planning Headways for Romsey Line

Headways along the Romsey line are also quite long, also reducing the number of trains that can travel through this route. ATT found that a reduction in these headway values to around 3 minutes would allow for the additional services set out in the TSS above.

4.2.2 Platforming Constraints

In some services tested, current platform capacity potentially leads to extended dwells at Salisbury. In the case of Great Western Railway (GWR) services extended through to Southampton in SWR's current Romsey paths, for example, the train must dwell in Salisbury station for around 10 minutes in order for this to marry up with the existing SWR path. With existing platform layouts, this would significantly constrain capacity through Salisbury, leaving only two vacant platforms.

There is also currently limited capacity to turn trains around or terminate during perturbation in the Down-facing direction. Only platforms 4 and 3 currently provide this capability. As these are both reversible platforms, turning around or terminating in them impacts capacity through the station.

4.2.3 Passing Locations

Additional trains tested travelling towards Yeovil Junction as part of ITSS2 need to cross services travelling in the opposite direction. Given the lengths of single line section along this line, there is currently no capability to deliver such a move between Wilton South Junction and Tisbury Loop. In order to achieve the optimum service, trains would need to cross in this area and so additional infrastructure would be required through the extension of Tisbury loop in the direction of Wilton.

Similarly, additional freight trains travelling form Southampton towards Basingstoke via Laverstock South Junction must wait at the junction to allow other services from Salisbury Tunnel Junction to pass. Laverstock curve current standage is unable to accommodate 775m trains so an additional loop in the area is required to allow waiting freight trains to clear the running lines and await their path towards Basingstoke.

4.2.4 Empty Coaching Stock Moves

Moves into and out of the TMD and other associated Empty Coaching Stock (ECS) moves take up capacity on planning graphs. As a known constraint, their removal was not tested through the timetable analysis undertaken and once an option is decided upon for their improved management, further analysis will be required. These movements also provide risks to performance of wider services in the area. Their requirement for slow shunting moves between platforms can often block mainline routes, potentially exacerbating late-running services or delaying on-time services.

4.2.5 Infrastructure

Overall, given the analysis undertaken by Network Rail's ATT, the following infrastructure has been identified alongside the services that the infrastructure unlocks. ECS management is not mentioned explicitly in the table but is assumed to be required for any additional capacity to be delivered.

	ITSS 1				ITSS 2	ITSS 3	
	Cardiff - Portsmouth	Westbury - Salisbury / Southampton	Westbury - Basingstoke Freight	Southampton to Reading Freight	Yeovil Junction - Waterloo	Bristol to Southampton	Southampton to Bristol
Reduce headways between Wilton Junction and Warminster	✓	✓	✓			✓	✓
Additional passing Loop between Romsey and Salisbury				✓			
Reinstate Platform 1 at Salisbury for passenger use			✓				✓
Reduce headways between Salisbury Tunnel Junction and Romsey						✓	
Tisbury Loop extension					✓		
Manage ECS moves	✓	✓	✓		✓	✓	✓

Table 11 Infrastructure Requirements Shown Against Service Changes


2-7
Car stop

5 Infrastructure Solutions

Timetable analysis shows that in order to deliver any of the aspired train services, a degree of additional infrastructure is required. Intervention Assessments are documents produced by design engineers in order to provide high-level context on infrastructure interventions, enabling initial cost estimating and benefits appraisal. The infrastructure interventions noted in section 4.2.5 are therefore taken in turn to provide this important context. Further detail can be found in the technical note.

5.1 Wilton Junction to Warminster Headways

Owing to the longer signal sections and associated longer planning headways, capacity for additional services along the route between Warminster and Salisbury is limited. This is exacerbated by the use of 2-aspect signalling within the area which itself limits capacity as signals can only be red or green. Intervention Assessments completed by Network Rail's Southern Region Enhancements team found that in order to achieve the 4-minute headways set out in the ATT findings, the signalling system on this line of route will need to be upgraded. This would include the repositioning of some signals to ensure a more even distance between them, as well as upgrading the 2-aspect system in place to a 3-aspect system. This additional aspect provides drivers with greater confidence that sections ahead will be clear and that they can therefore drive closer to line speed, achieving maximum capacity.

5.2 Salisbury Tunnel Jn to Romsey Headways

Similarly, long sections and 2-aspect red/green signals require longer headways on the line between Salisbury Tunnel Junction and Romsey, significantly reducing capacity through this section of route. Timetable analysis identified a requirement to reduce these headways and therefore increase capacity through the section, which an intervention assessment identified as requiring an upgrade to 3-aspect signalling. Existing signals would be able to remain in their current positions, with intermediate repeater signals being upgraded to controlled signals, and all operating with three aspects. This has all the benefits of the similar upgrade on the Warminster line, with the added benefit of increasing driver confidence through an area with known low adhesion. Giving drivers reassurance that they will be able to stop ahead of upcoming trains can provide additional confidence to drive closer to line speeds and therefore reduce operational headways.

5.3 Salisbury Platform 1

By reinstating platform 1, vital platforming capacity at Salisbury station is unlocked, allowing for greater throughput of trains at the station. Engineers examined two options for the reinstatement of platform 1 consisting of one-way travel (Up direction) and bi-directional capability.

In both scenarios, existing shunt signals at either end of the platform would need to be upgraded to main line signals. In order to achieve travel through platform 1 in the Down direction as well as the Up, an additional crossover would be required from the Down Main.

Without the construction of this additional crossover on the London end of the platform, services could only serve Platform 1 in the Up direction. The upgrading of the country end Shunt Signal to a main aspect would allow for services to then turn around in the platform, rejoining the Down Main towards Exeter. This would provide a suitable turnback facility for either timetabled services (TransWilts Salisbury Terminators, Great Western Railway (GWR) Bristol-Salisbury terminators), or as means of freeing up reversible platform capacity for services turning back at Salisbury during

times of perturbation. There is currently no turnback facility on the country end of Salisbury, with Platform 5 not currently signalled for passenger use.

Whilst the addition of a London-End crossover would be the preferred solution for Platform 1, providing maximum benefit and flexibility, having an additional 'Up' Platform has the potential to free up reversible platform capacity for services travelling in the Up Direction (e.g. Exeter to London Waterloo). Whilst these services currently utilise Platform 3's reversible functionality to attach additional units which have emptied after terminating at Salisbury, there would remain the ability to shunt these units empty into platform 1 to then be joined on to incoming London-bound services, isolating the move and freeing Platform 3 for through-traffic.

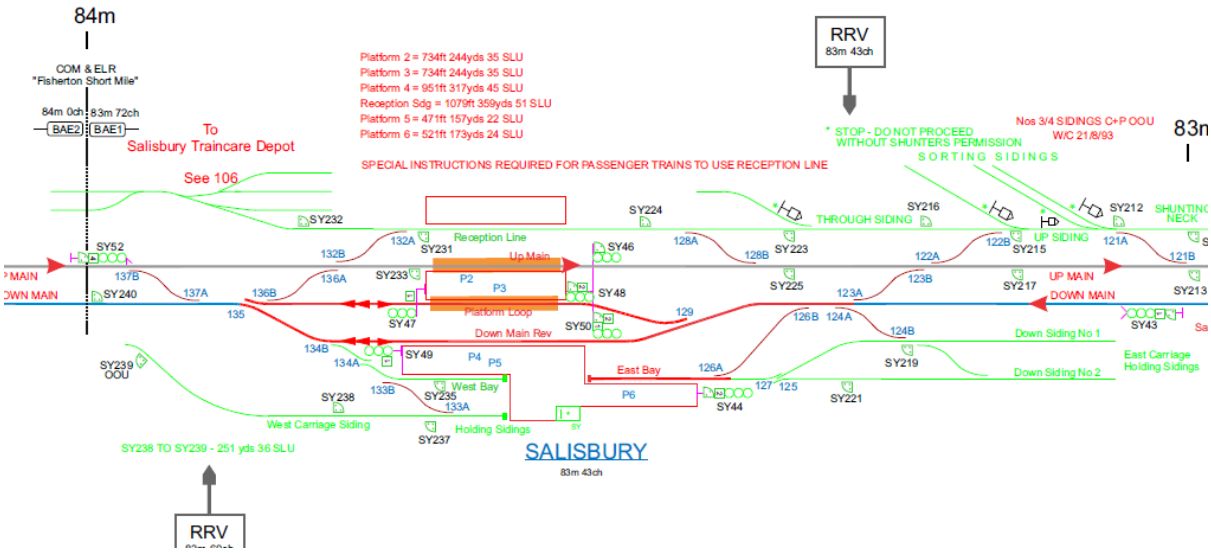

Figure 12 Salisbury Track and Signalling Layout

5.4 Salisbury ECS Management

ECS services can only currently leave and enter Salisbury TMD via the platform 1reception line at Salisbury station. This requires a great deal of shunting around the station in order for trains to get from their location to platform 1 (or vice versa), taking up capacity in the area. Addressing this through examining the layout around Salisbury TMD has the potential to free up space on train planning graphs, allowing for greater capacity around and through the station. In order to reinstate platform 1 at Salisbury for passenger operations, this recommendation would need to be explored, as using the platform for passenger and freight services would significantly reduce access to the depot in its current form.

It is important to note that as well as accessing the depot, ECS shunting moves are required between platforms to allow units to attach/detach and match required capacity on services throughout the day. Such moves are likely to still be required even with improved depot access and so not all ECS shunting moves would be removed from the timetable.

An alternative infrastructure option is the addition of a crossover from the London end of Platform 1 to access the Down Lines as mentioned in Section 5.3. Whilst this would provide operational flexibility and allow for bi-directional use of Platform 1 (combined with necessary signalling), this intervention was excluded form scope at this stage as it is not required for operation of the outlined

timetable. It is recommended that should the recommendations of this study be taken forward, this intervention and associated benefits are explored in more detail.

Given the uncertainty around SWR's future fleet planned to serve the West of England Line, two options have been explored for improving the efficiency of ECS moves around Salisbury. Option 1 assumes the depot remains in its current position, whereas Option 2 sees the depot relocated to the south-west of the Station.

5.4.1 Option 1

This option sees the existing TMD site to the north of Salisbury Station remain in its current location and configuration. The biggest operational constraint around this set up is the current requirement to shunt carriages into and out of Platform 1 in order for these ECS units to then access the depot headshunt. This manoeuvre can be slow with drivers having to change ends whilst the train is stationary on the mainline and timetable analysis has shown it to constrain potential paths through the Salisbury area.

An alternative, more efficient proposal would see the introduction three new crossovers to the West of Salisbury station, as shown in section 6.1.1. From West to East, these crossovers would allow ECS trains to enter and leave the depot reception line directly from the mainline (in both directions) as well as platforms 1-5, removing the need to shunt into platform 1, and freeing it for potential passenger use.

5.4.2 Option 2

This option provides an alternative location for any required depot site and associated stabling roads onto a site to the south-west of the station. This site, the Ex-Engine Shed Site, formerly housed a train depot and stabling facility. Bringing the site back into operational use would provide enough space to relocate the existing TMD shed, or to provide eight stabling roads between 223m and 296m. The site could be tied into the station as well as providing direct access from the mainline through additional crossovers. A new reception line extending eastwards into the existing West Carriage Sidings and Holding Sidings within the station layout would provide full operational flexibility for ECS to efficiently access the site from either direction whilst reducing the need for empty shunt moves around the station. It is important to note this option would require some land take from the current Maintenance Delivery Unit (MDU) site. This is explored further in Section 6.2

5.4.3 Option 3 – Hybrid

Depending on the fleet size required to operate future West of England Line services, as well as the future fleet option progressed, and the ability to unlock additional stabling elsewhere, there remains a third option for ECS management. This option essentially combines Options 1 & 2. This option allows for vehicle maintenance within the existing TMD site, whilst also permitting additional stabling on the Ex-Engine Shed site. As such, this option would require all of the additional infrastructure noted for options 1 and 2.

5.5 Laverstock South Jn Freight Passing Loop

An aspiration to grow freight traffic through the Salisbury Signalling Area from Westbury, Basingstoke, and Southampton directions lead to timetabling conflicts when tested by the ATT. Given the lack of capability to loop freight trains within Laverstock curve, the requirement for an additional passing loop between Laverstock South Junction and Romsey was outlined. Network Rail Southern Enhancements team examined the viability of such a loop and provided three possible options; a new loop on both the Up and Down Dean; a new loop on the Down Dean; a new loop on

the Up Dean. All options could provide 775m capable static passing loops with no requirement for additional land take, but only a single loop is required to achieve the timetable tested.

It is recommended that if any freight passing loop option is developed further, it be aligned with upcoming renewals or enhancements as closely as possible in order to achieve efficiencies in cost and delivery.

5.6 Platform Lengths

Platform	Length (metres)
1 – Reception Road	223m
2	228m
3	228m
4	289m
5 – West Bay	143m
6 – East Bay	162m

Table 12 Salisbury Platform Lengths from Wessex TPRs

Given the uncertainty around the nature of future rolling stock serving Salisbury station, the topic of platform lengths is not explored in detail. However, it is important to note that constraints exist on Salisbury station's platforms. As things stand, only Platform 4 is capable of allowing full berthing of 12x20m or 10x23m vehicles – the current maximum operated length in Wessex route. As such, should maximising train lengths be sought as future fleets become available, thought will need to be given to standage in Salisbury station platforms.

There are constraints to the London end of the station meaning that any future platform extensions may only prove viable on the country-end of the station. Given the likely increase in demand on services through Salisbury, and the associated required increases in rolling stock length, such requirements for future platform extensions should be considered alongside broader development opportunities.

5.7 Interventions Overview

Intervention	Overview	Benefits	Cost Range
Wilton Jn – Warminster Headways	Upgrade signalling to 3-aspect with shorter signal block sections	Allow for 4-minute headways between services, unlocking additional capacity through the section	**£££ - £££**
Salisbury Tunnel Jn – Romsey Headways	Upgrade signalling to 3-aspect with shorter signal block sections	Allow for 3-minute headways between services, unlocking additional capacity through the section	**£££ - £££**
Salisbury Platform 1	Upgrade Platform 1 Shunt Signals to main aspect. Provide necessary Route Indicators	Unlock greater operational flexibility at Salisbury station – allow services to dwell and/or turn around away from through-platforms	**£**
ECS Management – Option 1	Additional crossovers and signals from Mainline to Reception Line	Allow access to existing depot site without imposing on capacity within the station. Unlock Platform 1 and associated benefits	**£££**
ECS Management – Option 2	Additional stabling roads, associated crossovers, track, signalling	Provide access to a new stabling site without imposing on capacity within the station. Unlock Platform 1 and associated benefits	Unknown
Laverstock South Jn Freight Passing Loop	Additional passing loop and associated track and signalling requirements.	Provide operational flexibility, additional freight capacity, and performance resilience within and beyond the Salisbury Signalling Area.	**£ - ££**

Table 13 Infrastructure Intervention Overview

6 Salisbury Land Strategy

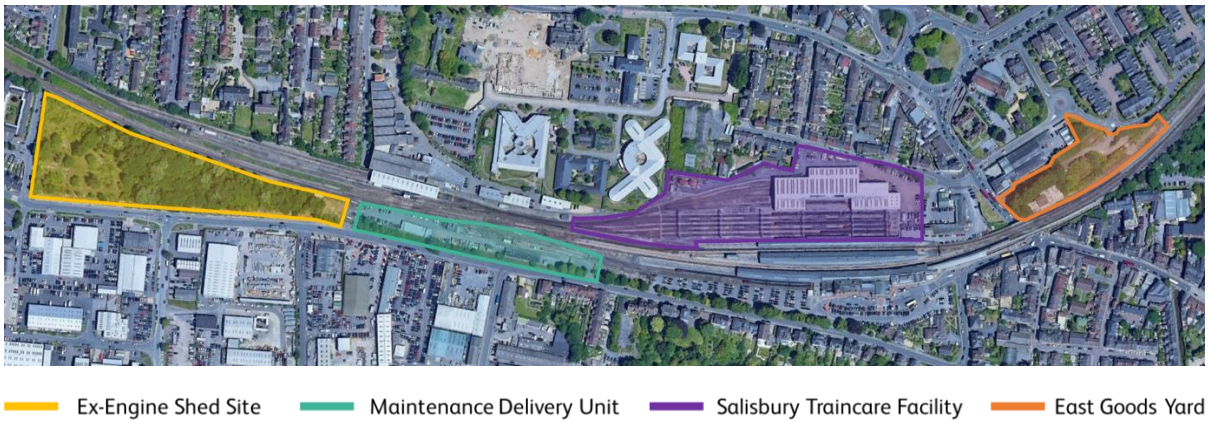

Figure 13 Satellite Image of Salisbury Station Highlighting Sites of Interest: Google Earth

6.1 Depot and Stabling

Figure 14 View of Salisbury TMD

Salisbury plays a key strategic role on the West of England Line, not only as a point of interchange between Western and Wessex routes, but also as the home of SWR's diesel fleet. The current fleet of Class 158 and Class 159 units are maintained and stabled within the Salisbury area. The key location here is the Salisbury Traincare depot to the north of the station. This depot was built specifically for the maintenance of this fleet of trains and remains the only place on the SWR network that their diesel fleet can be maintained and refuelled. The depot is not big enough to stable SWR's entire diesel fleet, and many are stabled elsewhere in station platforms (including at Salisbury), at Yeovil Junction, and at various points along the West of England Line including at Exeter St David's. Stabling in many of these locations is required to begin services and reduce the number of long-distance ECS moves by having units available locally at start of service.

The requirement for efficient and sufficient depot and stabling strategy at Salisbury is therefore clear. This has been examined within this study, considering aspired service levels, and wider decarbonisation strategic workstreams. Whilst this document sets out opportunities for enhancements to existing stabling provision, the current gap in the long-term rolling stock strategy for the West of England fleet means that no absolute recommendations can be provided. There is also a need to consider the stabling needs of Western route and GWR with Salisbury featuring in Network Rail's Western Route Depot & Stabling Strategy document.

Western Route's strategy highlights potential for increased stabling of SWR units at Exeter New Yard from the current 3 units up to 5 should there be operational requirements. The main constraint to this is the lack of access to fuelling facilities at Exeter New Yard, however, should an alternative fuel rolling stock solution be sought, such a constraint may fall away. What may replace this, however, could be the requirement to charge units at Exeter for their journey back towards Salisbury and London. It is in such a scenario as this, that the additional stabling capability at Exter New Yard could prove particularly useful, allowing a unit more time to charge before it is required to make a return trip. The operational and capital expenditure costs of these additional units would need to be considered. Similarly, a number of out of use stabling roads at Yeovil Junction could become usable were the need to refuel at Salisbury removed.

GWR similarly find themselves with an ageing fleet operating services through the Salisbury area. Whilst they are pursuing a programme to establish how this rolling stock may be replaced over future years, uncertainty remains as to what this new fleet will look like, and what size of fleet is likely to be required for future operations.

Given the unknowns around future fleets serving the Salisbury area, the approach taken to stabling strategy at Salisbury was to explore what opportunities there were to maximise stabling availability and maximise efficiencies of operation within the Salisbury area, rather than aim for a specific number. Through this, three potential rolling stock options have been assumed. The infrastructure options explored in section 6.1.1 and 6.1.2 are believed to accommodate these rolling stock assumptions but once a preferred option is agreed, further analysis and design work will be required. The infrastructure requirement stated below is seen as a minimum requirement and additional stabling may also be needed.

Rolling Stock Option	Description	Infrastructure Option
Fleet life extension	Class 158/9 fleet refurbished and retained further into the future than currently expected	Salisbury TMD
Alternative Diesel Stock cascade	SWR to inherit a cascaded, unknown diesel fleet from another operator	Salisbury TMD *and/or* Ex Engine Shed Site (existing depot would need to be adapted for any new fleet)
Alternative fuel rolling stock	fleet of new or refurbished alternative fuel units.	Ex Engine Shed Site

Table 14 Future Rolling Stock Options

This lack of certainty should not be allowed to hinder the potential for improved efficiencies around Salisbury. At present, as is captured by the timetable analysis explored in section 4, these ECS moves significantly reduce capacity around Salisbury station with units having to shunt into and out of Platform 1 in order to shunt into the required platform for passengers to board.

With this requirement to improve efficiency of stock moves and enhance stabling potential, Network Rail's Engineering Services team were tasked with answering the following questions:

- Can access be provided from the current Salisbury TMD to all platforms at Salisbury station?
- Can additional stabling capacity be unlocked through layout changes at Salisbury depot?
- What is the maximum capacity for unit stabling on the Ex-Engine Shed and Maintenance Delivery Unit (MDU) site, assuming sidings and battery charging facilities on site
- What is the maximum capacity for Class 450 units to stable on the Ex-Engine Shed and MDU site, assuming sidings, battery charging facilities, Carriage Wash, and Controlled Emission Toilet facilities?

6.1.1 Salisbury TMD

There is a wider assumption that should another diesel fleet be cascaded, or bi-mode units are employed, the fuelling facilities in place at the existing TMD would be retained and utilised with wider changes required to facilitate this different fleet within the depot which was designed specifically for the current fleet of Class 158/9 units. Because the extent and cost of these updates would depend upon the unit type chosen (currently unknown), no further assumptions can be made at this point to the nature of these. However, what can be assumed is that any requirement to grow the existing train shed at Salisbury TMD could only be made to the south of its existing position. This would have the potential to reduce the number of stabling roads available.

To make best use of the existing TMD, alternative access should be provided to the site. As has been noted above, current operations require units to shunt into Platform 1 at Salisbury in order to access the depot. This has the distinct disadvantage of constraining capacity through Salisbury. Providing alternative access points to the depot's reception line could avoid the need for complicated, time-consuming shunting moves into and out of the depot. Network Rail Engineering Services provided a solution which would require the addition of three new crossovers on the mainline to the Country end of Salisbury station.

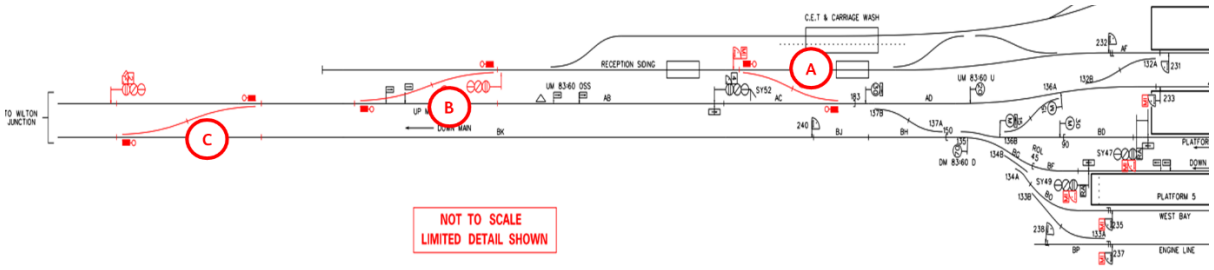

Figure 15 Proposed Track Layout Changes

New crossover labelled 'A' provides access from the depot reception line into platforms in the Up direction as well as allowing empty units to access the reception line head shunt from platforms 1-5 in the Down direction.

New crossover labelled 'B' provides access form the depot reception line onto the Down Main (coupled with crossover labelled 'C'), as well as providing access to the deport reception line for empty units travelling in the Up direction from Wilton Junction.

New crossover labelled 'C' provides access from the depot reception line onto the Down Main (coupled with crossover labelled 'B').

This new set of crossovers to the Country end of Salisbury station has the additional benefit of releasing Salisbury platform 1 entirely for potential future passenger use and allowing access to the depot from platforms 1-5. This option does not, however unlock any additional stabling capacity. In order to achieve this objective, Engineering Services looked to a parcel of land to the southwest of Salisbury station dubbed the 'Ex Engine Shed Site'.

6.1.2 Ex-Engine Shed Site

The Ex-Engine Shed Site to the south west of Salisbury station provides an opportunity to provide additional stabling at Salisbury and improve operational efficiencies. This option sought to identify the potential capacity for stabling on the site and how any such site might tie efficiently into the existing layout at Salisbury.

Figure 16 Proposed Track Layout Changes and New Stabling Site

Through their work, Engineering Services identified the potential for eight new stabling roads of varying length on the site with a head shunt extending into the existing holding siting adjacent to Salisbury Platform 5. These roads would provide the following standages:

Siding	Standage	Class 450 (carriages)	Class 159 (carriages)
1	296m	3 (12)	4 (12)
2	296m	3 (12)	4 (12)
3	233m	2 (8)	3 (9)
4	234m	2 (8)	3 (9)
5	239m	2 (8)	3 (9)
6	239m	2 (8)	3 (9)
7	282m	3 (12)	4 (12)
8	223m	2 (8)	3 (9)
		19 (76)	**27 (81)**

Table 15 Potential Stabling Road Lengths

The plan designed by Engineering Services also provides access to the proposed site from all platforms at Salisbury as well as from the Main Line for services travelling Up towards Salisbury to access the headshunt without the need to enter the station itself. If combined with the TMD option, this provides a significant increase in stabling capacity in the Salisbury area as well as the opportunity for significant improvements in operational efficiencies.

Development work of this site has not been produced in any greater detail owing to the remaining unknowns around future rolling stock in the area. It is assumed that any further development and examination of required facilities would be within the scope of any project seeking to provide clarity on rolling stock. Further development of this option should also consider the potential future requirement for platform extensions at Salisbury to accommodate longer trains.

6.2 Network Rail Maintenance Delivery Unit

Contained within the requirement to explore stabling capability on the Ex-Engine Shed Site at Salisbury is inherently the requirement to explore options for the MDU which currently occupies the land between the station and Ex-Engine Shed site. Were the Ex-Engine Shed site to be required for stabling or maintenance as outlined in section 6.1.2, it is likely that parts of the land currently occupied by Salisbury MDU would also be required to provide a reception line and headshunt for the new site. The requirement remains, however, for an MDU facility in the Salisbury area.

It is assumed that, given the existing MDU site is already constrained, any further land take would compound the case for depot to be relocated. Given the operational constraints that would arise form locating the MDU within any proposed new stabling site in the location, it is proposed that an entirely new site be identified for provision of the MDU. The Network Rail owned East Goods Yard

site to the east of Salisbury station (currently undergoing conversion to temporary car parking) could be used to accommodate such a facility. It is not within the scope of this study to suggest specific requirements for this facility, however, the East Goods Yard would be able to provide staff and fleet parking, staff accommodation, storage, direct road access, and direct Road Rail Vehicle access.

Further options for a relocated MDU exist, however these alternative sites are contingent on the development of either the existing TMD site, or the Ex-Engine Shed site and as such, aligning order of construction may be harder to achieve. One such option would be to locate the MDU within the Ex-Engine Shed Site development. This would likely require some stabling roads to be sacrificed in order to provide sufficient space for required facilities and road access but would provide direct rail access and potentially enhance efficiency of land-use, leaving East Goods Yard open for alternative development. A further alternative would be to build the MDU within the footprint of the current TMD to the north of the station. Whilst this option would provide direct rail access and at-grade road access for the facility, it would require wider-scale redevelopment of the current TMD site which remains unconfirmed.

Overall, whilst the East Goods Yard provides a good opportunity for relocation of the MDU, it is not the only option, and its beneficial use as a car park should be taken into consideration when evaluating the various options. It is therefore important for Network Rail's property team to work closely with the operator and maintenance colleagues to establish the requirements of any future MDU and where these can be best and most efficiently delivered within the locations set out above.

6.3 Freight

The bulk of trains generally run as class 6 (60 mph) with some container trains running as class 4 (75 mph). Most of this traffic is aggregates traffic originating from the Mendip Quarries serving the construction markets in various destinations throughout London, south east England & the Midlands. There are occasional freight trains through the area conveying MOD traffic. There is also regular Container traffic to/from the Port of Southampton, serving destinations including Bristol Portbury, Cardiff Wentloog and Barry Docks. Container traffic to/from Southampton serving the Midlands, North of England and Scotland can also be routed via The Laverstock loops to the East of Salisbury. This route is predominantly used for diverted traffic when the main line via Winchester is unavailable and could be used for future traffic growth.

There is currently no looping facility suitable for freight trains within the scope area. Apart from the proposed loop around Laverstock South Junction, no further such loops are proposed. Depending on the depot and stabling option taken forward, there is a potential opportunity to repurpose the current depot reception line into a looping facility. The requirement for and feasibility of such an option have not been explored in any detail and would require further analysis and design work.

As property strategy evolves and land availability and requirements become more apparent, the need for enhanced freight operations should be considered. This could take the form of providing freight looping or siding facilities, or through considering wider freight requirements in any work taken forward to develop alternative passenger rolling stock stabling solutions.

There are currently no active freight terminals in the Salisbury area. The sidings at Quidhampton remain but have not seen any regular freight traffic for several years. It was anticipated that the sidings would be used in connection with HS2 spoil traffic, but so far, no traffic has materialised. At the time of writing, use for HS2 spoil traffic is no longer expected. Although there are potential longer-term opportunities for the site, discussions with Southern Region's Freight Managers suggests there is no immediate interest in the site.


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7 Station & Interchange

7.1 Northern Entrance

Through the Customer & Communities Improvement Fund, SWR and Wiltshire Council developed a feasibility study for a new entrance to the north of the station, opening onto Platform 1. This entrance to the station forms part of the original Great Western Railway station and was closed to passengers around 2009 and the stated aim for its reopening is to simplify access for passengers accessing the station form the north. At present, these passengers have to traverse Fisherton Street (including a narrow footpath beneath the railway) and the road junction with South Western Road. As is noted in more detail in section 7.2.1, an entrance to the north of the station would also ease passenger interchange with local bus services.

Whilst feasibility of construction is addressed within SWR's document, this document explores the case for such a development. Analysis of Mobile Network Data (MND) suggests that there is not a large market for passengers travelling to, or arriving from, the north of station. In fact, the largest concentrations of passengers captured within this analysis stay within the immediate surround of the station's southwest (potentially accessing the Churchfield employment sites), or head towards the City Centre to the southeast of the station.

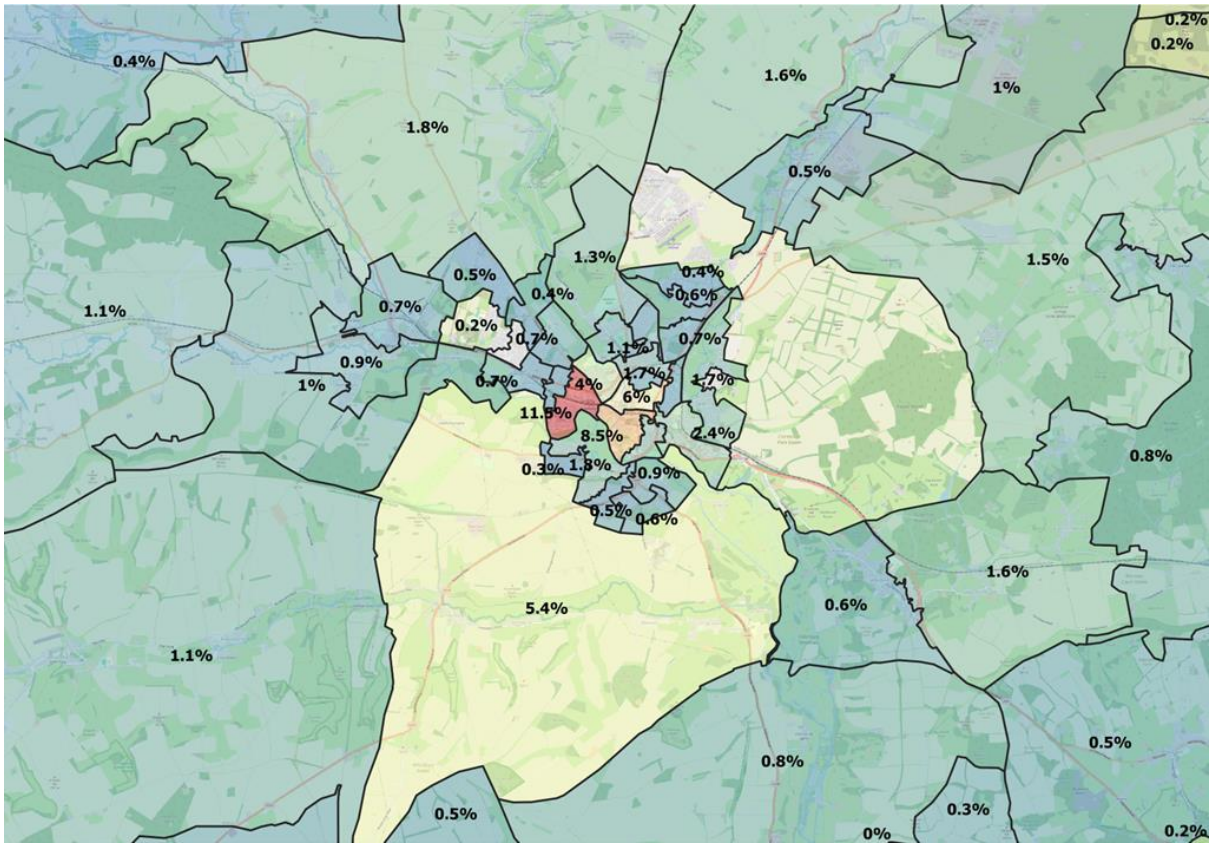

Figure 17 Map Showing MND Breakdown of Salisbury Boarders/Alighters Origins/Destinations

From analysis of this MND alone, the case for a northern entrance cannot be conclusively made. There are, however, other considerations in the case for a northern entrance to Salisbury Station.

7.1.1 Salisbury Station Gateline Analysis

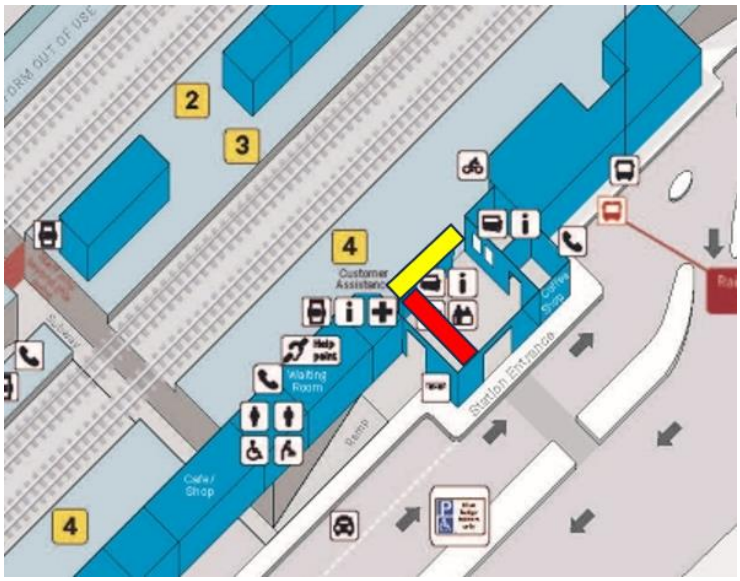

Figure 18 Station Gateline Layout

The existing gateline in the station building to the south comprises six ticket gates (one of which is wide aisle for passengers with wheelchairs, pushchairs, luggage, and bicycles). The 'L' shaped layout of this gateline is inefficient with three gates leading directly onto Platform 4, and two gates plus one wide gate leading onto the subway entrance for connection with platforms 2 & 3. This layout means that not all gates can be efficiently accessed during busy periods with queuing from one gateline blocking access to the other.

This layout, however inefficient, is inflexible. The listed status of Salisbury station building and positioning of internal walls, doorways, and ticket vending makes altering the booking hall to achieve a straight or staggered gateline (which may prove to be more efficient) very difficult. It is therefore assumed that the current gateline at Salisbury station is as optimised as possible.

Given the inability to provide any additional gateline capacity, Network Rail's Passenger & Station Analysis team were asked to produce a set of static analysis in order to establish potential future capacity constraints. Four scenarios were tested based on current EDGE forecast growth rates. These scenarios tested the existing gateline remaining the only access to the station, as well as the impact of an additional entrance removing 10%, 20%, and 30% of this demand from the current gateline and attributing this to a 'new' gateline entrance elsewhere in the station.

Figure 19 Salisbury Gateline

Based on current station planning guidance, this analysis found that the existing gateline is currently operating at maximum capacity, with a potential shortfall in the number of gates currently being experienced within the PM peak. With future growth forecasts applied and no alternative entrance in place, this analysis finds that additional gates will be required to accommodate the PM peak from 2030, with the AM peak also facing a shortfall by 2050. Importantly, the static analysis undertaken is unable to take account of the efficiencies in gate use caused by the gateline layout. In order to better understand the impact of this layout, dynamic pedestrian flow modelling may be sought.

		Entry Gates	Exit Gates	Redundancy Gates	Total Gates
2023	AM Peak	2	3	1	6
	PM Peak	4	2	1	7
2030	AM Peak	2	3	1	6
	PM Peak	4	2	1	7
2040	AM Peak	2	3	1	6
	PM Peak	5	2	1	8
2050	AM Peak	2	4	1	7
	PM Peak	6	2	1	9

Table 16 Forecast Gateline Demand

It is clear that existing gateline capacity is insufficient to accommodate current forecast growth. Further analysis was then undertaken on the potential impact of an additional entrance, and how many gates may be required in this instance. This analysis found that in order for an additional entrance to remove the need for additional gates on the existing gateline, at least 30% of passengers would need to use the new gateline.

	No Northern Entrance	10% Use Northern Entrance	20% Use Northern Entrance	30% Use Northern Entrance
2023	Existing gateline expected to have sufficient capacity			
2030		• Existing gateline has sufficient capacity • 3 gates required at northern entrance	• Existing gateline has sufficient capacity • 3 gates required at northern entrance	• Existing gateline has sufficient capacity • 3 gates required at northern entrance
2040	1 additional gate required			• Existing gateline has sufficient capacity • 4 gates required at northern entrance
2050	2 additional gates required	• 2 additional gates required at existing entrance • 3 gates required at northern entrance	• 2 additional gates required at existing entrance • 4 gates required at northern entrance	

Table 17 Forecast Gateline Requirements

7.1.2 Platform 1 & Access

Figure 20 Salisbury Platform 1 Vacant Units

Through the instatement of an additional entrance to the north of Salisbury station, Platform 1 may also be required for safe passage of passengers through the station, this then unlocks opportunities on Platform 1 itself. As well as the operational and train service benefits already discussed elsewhere within this document, opening platform 1 also provides the opportunity to explore potential future uses for units currently vacant on the platform. Whether these become retail and provide additional railway

revenue or are opened for passenger service or community use is not assessed here.

Similarly, consideration will need to be made to access between platforms at Salisbury. Currently, a ramped subway connects all platforms. The subway has recently undergone passenger experience improvement works and, although step-free, the ramps leading to the subway are too steep to be considered fully accessible. At present, a powered chair is available for passengers who require assistance between platforms. Similar arrangements or more wholesale mitigations will also need to be considered for passengers accessing the station from the north.

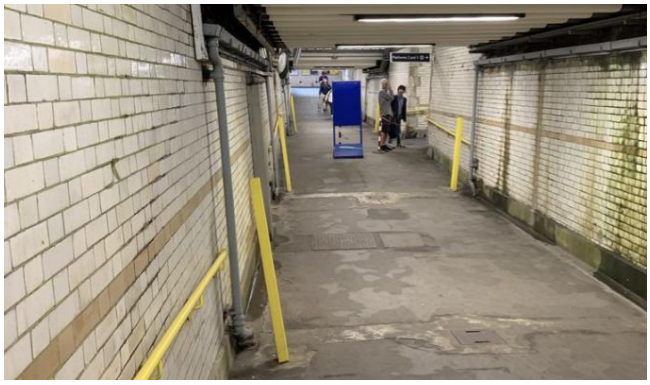

Figure 21 Salisbury Interchange Subway

Given the listed status of Salisbury station and its canopies, an accessible bridge may not be straight forward. The future need for platform extensions may provide an opportunity to explore whether an accessible bridge could be accommodated on these extended platforms (likely to the Country end of the station). Similarly, no feasibility work has yet been carried out for such works at this stage.

7.2 Interchange

7.2.1 Bus

Figure 22 Stonehenge Bus at Railway Station Bus Stop

There are 2 bus stops within close proximity of Salisbury station; Salisbury Railway Station; and St Paul's Church (NW-bound & SE-bound). Whereas Salisbury Railway Station provides access to the Stonehenge Tour bus route, the majority of regular local bus services calling in the immediate vicinity of the station, call at St Paul's church halts. At the time of this strategy's development, the station forecourt is undergoing significant redevelopment through which new routes are planned to call at the forecourt. These works are planned to complete in June 2025.

Bus Service	Route	Frequency
66	Salisbury – Porton – Idmiston – Shipton Bellinger - Tidworth	2 per day
X66	Salisbury – Porton – Idmiston	1 per day
333	Salisbury – Stonehenge	4 per day
ST	Salisbury – Stonehenge	5 per day

Table 18 Bus Services from Railway Station Bus Stop

Importantly, St Paul's Church bus stop is to the north of Salisbury station, away from the current station entrance. Passengers hoping to interchange between bus and rail therefore need to traverse South Western Road and Fisherton Street, under a low bridge with a narrow footpath. As noted in

section 7.1, there are aspirations for an additional station entrance to the north of the station. Such an entrance would have the potential to provide easier direct interchange with the more frequently served bus stop at St Paul's Church.

Bus Service	Route	Frequency
2	Salisbury – Shrewton – West Lavington – Devizes	7 per day
2A	Salisbury – Shrewton – West Lavington – Devizes	1 per day
X2	Salisbury – Stonehenge – Shrewton – West Lavington	3 per day
24	Salisbury – Warminster – Frome	8 per day
25	Salisbury – Wilton – Dinton – Chillmark – Tisbury/Wincanton	5 per day
26	Salisbury – Wilton – Fovant – Tisbury – Hindon	3 per day
26A	Salisbury – Wilton – Fovant – Tisbury – Hindon	1 per day
27	Salisbury – Wilton – Fovant – Tisbury – Shaftesbury	2 per day
56	Salisbury – Boynton – Warminster	1 per day
663	Bemerton Heath – Laverstock Schools	School Bus
PR3 / R3	Salisbury – Wilton, Bulbridge – Ditchampton	~Half-hourly
R1	District Hospital – Salisbury – Bemerton Heath	~Quarter-hourly
R8	Salisbury – Quidhampton – Wilton - Ditchampton	8 per day
R10	Salisbury – St Peter's Place	~Half-hourly

Table 19 Bus Services from St Paul's Church Bus Stop

The opportunity is clear to improve passenger interchange with services to the north of the station. Given existing station and road layouts, such an improvement is difficult to deliver. This further demonstrates the opportunities that enhanced access to the northern side of the station could deliver, helping passengers to access more sustainable means of onward travel to help deliver STB and national transport policy objectives.

Figure 24 Walkway Beneath Fisherton Street Bridge

Figure 23 Fisherton Street / South Western Road Junction

7.2.2 Active Travel

Figure 25 Cycle Hub in Salisbury Station Forecourt

Following a successful Future High Streets Fund bid, Wiltshire Council began work on the Salisbury Forecourt scheme in the summer of 2024. This seeks to improve the public realm immediately outside Salisbury station and encourage easier access to the city centre through enhanced pedestrian routes, interchange with onward and active travel, and general public realm improvements such as planting and new street furniture. Prior to the forecourt works, Salisbury offered 110 cycle storage spaces around the station including a large cycle hub to the front of the station entrance.

Salisbury station is located on Route 24 of the National Cycle Network, within easy reach of Route 45. The station is also within easy reach of the city centre, employment sites, and other tourist attractions such as Old Sarum, Salisbury Cathedral, and Stonehenge by multiple active means.

Salisbury also contains a number of local and regional cycling routes linking the area's key destinations. These routes do not interface directly with Salisbury station but can be reached form the National Cycle Network routes which do.

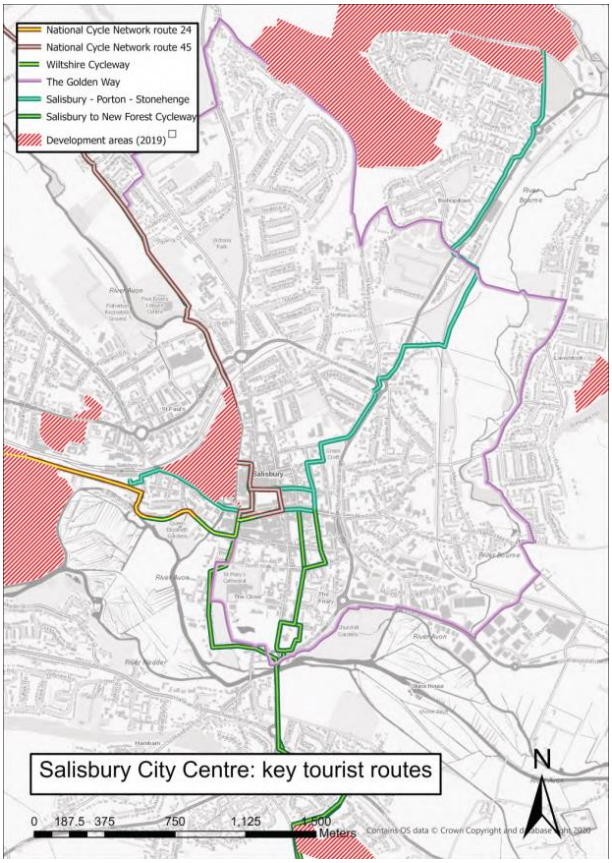

Figure 26 National and Regional Cycle Routes through Salisbury. Source: Salisbury LCWIP

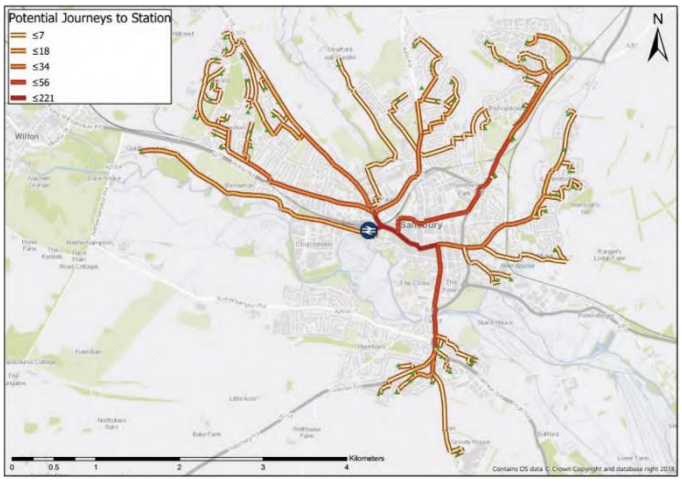

Figure 27 Travel to Rail Cycle Demand Map. Source: Salisbury LCWIP

Initiatives which will encourage the use of active travel means to access the railway at Salisbury should be supported and considered alongside any longer-term strategy for the land surrounding Salisbury station. The forecourt scheme at the station is a useful step in this shift to active travel,

and combined with encouraging sustainable travel through enhanced bus interchange could see significant improvements for passengers accessing and leaving the railway at Salisbury.

The Salisbury Local Cycling and Walking Infrastructure Plan3 (LCWIP) sets out the current and planned active travel facilities within Salisbury and the immediate surrounding areas. Any future development of Salisbury station area should consider the recommendations of this plan and encourage the shift to active travel modes wherever possible.

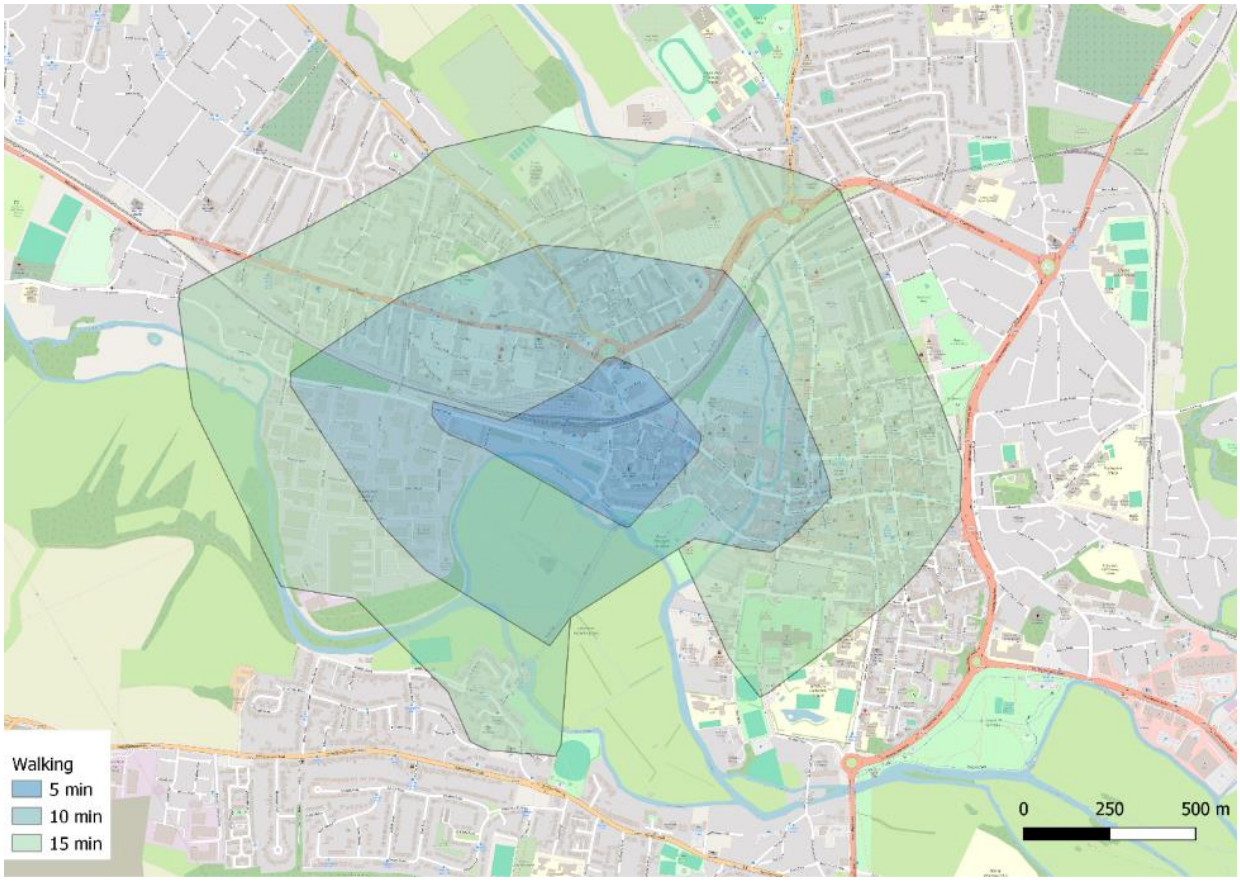

Figure 28 Map Showing Walking Distances from Salisbury Station

[3] Salisbury Local Cycling and Walking Infrastructure Plan: September 2024

7.2.3 Car Parking

Figure 29 Salisbury Station Car Park

As much as sustainable and active travel modes should be encouraged where possible, there remains an understanding that such methods of travel might not be possible for all users of the railway. Salisbury is located within a wider, rural setting in the south of Wiltshire where car ownership and reliance is high, and where bus services to some villages and towns are limited. For those wanting to access the railway from such locations, and for those with reduced mobility, Salisbury should offer a suitable carparking facility. Station carparking is located to the South of the station with 290 spaces available (4 of which are accessible) at the car park's peak capacity. This level of parking is currently significantly reduced due to the ongoing Salisbury forecourt scheme works. A parcel of land to the Northeast of the station known as the East Goods Yard to is currently undergoing work to provide ~90 car parking spaces to make up the shortfall in spaces whilst works take place on the forecourt. There is currently no longer-term solution agreed for the provision of this parking as the East Goods Yard is likely to be required for future operational requirements such as the relocation of Salisbury MDU noted in section 6.2.

The topic of additional car parking at Salisbury is particularly important given current estimates which suggest that car parking at Salisbury is operating at capacity on an average day. Using EDGE passenger forecasts, we can assume that the need for parking at Salisbury is only going to increase. This assumption does not factor in additional housing growth in the wider area which may be attracted to the railway by the provision of additional parking but suggests that by 2024, an minimum additional 100 parking spaces may be required.

Given the potential future need for East Goods Yard for operational use, these lost spaces should also be considered in any plans for additional parking. Decking of the existing car park to the south of the station may provide these spaces but would be unlikely to increase number of spaces from current levels. Subject to necessary permissions and consultation, SWR plan to implement this decked solution within the years to 2028.

For wider growth in car parking, land around Salisbury is limited. The Council owned Central Car Park may provide a temporary solution, however this site is noted within Wiltshire's Draft Local Plan as being subject to potential future development. There are two alternative options noted within this strategy: land to the north of Salisbury Station, and land to the west of the current car park.

Land to the north of the station is currently occupied by the Salisbury TMD. This occupies a large parcel of land with an area of roughly 19,000m2. The current use of the land means that contamination is highly likely which significantly limits potential future uses of the site, car parking however may provide a suitable option where such contamination will present a minimal issue – especially when compared to other uses such as residential. The size of the site may also provide

opportunity for multi-level parking, providing a significant increase in the number of parking spaces available at the station. The location to the north of the station also provides easier access to and from the A36. Whilst there are currently no plans to relocate the traincare facility, were such a move to take place, the site clearly presents a significant opportunity. Potential future operational requirements for the land would also need to be considered.

If an option to develop car parking to the north of the station prove feasible, this would have implications for the Northern Entrance proposals noted in section 7.1. Providing a large number of parking spaces to the north of the station would likely aid the case for such an additional entrance, particularly given this side of the station's better bus and road links.

Land to the west of the existing car park is currently occupied by Network Rail's Salisbury MDU. Whilst proposals for additional stabling on the Ex-Engine Shed Site may require some land take from the site, there could remain around 5,000m2 of land for additional car parking. This would only be possible if the MDU was successfully relocated to the East Goods Yard but would have the added benefit of being attached to the existing car park to the south of the station.

Whatever strategy is taken forward for parking at Salisbury station, it is clear that there will need to be additional provision for staff parking to allow train crew and station staff to safely park ahead of their shifts. Current provision is limited and sometimes occupied by non-rail staff. This can have an impact on train performance as staff arriving late for crew change on services will impact right-time departure of that service.


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8 Emerging Strategic Advice

Figure 30 Salisbury Station Welcome Sign

Salisbury is clearly at a key point for unlocking a series of potential benefits. The study above has set out what opportunities there are, as well as what interventions are required in order to deliver on these opportunities.

As previously noted, this study has not sought to support or contest additional services within the Salisbury area. Western route's Wiltshire Strategic Study found that the services providing the best benefit overall are those which focus on local and regional connectivity over those which focus on long-distance connectivity. In order to provide the opportunity for these services to be delivered into and through Salisbury itself, it is clear that a number of infrastructure changes would be required. It is the recommendation of this study that any such interventions are explored within upcoming renewals works at Salisbury, taking the opportunity to deliver efficiencies through close-working with relevant workstreams. Where these enhancements require additional funding, this should be sought, or passive provision be delivered to ensure that the opportunity for significant operational and cost efficiencies is not missed.

Similarly, the ongoing work into Tisbury Loop SOBC should be supported, with intervention outputs from this workstream also fed into any opportunity for efficiencies. This scheme provides not only the opportunity for enhanced connectivity in the region, but also the chance to significantly improve performance along the West of England Line, with all the wider benefits associated. At the time of this strategy's development, Western Gateway, Peninsula Transport, Train Operators, and Local Authorities are engaged in the steering group for Tisbury Loop SOBC. Their support in its continued development will be pivotal to ensuring its influence.

The importance of performance and operational flexibility is also pivotal. At such a key junction between routes, the need to optimise capacity and reduce performance risk through improved management of ECS moves around Salisbury is vital. The current requirement of units to shunt around the station and into platform 1 before entering the TMD is a clear capacity constraint and

the interventions set out above which seek to address this should be progressed in the appropriate way.

Should the TMD be kept in its current location – or even as a first step within a wider programme – Option 1 should be developed as a means to improve operational flexibility and performance. However, should the rolling stock change produce its own workstream, or should the need for additional stabling become clearer, it is recommended that Option 2 be pursued to ensure optimal operation of train movements.

Whether Option 1 or option 2 is pursued, improved management of ECS moves around Salisbury is key to the future development of the station, and wider economic development in the area. It has been established that current gateline capacity will soon become insufficient on current projected passenger growth. The existing layout constraints on the current gateline are likely to remain given the station's listed building status. The only option for additional station capacity is therefore through provision of an additional gateline. Given local aspirations for an additional station entrance to the north and the wider onward travel benefits that this would present, this would provide an optimal location for such a gateline. The use of platform 1 as the depot reception line, however, makes opening the platform to passenger use unattractive and potentially unsafe.

Through removing the requirement for Platform 1 to act as a headshunt, reinstating it for passenger use, and unlocking additional platforming flexibility and capacity, not only can future demand be unlocked through additional gateline capacity, but local aspirations for a northern gateway to the city may also be achievable. Onward travel would also benefit from such a move with St Paul's Church bus stop made significantly more accessible to rail users, and potential future car parking to the north of the station also unlocked. For pick up and drop off of passengers, the northern side of the station also provides easier access to the ring road and removes the need to navigate the Fisherton Street/South Western Road junction.

8.1 Efficiency

Opportunities for efficiencies are clear at Salisbury. Whether through the planned relock & recontrol of Salisbury signalling area in CP8, or through future rolling stock strategy, there are multiple opportunities to deliver positive change whilst minimising the cost of time and resource. Through exploring these opportunities and seeking to influence the scope of future works, the case may be more readily made for enhancements and such opportunities should be sought when presented.

8.2 Performance

By delivering enhancements through efficient means, performance can be driven up through improved reliability of assets, greater resilience of the timetable, and increased flexibility of operational opportunities. This improved performance has additional benefits of providing a more appealing mode of travel, as well as providing the opportunity for unlocking Platform 1 and the associated Northern Entrance at Salisbury station.

8.3 Growth

Through unlocking this improved, safer access to the north of the station and associated onward travel, multiple local, STB and national transport objectives are achieved. This allows for the sustainable growth and access to services aspired to by Western Gateway STB as well as breaking down barriers and taking back streets outlined by national government. The wider benefits of improved efficiency and performance similarly help to improve passenger confidence in the railway, further increasing likelihood of local and national objectives being met.

Figure 31 Emerging Strategic Advice Pathway

8.4 Recommendations

The following sets out a number of recommendations. This list is not exhaustive and further opportunities for the railway in and around Salisbury exist. What the following provides is a clear way forward in focussing on the opportunities present and upcoming for enhanced efficiency, performance and growth.

- Continue with development of Tisbury Loop SOBC. Opportunities for further development funding beyond SOBC should be sought, highlighting the potential performance benefits.
- Continue to influence and input to CP8 Salisbury relock/recontrol work bank. By providing enhanced operational capacity and flexibility through reducing signalling headways, future opportunities can be unlocked and help deliver sustained growth for the railway and the region.
- Work with property colleagues to explore opportunities for the Ex-engine shed site. This site provides an opportunity to deliver enhanced operational capabilities as well as providing a key opportunity for joint stabling across Western and Wessex routes.
- Work with industry colleagues to achieve joint working and efficiencies in pursuit of unlocking future operation of Platform 1. This will provide additional platform capacity, enhanced operational flexibility, and unlock wider opportunities to the north of Salisbury station.
- Continue to engage with local and industry partners to ensure collaborative and integrated land strategies and provide a united approach to funders and government.
- Seek funding opportunities for development of depot access enhancements through the business case process.

8.5 Next Steps

The strategic need for infrastructure enhancements at Salisbury as set out in the above document presents an opportunity to engage with interfacing workstreams and schemes to deliver efficiencies of cost and time. Network Rail Southern Region's planned relock and recontrol of the Salisbury area, for instance, provides an opportunity to deliver the signalling interventions necessary for additional services and improved operational efficiencies whilst minimising costs and passenger disruption. The findings of this strategic study will feed into the relock and recontrol workstream, making the case for changes as required. Where efficiencies can be identified, these should be pursued. Where additional funding would be required in order to unlock the operational requirements, this funding should be sought through appropriate and available channels.

The potential passenger and operational benefits are clear, and the need to act decisively to make the most of opportunities for efficiency is paramount. There are multiple workstreams all interfacing at Salisbury, form rolling stock change, to planned renewals, and proposed service

changes. Salisbury has the potential to develop into an efficient, reliable, and enjoyable asset for the railway and those who rely on its service.

Network Rail's Strategic Planning team will continue to engage with STBs, Local Authorities, operators, and other relevant stakeholders throughout the development of any options to ensure close alignment to local aspirations and objectives. This includes engaging with property colleagues and close working with Wiltshire Council to pursue opportunities for strategic land around the station and through Wiltshire Salisbury Station Masterplan. Wessex route strategic planners will also work with Western route colleagues to establish opportunities for joint-working on projects where joint benefits and efficiencies can be achieved.

Network Rail

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Salisbury Area Strategic Study

2024

V1.0

SOUTHERN REGION
STRATEGIC PLANNING