



Devizes Gateway Interim Feasibility Study

March 2023





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1. Executive Summary

This Interim Feasibility Study (IFS) has provided additional analysis and information to bolster the original Strategic Outline Business Case (SOBC) for Devizes Gateway, to help the Department for Transport (DfT) determine whether a Decision to Develop should be made for the project. Network Rail has worked closely in partnership with Wiltshire Council, Devizes Development Partnership, train operators and other key stakeholders in carrying out this work.

The timetable analysis has shown that there are a number of difficulties that prevent the introduction of a regular hourly service in the current timetable structure. However, potential changes to freight operations and wider changes driven by the introduction of Old Oak Common station may provide future opportunities to deliver a service. As such, Devizes Gateway could have a viable case for investment in the future as part of a wider rail enhancement programme in Wiltshire, rather than as a stand-alone project. Network Rail is commencing a Wiltshire Rail Strategic Study which will outline how a range of service enhancements, including those needed to serve Devizes Gateway, could be delivered and the interventions they would require.

The first step to implementing a Devizes Gateway service could be the reintroduction of a Paddington – Bedwyn service. This is an aspiration for GWR but is not currently committed and would rely on additional Intercity Express Trains (IETs) being available.

After the completion of works at Old Oak Common and GWR rolling stock changes, an additional platform at Westbury could be commissioned to enable the extension of the Paddington – Bedwyn service to Westbury. Other infrastructure and service enhancements across Wiltshire may be needed to maximise the benefit of this additional platform. This will be considered by the Wiltshire Rail Strategic Study, which will help highlight which services would benefit from the improved operational flexibility changes to the layout at Westbury would bring.

A station at Devizes Gateway could be timed to align with the introduction of a Paddington – Westbury service or delivered at a later date. Due to the range of dependencies, there is a window of approximately 18 months (from March 2023) for the next stage of development of Devizes Gateway to start without delaying the achievable programme.





A preferred site for the station has been identified and plans drawn up which meet key stakeholder requirements. Cost advice is that the station could be delivered for circa £52.2m to £65.7m, including Westbury platform 0 (Option 1).

Economic analysis results show Poor Value for Money (VfM) for all the timetable options considered when medium COVID passenger demand recovery is assumed. This reflects the findings of the initial SOBC, with the combined operating costs and capital costs over the appraisal period exceeding the revenues and benefits in present value terms.

An additional option has been considered in which the Paddington to Newbury service is extended to Westbury. The appraisal option then considers the incremental costs and benefits of adding the Devizes Gateway station.

Incrementally, the addition of Devizes Gateway to a Paddington – Westbury service is shown to be financially positive, meaning the additional revenues exceed the costs. As the scheme also delivers socioeconomic benefits, the option is regarded as being Very High VfM. This shows that if a stopping service is operated to Westbury, adding a new stop at Devizes Gateway is value for money.

However, there is a challenge around making the case for the initial service extension to Westbury, which is not shown as being value for money through this exercise. It is believed there have been historic constraints on growth on the Berks & Hants route that if addressed could help improve the economic case for this service.

In the absence of a currently practicable train service option, it is recommended that rather than being progressed as a stand-alone scheme, further development of the Devizes Gateway project is made in conjunction with the development of a case to reinstate the Paddington – Bedwyn service and extend this to Westbury. This would also include making the case for Platform 0 at Westbury; within the next 18 months Network Rail will have established which other service enhancements would benefit from this additional infrastructure, which will help to make the case for investment and support delivery of Devizes Gateway as part of a wider strategic investment in the Wiltshire rail network.





2. Introduction

In October 2021, a Strategic Outline Business Case (SOBC) was submitted to the Restoring Your Railway (RYR) fund for a new station on the Berks & Hants rail line, to be called Devizes Gateway. This would be sited around 3.5 miles from Devizes town centre at a site near Lydeway. The unstaffed station would consist of two platforms, a footbridge, ticket machine facilities, a car park, taxi rank and a bus interchange. The station would be integrated into the local bus network and was proposed to be connected directly to the Devizes town centre via an express shuttle bus. Improved active travel links to the town would also be considered as part of the development of a Devizes Local Cycling and Walking Infrastructure Plan.

Devizes is a market town of 19,000 people, with 34,000 living in the wider Devizes community area. It is also an important regional centre of employment and tourism. Devizes was formerly served by a station on a secondary rail route, running from the Berks & Hants line to the Swindon - Westbury route at Holt. This was closed in 1966 as per the recommendations of the 1963 Reshaping of British Railways ('Beeching') Report. Without a station, Devizes is poorly served by public transport, and accessing the rail network can involve lengthy car or bus journeys to stations such as Pewsey, Melksham, Chippenham and Swindon. This poor connectivity constrains opportunities for employment, education, tourism and development. On this basis the key objectives of Devizes Gateway station are to improve connectivity across the heart of Wiltshire, to increase access to employment and education opportunities, and support the levelling up of relatively isolated communities. It also aims to positively contribute to the Climate Emergency and help to reduce air quality issues through promoting modal shift to lower carbon travel.

The SOBC identified that the station would be served by extending the hourly London Paddington to Bedwyn service¹ to Westbury, providing Devizes Gateway with hourly direct services to destinations such as Westbury, Bedwyn, Newbury, Reading and London. To allow such a service to operate without interfering with other passenger or freight services, the SOBC recommended the construction of a passing loop near Bedwyn and a new platform at Westbury. However, whilst operational challenges

¹ This service is not currently running, having been replaced by a Paddington – Newbury service and a separate Newbury – Bedwyn shuttle service.





had been identified, there was insufficient clarity on how these could be addressed to enable the scheme to be progressed, based on the evidence available. There was also limited information provided on the costs associated with a new/reinstated platform at Westbury.

The Economic Case also showed that, based upon a high-level set of baseline assumptions around demand, revenue and journey time saving, the scheme would likely achieve Low/Poor Value for Money.

In June 2022, the Secretary of State for Transport approved further work towards a Decision to Develop, in respect of an interim feasibility study, including a detailed look at train service options to serve the station, and the wider interventions required to support them.

The deliverables agreed with the DfT were:

Package 1

- Further development work on the new station, including confirmation of a specific location and consideration of track, signalling, platforms, footbridge, bridleway crossing, drainage, facilities, multimodal interchange and new access road to A342.
- Further timetabling work to establish what options exist to call trains at the new station and the interventions required to enable that, including an operational assessment regarding rolling stock requirements and high-level predicted performance.

Package 2

- Strategic vision: identification of what works are required to be undertaken at Westbury to enable the opening of Devizes Gateway station.
- Identification from timetabling work conducted under Package 1 of any other enabling works necessary to be undertaken at other locations to support the service pattern for Devizes Gateway.
- Wider timetabling work: detailed assessment developed using the May 2023 timetable as the baseline to consider a wider strategic vision for future rail development in Wiltshire.

This interim feasibility report forms the key deliverable for this further piece of work and serves as an update/addendum to the original SOBC. The work has been carried out in partnership with Wiltshire Council, Devizes Development Partnership, train operators and other key stakeholders. Network Rail is grateful to all these organisations for their support.





Section 3 of this document refreshes the Strategic Case for the station, considering specifically the options for the proposed rail service, setting out the options and costs for the additional platform at Westbury, presenting the development work done on the proposed Devizes Gateway station site and design, and giving detail of the bus and active travel options proposed by Wiltshire Council.

Section 4 provides a fresh Economic Case, based on the timetable options explored and the demand impact of these options.

Sections 5 – 7 provide a brief update, where relevant, on the Commercial, Financial and Management cases

Section 8 sets out this interim feasibility study's recommendations on how the aspiration for Devizes Gateway can be taken forward, based on what the evidence suggests. It also outlines the next steps in developing a wider rail strategy for Wiltshire, of which Devizes Gateway forms a part.





3. Strategic Case

This Interim Feasibility Study has revisited three key areas of the Strategic Case:

- The proposed rail service to serve Devizes Gateway (section 3.9.2 of the SOBC)
- The associated infrastructure necessary to support the identified train service options (section 3.9.4 of the SOBC)
- The proposed location of Devizes Gateway, the facilities to be provided and station accessibility (sections 2.9.1, 3.9.3 and 3.9.5)

These points are considered in turn below. The first two points relate directly to the areas of further investigation requested by DfT. All three points have an impact on the Economic Case, which has been reworked in light of the changed assumptions and inputs. The economic element is considered in more detail in Section 4.

High level information is also presented on the bus and active travel options proposed by Wiltshire Council to serve the station.

The case for change, objectives and policy context have not been revised and are assumed to remain the same as in the SOBC.

3.1 Train service options

Summary – no viable option to regularly call trains at Devizes Gateway could be identified within the current timetable structure, even with an additional platform assumed at Westbury. Whilst an additional platform resolves some timetabling conflicts, there remains a lack of capacity between Westbury and Newbury to accommodate new/altered services. This is exacerbated by slow-running freight trains at certain times of the day. Potential future changes to freight operations and delivery of GWR's aspirations for the area could provide an option for serving Devizes Gateway in the future.

Timetable analysis carried out by Network Rail has considered three core options developed in conjunction with, and supported by, GWR. These are:

• Extension of the Newbury – Bedwyn service to Westbury, giving an hourly call at Devizes Gateway.





- Extension of the Reading Newbury service to Westbury, replacing the Newbury Bedwyn shuttle and giving an hourly call at Devizes Gateway.
- Insertion of a Devizes Gateway call in the semi-fast Paddington West of England services, giving calls at Devizes Gateway in alternate hours.

Subsequently, the reinstatement of a Paddington – Bedwyn service and extending this through to Westbury, giving hourly calls at Pewsey and Devizes Gateway, has been tested as the preferred timetable option for serving the proposed new station. The impact of accelerated Mendip quarry freight trains, which is currently being trialled by the freight operator, has also been assessed.

3.1.1 Service options with no additional infrastructure

In the first phase of analysis, infrastructure on the Berks & Hants route (with the exception of the new station at Devizes Gateway) was assumed to remain unaltered.

Analysis focused on a 3-hour window between 07:30 and 10:30 in the May 2023 working timetable (WTT). A stop was simulated at Devizes Gateway in this timetable by adding an additional 4 minutes in the Up² direction or 3 minutes and 30 seconds in the Down³ direction between Lavington and Woodborough. These timings replicate those that apply to services calling at Pewsey, which is taken as a proxy.

3.1.2 – Extension of Newbury – Bedwyn shuttle

An extension of the Newbury – Bedwyn shuttle to Westbury was considered first as an option for serving Devizes Gateway. Whilst not the preferred long-term option, as there is a desire to re-establish through Paddington – Bedwyn services at some point in the future, this was considered to be a potentially straightforward way of initiating a service for Devizes Gateway.

The analysis window contained six services, three Up and three Down. Whilst it appeared services could be made to work in the Down direction with interventions (including the provision of an extra platform at Westbury), two of the three Up services were not viable, thereby preventing this service giving a regular hourly call at Devizes Gateway.

- ² Up towards London
- ³ Down towards Westbury





A key issue for Up services was the lack of available line capacity between Westbury and Newbury at the time needed. A particular constraint was these services getting stuck behind a slow running aggregate freight train which it could not then pass.

Peading to Westhury (Down)									
Reading to W	estbury (Down)								
Headcode	Origin	Origin Depart	Destination	Destination arrival					
2T05DB	Newbury	07:22:00	Bedwyn	07:40:00					
2T07DB	Newbury	08:24:00	Bedwyn	08:43:00					
2T09DB	Newbury	09:13:00	Bedwyn	09:33:00					
Westbury to F	Reading (Up)								
Headcode	Origin	Origin Depart	Destination	Destination arrival					
2T06DC	Bedwyn	07:49:00	Newbury	08:06:00					
2T08DB	Bedwyn	08:51:00		09:09:00					
2T10DC	Bedwyn	09:48:00		10:06:00					
KEY									
	Not Viable								
	Could be Viable with	interventions (Tin	netable or infrastruc	ture)					
	Could be Viable with	Platform 0 (depe	nding on Westbury ir	nfrastructure option)					
	Viable								

Table 3.1 below summarises the viability of the proposed service extensions.

Table 3.1 – Findings for Newbury shuttle extension (no infrastructure)

<u>3.1.3 – Extension of Reading – Newbury shuttle</u>

Analysis explored whether it would be possible to extend the existing Reading – Newbury shuttle service to Westbury, replacing the Newbury – Bedwyn shuttle in the process.

Nine services were identified within the timetable scope, five Down and four Up. The timings of these services were treated as 'fixed' at Reading; this was to avoid the need for retiming of these services in a busy and constrained area where it was likely the movement of existing paths would have a consequential impact on a number of others. The paths were extended to Westbury, with calls added at Kintbury, Hungerford, Bedwyn, Pewsey and Devizes Gateway. Picking up a call at Pewsey would





enable this to be dropped from the semi-fast service and enable a more regular (i.e. hourly) service for that station.

At the time of analysis, the revised services were expected to run as Class 769 trains (currently Class 387), no timings exist for the Class 769 along the route. Therefore Class 387 timings were used instead to provide an idea of what may be possible. It should be noted that Class 387s are electrically powered, therefore in order to run to Westbury they would require either extension of electrification beyond Newbury or to be fitted with bi-mode capability. Analysis proved that, even with the superior performance of electric traction, regular viable paths could not be found, so diesel traction was not tested at this stage.

As shown in Table 3.2, of the nine services proposed, one was viable, two may be viable with the introduction of Platform 0 and the remaining six were either not viable or could be viable with timetable or infrastructure interventions.

	Westbury							
Headcode	Arrive	Depart						
2K30PP	08:17:00	-						
2K30PD	08:27:00	-						
2K32PP	09:19:00	-						
2K32PD	09:26:00	-						
2K90PP	09:54:00	-						
2K36PP	10:20:00	-						
2K36PD	10:28:00	-						
2K38PP	11:19:00	-						
2K38PD	11:26:00	-						
2K23PP	-	06:46:00						
2K25PP	-	07:15:00						
2K29PP	-	08:44:00						
2K29PD	-	08:34:00						
2K31PP	-	09:44:00						
KEY								
PP	Extended train path							
PD	Extended train path with i	increased dwell at Newbury						





Not Viable							
Could be viable with interventions (Timetable and or							
infrastructure)							
Could be viable with Platform 0 (Depending on							
Westbury infrastructure option)							
Viable							

 Table 3.2 – Findings for Reading shuttle extension (no infrastructure)

The issues identified were similar to those affecting the Bedwyn shuttle extension. Whilst there were some constraints identified at Westbury that an additional platform would resolve, there was also a fundamental lack of capacity between Westbury and Newbury at the required times. This time the issue was conflicts with other passenger services, rather than freight trains.

An option that would have made some of the paths viable would be to have an extended dwell at Newbury, to avoid clashes with other passenger services, which was a repeating problem for all the Down services. This would result in extended journey times and potentially impact the attractiveness of the service. Fewer fundamental problems were found with the Up services, but there was still no easy solution to the issues encountered.

<u>3.1.4 – Inserting calls into the semi-fast services</u>

This option considered whether it would be possible to insert a call at Devizes Gateway into the semifast services that run over the Berks & Hants route to the West Country. These services only run every two hours, so would not by themselves give the desired level of service at the new station, but would give broader connectivity than the shuttle extensions.

Nine services were identified within the window under consideration, three Down and six Up. As with the Reading shuttles, the London end of these services was treated as 'fixed'. It was therefore assumed that the Up services could arrive at Westbury 4 minutes earlier and the Down services could depart Westbury 3.5 minutes later.





Table 3.3 shows that, with the exception of one Up and one Down service, these trains had no fundamental problems within the study area. However, the SOBC has already highlighted that the semi-fast services cannot be accommodated out of their existing paths once they reach the Exeter area, where they are tightly timed with local services. Therefore, the only way the semi-fast services could retain their current timings and pick up a call at Devizes Gateway is for another call to be dropped elsewhere. Reducing existing connectivity elsewhere to enable Devizes Gateway is not considered to be a viable solution.

Reading to Westbury (Down)									
Headcode	Origin	Origin Depart	Destination	Destination arrival					
1C75DA	London Paddington	09:38:00	Paignton	12:39:00					
1C77DA	London Paddington	10:35:00	Exeter St Davids	13:07:00					
1J73DA	London Paddington	08:38:00	Westbury	10:09:00					
Westbury to	Reading (Up)								
Headcode	Origin	Origin Depart	Destination	Destination arrival					
1A69DA	Frome	06:12:00	London Paddington	08:01:00					
1A70DA	Plymouth	04:54:00	London Paddington	08:35:00					
1A71DA	Plymouth	05:55:00		09:01:00					
1A72DA	Plymouth	05:33:00	London Paddington	09:25:00					
1A77DA	Plymouth	08:35:00	London Paddington	12:06:00					
1J74DA	Plymouth	06:37:00	London Paddington	10:29:00					
KEY									
	Not Viable								
	Could be compliant or non-compliant, but this analysis is out the scope of the								
	study remit								
	Viable								

Table 3.3 – Findings for semi-fast calls (no infrastructure)





3.1.5 Service options with additional infrastructure (Westbury platform)

The same three train service options were assessed again, this time assuming that a fourth platform (Platform 0) was in place at Westbury, to see whether this enabled any viable train service option. Once again, analysis focused on a 3-hour window between 07:30 and 10:30 in the May 2023 working timetable (WTT). A stop was simulated at Devizes Gateway in this timetable by adding an additional 4 minutes in the Up direction or 3 minutes and 30 seconds in the Down direction between Lavington and Woodborough.

Four different, but similar, configurations for Platform 0 were considered. More detail of these different options is given in section 3.3.

3.1.6 - Extension of Newbury - Bedwyn shuttle

The provision of Platform 0 would allow two Down and one Up service to be compliantly extended to Westbury, alongside timetable changes to other services to create the necessary capacity. Two of the three Up services still run into the same capacity issues between Westbury and Newbury that were encountered previously. Other conflicts could be resolved through manipulation of the timetable, e.g. having increased station dwell times.

In the event that Class 7⁴ freight timings are improved (see section 3.1.10), the two unviable Up services may become viable, though there are still timetable clashes with other services which would require resolving.

Table 3.4 below summarises the viability of the proposed service extensions.

					Opt1	Opt2	Opt3	Opt4
Reading to Westbury (Down)					Min Bay	Min Loop	Loop + Patney DR	Loop + Patney DR &P0
Headcode	Origin	Origin Depart	Destination	Destination arrival	Westbury	Westbury	Westbury	Westbury
2T05DB	Newbury	07:22:00	Bedwyn	07:40:00	08:13:00	08:13:00	08:13:00	08:13:00
2T07DB	Newbury	08:24:00	Bedwyn	08:43:00	09:10:30	09:10:30	09:10:30	09:10:30
2T09DB	Newbury	09:13:00	Bedwyn	09:33:00	10:00:30	10:00:30	10:00:30	10:00:30

⁴ Train class in this instance refers to the timing characteristics for timetabling and regulating purposes. Class 7 freight trains are limited to 45mph.





Westbury to Reading (Up)					Opt1	Opt2	Opt3	Opt4		
Headcode	Origin	Origin Depart	Destination	Destination arrival	Westbury	Westbury	Westbury	Westbury		
2T06DC	Bedwyn	07:49:00	Newbury	08:06:00	07:28:00	07:28:00	07:28:00	07:28:00		
2T08DB	Bedwyn	08:51:00	Newbury	09:09:00	08:23:00	08:23:00	08:23:00	08:23:00		
2T10DC	Bedwyn	09:48:00	Newbury	10:06:00	09:18:00	09:18:00	09:18:00	09:18:00		
KEY										
	Not Viab	le								
	Could be	Could be viable with interventions (Timetable or infrastructure)								
	Viable wi	th Platform 0	Options							

Table 3.4 – Findings for Newbury shuttle extension (with infrastructure)

<u>3.1.7 – Extension of Reading – Newbury shuttle</u>

For this round of testing, Class 165 rolling stock (90mph variant), was assumed in place of the Class 387 used previously, to better assess the usefulness of the proposed interventions at Westbury, as opposed to any benefit from the better performance of an electric unit. Class 165s are considered to be the type of unit likely to be available to operate this service if it was introduced.

As previously, the timings were fixed at Reading as per the May 2023 timetable. These services were extended to Westbury calling at Kintbury, Hungerford, Bedwyn, Pewsey, Devizes Gateway, and Westbury. Having the extended services take on the Pewsey call would mean that this could be dropped from the semi-fast services and will mean a more regular service for Pewsey.

Similar capacity issues were experienced as in the 'no-infrastructure' scenario, with the shuttle either being run down by faster services or itself running down slower freight services. A timetabling solution in some of these instances is to have a prolonged dwell of circa. 10 minutes at Newbury; however, this contributes to breaking the link back into the Up path when returning to Reading, in addition to extending the journey time.

Platform 0 was found to help enable two of the Down services and two of the Up services, albeit there were issues with these paths elsewhere that would require re-timetabling to resolve.





Acceleration of Class 7 freight services (section 3.1.10) would remove the requirement for some additional pathing time in one Down service, 2K32. It also removes one of the timetabling constraints faced by Up services 2K23 and 2K29.

Reading to Westbury (Down) 165								
Headcode	Origin	Origin Depart	Destination	Destination arrival	Opt1	Opt2	Opt3	Opt4
2K30DB	Reading	07:10:00	Newbury	07:37:00	08:35:00	08:35:00	08:35:00	08:35:00
2K32DB	Reading	08:03:00	Newbury	08:32:00	09:41:00	09:41:00	09:41:00	09:41:00
2K36DB	Reading	09:13:00	Newbury	09:40:00	10:37:00	10:37:00	10:37:00	10:37:00
2K38DB	Reading	10:12:00	Newbury	10:38:00	11:36:00	11:36:00	11:36:00	11:36:00
2K90DB	Reading	08:46:00	Newbury	09:12:00	10:07:00	10:07:00	10:07:00	10:07:00
Westbury t	o Reading	(Up) 165						
Headcode	Origin	Origin Depart	Destination	Destination arrival	Opt1	Opt2	Opt3	Opt4
2K23DA	Newbury	07:24:00	Reading	07:51:00	06:34:00	06:34:00	06:34:00	06:34:00
2K25DA	Newbury	07:53:00	Reading	08:22:00	07:02:00	07:02:00	07:02:00	07:02:00
2K29DA	Newbury	09:25:00	Reading	09:55:00	08:32:00	08:32:00	08:32:00	08:32:00
2K31DA	Newbury	10:10:10	Reading	10:38:00	09:15:00	09:15:00	09:15:00	09:15:00
Кеу								
Not Viable								
Could be viable with Table alterations and Westbury Intervent					Interventio	ons		
		Could be vi	able with Time	table Variation	s only			

The table below summarises the findings:

Table 3.5 – Findings for Reading shuttle extension (with infrastructure)

Of the nine services proposed: three could be viable with timetable interventions, four may be viable with both timetable interventions and the introduction of Platform 0 and the remaining two were not viable.

Additionally, with this option the Class 165 units are unable to run from Newbury to Westbury and back in time to pick up their return path from Newbury. The result is that a revised path would need to be found through the congested Reading area, which was not considered to be a viable option. The





alternative would be that an additional unit would be required, which would dwell at Westbury for nearly an hour, creating additional cost and inefficiency.

3.1.8 – Inserting calls into the semi-fast services

As with the 'no-infrastructure' tests, the semi-fast services were found to largely work within the study area, but their altered timings west of Westbury would render these paths non-compliant on reaching the Exeter area.

In terms of the usefulness of Platform 0, Option 2 (through platform) had to be assumed, as a bay platform would not permit one of these services to continue westwards if routed into the platform. The previously unviable Down service (1C77DA) could be pathed thanks to the additional platform, but the Option 4 track layout would additionally allow it to arrive in parallel with the previously conflicting 1F13DA (Cardiff Central - Portsmouth Harbour) and give it somewhere to dwell. This would otherwise have had to be resolved through amendment to train times.

Platform 0 enables one of the Up services, 1A71DA, to call at Devizes Gateway by enabling another service to be platformed out of the way at Westbury.

Reading to Westbury (Down)					Opt1	Opt2	Opt3	Opt4
Headcode	Origin	Origin Depart	Destination	Destination arrival				
1C75DA	London Paddington	09:38:00	Paignton	12:39:00	10:55:00	10:55:00	10:55:00	10:55:00
1C77DA	London Paddington	10:35:00	Exeter St Davids	13:07:00	11:57:30	11:57:30	11:57:30	11:57:30
1J73DA	London Paddington	08:38:00	Westbury	10:09:00	10:12:30	10:12:30	10:12:30	10:12:30
Westbury t	o Reading (Uj	p)			Opt1	Opt2	Opt3	Opt4
Headcode	Origin	Origin Depart	Destination	Destination arrival				
1A69DA	Frome	06:12:00	London Paddington	08:01:00	06:17:00	06:17:00	06:17:00	06:17:00
1A70DA	Plymouth	04:54:00	London Paddington	08:35:00	06:56:00	06:56:00	06:56:00	06:56:00
1A71DA	Plymouth	05:55:00	London Paddington	09:01:00				





1A72DA	Plymouth	05:33:00	London Paddington	09:25:00	07:41:30	07:41:30	07:41:30	07:41:30
1A77DA	Plymouth	08:35:00	London Paddington	12:06:00	10:39:30	10:39:30	10:39:30	10:39:30
1J74DA	Plymouth	06:37:00	London Paddington	10:29:00	09:04:00	09:04:00	09:04:00	09:04:00

KEY	
	Not Viable
	Could be viable with interventions (Timetable and or infrastructure)
	Viable

Table 3.6 – Findings for inserting calls into semi-fast services (with infrastructure)

<u>3.1.9 – Reinstated Paddington – Bedwyn service extended to Westbury</u>

A separate workstream looking at timetable structures post the opening of the new Old Oak Common station identified options for recasting services on the Berks & Hants route that highlighted the potential for a reinstated Paddington – Bedwyn service to be extended to Westbury. A test was therefore undertaken to see if this could provide an option to serve Devizes Gateway.

As part of this test, it was assumed that existing Class 7 freight paths had been accelerated and were running on Class 6⁵ timings (see section 3.1.10).

It was assumed the Paddington to Bedwyn services were formed of IETs, used its pre-COVID timetable pattern across the Berks & Hants route, were extended to Westbury and called at all intermediate stations between Newbury and Westbury, including Devizes Gateway.

Based on the analysis undertaken it was possible to accommodate the reinstated Paddington – Bedwyn service extended to Westbury, with some caveats:

• The reinstated service will be operating on its minimum turnround at Westbury, presenting a potential performance risk.

⁵ Class 6 freight trains are timed to run at up to 60mph.





- The leg from Westbury to Paddington is unable to utilise its pre-COVID pattern as it is overtaken by the semi-fast service at Newbury.
- The Reading Newbury stopping service is required to be retimed.
- There is a potential platform reoccupation issue at Reading between the reinstated service and the Down semi-fast service.

The points would require further investigation and resolution as part of a further phase of development.

A comprehensive review of the benefits/use of Platform 0 has not been possible in this instance, due to not having a base timetable that includes the accelerated freight services that are assumed to be in place to allow this passenger service to operate. However, based on the expect arrival and departure times of this service against the timetable used in parts 1-3 of this work, it is concluded that Platform 0 is required to allow an hourly service to operate.

Origin (Down)	Destination	Arrival	Without Platform 0	With Platform 0
London Paddington	Westbury	07:37:00		
London Paddington	Westbury	08:37:00		
London Paddington	Westbury	09:37:00		
London Paddington	Westbury	10:37:00		
Origin (Up)	Destination	Departure	Without Platform 0	With Platform 0
Westbury	London Paddington	07:52:00		
Westbury	London Paddington	08:52:00		
Westbury	London Paddington	09:52:00		
Westbury	London Paddington	10:52:00		
KEY				
Not viable w	vithout Westbury Inter	ventions		
Could be vio	ble with Westbury Int	erventions		

Table 3.7 – Findings for extended Paddington – Bedwyn service (with infrastructure)





The inclusion of the additional calls in the reinstated service, including a provisional call for the new station at Devizes Gateway, has allowed intermediate calls to be removed from the semi-fast services; this allows them to run non-stop between Newbury and Westbury. The proposed stopping pattern of these two services provides an hourly through train to London for all stations between Westbury and Newbury including Devizes Gateway.

The reintroduction of the Paddington – Bedwyn service will require three additional 5-car Intercity Express Trains (IETs). GWR have indicated that the reintroduction of these services will be a priority once the fleet becomes available.

Although economic analysis (Section 4) has suggested extending this service to Westbury would not have a good case, it is believed that historic factors, such as the attractiveness of the train service and possibly car parking availability on the Berks & Hants route, have suppressed demand, which may skew the data available to assess the attractiveness of this service. This can be assessed in more detail should the project progress.

The extension of the service to Westbury will require one further 5-car IET. This is an existing GWR aspiration but would likely rely on additional infrastructure at Westbury and wider changes to GWR's fleet, which requires significant investment. As such, this represents a longer-term option for providing a service for Devizes Gateway and suggests that the delivery of the station is better developed as part of a wider suite of strategic developments on this corridor than as a stand-alone project.

3.1.10 - Acceleration of Class 7 freight paths

In late 2022, Freightliner commenced a trial to accelerate their Class 7 freight services from the Mendip quarries by double-heading⁶ them. The Class 7 trains had been a blocker to finding regular hourly paths for passenger services when looking at extending the Bedwyn shuttle services to Westbury.

Data captured from these trials shows that the double-headed trains can perform at least as well as a Class 6 service. Analysis shows that in the hours when the semi-fast service does not operate there is potential for a non-stop freight path from Westbury to Southcote. In the opposing hours the

⁶ Using two locomotives, rather than one, to haul the train, providing additional power.





accelerated freight is required to stop in Hungerford loop to allow it to be overtaken by the semi-fast service. There are additional opportunities for lighter freight services across the geographic scope.

This indicates that, if the trial is implemented on a permanent basis, there is the potential for these freight paths to be 'standardised' in each hour and to take up less capacity, giving greater scope for additional passenger services to be added to the timetable, subject to it being possible for the paths over the Berks & Hants to be aligned to paths onwards to West London. Specifically, it could help facilitate timetable Option 1 and would enable timetable Option 4. Of the two, Option 4 has better strategic fit and would provide greater connectivity for the new station.

<u>3.1.11 – Summary of constraints</u>

The key constraints when trying to serve Devizes Gateway are:

- A lack of capacity on the main line. A particular issue is the significant difference in speed between the faster passenger services and slower heavy freight services from the Mendip quarries, meaning the former catch up the latter, rendering a number of pathing opportunities unworkable.
- The slow acceleration of the Class 16X rolling stock which is most likely to be available to operate an extended Reading Newbury service. The current rolling stock on these trains could not be used due to the lack of electrification beyond Newbury.

Conclusion – there is no viable timetabling option to regularly serve Devizes Gateway within the constraints of the existing timetable structure, even with additional infrastructure (a new platform) at Westbury.

Changes across the wider network, notably alterations to freight workings in the area, rolling stock cascades and future timetable recasts, may singly or together open up opportunities to provide a service for Devizes Gateway in the future. The reinstatement of a Paddington – Bedwyn service and extension to Westbury is considered to be the preferred option, which would give good connectivity to Devizes and other stations on the route. Additional rolling stock would be required to support this service.





3.2 Station location and design

Summary – Design work by Network Rail has identified two potential alternative sites slightly to the west of that identified in the SOBC. These both have improved road access, but the more easterly of the two is preferred as it needs less groundwork. Options with and without a bridleway bridge have been considered; diversion of the bridleway would be preferred. An indicative cost for a station on the preferred site is $\pounds40.7m - 51.2m$, assuming delivery in 2029. There will also be additional costs associated with provision of bus and active travel links.

3.2.1 – Station site

In developing the SOBC a number of sites on the Berks & Hants route were identified as being suitable for a new station serving Devizes. The two main options considered were:

• Lydeway Site – approx. 1km north of Wedhampton village, adjacent to Lydeway Field airfield, and;

• Lavington Site – where the Reading to Taunton line crosses the A360, approximately 2km north of West Lavington.



Figure 3.1 – station sites considered in SOBC





For either location the SOBC proposed to build a relatively basic station consisting of two 210m platforms, a pedestrian overbridge (and potentially the inclusion of lifts), simple bus stop style waiting areas and unmanned ticket machines. The station would also contain a 100-space car park and a bus and taxi rank.

In terms of accessibility, the Lydeway site is slightly closer to the town and thus offers quicker journey times to Devizes town centre. Access to Lavington from Devizes is much poorer on the A360 than access to Lydeway on the A342. Lydeway is also located in an area where the topography would easily allow the construction of a new station, with plenty of space for associated access roads, car parks and bus interchanges etc., and was thus the preferred site in the SOBC. The SOBC layout for the station envisaged access from the north, adjacent to an airstrip.

Network Rail and its consultants undertook further site investigations and design work to confirm the choice of station location as part of this interim feasibility study. This confirmed Lydeway to be the preferable site for a station, but two alternative options slightly to the west of the SOBC location were identified (see Figure 3.2).

Investigations had identified three key challenges with the original SOBC location:

- Proximity to Stoner bridleway level crossing, which would require closure or the provision of a bridge
- Proximity to the airfield, which could have given rise to safety issues
- A sub-optimal highway junction where the access road would meet the main highway

The proximity of the station site to the North Wessex Downs Area of Outstanding Natural Beauty (AONB) also presented a risk to the project, with the potential for objections from Natural England. Being slightly further to the west, the two NR sites have the advantage of being closer to the edge of the AONB and in a less obtrusive area.

The two NR sites also have the advantage of being south of the airfield and having access from the A342 on the south of the railway, in a location where the road is straight and a junction can be easily and safely accommodated, with some land take required.







- NR preferred location
- Original location included by Wiltshire Council in SOBC (accessed from the north)

Figure 3.2 – Lydeway station locations

<u> 3.2.2 – Station design</u>

The design (see Figure 3.3) assumes a 203 space car park, with 5 % disabled, 5 % enlarged spaces and 10 % EV (electric vehicle) charging points plus space for a further 10 % in the future, all as per DfT requirements. To the east of the site is space potentially reservable for a further 200 car parking spaces. The car park would be landscaped to the east and south faces, in sympathy to the AONB setting.

The station platforms are currently designed to be 265m long, for the longest trains which operate on the route. There is an opportunity to halve this length, as the preferred timetable option (Paddington – Westbury service) would be operated by a 5-car IET, which would require a platform length of circa 135 meters. This would reduce project cost and AONB impact. Passive provision could be made for future extension of the platforms if this became desirable.





A fully accessible footbridge forms part of the design, along with waiting shelters on both platforms at 1/3 and 2/3 positions. A full suite of help points, information screens, public address equipment and security CCTV would be provided. To the north-west there would be an active travel path/cycle route and to the east on both sides of the line a footpath.

The preferred site has the advantage of being on flatter, more open ground, therefore requiring less groundwork and meaning some elements (such as emergency exit routes from platforms) are easier to provide. Early feasibility drawings of the preferred station site and access are included in Appendix 4.

The layout will change as the project progresses, following stakeholder feedback, but the intention is that the design in later stages would be in keeping with new standardised station designs produced by Network Rail.

Stoner bridleway crosses the railway close to the proposed location for the station, at 82m 04c. This will need to be closed for safety reasons if a station were to be progressed at Lydeway (at any of the three potential sites).

The preferred solution is to divert the bridleway via the existing Patney road bridge and have the footpath right of way diverted over the station footbridge (noting that potentially comes with some challenges around management of the station). If a diversionary route for the bridleway is not supported, the only solution would be a bridle-bridge over the railway, at a cost of \pounds 4.9m - \pounds 6.2m. This would be a massive structure (example shown in Figure 3.3), not in keeping with the AONB aesthetics.



Figure 3.3 – example of a bridleway bridge





Table 3.8 shows the pros and cons of the three station sites, with bold items being the more serious ones, red being 'worse', black 'neutral' and green an 'improvement'. This shows that the original SOBC site comes out as the worst option and the NR preferred location as the best.

WCC east most station	Jacobs west most station	NR preferred station (mid-location)
Straight track	Largely straight track but transitions at both ends	Track on regular curve
Track drainage one side to be diverted	Track drainage both sides to be diverted	Track drainage one side to be diverted and partially on
		the other too
New track drainage in 6' (track relay) or	New track drainage in 6' (track relay) has to occur	New track drainage in 6' (track relay) or further into
further into cess		cess
Signalling equipment unaffected	Move loc suite T1	Signalling equipment unaffected
Signal sighting thought to be unaffected	Signal sighting review in relation to proposed platform furniture, signage,	Signal sighting review for new proposed station and
although a sighting check is required.	shelters and footbridge	changing the background of the signal including night-
		time illumination behind signal
Up direction signal SOYSPAD risk is	Up direction signal SASSPAD risk is manageable	Up direction signal SOYSPAD risk is manageable
manageable		
No signal AWS maintenance problem	Signal AWS maintenance requires possession to access	No signal AWS maintenance problem
Level crossing to be closed/diverted	Level crossing to be closed/diverted	Level crossing to be closed/diverted
Airfield flight path serious risk	Station parallel to runway so no risk	Station parallel to runway so no risk
Airfield distraction to train drivers severe	Airfield distraction to train drivers no worse than today	Airfield distraction to train drivers no worse than
		today
A342 junction non-compliant and high risk	A342 junction compliant and low risk	A342 junction compliant and low risk
Long cycle route	Shortest cycle route	Medium cycle route
No houses in proximity	Clock Inn home park and other cottages adjacent (north west)	No houses in proximity
Land purchase risk neutral	Land purchase risk neutral	Land purchase risk neutral
Number of affected landowners unknown at	2 affected landowners and one parcel 'unknown' which is likely to be belong to	2 affected landowners and one parcel 'unknown' which
present	one of the above	is likely to be belong to one of the above
Earthworks unaffected	Significant earthworks failure risk and potential for significant remediation	Earthworks unaffected
	works required. New retaining walls required	
AONB worst affected, highest lift towers in	AONB least affected, and footbridge lift towers partially sunk below the skyline,	AONB medium effect, lift towers slightly lower than
relation to the landscape	however cutting forces significant provision of ramped paths (making the station	WCC version and tightest footprint
	more visible) and the cuttings will widen the land take	
Tree loss high (north side of line only	Tree loss high (both sides at the station, none for the access road	Tree loss low (north side at the station only)
generally at station but high loss for the		
north side access road route)		
PRM users facilitated compliantly	PRM users facilitated compliantly	PRM users facilitated compliantly
Platform escape would need an extra path	Platform escape needs extensive ramped paths	Platform escape is straightforward and short/level
behind the station on the south side		
Cost medium (longer access road and more	Cost medium (shorter access road but extensive earthworks and track drainage is	Cost likely to be lower
flood alleviation works)	more complex). Signal loc suite relocations force new design, install and test	
	I resources which are constrained, and probably longer lead times	

Table 3.8 – pros and cons of different station locations

3.2.3 – Active travel links

The SOBC did not include costs or details of the proposed bus and active travel links which are necessary to connect the town of Devizes with its proposed station. Consideration to these elements has been given as part of this study.





Wiltshire Council have considered three different cycle/active travel routes into Devizes from the station, either via the route of the former railway line, via a segregated cycle track by the A342 or via an existing public right of way to the north.

These have been measured in distance and build cost based on recent LTN1/20 compliant schemes:

- Byway surface improvement circa £100/m to £150/m
- Segregated Cycletrack circa £700/m

ROUTE	DISTANCE km	ESTIMATE*
Old Track Bed	3.62	£0.75m to £1m
A342 Cycletrack	3.21	£2.24m
Public Right of Way	4.1	£1.6m

*EXCLUDES FEES, CROSSINGS, LAND ACQUISITION, TOPO ETC. Table 3.9 – Cycle route options and costs

A review by Atkins on behalf of Wiltshire Council has concluded that the preferred route is the A342 option, costing circa £2.24 million, on the basis of this being the most direct route and therefore being more attractive to users.

<u> 3.2.4 – Bus links</u>

The proposed Devizes Gateway station lies 4 miles east of Devizes Market Place, and over half a mile off the current road network (the A342). Whilst there is a local bus service running on the A342 (i.e. passing the end of the proposed approach road) it only runs hourly, and in one direction only as a circular for local villages and is not suitable as a rail connection service. A dedicated shuttle bus service to and from Devizes is therefore required.

At this stage, Wiltshire Council have only considered a shuttle to the Market Place (town centre) although, subject to funding, there is scope to interwork with the existing Wiltshire Council supported town buses if greater coverage of the town is required.





The current local bus timetable suggests a station shuttle would require a running time of 9 minutes from Devizes and 10 minutes back to Devizes. Further analysis of Bus Open Data shows that these times are realistic and achievable.

Minimum train to bus time at the station, especially for an Up train from the far platform, is assumed to require a minimum of 5 minutes. A minimum of 5 minutes is needed at Devizes to cover any congestion delays for passenger alighting and boarding, and on a few occasions during the day a driver changeover, which gives a whole round-trip time of 29 minutes.

This round-trip time does not offer an obvious solution, so a number of options are presented.

- Option 1: run a rapid turn-round single service with 5 minutes layover at each end.
 - This keeps the bus running, offering the maximum number of trips, but with the disadvantage that the timetable will be unlikely to provide good connections.
- Option 2: Use 2 buses, one aiming for Up trains the other for Down trains.
 - This allows a bespoke option to cater for trains in both directions, with suitable connection times at the station. The buses will be used less intensively, but each journey will be useful/efficient, and there will be slack in the schedule to allow for a late running train.
- Option 3A: a single bus which is scheduled to connect with outbound trains in the morning, and inbound later in the day. This is likely only to be able to connect with about half of the services.
- Option 3B: if both Up and Down trains are sufficiently close together a once an hour trip which connects with both would be easy to provide with a single bus
- Option 4: a taxi bus/Demand Responsive Transport service which is pre-booked. However due to the round-trip times it is unlikely to be able to serve any more people than a timetabled bus operation, but there may be a reduction in empty running with consequent fuel and emission savings.

Based on current prices for buses of similar size and operating a 12-hour day (7am - 7pm Monday to Saturday) in the Devizes area a 27 seat accessible bus costs in the region of £170,000pa. If a longer operating day and Sunday operation, to compensate for a reduction in car park capacity, is assumed then the cost would increase to circa £290,000 per bus. Wiltshire Council expect the bus company to provide the vehicle and include the capital cost in the operational cost.





The size of bus assumed is the same as the buses running the existing Devizes town services, so the opportunity would then exist to inter-work the station shuttle with the town bus if that was considered to be advantageous for through journeys to the housing estates. There is no comparable rail shuttle service in Wiltshire upon which to base usage and revenue estimates.

Devizes Gateway station will also serve a large rural hinterland, much of which is currently served by Demand Responsive Transport (DRT). There are two east-west main roads through the Vale of Pewsey and the A342, which the proposed station sits off of, is the southern route of the two. Much of the present demand for the DRT bus is along the northern route, and offering a station stop on these journeys would exceed the current timetabled service timings (the current DRT isn't an all-to-all at any time service, but an outline timetable of end-to-end journeys which will detour on request).

To provide a connection from the Pewsey Vale area and the villages just south of the railway at Urchfont and Lavington, in addition to a direct shuttle bus to/from Devizes, an 8-seat demand responsive bus would be needed which costs in the region of £130,000 pa to operate.

Ticket integration is considered essential for the success of the shuttle bus, ideally through establishing a PlusBus zone for bus/rail through ticketing. For bus-to-bus ticketing, this can be easily arranged between the Devizes town bus network and the Shuttle as Wiltshire Council supports the town network and controls the fares. Through tickets from the inter-urban commercially run bus network onto the shuttle is more difficult as revenue apportionment would be required.

Conclusion – NR recommend a revised site and outline design at Lydeway which resolves some of the issues identified with the SOBC location and which provides the Minimum Viable Product for the project. This station can be built at a cost of circa £40.7m – 51.2m. A bus service and active travel links will additionally cost between £170 – 290,000 per annum and £2.24 million respectively. If the bridleway is not diverted, then a bridleway bridge will need to be provided at a cost of circa. £4.9m - £6.2m.









3.3 Westbury interventions

Summary – four designs have been developed by Network Rail Design Delivery (NRDD), which are all feasible from an engineering point of view. Option 1 represents the Minimum Viable Product, costing circa $\pm 11.5 - 14.5$ m. This would not prevent the future development of Option 2 or 4; these are more expensive but would deliver greater operational flexibility and resilience. Option 3 has been discounted on operational grounds.

The SOBC identified the likely need for an additional platform at Westbury to support the operation of services to Devizes Gateway, but only made high-level assumptions about the functionality and cost of this additional infrastructure. The analysis undertaken for the feasibility study confirms that an additional platform would be required, alongside timetable changes, to enable a consistent hourly service to Devizes Gateway.

Network Rail Design Delivery (NRDD) were commissioned to identify options for an additional platform at Westbury. The obvious choice was to recommission the extant, but currently unused, platform face on the opposite side of the island platform to Platform 1 (termed Platform 0). The designs were required to accommodate, as a minimum, a 5 car IET. It was also a requirement to retain existing use of the Down Reception Road, which plays an important role in the movement of freight through the station.

Four designs were developed, as shown in Figure 3.4:

- Option 1 is a bay platform. For costing and economic analysis purposes, this is assumed to be the Minimum Viable Product (for Devizes Gateway only) which would need to be delivered for this project to be viable. This would allow services from the east serving Devizes Gateway to terminate at Westbury and return towards Newbury.
- Option 2 is a through platform. This provides a direct connection into the Up and Down Salisbury lines, as well as into the Down Main via existing crossovers. This would give greater operational flexibility and resilience, permitting a greater range of services to use the platform and potentially enabling other service enhancements in the area. Being a through platform, Devizes services could make use of any platform, with other services bypassing via Platform 0.





- Option 3 is a through platform, with an additional link from the Patney Siding into the Down Main line. This would provide additional routing options and greater flexibility. Option 3 has been discounted due to the necessary positioning of trap points as part of the design, which present an operational safety risk.
- Option 4 is a development of Option 3, without the risks identified in the former design. Option 4 gives the maximum operational flexibility, allowing for parallel moves between trains coming off the route from Trowbridge and services arriving on the Down Main line.

Options 2 and 4 could either be an incremental development of Option 1 at a later date or delivered concurrently if a case can be made for the wider investment. Network Rail's planned Wiltshire Rail Strategic Study will identify what benefits Options 2 and 4 would have for other current and aspirational services.

A constructability assessment suggests commissioning of the platform would need to take place at Christmas, due to the scale of the works involved. Planned construction activities at Old Oak Common, and the importance of Westbury for dealing with engineering trains to support that project, are likely to mean Platform 0 commissioning could not take place until Christmas 2029. The outline project programme indicates that the latest a Decision to Develop could be made to enable delivery in Christmas 2029 would be early 2025.

The costs associated with each option are as follows, inflated to align with commissioning to complete in late 2029:

Option	Cost (£m)	Benefit
1	11.5 – 14.5	Minimum Viable Product for Devizes Gateway station only
2	19.2 – 24.2	Through platform, greater operational flexibility
3	32.0 - 40.2	DISCOUNTED
4	34.2 - 43.0	Maximum operational flexibility

Table 3.10 – Costs for each platform design option





4.1 Core Option 1: Bay Platform 0



4.2 Core Option 2: Through Platform 0



4.3 Non-Core Option 3: Patney Siding Connection







4.4 Non-Core Option 4: Patney Siding Junction Relief



Figure 3.4 – Option designs for Platform 0.

<u>3.3.1 – Other infrastructure</u>

The SOBC considered a loop at Bedwyn for passenger services to be recessed to avoid timetable clashes. Holding passenger services in loops outside of stations is undesirable and does not give a good passenger experience; therefore, this option has not been considered further.

Similarly, a solution to some of the timetable clashes observed between Westbury and Newbury would be to build a new dynamic loop⁷. However, given the costs for such an intervention would be far in excess of what the Devizes Gateway business case could support on its own, these options have not been considered in any detail at this stage.

Electrification of the route from Newbury to Cogload Junction would bring enhanced train performance through the quicker acceleration and top speeds of electric trains. This would be a particular benefit for the heavy Mendip quarry traffic and could help resolve some of the timetabling issues found in this study. The route is one of the priorities for electrification, however, there is currently no funding in place to deliver this.

⁷ With a dynamic loop, trains on the loop line continue moving whilst they are passed by other trains. In a static loop the looped train comes to a stand whilst it is passed by another.





Conclusion – There are three viable options for providing a platform at Westbury to support the introduction of a train service to Devizes Gateway. The Minimum Viable Product (Option1), costing $\pounds 11.5 - 14.5$ m has been assumed in the economic analysis. Options 2 and 4 could be delivered as later increments to Option 1 to provide wider operational benefits at Westbury for a range of other services, or provided from the outset if the case for investment can be made. The access required to deliver this enhancement means that it is unlikely it can be delivered before 2029.





4. Economic Case

Summary – analysis shows that none of the three core timetable options, even if they could be delivered, have a good economic case if medium COVID demand recovery is assumed, representing Poor or Very Poor Value for Money across a range of scenarios.

Taking more favourable assumptions in relation to COVID recovery, or higher new station revenue than the central case, Option 1 (Bedwyn shuttle) value for money improves from Poor to High. However, these optimistic scenarios are thought unlikely to occur in practice.

If a reinstated Paddington – Bedwyn service was extended to Westbury, then adding a Devizes Gateway call is shown to be Very High Value for Money. Extending this service is not shown to have a positive case. However, it is suspected that historic factors like the attractiveness of the train service and possibly car parking availability may have capped demand, meaning the case could prove to be stronger if more fully developed.

The SOBC concluded that, based upon a high-level set of baseline assumptions around demand, revenue and journey time savings, the scheme was likely to be Low Value for Money (VfM) if the costs of the works at Bedwyn and Westbury are excluded and Poor VfM if the costs of this associated infrastructure were included. It noted that there were a variety of benefits not captured by the appraisal, such as the benefits to users of other stations.

Sensitivity testing showed that the appraisal was very sensitive to key assumptions around demand and revenue. A 20% reduction in forecast demand could move the scheme from Low to Poor VfM, while a 20% increase in forecast demand could move the scheme to Very High VfM.

Network Rail undertook further economic analysis to assess the demand, benefits and disbenefits for the timetable options under consideration. As none of the three core timetable options were found to fully deliver the desired service, the economic analysis was carried out for each of the core three timetable options as if they were able to provide an hourly service to Devizes Gateway.





<u>4.1.1 – Appraisal results</u>

For each option and scenario considered, the benefits and costs forecast for each year within the 60year appraisal period are discounted to 2010 and are aggregated. Such discounted costs and benefits are described as being in Present Value (PV) terms. Results are presented in 2010 prices.

Benefit Cost ratio	Value for money
BCR >4	Very High
BCR between 2 and 4	High
BCR between 1.5 and 2	Medium
BCR between 1 and 1.5	Low
BCR between 0 and 1	Poor
BCR less than 0	Very Poor

Table 4.1 – DfT Value for Money categories

The above categories apply when the net costs of the scheme are positive. Schemes where there is a net reduction in cost are known as being financially positive. Provided there are net positive benefits financially positive schemes are regarded as being Very High value for money. If a financially positive scheme does not deliver positive socio-economic benefits, it is not categorised as being very high value for money. These alternative classifications are set out below.

Box 5.2 (Trans	Cost Saving Categor	ies savings exceed outlays)
	Very High (and Financially Positive)	Proposal generates benefits to wider society and 'pays for itself' in the long-run since outlays are less than revenues and cost-savings combined.
	Economically Efficient Cost Savings	Cost savings outweigh benefit losses and thus overall public value is increased, implying value for money.
	Potentially Efficient Cost Savings	Benefit losses outweigh cost savings, but only to a limited extent. As a result, if the money returned to the budget were spent on proposals representing at least Medium value for money, public value would increase overall.
		The ultimate outcome is therefore likely to represent value for money.
	Poor (but Financially Positive)	Proposal results in benefit losses that outweigh cost savings to a greater extent. In these cases, even if the money returned was spent on a Medium value for money proposal, it would not lead to an overall increase in public value.
		Whilst there may be strong strategic, financial, management or commercial reasons for proceeding with these proposals, they are not considered to have a strong economic case.





It should be remembered that Options 1 to 3 are not fully achievable without either more infrastructure than is included in the appraisal, or potentially detrimental changes to the service in order to make each option work. This would weaken appraisal and possible lead to lower value for money.

Table 4.2 - Appraisal results - No COVID behavioural impact

Socio-economic appraisal (£m PV, 2010 prices)	Option 1 (Bedwyn shuttle extension)	Option 2 (semi-fast calls)	Option 3 (Reading shuttle extension)	Option 4 (Paddington – Westbury)	Option 4 Low opex	Scenario 4A ⁸ Option 4 vs Bedwyn Extension	Scenario 4A Option 4 vs Bedwyn Extension Low opex	Scenario 4B ⁹ Option 4 New station only
Net benefits to consumers and private sector (plus tax impacts)								
Rail user journey time benefits	16.69	-17.98	-1.33	41.25	41.25	23.70	23.70	6.32
Journey ambience inc. station amenity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-user benefits - road decongestion	6.26	3.92	4.06	10.88	10.88	8.62	8.62	6.36
Non-user benefits - noise, air quality, greenhouse gases & accident benefits	-1.19	1.35	-7.35	-15.70	0.33	-11.79	-6.62	2.18
Rail user and non-user disruption disbenefits during possessions	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	0.00
Benefits to society and the private sector	0.20	0.00	-0.28	3.58	2.55	0.87	0.54	0.00
Indirect taxation impact on government	-7.65	-7.88	-5.95	-9.57	-12.33	-8.58	-9.47	-9.01
sub-total (a)	14.05	-20.85	-11.10	30.19	42.43	12.55	16.51	5.86
Costs to government (broad transport budget)								
Initial capital costs	25.39	25.39	25.39	25.39	25.39	25.39	25.39	18.98
Renewal costs	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.29
Non-user benefits - road infrastructure cost changes	-0.06	-0.04	-0.04	-0.11	-0.11	-0.08	-0.08	-0.06
Revenue transfer*	-51.38	-44.76	-37.62	-84.79	-84.79	-70.86	-70.86	-55.59
NR operating costs and TOC operating costs transfer**	29.80	2.60	37.86	201.73	93.82	89.73	58.15	2.60
sub-total (b)	5.47	-15.07	27.32	143.95	36.04	45.90	14.33	-32.77
Net Present Value (NPV) (a-b)	8.58	-5.77	-38.42	-113.76	6.39	-33.35	2.18	38.63
Benefit Cost Ratio to Government (BCR) (a/b)		Financially						Financially
	2.57	Positive	-0.41	0.21	1.18	0.27	1.15	Positive
Value for Money category	High	Poor	Very Poor	Poor	Low	Poor	Low	Very High

⁸ Requires extension from Newbury to Bedwyn to be funded
 ⁹ Requires extension from Newbury to Westbury and Westbury platform to be funded





Option 1. Extend the Newbury to Bedwyn Shuttle to Westbury

Option 1 shows High value for money with the net benefits of the scheme outweighing the net costs. It should be noted however that this result is optimistic, in that it assumes no long-term behavioural impact from COVID, which is now highly unlikely. Sensitivity tests (Table 4.3) show that with more plausible medium or low post-COVID demand scenarios, VfM falls to Poor.

The financial costs and revenues of the scheme are much higher here than the non-financial socioeconomic benefits, which are Low. In such schemes, even modest changes in the revenues or costs of the scheme can lead to value for money flipping from Poor to High value for money or vice versa.

Option 2. Introducing Devizes stop in the semi-fast.

This option saves on opex compared to Option 1, as no rolling stock is assumed to be required. It also provides a direct London service for Devizes which is not provided with either Option 1 or 3.

However, there is a disbenefit and revenue loss from passengers travelling through Devizes Gateway who receive a 4-minute journey time penalty from the addition of the new stop. The revenue loss and disbenefits outweigh the above benefits of the scheme. This leads to the option showing Poor VfM.

Option 3. Reading to Westbury service, dropping Pewsey stops from Semi fast.

This option is more expensive in operating cost terms with a 3-car assumed to operate the service from Reading to Westbury.

This option also features the removal of the Pewsey stop from the semi-fast service.

While Pewsey gets a more regular hourly service with Option 3, it loses its direct connections to London and stations in the South West beyond Westbury.

There is also a journey time benefit for passengers travelling through Pewsey who are assumed to have a 3-minute shorter journey time from removing the stop.





On balance the removal of the Pewsey stop causes a loss in revenue and benefits, and the option proves to be Very Poor VfM. This option might be improved by leaving some peak Pewsey stops in the semi fasts.

Option 4. Stopping an extended London to Newbury service at Devizes Gateway.

Unlike Options 1 to 3 this option is regarded as being feasible without any new infrastructure over and above what is included in the appraisal at Westbury and Devizes.

This option extends an hourly London to Newbury service to Westbury. It is assumed to be operated by 5 coach class 80x IETs. These extended services are assumed to stop at all stations. This enables local stops such as Pewsey to be removed from the 2-hourly semi-fast services benefiting longer distance passengers.

This option provides greater revenue and benefits than the other options, because as well as providing the new station at Devizes and local connectivity to Westbury, the removal of the stop from the semifasts benefits longer distance passengers. There is however a disbenefit and revenue loss from the Pewsey to London market as this option offers a slower albeit more frequent service.

While the revenue benefit is higher, the opex associated with the option is much higher which is a function of the very high cost assumed for 5 car class 80x IETs. (This assumption might be regarded as pessimistic given the possible surplus of class 80x rolling stock mentioned in section 4.1.3.) This results in a very low NPV and Poor VfM for the option.

Option 4. Low Opex assumption

This option is identical to the previous Option 4 scenario except in the treatment of the operating costs. It is understood that there is a surplus of IET-type trains currently available, with the industry already contractually obliged to pay for them. Where possible these services are used on routes where cheaper rolling stock might otherwise be appropriate.

This option gives the opportunity for 'already paid for' IETs to be redeployed to the Berks & Hants from other routes. This is assumed to be the case for the first 30 years of the appraisal period. Additional rolling stock is still assumed to be needed to replace the class 80x from wherever they would otherwise





operate. However, this is assumed to be cheaper rolling stock, with second generation DMU¹⁰ costs assumed.

While this reduces operating costs substantially - £108m PV compared to the full cost option – the VfM still only improves from Poor to Low.

Option 4 vs extended London Newbury to Bedwyn.

The do-something scheme option is identical to the preceding two Option 4 scenarios. However, in this scenario the option is compared to a different do-minimum, in which the existing London to Newbury service is extended to Bedwyn. The option extends this service to Westbury, stopping at Pewsey and Devizes. Pewsey stops are removed from the semi fast services in the Do-minimum.

Again, the additional revenue and benefits are outweighed by the higher the opex associated with the additional 5 car class 80x bi-mode trains and the additional train crew. The option is Poor VfM.

Option 4 vs Bedwyn extension Low Opex.

This option is identical to the previous Option 4 result except in the treatment of the operating costs. Instead of including the cost of leasing and operating an additional expensive 5 car class 80x bi-mode, the costs are assumed to be for cheaper DMU rolling stock.

While this reduces operating costs substantially, £32m PV compared to the full cost option, it still only improves the VfM from Poor to Low.

Option 4. New station only

This final scenario is comparing Option 4 with a Do-minimum in which the Paddington to Newbury service is already extended to Westbury, albeit without a Devizes Gateway stop – this scenario is just looking at the incremental costs and benefits of introducing the new station at Devizes Gateway.

¹⁰ Diesel Multiple Unit train





This option is financially positive, and Very High VfM. However, this is dependent on separately achieving funding for the extending the service to Westbury and Westbury platform in the first place. This has been shown to be Poor VfM in this appraisal.

The reason for this positive result is that the option provides all the benefit of the new station without increasing the train service operating costs. There is a small downside here from extending the journey times between Pewsey and Westbury in order to add the Devizes Gateway stop. However, this local service will not be carrying very high loads on this section, so this downside is limited.

<u>4.1.2 – Sensitivities</u>

A number of sensitivities have been tested, as shown below. The results presented in Table 4.2 above should be regarded as optimistic as they are unadjusted for the behavioural effects of COVID. Given that one of the comparator stations Pewsey had a high level of London commuter demand in 2019, a significant long term demand reduction from the effects of COVID should be expected. The following two COVID scenarios are presented based on the industry standard COVID scenarios v19.1.1:

- Medium COVID scenario (27% reduction in business travel and 23% reduction in commuting).
- Low COVID scenario (65% reduction in business travel and 49% reduction in commuting)

There is also a high degree of uncertainty over the revenue which will be generated by the new station. For this reason, high and low revenue sensitivity tests have been undertaken. Opex and capex sensitivities have also been tested.

There is not a strong case for the inclusion of wider economic impacts. As a sensitivity an allowance has been made for these benefits consistent with the levels assumed in the Atkins SOBC. This assumed induced investment benefits at 10% of business benefits and Agglomeration at 10% of Rail User benefits.

		Option 1 (Bedwyn shuttle extension)	Option 2 (semi-fast calls)	Option 3 (Reading shuttle extension)	Option 4 (Paddington – Westbury)	Option 4 Low Opex	Scenario 4A Option 4 vs Bedwyn Extension	Scenario 4A Option 4 vs Bedwyn Extension Low opex	Scenario 4B Option 4 New station only
	NPV	8.58	-5.77	-38.42	-113.76	6.39	-33.35	2.18	38.63
			Financially						Financially
No COVID behavioural impact	BCR	2.57	Positive	-0.41	0.21	1.18	0.27	1.15	Positive
	VfM	High	Poor	Very Poor	Poor	Low	Poor	Low	Very High
	NPV	-0.32	-6.78	-39.07	-131.83	-11.68	-46.16	-10.63	31.08
			Financially						Financially
Medium COVID	BCR	0.97	Positive	-0.32	0.14	0.74	0.14	0.52	Positive
	VfM	Poor	Poor	Very Poor	Poor	Poor	Poor	Poor	Very High
	NPV	-11.06	-6.41	-39.01	-155.35	-35.19	-62.33	-26.80	22.19
Low COVID			Financially						Financially
	BCR	0.41	Positive	-0.22	0.06	0.38	0.02	0.17	Positive
	VfM	Poor	Very Poor	Very Poor	Poor	Poor	Poor	Poor	Very High
	NPV	14.29	11.73	-24.59	-114.46	5.69	-28.79	6.74	48.45
High new station revenue (15%		Financially	Financially						Financially
abstraction and £3 higher new	BCR	Positive	Positive	-0.66	0.16	1.21	0.20	2.47	Positive
journey yield.)			Economically						
Medium COVID	VfM	Very High	Efficient	Very Poor	Poor	Low	Poor	High	Very High
Low new station revenue (50%	NPV	-21.47	-36.68	-60.03	-158.45	-38.30	-72.78	-37.25	4.46
abstraction and £3 lower new	BCR	0.38	-0.60	-0.14	0.13	0.49	0.12	0.28	2.59
journey yield.)									
Medium COVID	VfM	Poor	Very Poor	Very Poor	Poor	Poor	Poor	Poor	High
	NPV	3.88	-6.41	-33.66	-103.73	1.27	-33.56	-2.46	31.45
Opex Optimism Bias of 21%			Financially						Financially
Medium COVID	BCR	1.53	Positive	-0.39	0.17	1.04	0.19	0.83	Positive
	VfM	Low/Medium	Very Poor	Very Poor	Poor	Poor	Poor	Poor	Very High

Table 4.3 - Summary of Appraisal Sensitivity tests

	NPV	-5.80	-12.26	6	-44.55	-137.31	-17.15	-51.64		-16.10	27.03
Capex cost increase of 20%			Finan	cially							Financially
Medium COVID	BCR	0.66	Positi	ve	-0.27	0.14	0.66	0.13		0.42	Positive
	VfM	Poor	Poor		Very Poor	Poor	Poor	Poor		Poor	Very High
Inclusion of Level 2 benefits /	NPV	1.	26	-9.55	-39.51	-126.75	-6.	60	-43.43	-7.90	31.58
Wider Economic Impacts,	BCR	1.	11	2.01	-0.33	0.17	0.	85	0.19	0.65	-0.20
Medium COVID	VfM	Low	Poor		Very Poor	Poor	Poor	Poor		Poor	Very High





Overall, the sensitivity tests show the following:

- For Options 3 and 4 and scenario 4A without the Low Opex assumption, the value for money remains Poor or Very Poor in all cases.
- For Option 2, value for money remains Poor in all cases except for the high new station revenue scenario. In this case the additional net financial return from the scheme (as revenues exceed costs) outweighs the net socioeconomic dis-benefits. This result is described as being economically efficient.
- Option 1 value for money is highly sensitive. With medium or low post COVID demand, value for money is Poor. However, with more optimistic revenue assumptions of either no COVID behavioural impact or higher new station revenue than the central case, value for money switches to High or Very High.
- For Option 4 and Scenario 4A with Low Opex (i.e. full IET costs are not incurred for the first 30 years) value for money is Poor in most scenarios, including medium and low COVID recovery. However, with optimistic 'No COVID behavioural impact' or the high new station revenue scenario, the value for money improves to at least Low value for money. Scenario 4A with the high new station revenue sensitivity shows High value for money.
- Scenario 4B, which looks at the incremental case for adding the new station to an already extended Westbury service, shows High or Very High value for money in all cases.

4.1.3 – Capital and Operational (Capex and Opex) costs

All options require the construction of the new station, and all are assumed to require as a minimum the construction of an additional platform at Westbury. The initial capital costs (capex) produced by Network Rail are presented below, compared with those used by Atkins in their report B41 Devizes Gateway SOBC v7.1.





	Price base	Point	Anticipated	Atkins price	Atkins Point
		estimate	Final Cost	base	estimate
Devizes Gateway station	2023 Q1	£25.8m	£40.7 –	2021 Q2	£19.1m
			51.2m		
Westbury platforms	2023 Q1	£8,7m	£11.5 –	2021 Q2	£5.5m
			15.5m		
Total	2023 Q1	£34.6m	£52.2 –	2021 Q2	£24.6m
			66.7m		

Table 4.4 – Capex costs (2020/21 prices)

The capital cost point-estimates of £25.8m and £8.7m, excluding risk or contingency at 2023 prices, are what is used in the appraisal. As these estimates are at GRIP 1/PACE Phase 1 – the earliest stage of cost development – optimism of 56% is added to the point estimates as required by DfT Transport Appraisal Guidance (TAG).

Renewals are assumed to be 30% of the initial capital costs and will be incurred 30 years after the initial investment. Additional costs for operating and maintaining the new station at Devizes Gateway are as set out in the Atkins report.

Cost	£m per
	annum
Long term access charges	0.072
General operations and maintenance (utilities, cleaning, ticket supply,	0.030
other reactive maintenance)	
Car Park Maintenance	0.0055
Station operating costs subtotal	0.1075

Table 4.5 – Operating costs (2020/21 prices per annum)

Most of the options require additional train and vehicle mileage to be operated. For each option costs are calculated based on:

- Additional maintenance, energy and access charges based on the additional vehicle mileage operated.
- Additional vehicle leasing costs
- Additional staff costs based on an assumption of 3 crew teams (driver and guard) per train diagram.





The assumptions with regard to numbers of additional rolling stock sets required and/or saved, and the changes in train crew assumed are set out in Table 4.6 below. There are however a number of uncertainties, in particular in relation to timetable Option 4.

Firstly, it is understood that there are a number of spare Class 80xs available as a result of post COVID service reductions, with the cost contractually committed for 30 years. It may not be fair to attribute the whole of this cost to the scheme if they are not fully avoidable; therefore, low cost options have been considered. In these cases, it has been assumed that in the 'Do Minimum' (i.e. 'as-is' scenario), the excess 80x's are operating on routes where cheaper rolling stock would otherwise have been used. In Option 4 these IETs are assumed to be redeployed to the Berks & Hants route and replaced by cheaper rolling stock on the route where they operated in the 'Do Minimum' scenario. This means the option does incur additional operational expenditure (opex) costs including leasing at the class 80x rates, but instead uses rates for cheaper rolling stock. This applies for the first 30 years only.

The second uncertainty is around the change in the number of train crew required to re-introduce the Paddington – Bedwyn service. It is understood that only three class 80x are required for the new service which replaces three class 387 diagrams and one class 165 diagram. This hints at a possible reduction in train crew diagrams in-spite of the additional mileage. As this has not yet been confirmed, the conservative assumption has been made that if the Bedwyn service were re-introduced there would be no change in train crew costs. Extending to Westbury does require an additional set and x 3 additional drivers and guards.

	Rolling stock	Additional rolling	Change in train
	released	stock	crew
Option 1 Newbury Bedwyn	-	1 additional 2-car	X 3 Driver and
extended to Westbury.		165 set	guard
Option 2 Stop semi-fast at	None	None	None
Devizes Gateway			
Option 3 Reading to Westbury	2 x 4-car class 387	4 x 3-car 165s	X 3 Driver and
service	from Reading		guard
	Newbruy		
	X 1 2-car 165 set		
	from Bedwyn shuttle		
Option 4. Extend London to	5 x 4-car class 387	4 x 5-car class 80x	Assumed
Newbury service to Westbury	from London	bi-mode	additional x 3
	Newbury. (2 x 8 car		Driver and guard.





	& 1 x 4-car diagrams) X 1 2-car 165 set from Bedwyn shuttle		
Option 4 Extend London to Newbury service to Westbury Low Opex. As above, but assume that class 80x bi-modes already committed for 30 years.	5 x 4-car class 387 from London Newbury. (2 x 8 car & 1 x 4-car diagrams) X 1 2-car 165 set from Bedwyn shuttle	4 x 5-car generic 2 nd generation diesel for 30 years. Thereafter assume 5-car 80x bi-mode	Assumed additional x 3 Driver and guard.
Option 4 Extend London to Newbury service to Westbury vs re-introduction of London to Bedwyn service	-	1 x 5-car class 80x bi-mode	Assumed additional x 3 Driver and guard.
Option 4 Extend London to Newbury service to Westbury vs re-introduction of London Bedwyn - Low Opex. Assume that class 80x bi-modes already committed for 30 years.	-	1 x 5-car generic 2 nd generation diesel for 30 years. Thereafter assume 5-car 80x bi-mode	Assumed additional x 3 Driver and guard.

Table 4.6 - Assumptions on changes to numbers of sets and train crew for operating cost calculations

<u> 4.1.4 – Trip rates</u>

The Atkins trip rate modelling estimated demand based on expected journeys per head at the new station according to their proximity and chosen access mode. It was based on an analysis of trip rates at existing comparator stations. Pewsey and Westbury were used as comparator stations in the SOBC.

The nature of demand at the two comparator stations is different. Pewsey is a small settlement, attracting significant demand from people outside of the town itself, with the market in 2019 dominated by passengers travelling to London. Westbury has a larger population, and a more diverse train service connecting Bristol with the South Coast as well as being served by trains from London to the South West. The Westbury market is less dominated by the London flow. Devizes has a population closer to that of Westbury, but the Gateway station will be outside the town itself. It will, like Pewsey, be served exclusively by trains operating on the Berks & Hants route.

The trip rates and populations assumed in the Atkins analysis are set out in Table 4.7 below.





		Car		Bus			Car	Bus	
		0 to	10 to	0 to	10 to	20 to			
		10	20	10	20	30			
Station	Attribute	mins	mins	mins	mins	mins	Total	Total	Total
	Catchment	28,00	106,00		13,74		134,0	109,7	
Westbury	population	0	0	3,791	9	24,143	00	91	
	Catchment						49,66	44,67	
Pewsey	population	6,727	42,937	1,741	1,943	8,641	4	8	
	Catchment	20,65			11,25		61,21	41,61	
Devizes	population	3	40,557	1,056	9	5,776	0	3	
Westbury	Trip rate	5.7	1.6	29.4	4.1	2.3			
Pewsey	Trip rate	9.2	3.9	11.6	5.2	1.2			
Devizes									
Gateway	Assumed trip rate	7.45	2.75	20.5	4.65	1.75			
		159,6	169,60	111,4	56,37		329,2	223,3	552,55
Westbury	Journeys	00	0	55	1	55,529	00	55	5
		61,88	167,45	20,19	10,10		229,3	40,66	270,01
Pewsey	Journeys	8	4	6	4	10,369	43	8	1
Devizes	Forecast	153,8	111,53	21,64	52,35		265,3	84,11	349,50
Gateway	Journeys	65	2	8	4	10,108	97	0	7

Table 4.7 - Catchment population and trip rate assumptions. (Source Atkins SOBC)

The trip rates for Pewsey and therefore the forecast demand using Pewsey as a comparator is higher than if Westbury were used. The central estimate of demand from the trip rate analysis was a simple average of the number of journeys implied by the Pewsey and the Westbury trip rates. This came up with a demand figure of 350,000.

Comparator station trip rate used	Total demand at Devizes Gateway		
Westbury	274,593		
Pewsey	425,344		
Average	349,969		

Table 4.8 – Forecast demand at Devizes Gateway based on comparator station trip rates

One concern with the analysis here is that the journey time bands are quite wide. A very different trip rate might apply for people within a 5-minute car journey catchment than between 5 and 10 minutes. If the bulk of the Devizes population falls within but near the edge of the 0-10 minute car catchment there is a danger of over estimation of the trip rate. However, a significant portion of the Devizes





population may also lie just outside the 0-10 car catchment, although this is not entirely clear. If this is the case the net overstatement may not be too great.

4.1.5 - Abstraction

Analysis was undertaken to look at the overlap between Devizes and the closest existing station, Pewsey. The catchments for Devizes Gateway and Pewsey was split into small geographical areas using Lower Layer Super Output Areas, or LSOAs¹¹.

For each area, car journey times were estimated to Devizes Gateway and Pewsey based on an assumed relationship between Car journey time and crow-flies distance.

LSOAs within an assumed car journey time of less than 10 minutes to Devizes Gateway or Pewsey were assigned the relevant higher trip rate from the SOBC. Those LSOAs with car journey times between 10 and 20 minutes attracted the lower trip rates.

For each LSOA and station the number of journeys to each station was calculated by multiplying the trip rate by the population of the LSOA.

Where an LSOA falls within both catchments, journeys will be forecast to both Devizes Gateway and Pewsey, so there will be double counting. For each of these LSOAs the passengers were assumed to use their closest station.

	Pewsey analysis	Assumption including Westbury, Chippenham and other stations
 Overstated demand (as a proportion of Devizes demand) 	5.4%	X 2 =10.8 %
2. Abstraction as a percentage of Devizes	7.6 %	X 2.5 =19.1 %

Table 4.9 – Adjustment for overlapping catchments and abstraction

¹¹ The UK is divided up into small geographical areas known as Lower Layer Super Output Areas or LSOAs for the purpose of presenting and analysing census data.





Atkins did not appear to have adjusted for point 1, however a very conservative adjustment was made for abstraction in the report, where an abstraction rate of 2/3 (i.e. 67 %) was assumed.

<u>4.1.6 – New journey yield</u>

Devizes demand will include journeys which are new to rail, but also journeys which are abstracted from other stations as set out above. The revenue generated by the scheme for the industry will include only the new journeys.

The new journeys generated are likely to be shorter and lower yield than the existing market at the comparator stations. For example, someone living in Devizes may currently be prepared to drive to Westbury to catch a train to Plymouth or to Pewsey to catch a train to London. However, they are less likely to drive to Westbury to catch the train to Castle Cary or to Pewsey to get the train to Newbury. The new station at Devizes Gateway will encourage the existing long-distance passengers who are driving to other stations to switch to the new station, but should also generate new demand for the shorter journeys.

There is not yet any clear analysis to give an appropriate average journey distance or yield. For context the yield for Pewsey in 2019 was £16.40 and at Westbury was £12.04. Where Devizes is served by local services which do not operate to London, a yield of £10 (2019 prices) has been assumed for the new journeys. For options where there would be a direct service from Devizes Gateway to London, and where longer journeys might be expected, higher yields of £11 and £12 per new journey respectively were assumed.





4.1.7 – Assumptions for new station demand modelling

	Atkins	Basis of Atkins	Network Rail	Notes
Devizes Journeys (Unadjusted for service level)	350,000 per annum	assumption Trip rate modelling based on Pewsey and Westbury	312,000	Adjusted down by 11 % based on analysis of catchment overlap between Pewsey and Devizes
Adjustment to Devizes demand for different service level			Opt 1 21 % reduction Opt 2 3 % reduction Opt 3 22 % reduction Opt 4 8 % reduction	Based on a MOIRA analysis of how service level at Devizes compares with 2019 service level
Abstraction	67%	Judgement	19%	Based on an analysis of catchment overlap between Pewsey and Devizes
Revenue yield per new journey	£18 2021 prices	Historic Pewsey yield	£10 2019 prices.	Judgement. Average yield at Pewsey from journeys shorter than Pewsey London is only £7. New journeys likely to be shorter, and lower yield.
Journey time benefit for abstracted passengers	16 minutes per passenger	Analysis of improvement between passengers using alternative rail	16 minutes per passenger	Use Atkins assumption
Journey time benefit for new passengers	As above	No separate assumption for new passengers	8 minutes per passenger	Rule of a half
Proportion of passengers using car	31 %		31 %	Atkins assumption
Highway vehicle Occupancy	1.57		1.57	Atkins assumption
Average car journey distance	8.5	NTS miles per trip	36.1miles	Implied by dividing £10 by average fare per mile of 27.7p

Table 4.10 – Key assumptions for new station demand modelling





All the analysis undertaken here and as part of the SOBC is still based on pre COVID in 2019 demand levels. Demand patterns have been significantly affected since then, in particularly in relation to Business and Commuting. Two other COVID recovery scenarios have been considered based on version 19.1.1 of the standard industry COVID scenarios:

- Medium COVID scenario (27% reduction in business and 23% reduction in Commuting)
- Low COVID scenario (65% reduction in business and 49% reduction in commuting)

Both assume a full recovery in the Leisure market. It now looks likely that the Medium COVID scenario itself is starting to look very optimistic in terms of likely outcomes.

Benefits to passengers using stations other than Devizes were modelled using MOIRA. Other changes from the SOBC new station modelling include:

- Modelling the impact of different levels of service at Devizes
- Review of abstraction assumptions
- Inclusion of growth from DfT's Demand Driver Generator growth framework
- Operating costs calculated based on assumptions agreed with GWR

It should be noted that none of these options were found to be feasible with only Platform 0 provided. This means that either additional infrastructure or changes to other services would be required to deliver the options. This would lead to either additional costs or disbenefits. Some of the options are highly sensitive to the assumptions made about the revenue generated by the new station. For this reason, high and low revenue assumptions are presented. Central assumptions were based on pre COVID 2019 demand, with Medium and Low COVID recovery values presented.

<u>4.1.8 – Car parking</u>

As this is a parkway station some distance from the town of Devizes itself, the provision of appropriate car parking is important. The proposal is for a 203-space car park.

Based on the Option 4 demand forecast with no-COVID adjustment, around 340 round trips by car would be expected on a weekday. There is no data to inform the proportion of car drivers who would use the car park, however if it were assumed that 50% of the 340 car passengers would, then a 203-





space car park would seem reasonable. (There will be variability in individual daily loads so there could still be individual days when 203 spaces would be insufficient.)

Significant revenue might be earned through the car park. If a car park charge of £6 is assumed, the forecast demand for Option 4 is sustained and the car park is used by 50% of car passengers then annual revenue would be £265K giving £6m PV over the appraisal period. This is not currently included in the appraisal.

4.1.9 – Bus service

Adopting a similar approach to that adopted for the car parking it would be expected that around 120 round trips per day on a weekday (without COVID adjustment). The buses under consideration are 27 seaters costing £290k per annum to operate assumed to be 2022 prices. Given these figures it would seem that a 2 bus per hour operation would be reasonable from a capacity perspective. However, it is conceivable that if a very large proportion of passengers are focussed on a particular peak train there could be a crowding issue for that particular bus.

Assuming £3 one-way bus fare (2019 prices), based on half of Wiltshire council figure of £6 return, bus revenues would be c. £230k p.a. That would be well below the operating costs for 2 buses of £580k per annum 2022 prices. Over the appraisal period this would raise revenue of c £5m PV but incur costs of c £16m PV. Neither the costs nor benefits are currently included in the appraisal.

If one bus is used, and this results in passengers waiting at the station, then it is estimated that there would be a circa 24% reduction in bus-rail demand. For Option 4 the rail and bus revenue is assumed to be around £800k per annum which would mean that there would be potential to lose around £200k per annum, giving a loss of circa £4m PV over 60 years. There would also be socioeconomic dis-benefits.

Conclusion – none of the three core timetable options show a positive economic case when considering the likely post-COVID impact on demand. The case for a Paddington – Westbury service also appears to be poor, although there may be local factors that have historically depressed demand which, if addressed, could lead to a more positive case. If this service is introduced, then there is a very strong economic case for Devizes Gateway. This aligns with the strategic view of how a service should be developed, and shows that Devizes Gateway would benefit from being considered as part of a wider suite of strategic developments in the area, rather than as a standalone project.





5. Commercial Case

Summary – the risks and opportunities presented by Devizes Gateway project are similar to those for other transport projects undertaken by Network Rail. They will be managed using established tendering, procurement, governance and assurance procedures

The SOBC commercial case set out Wiltshire Council's strategy for achieving value-for-money. This section sets out key updates from the SOBC.

5.1.1 - Procurement Strategy

The DfT has advised future stages of Restoring Your Railway (RYR) will be delivered by Network Rail, which has procedures for managing public money and governance of procurement processes equivalent to those of Wiltshire Council. These will be applied if the scheme achieves a Decision to Develop.

Network Rail and the wider rail industry have significant experience procuring and sourcing deliverables for rail enhancement projects of a similar nature to Devizes Gateway. The procurement strategy will be defined in detail in the Outline Business Case. The project will be delivered using Network Rail's existing supply chain and would be expected to be contracted under existing competitively tendered frameworks which share risk between the public and private sector.

The works are expected to involve standard materials and construction techniques known to be commercially viable. One of the main risks to the project is the proximity to potential flood zones, with the impact this would have on drainage and infrastructure foundations. The intention is to undertake intrusive surveys during the development stage so that any issues are understood and accounted for within the design and as part of contract procurement.

5.1.2 - Bus Service

With regards to the shuttle bus to run between Devizes and the new station, Wiltshire Council has extensive experience of procuring new bus services of this nature. It would competitively tender for a new bus service to serve Devizes Gateway and would anticipate the capital cost of the bus to be included as a proportion of the operational cost for each vehicle.





Conclusion – Network Rail and Wiltshire Council have identified Devizes Gateway and the associated transport infrastructure and services may be achieved using established governance, procurement and contractual processes with established suppliers.

Network Rail has established processes for managing the types of risks identified with the Devizes Gateway project (e.g. flood zone, level crossings) and ensuring the assets are suitable for their intended lifecycle.

The railway station has a low level of dependency with the wider connectivity elements (i.e. bus link, active travel route) that support its integrated operation, allowing delivery to be phased if necessary.





6. Financial Case

Summary – the estimated cost range for introducing Devizes Gateway station, including Westbury bay platform 0, is £52.2m-£65.7m (2029 prices).

The identification of two key risks since the SOBC (aerodrome flight path and A342/access road junction), has prompted a revised station design to the south of the railway, requiring an increase in land acquisition for the access road. Level crossing closure and diversion, car park size revision (from 100 spaces to 203 spaces) and longer platform lengths (from 7-car to 10-car IETs) have added to costs.

The date of entry into operation for Devizes Gateway depends on the completion date of Old Oak Common station works.

Indicative cost for developing to OBC is £1.30m-£1.35m (March 2023 prices).

The financial case presents estimated cost ranges for the Devizes Gateway scheme, calculated during this interim feasibility study.

6.1.1 - Project funding

Expenditure to date

Expenditure on the initiate stage closes on 31 March and is between £350,000-£400,000. This has come from the DfT's CP6 Restoring Your Railway (RYR) funding.

Assumed funding source for progression

Funding to develop the project to a Joint Decision to Design is anticipated from the RYR fund, though other funding streams will be investigated. Devizes Town Council has committed to contribute £15,000 to the next stage as part of the 15% stakeholder contribution expected by the DfT. Wiltshire Council and Devizes Development Partnership have indicated they will continue to explore various funding streams for this project.





6.1.2 - Estimate, cost, and financial impacts

Cost for next stage

The next stage is to develop Devizes Gateway to a Decision to Design, including the production of an Outline Business Case (OBC). Network Rail has produced an indicative cost for the next stage of ± 1.30 m - ± 1.35 m, expressed in March 2023 prices. The costs include for intrusive surveys, often undertaken during the following stage of design development, to mitigate the substantial risk to cost and programme of a need to mitigate worse than anticipated ground conditions. This IFS recommends that work could pause for approximately 18 months (late 2024/early 2025) with no delay to the station commissioning date. If the next stage does not commence until this date, costs will need to be reviewed.

Description	Cost
Sponsor	£20,500 - £24,500
Project Management	£1.26m - £1.30m (includes LC reviews; designs & surveys for Devizes and Westbury)
Timetabling	Timetabling - £8,000 - £11,500 Performance modelling – not required for next stage.
Risk	Included in project management cost at 15 %

Table 6.1 - Estimated costs for PACE 1 development stage

Cost for future stages

In the assessment of capital costs, the SOBC (v7.1 October 2021) provided estimates for Devizes Gateway station, Westbury platform and Bedwyn loop, though excluded inflation.

Network Rail has completed further development work for this IFS which, in addition to refining the requirements for the work needed at Devizes Gateway and Westbury, has identified a potential commissioning date at Christmas 2029. The revised cost, alongside the values assessed in the SOBC are presented in Table 6.2 below. The values in the updated cost ranges are presented in cash values, including escalation of 19% from 2023 prices.





The Bedwyn loop extension was included to allow passenger services to be looped for extended periods of time to enable the service to call at Devizes Gateway. This has been excluded from the cost presented in the IFS because stakeholders, and Network Rail itself, considered that it would make the service unviable, and an alternative operational solution has been identified.

Intervention	SOBC cost (Q2 2021), 56% optimism bias	IFS cost range (Q2 2023 inflated to commissioning in 2029) £m	Change £m
Devizes Gateway	29.7	40.7m – 51.2m	11 - 21.5
Westbury	8.6	11.5 – 14.5	2.9 – 5.9
Bedwyn	9.8	-	-9.8
Total	48.1	52.2 – 65.7	4.1 - 17.6

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Part of the change set out above is the result of inflation (which has been equalised in the assessment in the economic case), but there are other key drivers which would make Devizes Gateway a relatively expensive station to construct. These include:

- The requirement for a new access road. This makes up 20% of the total cost of the station. Further discussions were undertaken during the latest stage of development, but the assumption has remained that this access road would remain a railway asset rather than local authority responsibility.
- The station car park has been assumed to be 200 spaces, an increase from the 100 spaces costed in the previous SOBC. This was derived from discussions with stakeholders for the required car park size, but there is an opportunity to reduce the size of this car park to reduce the initial capital cost.
- Platform length. To allow for Devizes Station to be served by all services that pass the station without operational restriction, the price is based on 10-car platform length (rather than 7-cars assumed in the SOBC). The final stage of timetabling for the IFS identified that the normal





timetable service would be by a 5-car train, so there is an opportunity to reduce the size of the station accordingly at a later stage.

- The provision of lifts at Devizes Gateway, the cost of which was excluded from the SOBC, but which are now assumed to be required.
- The diversion of Stoner bridleway. The costs of providing a bridge crossing have been included in the updated cost.
- The SOBC assumed that the additional platform at Westbury could be delivered with minimal impact on existing lines and with minimal changes to the platform. Initial design work at the station has highlighted that all options would require widening of the London end of the platform and wider changes to the track layout.

To strengthen the Value for Money and affordability of Devizes Gateway, compromises could be made on some of the scope items identified above. The areas that are most likely to offer a saving are the length of the platforms and the size of the car park, along with further discussions with Wiltshire Council on the ownership and cost of construction of the access road.

<u>6.1.3 - Risk</u>

The risk percentages used in the cost estimates are in line with Network Rail governance on the calculation of contingency for Strategic Outline Business Cases and reflect the degree of uncertainty associated with early-stage cost estimates. At this early stage of development, a Quantitative Cost Risk Assessment (QCRA) has not been completed, so the risk percentage has been calculated based on the specific maturity and level of uncertainty with each intervention. The cost range represents the lower (32%) and upper (66%) confidence probability values for each of the options.

6.1.4 - Whole Life Costs

The SOBC considered no additional rolling stock costs, but the Interim Feasibility Study analysis indicates one additional 5-car class 80x train and associated resources would be required for the minimum viable service (Phase 2 Timetable Option 4). This would remove the requirement for one 3-car Class 16x train and associated resources.

Wiltshire Council advised, based on a recent tender evaluation, that the indicative annual operating costs for a Devizes Gateway shuttle bus service would be £290,000 per bus, based on a 25-30 seat





diesel vehicle operating 12-hours per day, 7 days per week. Five options have been considered and are summarised in the Strategic Case. Bus option 2 proposes two buses: one to coincide with 'Up' trains and one for 'Down' trains.

Conclusions – The prioritised construction of Old Oak Common station means a Decision to Develop for Devizes Gateway can be deferred until late 2024 and still allow an entry into service of spring timetable change 2030.

The Bedwyn loop, proposed in the SOBC, has been removed as potential alternative solutions have been identified that offer improved system-wide benefits.

Financial savings could be made by reducing car park size and platform lengths, but the implications for usability and service pattern compatibility would need to be assessed.

Network Rail and Wiltshire Council have identified Devizes Gateway and the associated transport infrastructure and services may be achieved using established governance, procurement and contractual processes with established suppliers.

Network Rail has established processes for managing the types of risks identified with the Devizes Gateway project (e.g. flood zone, level crossings) and ensuring the assets are suitable for their intended lifecycle.

The railway station has a low level of dependency with the wider connectivity elements (i.e. bus link, active travel route) that support its integrated operation, allowing delivery to be phased if necessary.





7. Management Case

Summary – The DfT has advised future stages of RYR, which has funded this IFS, will be delivered by Network Rail. Network Rail has recent experience delivering projects similar in scope and size to Devizes Gateway.

A service for Devizes Gateway may be possible but only after a series of interventions to freight train performance, rolling stock availability, Old Oak Common station introduction, timetable planning and Westbury infrastructure.

Devizes Gateway scheme is expected to take five years, from Decision to Develop, to commissioning. Safety measures at level crossings on the Berks & Hants line will be assessed for suitability at the next stage.

The SOBC management case described Wiltshire Council's governance structure for Devizes Gateway. The DfT has advised future stages of RYR will be delivered by Network Rail, which has equivalent governance procedures for capital projects. These will be applied if the decision to develop is granted.

7.1.1 - Evidence of Similar Projects

Network Rail's Wales & Western (W&W) Region have considerable experience of developing and delivering rail enhancement programmes including Ebbw Vale (2015), Newcourt (2015) and Okehampton station (2021). Ongoing schemes include Reading Green Park, Marsh Barton and Edginswell. During Control Period 6 (CP6 2019-2024) the region is delivering approximately £350m worth of rail enhancements per year across a wide variety of projects and programmes, from small station upgrades to major rail enhancements.

7.1.2 - Timetable and Service Introduction

Timetable modelling indicates a service for Devizes Gateway station is possible, following enabling work at Westbury and an improvement to freight service timings on the Berks & Hants line. Westbury enabling options and freight service changes are shown in the Programme and Project Plan section, below.





Further modelling will be undertaken at the next stage of development, based on more defined assumptions and an updated baseline. The aim will be to confirm options are still viable and to identify the most efficient way of introducing the service. Future stages will establish how to reliably introduce the service through progressive timetable planning, with increasing levels of detail at each stage of development. This will follow Network Rail's standard processes for service enhancements for the rail network.

7.1.3 - Staffing

Current proposals under the various options will not require staff at Devizes Gateway (category F, unstaffed station) or alter the level of staffing at Westbury station. Staff implications are likely to be focussed on the service extension to Westbury rather than opening of Devizes Gateway station.

An additional service will possibly require additional staff, or reallocation from the existing Newbury -Bedwyn shuttle. GWR operates driver-only operation (DOO) between Paddington and Bedwyn, requiring guard provision between Bedwyn and Westbury. Full staff requirements will be investigated at a future stage.

7.1.4 - Dependencies and Interfaces

Implementation of a viable timetable for Devizes Gateway station requires the completion of operational and infrastructure enabling activities.

- Old Oak Common station completion Planned for Christmas 2028 and completion required prior to any alterations for Westbury Platform 0. Old Oak Common requires extensive engineering train utilisation and likely access to Westbury ballast facilities. This would conflict with alterations to Westbury North junction for Platform 0 construction.
- Mendips Freight Recast Trials with double-heading on loaded quarry freight services shows timing improvements that would provide additional timetable capacity. Maximising the benefits of these improvements would require a recast of the Berks & Hants Line timetable and suitable integration with interfacing timetables.
- GWR Rolling Stock A redistribution of rolling stock within the GWR franchise would be required to release Class 80X IETs to work reinstated services from Paddington to Bedwyn and extend





these to Westbury. The timing of this is likely to be influenced by the procurement of a new fleet to replace older rolling stock.

- Westbury track engineering access Planned track renewals, in addition to Old Oak Common commitments, indicate the earliest engineering access for Westbury Platform 0 construction will be Christmas 2029.
- Westbury freight operations Implications for the diverse rail Supply Chain Operations (SCO) activities at Westbury (regional infrastructure renewals, recycling, marshalling, rail vehicle service and repair) need to be considered and contingencies agreed as part of Westbury Platform 0 construction.

To maintain the programme, engineering access is required in 2026-28 to deliver Devizes Gateway station and Westbury interventions. It is anticipated the scheme will take 5 years from Decision to Develop to commissioning.

These dates remain indicative depending on the options approved, opportunities to accelerate development arise, affordability and the durations of funding governance. Construction dates that have been identified follow those anticipated for Westbury South Junction renewals.

Devizes Gateway station designs provide connections with active travel routes. Provision of Devizes Gateway requires closure of Stoner bridleway level crossing and diversion of the bridleway. Options have been identified and discussed with stakeholders. Pedestrians and cyclists will be able to cross the railway using the station footbridge and lifts.

In addition to Stoner level crossing, other level crossings on the Berks & Hants line, potentially affected by changes to service, will need to be risk assessed to ensure the safety measures applied are appropriate to the proposed train services. Additional mitigations may be necessary.

For the Devizes Gateway scheme it is anticipated approval will be required from Regional Investment Panel.

7.1.5 - Programme/ project plan

Programmes will be developed for the preferred station option at Devizes Gateway and the preferred Westbury intervention to the level of detail required at OBC during the next stage. An indicative





development timeline for Devizes Gateway and Westbury interventions is shown in Table 7.1, from Decision to Develop to completion.

Stage	Indicative Date		
Decision to Develop	Late 2024/early 2025		
Decision to Design	Late 2025		
Decision to Deliver	Spring 2027		
Old Oak Common station rail systems construction complete	December 28		
Devizes Gateway station delivery	by December 29		
Westbury platform 0 delivery	December 29		
Devizes Gateway station entry into service	Timetable change 2030		

Table 7.1 - Devizes Gateway station: potential implementation steps

The following interventions are also required prior to Devizes Gateway station's entry into service

- GWR fleet enhancements
- Reintroduction of Paddington-Bedwyn service
- Extension of Paddington-Bedwyn service to Westbury
- Class 7 freight timing improvements

Late 2024-to-early 2025 is the latest time for a decision-to-develop, that would enable entry into service for timetable change 2030. However, there may be value in starting earlier than late 2024 to de-risk delivery of the programme.

Conclusions – The delivery dates of Old Oak Common station and Westbury platform 0 are critical dependencies for Devizes Gateway.

Freight train speed improvement and reintroduction of key passenger services are critical dependencies for Devizes Gateway.

An early Decision to Develop could provide more time for the next stage to be developed and derisk this stage.





8. Conclusion and Recommendations

This Interim Feasibility Study has considered in detail:

- The options for calling trains at Devizes Gateway
- What infrastructure could be provided at Westbury to support calling of trains at Devizes Gateway
- Where a new station could be sited and associated transport links
- The design of the new station
- The economic case for progressing the scheme

The conclusions of these investigations are:

- That the current timetable structure does not give options for a regular service pattern at Devizes Gateway
- That the reintroduction of the Paddington Bedwyn service and extending this to Westbury represents a potential future opportunity to serve the station
- That, given the above timetable option relies on:
 - increasing freight train speeds
 - \circ a wider timetable recast following the opening of Old Oak Common station, and
 - the cascading of rolling stock
- The development of Devizes Gateway needs to be considered in a broader context, and as part of a wider range of changes and interventions on this route
- Further consideration is needed on how the economic case for the project could be strengthened
- That similarly to the timetable question, from an economic position the project needs to be considered in the context of the wider region to understand if, in combination with other enhancements, the case for Devizes Gateway can be strengthened.

This report recommends that the Devizes Gateway project takes advantage of the 18-month window before the programme needs to commence to deliver a station in 2029, to address the following recommendations:





- That in the meantime Wiltshire Council and Devizes Development Partnership continue to explore potential funding streams for the project.
- That in the meantime interested parties should work together to build a case for when and how a Paddington Bedwyn service could be reinstated.
- That Network Rail lead, with input and support from local stakeholders, a Wiltshire Rail Strategic Study to consider Devizes Gateway alongside other aspirations for the Wiltshire rail network, with this work building a strategic case for investment in the area and identifying which other service enhancements would benefit from a new platform at Westbury.
- That on conclusion of this work, Network Rail, Wiltshire Council and Devizes Development Partnership consider the findings and, as appropriate, develop a case for investment that delivers steps towards/ delivers Devizes Gateway.