

New Rail Stations Prioritisation – Stage 2 Assessment Report, April 2019

Background

1. Whilst it is recognised that rail infrastructure investments sits with the UK Government, we need to develop a project pipeline so that, when UK funding opportunities occur, there are Welsh projects at an appropriate stage of development that can be submitted for consideration and stand a chance of securing funding.
2. We receive a number of requests for new stations from stakeholder groups. A prioritised list of new stations will allow us to focus resources on those that merit more detailed consideration.
3. Proposals for new stations have come forward from a range of sources. A proportionate assessment mechanism has been developed to establish which proposals are feasible and warrant further, more detailed study work. This will ensure that a pipeline of new schemes is available to take advantage of future funding opportunities.

Methodology

4. A methodology has been developed for assessing proposals for new rail stations which can be applied in a cost effective and proportionate way. The assessment methodology follows a three stage approach. This will mean that the more costly work on producing detailed cost estimates for a new station and timetable modelling is only carried out on the highest priorities:
 - Stage 1 – An initial sift of stations using the Welsh Transport Appraisal Guidance (WelTAG) criteria and consideration of the Well-being and Future Generations (Wales) Act 2015 goals (See Appendix 1 - Stage 1 Assessment Report, May 2017).
 - Stage 2 – A preliminary assessment of the strength of the financial and economic case for a new station and advice from Network Rail on deliverability.
 - Stage 3 – Development and assessment of the highest priorities including a WelTAG Stage One Report, business case and Network Rail's Governance for Railway Investment Projects (GRIP) process.

Stage 1 Assessment Outcome

5. The process used to prioritised new station proposals and the short list of stations to be taken forward for further assessment work was agreed in July 2017.

6. The stations that were shortlisted in the Stage 1 assessment were:
- South East Wales: Ely Mill/Victoria Park, Llanwern, Newport Road/Rover Way and St Mellons.
 - South West Wales: Cockett, Landore, St Clears.
 - North Wales: Deeside Industrial Park/Northern Gateway, North Wrexham, South Wrexham, Llangefni.
 - Mid Wales: Bow Street (subsequently replaced by Carno following a successful funding announcement).

Stage 2 Assessment Methodology

7. The Stage 2 Assessment has used advice from Network Rail on deliverability and operational considerations as well as demand forecasts for each station to feed into criteria on financial affordability and deliverability. The assessment has also been informed by the accessibility improvement that would be delivered by each new station proposal, the potential environmental impacts and a high level capital cost estimate.

Network Rail Preliminary Assessment

8. A preliminary assessment has been undertaken by Network Rail on deliverability and operations considerations. The report considers a number of criteria including the location and quantum of services, benefits of a new station, operational considerations, affordability, type of service, lengths of trains/platform and markets served. A report summarising their findings is attached at Appendix 2.

Station Demand Forecasts

9. A model has been developed by Southampton University to provide a standardised assessment of the demand at each station (attached at Appendix 3). The model provides two demand forecasts for each station. The first forecast simply assigns the population from each postcode to its nearest station ('deterministic' catchment). The second apportions the population of each postcode to ten alternative stations, based on the estimated probability of each of these stations being chosen ('probabilistic' catchment).
10. The forecasts provided by this type of model are indicative and are intended to provide an indication of the likely viability of a proposed station at a particular site, rather than a detailed prediction of travel patterns following station opening. The forecasts from the model do not take into account trip destination, the destinations served by a station or atypical local factors such as sports stadia or tourist attractions whose demand impacts cannot be adequately represented in the model. The results (see Table 1) should therefore be considered alongside expert knowledge of conditions relating to any particular station site.

Table 1: Summary station demand forecasts using models with deterministic and probabilistic catchments for model base year (2011/12) and with growth uplift applied (2015/16)¹

Proposed Station	Predicted annual entries/exits			
	Deterministic catchment		Probabilistic catchment	
	2011/2012	2015/2016	2011/2012	2015/2016
Cockett	106,093	117,212	130,932	144,654
Ely Mill	116,133	128,304	92,137	101,793
Llanwern	334,951	370,054	346,411	382,715
Newport Road/Rover Way	319,390	352,862	212,388	234,591
Landore	26,407	29,174	31,348	34,633
St Clears	98,306	108,608	90,362	99,832
Deeside Industrial Park	37,361	41,276	50,685	55,997
North Wrexham	56,959	62,928	64,043	70,755
South Wrexham	88,882	98,197	102,859	113,639
Llangefni	241,760	267,096	225,896	249,570
St Mellons/Cardiff Parkway	193,303	213,561	141,467	156,293
Carno	35,273	38,970	26,845	29,658

Accessibility Assessment

An accessibility assessment has been undertaken by Transport for Wales to examine the catchment populations by walk, bus and car, plus changes in access travel time to the nearest main centres. This has been used to inform the assessment scores.

Environmental Impact

Identification has been undertaken of the environmental impact including local sensitive areas and an overview of the potential impacts.

High level capital cost estimate

A high level cost estimate of constructing a new station based on a broad overview of the scale of works required and costed using recently tendered commercial rates for similar Welsh Government projects.

¹ Source: Station Demand Forecasts for Wales, 2017, Appendix 2.

Stage 2 Assessment Outcome

11. The Stage 1 criteria have been refined and further developed by Transport for Wales to inform the assessment of which station proposals should be considered in more detail. The criteria used are set out in Appendix 4.

12. It is proposed that the following stations taken forward to a Stage 3 assessment, are:

- South East Wales – Ely Mill
- South West Wales – St Clears
- North Wales - Deeside Industrial Park/Northern Gateway
- Mid Wales - Carno

Appendix 1

New Rail Stations Prioritisation – Stage 1 Assessment Report, May 2017

Issue

13. This report sets out the process for identifying new rail station schemes, proposed assessment and prioritisation process.

Background

14. Despite the Welsh Government's call for the devolution of funding for rail infrastructure, the responsibility for its funding remains with the UK Government.

15. From time to time the UK Government makes funding available for new stations through specific funding calls. Stations where there is an existing developed business case are at an advantage in such calls. We have therefore developed a methodology to accelerate the development work that is needed and develop a project pipeline so that, when UK funding opportunities occur, there are Welsh projects at an appropriate stage of development that can be submitted for consideration and stand the best possible chance to secure funding.

16. It should be noted that any proposal is only likely to be successful in securing funding with a sound business case. By undertaking this work we are increasing the ability of station proposals to be in a position to benefit from funding calls.

Station identification

17. Proposals for new stations have come forward from a range of sources. Following a public consultation exercise, a list of potential locations was published in the National Transport Finance Plan, 2015 along with a commitment to develop assessment criteria (NTFP Reference RI10) and, using those criteria, develop a prioritised list.

18. The National Transport Finance Plan stated:

RI10 - Develop assessment criteria and using those criteria, a prioritised list of new station proposals for further consideration (in relation to securing funding from the rail industry). The following stations will be assessed as part of this process:

- *South East Wales: Roath Park/Wedal Road, Crwys Road, Gabalfa, Ely Mill/Victoria Park, Caerleon, Llanwern, Newport West (on Ebbw Line), Crumlin, St Mellons, Newport Road/Rover Way, Brackla, St Fagans, Magor.*
- *South West Wales: Templeton, St Clears, Cockett, Landore.*
- *Mid Wales: Bow Street, Carno, Howey, Abermule.*

- *North Wales: Broughton, North Wrexham, Deeside Industrial Park/Northern Gateway (as alternative to upgraded Hawarden Bridge Station), South Wrexham, Llangefni.*

19. The proposals for new stations have been identified by a number of reports and studies including Cardiff Capital Region Metro proposals, SWITCH Rail Strategy (November 2013) and report of the North East Wales Integrated Transport Task Force (June 2013). Some further locations have also been identified through correspondence with the Welsh Government from interested parties and through work on the South East Wales Metro. These have been added to the stations identified in the National Transport Finance Plan to give a list of 46 stations for consideration:

- South-East Wales: Abertillery, Brackla, Bridgend College, Cardiff Airport, Carleon, Coedkernew, Crumlin, Crwys Road, Cwmbach North, Ely Mill/Victoria Park, Gabalfa, Glyncoch, Herbert Street Bridge, Hirwaun, Llanwern, Loudon Square, Magor, Maindy, Mamhilad, Miskin, M4 J34, Nantgarw, Newport Road/Rover Way, Newport West, Roath Park/Wedal Road, Sarn Park, Sebastopol, Splott, St Athan, St Fagans, St Mellons, Upper Boat, New line through Llantrisant, Talbot Green, Beddau.
- South-West Wales: Cockett, Landore, St Clears, Templeton.
- Mid Wales: Bow Street, Carno, Howey, Abermule
- North Wales: Broughton, Deeside Industrial Park/Northern Gateway, North Wrexham, South Wrexham, Llangefni.

Methodology

20. A methodology has been developed for assessing early stage proposals for new rail stations to identify which stations should be initially prioritised for further work.

21. The assessment methodology follows a three-stage approach. This means that the more costly work on producing detailed cost estimates for a new stations and timetable modelling is carried out in a focused manner. The assessment criteria is set out in Appendix 1.

22. The Stage 1 assessment involves an initial sift of the stations identified using the Welsh Transport Appraisal Guidance (WelTAG) criteria and consideration of the Well-being of Future Generations (Wales) Act 2015 goals.

23. Stations prioritised from the Stage 1 assessment will be taken forward to Stage 2. This will involve the application of a standard assessment model to assess the anticipated demand, a preliminary assessment of the strength of the financial and economic case for a new station and advice from Network Rail on deliverability. This stage will be done using in-house resources and some technical assistance may be required.

24. Stations prioritised from Stage 2, will then be taken forward to Stage 3. This will involve development and assessment of the highest priorities, including a WeITAG Stage One Report, business case and Network Rail's Governance for Railway Investment Projects (GRIP) process.

Stage 1 Assessment

25. The Stage 1 assessment has been undertaken using the 'transport case' criteria (Annex 1). Stations have been selected to be taken forward on a regional basis. The regional stations identified for further assessment were the ones that scored the highest across all the 'transport case' criteria tested.

26. Based on this initial sift, it is proposed that the following stations are taken forward for further assessment:

- South East Wales: Ely Mill/Victoria Park, Llanwern, Newport Road/Rover Way and St Mellons.
- South West Wales: Cockett, Landore, St Clears.
- North Wales: Deeside Industrial Park/Northern Gateway, North Wrexham, South Wrexham, Llangefni.
- Mid Wales: Bow Street.

Next Steps – Stage 2 Assessment

27. The stations prioritised from the Stage 1 assessment will be taken forward to Stage 2, and following this, they will be developed further in Stage 3. It is anticipated that Stage 2 will take around 6 months to complete. Once the assessment of the priority list is completed there will be an opportunity to then consider the next "batch" of regional stations, if appropriate.

Annex 1 – Stage 1 Assessment Criteria

		Criteria	
STRATEGIC CASE - the case for change and the fit with other policies	A prosperous Wales	TRANSPORT CASE - the social, environmental and economic impacts of the change	Accessing major ports, airports and rail terminals
			Linking main centres of population and economic activity
			Links areas of high economic inactivity to employment sites
			Benefit to Cost Ratio
			Forecast Passenger Numbers
			Improved access to services
			Reduces cost of public transport services
			Improves access in areas with no bus transport alternative
	A resilient Wales		Improves access in areas with poor access to services
			Ensuring end to end connectivity
	A healthier Wales		Improved access to tourist sites and cultural attractions
	A more equal Wales		Air Quality Improvement
			Noise Reduction
A Wales of cohesive communities	FINANCIAL CASE - is the proposed spend affordable?	Scheme Cost	
A Wales of vibrant culture and thriving Welsh language	DELIVERY CASE - Can the scheme be delivered?	Match Funding	
A globally responsible Wales		Land Ownership	
		Environmentally sensitive area	

Appendix 2 – Network Rail Preliminary Assessment

Available as a separate document

Appendix 3 – Station Demand Forecasts

Available as a separate document

Appendix 4 – Stage 2 Assessment – Scoring Methodology and Criteria

	Criteria	Scoring Methodology	Scoring Range	Weighting
TRANSPORT CASE - the social, environmental and economic impacts of the change	Accessing major ports, airports and rail terminals	Score based on scheme proximity to major port, airport or rail terminal. Over 10 miles = score as 1 (some benefit to access) Between 5 to 10 miles= score as 2 (benefit to access) Within 5 miles = score as 3 (major benefit to access)	1, 2, 3	2
	Linking main centres of population and economic activity	National Routes (main line) = 3, Regional Routes (including relief lines) =2, Local Routes = 1	1, 2, 3	4
	Links areas of high economic inactivity to employment sites	Subjective score: If perceived scheme benefit to link then score 1, if not then score 0.	1,0	4
	Benefit to Cost Ratio	Subjective score based on understanding of scheme costs and benefits based on anticipated patronage and improved access to employment	0, 1, 2	4
	Forecast Passenger Numbers	High - 3 (over 100,000pa), Medium - 2 (50,000 - 100,000 pa), Low - 1 (less than 50,000)	1,2,3	6
	Improved access to services	Perceived improvement scores 1, no improvement scores 0 based on travel time to nearest centre	1,0	4
	Reduces cost of public transport services	Subjective score: If reduces cost then score 1, if not then score 0.	1,0	2
	Improves access in areas with no bus transport alternative	If there is no bus transport alternative then score 1, if there is then score 0.	1, 0	3
	Improves access in areas with poor access to services	Poor (2), Medium (1), Good (0). Based on Welsh Index of Multiple Deprivation.	2,1,0	3
	Ensuring end to end connectivity	Subjective score: If perceived scheme benefit to link then score 1, if not then score 0.	1,0	2

	Criteria	Scoring Methodology	Scoring Range	Weighting
	Improved access to tourist sites and cultural attractions	Subjective score: If perceived scheme benefit then score 1, if not then score 0.	0, 1, 2	2
	Air Quality Improvement	WG MyCarto Map shows Air Quality Management Areas 2014. If scheme falls within area and congestion will reduce, improving air quality then score as 2, next to AQM area score 1, if not 0.	0, 1, 2	3
	Noise Reduction	WG MyCarto Map shows Noise Action Plan Priority areas 2014. If scheme falls within area and noise will reduce then score as 2, next to NAP score 1, if not 0	0, 1, 2	3
	Greenhouse Gas	Mirrors patronage forecasts assuming reduced car use. No Signiant change 0, Minor change 1, Major change 2	1,2,3	1
	Landscape	Anticipated impact of new station on wider landscape. High 1, Med 2, Low 3	1,2,3	1
	Townscape	Anticipated impact of new station on immediate urban area. High 1, Med 2, Low 3	1,2,3	1
	Historic Environment	Proximity and impact on/to locally sensitive historic areas/buildings. High 1, Med 2, Low 3	1,2,3	1
	Biodiversity	Proximity and range of adjacent wildlife areas. High 1, Med 2, Low 3	1,2,3	1
	Water Environment	Proximity and impact on/to local water courses/bodies	1,2,3	1
	Access to Employment	Adjacent to employment areas	0,1,2	4
	Local Economy	Supports known development plans (1 Yes, 0 No)	1, 0	4
	Productivity	Expanded labour pool. Offers local businesses access to wider employee catchments	0,1,2	4
FINANCIAL CASE - is the proposed spend affordable?	Scheme Cost	Construction cost >£30M score is 1 £15-30M score is 2 £5-15M score is 3 < £5M score is 4	1, 2, 3,4	7

	Criteria	Scoring Methodology	Scoring Range	Weighting
	Match Funding	If match funding available then score is 1, if not then score is 0	1,0	3
MANAGEMENT CASE - Can the scheme be delivered?	Land Ownership	If scheme falls within NR/WG ownership the Score 1, if not, or land purchase required than score 0	1,0	4
	Environmentally sensitive area	If scheme lies within a SSSI or SAC then score 0, if not then score 1.	1,0	5
	Physical geography/topography	Subjective score: If perceived scheme challenging topography/geometry then score 0, if not then score 1	1,0	5
	Design/Build Complexity	Subjective score based on scheme details. Complex score 0, straightforward score 1.	1,2,3	4
	Stakeholder support	Known or anticipated local support	1,2,3	4
	Requires Planning Orders	If scheme requires complex planning orders (TWAO etc) 0. If NR permitted development rights apply, 1	1,0	4
	Delivery Stage	Stage of readiness to build. No preliminary studies 0, Feasibility study undertaken 1, Business case developed 2, Detailed plans produced 3.	0, 1, 2, 3	4