

Sewta Rail Strategy Study

Executive Summary



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1 EXECUTIVE SUMMARY

1.1 Introduction and Study Process

The South East Wales Transport Alliance (Sewta) is responsible for the strategic planning of public transport in South East Wales. The region covers 10 local authorities spreading from Monmouthshire in the east to Bridgend in the west and Cardiff in the south to the Heads of the Valleys in the north. The Sewta Region is the Capital Region and contains 48% of Wales' population. The area is experiencing a decline in traditional manufacturing, has a low employment rate and low average earnings, especially in the Valleys to the North of Cardiff, Newport and Bridgend. There has been a growth in service sector employment in the M4 corridor and coastal area resulting in a growth in commuting into Cardiff and Newport from the surrounding areas.

The rail network, radiating from Cardiff, Bridgend and Newport, provides an attractive alternative to the use of the private car on the congested highway network. In 2002/03 there were around 14 million rail passenger trips per year to / from and within the Sewta area. 73% of rail trips are to / from Cardiff and other key local destinations are Newport, Pontypridd and Caerphilly.

Sewta has recently introduced new services on the Vale of Glamorgan Line with new stations at Rhoose Cardiff International Airport and Llantwit Major. Sewta is currently implementing a five year improvement programme involving new stations at Llanharan, Energlyn and Brackla, new services and new stations on former freight lines in the Ebbw Valley and improved services to provide half-hourly minimum weekday headways to most parts of the region.



This study was required to look beyond at the medium / long term and develop a strategy to take services in South East Wales into the second decade of the 21st Century.

The study was undertaken in 2 parts; Part 1 reviewed the sub-regional objectives and issues and shortlisted schemes from a long list of options, and; Part 2 developed and applied passenger forecasting models, undertook engineering and operations analysis and used financial, economic and cost / benefit assessments to determine the recommended strategy for the period 2009 to 2018.

Consultation with regional stakeholders was undertaken in both stages of the study. Firstly to agree the regional objectives which formed the criteria against which options were assessed and to identify the long-list of options. In the second consultation stakeholders reviewed the results of the appraisal of shortlisted schemes and were able to influence the development of the recommended strategy and comment on the programme and implementation issues.

This executive summary presents a broad overview of the study, focusing on the recommendations. The detail of the study is contained in separate documents; Part 1 report; Final Report and Final Report Technical Appendices. In addition, a further report covers the more detailed assessment of Magor with Undy Station which was undertaken in parallel to inform Network Rail's Newport Area Signalling Renewal Project.

1.2 Strategy Objectives and Key Issues

The majority of the existing rail network is double track with some sections of single track on the Valley Lines to the North of Cardiff and Bridgend. The Main Line between Cardiff and Severn Tunnel Junction has 4 tracks with the relief lines used by freight services.

All trains are diesel powered and passenger services are provided by a mix of rolling stock both in terms of age and carrying capacity. Around two-thirds of services are provided with 2-car trains, mostly Class 14x 'Pacers', though some longer trains are being provided to cope with peak demands, as the fleet expands with the acquisition of Class 150 and Class 175 stock for urban and regional services respectively.

The network is constrained by the mix of services (fast and slow passenger services and freight) especially on the South Wales Main Line to the West of Cardiff. Some junctions between routes in the network provide constraints due to the conflicting train movements especially at Cardiff Central. The single track sections on the branches also constrain the frequency of passenger services and influence service reliability. Finally, the signalling and track capacity influences the capacity of the network where there are high volumes of rail services such as at and between Cardiff Queen Street and Cardiff Central stations.

The National and Regional, economic, social and transport objectives as well as passenger priorities were reviewed to define the criteria to be used in the appraisal of the strategy options. The resulting criteria were:

- Preserving or enhancing the **Environment**
- Improving **safety** and security
- Enhancing the **economy** and providing good value for money
 - Especially in terms of improving access to jobs and training
- Improving **integration** between modes and between policies
 - Especially integration with the Spatial Strategy
- Enhancing **Accessibility**
 - Especially between the Valleys and Cardiff and Newport
- Improving regional **Connectivity** between activity centres
- **Reducing Car Travel**
 - Especially in Cardiff and Newport
- **Making Best Use** of infrastructure
- Minimising adverse **passenger impacts**
- Ensuring **deliverability** through robust planning

Key passenger priorities for the rail network and services are **reliability** and **seat availability**. Capacity analysis showed sufficient capacity on the Marches and Gloucester Lines throughout the strategy period, however, if passenger growth continues at 5% per annum there will be a need to provide additional train services as well as longer trains on the Valley Lines.

1.3 Recommended Strategy 2009 - 2018

The **recommended** Sewta Rail Strategy for the period 2009 – 2018 is designed to make better use of existing rail services, provide for passengers' needs, and achieve the regional economic and social objectives. Figure 1 shows a summary of the recommended strategy geographically and a Figure 2 summarises the strategy elements against the regional objectives. It is recommended to invest in;

- **Additional rolling stock** to strengthen peak trains to provide for passenger growth and to avoid overcrowding and **rolling stock renewal** to replace the ageing Pacer fleet and secure further benefits to the region including performance improvements. In addition it is recommended to lengthen platforms on the Barry Line to accommodate 6-car trains;
- **Station improvements** including improved station facilities, information, security and access - including **additional parking** - to encourage greater use of rail to access Cardiff and Newport and to make better use of existing trains. It is recommended to develop programmes of works based on the larger stations, where there are specific network issues and in line with the spatial strategy;
- **Reliability and capacity improvements;** It is recommended to develop and implement network infrastructure improvements to reduce delays and improve the ability to cope with performance problems; specifically at **Cardiff Central, Cardiff Queen Street, Barry, Cogan Junction, and Llandaf;**
- **Frequency enhancements on existing lines;** It is recommended to improve the levels of service on selected routes to meet passengers' expectations (of at least a half-hourly service and a turn-up-and-go service within the core journey to work area of Cardiff) and increase the transfer of car trips to rail. Specifically:
 - New half-hourly local services on the **Abergavenny and Chepstow** Lines;
 - A second hourly service on the **Ebbw Valley Line** between Ebbw Vale and Newport;
 - Additional services on the **Rhymney Valley** and **Taff Vale** lines to cope with passenger demand growth; and
 - an additional hourly service on the **Vale of Glamorgan** Line between Cardiff and Bridgend via Rhoose Cardiff International Airport.
- **Investment in Capacity;** Providing additional services to the north of Cardiff to deliver additional capacity to accommodate sustained growth in peak passenger demand will require a significant investment in the capacity of the network **at and between Cardiff Queen Street and Cardiff Central Stations;**
- **New stations on existing lines;** Five new stations are recommended to improve access to the rail network, especially in association with recent and future development and integrated with the development of new and improved services; specifically at **Caerleon, Magor with Undy, Llanwern, Coedkernew** and **St Mellons**. With those on the main line between Cardiff and Severn Tunnel sited on the Relief Lines;

Figure 1 Recommended Sewta Rail Strategy 2018



Figure 2 Sewta Rail Strategy Summary Appraisal

Scheme	National Objectives			Sewta Regional Objectives						
	Environment	Safety	Economy	Integration with Spatial Strategy	Accessibility Valleys - Jobs	Centre - Centre Connectivity	Mode Shift	Making Best Use	Existing Passenger Impact	Deliverability
Rolling Stock										
Train Lengthening	+	+	+	+	+	+	+	++	++	++
Rolling Stock Renewal	++	+	++	++	0	0	+	++	++	+
General Measures										
Station Access (Ped/Cycle)	+/-	0	+	+	+	0	+	++	++	++
Customer Information	+/-	0	+	+	0	0	+	++	++	++
Security/CCTV	+/-	++	+	+	0	0	+	++	++	++
Park and Ride	+/-	+	+	++	++	0	++	++	+	++
Service Reliability Measures										
Barry Town	+	+	++	+	0	0	+	++	++	++
Cardiff Platforms turnbacks	+	+	++	+	0	0	+	++	++	Cardiff Re-signalling
Llandaff Signal	+	+	++	++	+	0	+	++	++	Cardiff Re-signalling
Cogan Junction	+	+	++	+	0	0	+	++	++	Cardiff Re-signalling
Cardiff Queen Street	+	+	++	++	++	++	++	++	++	Cardiff Re-signalling + TWA
Bus Connections										
Cymmer - Maesteg	0	0	0	++	+	+	0	+	0	Revenue Funding Availability
Blackwood frequency	0	0	0	+	+	+	0	+	0	Revenue Funding Availability
Penalta - Ystrad Mynach	0	0	0	+	+	+	0	+	0	Revenue Funding Availability
Blaenavon - Pontypool	0	0	0	++	+	+	0	+	0	Revenue Funding Availability
Ebbw Vale Town - EV Parkway	0	0	0	++	+	+	0	+	0	Revenue Funding Availability
Brynmawr - Abertillery - Llanhilleth	0	0	0	++	+	+	0	+	0	Revenue Funding Availability
Bedlinog - Treharris - Abercynon	0	0	0	++	+	+	0	+	0	Revenue Funding Availability
Additional Services										
Abergavenny + Caerleon	+/-	+	++	+	+	+	++	+	+	+ (Depends on Cardiff turnback)
Abergavenny 2nd tph	+	+	++	+	+	+	++	+	+	+ (Depends on Cardiff turnback)
Gloucester + Magor + St Mellons	+	+	++	++	0	+	++	+	++	+ (Depends on Cardiff turnback)
Chepstow + Llanwern + Coedkw	+/-	+	++	++	0	+	++	+	++	+ (Depends on Cardiff turnback)
Ebbw Vale Town - Newport	+	+	+	++	++	+	++	+	++	+
Vale of Glamorgan Bridgend	+	+	+	++	+	+	++	+	+	+
Pontypridd - Cardiff 10 tph	+	+	+	+	+	++	++	0	+	Dependent on Queen St and Phasing
Energlyn - Caerphilly - Cardiff 6 tph	+	+	+	++	+	++	++	-	+	Dependent on Queen St and Phasing
New Stations										
St Mellons	-	0	+	+	0	-	++	0	0	+
Caerleon	-	+	++	++	0	-	++	+	0	+
Coedkernew	-	0	+	++	+	-	++	0	+	Depends on Main Line Upgrade + Development
Llanwern	-	0	+	++	+	-	++	0	+	Depends on Main Line Upgrade + Development
Magor/Undy	-	0	+	+	0	-	+	0	+/-	Possible Relocation of Severn Tunnel J
Line Extensions										
Ebbw Vale North	+	+	+	++	++	++	+	+	+	+
Beddau	+/-	+	++	++	+	+	++	0	-	Dependent on Main Line Capacity

- **Network extensions and new stations;** Two extensions of the network are recommended for further evaluation to improve access to expanding communities and locations in need of improved access to employment. Specifically extending to **Ebbw Vale Town** and from **Pontyclun to Beddau** with new stations at Talbot Green, Llantrisant, Gwaun Meisgyn & Beddau (Tynant); and
- **Rail-link Bus Services;** to extend the reach of the rail services to communities remote from the network, specifically providing access to the **Valleys** to the north of Cardiff and Newport.

1.4 Strategy Implementation Recommendations

The recommended strategy has a capital cost of around £155m over the period 2009 to 2018. The availability of further EU Objective 1 funding could reduce the overall capital funding requirement, advance the programme in the target areas and inflate the programme by enabling funding of a further network extension project, between **Ystrad Mynach and Bedlinog** with stations at Nelson and Trelewis, which would otherwise be recommended for the longer term.

The recommended strategy requires an increasing rail subsidy in the order of £2m to £7m per annum.

In taking the strategy forward a number of critical success factors were identified including continued passenger demand growth and integration with Network Rail's Cardiff Area and Newport Area **Signalling Renewal Projects**. The signalling renewal projects are major schemes to be implemented between 2008 and 2012 which involve like for like replacement of infrastructure based on the existing service pattern. It is recommended that Sewta and the Assembly work in partnership with Network Rail including further optioneering to take account of this recommended strategy and to seek investment efficiency by planning or providing the additional infrastructure at this stage.

In addition it is recommended that the signalling renewal scheme optioneering stages investigate the best option for improving capacity and reliability through Cogan Junction and that consideration is given to implementing the recommended Barry turnback earlier.

It is recommended that timetabling and capacity assessments are undertaken in two locations; on the Barry/ Penarth lines to identify the most efficient scheme for the strategy whilst maintaining the benefits of the standard pattern timetable, and; on the main line west of Cardiff to take forward the Pontyclun – Beddau assessment and identify any further infrastructure requirements.

It is recommended that local planning authorities safeguard the sites for the recommended new stations including sufficient land for platforms, accesses and car parking. They should also consider land use allocations within the catchment areas of the stations and seek developer contributions towards the infrastructure. In addition for two stations suggested for longer term development (Sebastopol and Llantarnam on the Marches Line) it is recommended that a park and ride strategy is developed for the corridor and further examination of the business case. In addition, private sector finance opportunities should be sought to improve the affordability of marginal stations.

Similarly, authorities should protect the alignment and station locations for longer term schemes identified in the study – specifically on the Pontyclun – Beddau and Aberbeeg – Abertillery routes. If other stations are to be developed in the longer term it is recommended that local authorities review the reasons for the deferment of the scheme in this strategy period, presented in the main reports, and assess whether these could be overcome in the future – such as through appropriate land use allocations.

It is also recommended that existing Rail-link bus services are secured and further routes developed, integrated with the development of the network and services, through a partnership between the train operator and local authorities with dedicated funding from the Assembly.

In taking the rail strategy forward it is recommended to:

- Merge the rail strategy with the ongoing bus and cycle strategy studies to form a coherent integrated regional transport plan and feed the results into the forthcoming Wales Rail Planning Assessment, franchise plans and strategies of neighbouring regions.
- Undertake further technical assessment and economic evaluations of the recommended measures to prepare their business cases and extend the evaluations in line with government appraisal guidance, examining the impact on buses in more detail to enable more holistic plans to be developed.
- Undertake monitoring and review the performance of recent and planned rail service improvements and develop the assessment of train capacity for improved fleet planning.
- Undertake specific development work to ensure that schemes are ready for implementation in the strategy period – particularly the Cardiff Queen Street scheme.

1.5 Conclusions

In combination, the strategy improves the environment and contributes to road safety and the reduction of accidents, provides significant economic benefits and is integrated with the regional spatial strategy through its improvement of connectivity between main centres. Most of the recommended measures improve accessibility to jobs from the Valleys and / or encourage significant modal shift to Newport and Cardiff. The strategy contributes to making best use of the network and provides positive impacts for existing passengers as well as increasing access to rail in a manner that encourages new rail use.

The recommended strategy will deliver a more reliable network, significant additional passenger capacity, more attractive and accessible stations and up to 10 new stations on existing routes and on selected network extensions. Overall it will meet passengers' expectations in terms of service frequency and the investment in new rolling stock would further enhance public perceptions increasing the attractiveness of the services. The strategy is integrated with the land-use strategy and the benefits of its improvements in rail connectivity between main centres aids the economic development strategy for the region.