

Information Note

NETWORK RAIL BUSINESS PLAN 2007: IMPLICATIONS FOR THE SOUTH WEST REGION

Background to the Network Rail *Business Plan 2007*

1. Network Rail, the not-for-dividend company created by the Government to own and operate Britain's railway infrastructure (track, signalling, bridges, tunnels and stations), is obliged to publish a business plan each year. The conditions of its licence from the Office of Rail Regulation, the independent economic regulator, provide that the plan should be in respect of the next ten years. It has to be sufficiently detailed for service providers to plan their businesses and funders and potential funders to plan their future financial and service requirements. Network Rail is obliged to consult these people on its proposals.
2. Network Rail published its current *Business Plan* at the end of March 2007. This set out detailed plans for the next two years, covering the remainder of the current five-year Control Period (where the ORR decides how much money should be provided to Network Rail and sets the access charges paid by train operators for the use of the network). It also described the development of a transformation programme for the next decade which it hopes will command the support of Government and persuade ORR to agree the outputs, revenue requirements and access charges in the Control Period from 2009-2014.
3. The detailed plans for this Control Period from 2009-2014 will be published by Network Rail in a *Strategic Business Plan* in October. This will reflect the Government's own *High Level Output Statement (HLOS)* which is due to be published this summer. *HLOS* will set out the Government's expectations of what it wants the railway to deliver in England and Wales – in effect the rail capacity it wishes for - and of the public funds available. The value of the detailed *Route Plans* is that they provide an early insight in to the direction of official railway thinking and, as such, an indication of those things on where an expression of regional interest may be most productive.

Route Plans

4. The *Business Plan* is accompanied by a series of *Route Plans*. Each of these details the specific plans for each of Network

Information Note

Rail's 'Strategic Routes'. They therefore provide a valuable insight in to the principal development options under consideration. The railways serving the South West are grouped by Network Rail in to four routes: the Greater Western Main Line, the Reading to Penzance Routes, the Wessex Routes and the South West Main Line. The following sections seek to summarise the Route Plans for each of these.

Greater Western Main Line Route Plan

5. *The GWML comprises essentially the route from London Paddington through Swindon to Swansea and to Bristol Temple Meads, together with the routes via Moreton-in-Marsh to Worcester, the route from Swindon through Gloucester to South Wales, the routes used by Cross Country services to Bristol and on to the south west peninsula from just south of Birmingham through Bristol to Taunton and by services to Bournemouth between Oxford to Basingstoke and related branches (including, in the South West, those to Severn Beach and to Weston Super Mare, and the freight branches to Portbury Docks, the Avonmouth terminals complex, Tytherington and Sharpness Docks).*

Demand

6. Half of all travel on these routes is for leisure purposes, one third for business and the remainder for commuting.
7. The emerging *Regional Planning Assessments* (RPAs) for the South West and for the Thames Valley identify role's rail as being to support London's role as a world city and the local economies of other key urban centres by:
 - a. Linking employers to skilled labour (commuting)
 - b. Supporting the growth and integration of the by linking London to key centres
 - c. Contributing to surface access to Heathrow
8. The main markets are identified as:
 - a. Long distance commuting to London
 - b. Short distance commuting to London, Reading and Bristol
 - c. Interurban travel between the main centres, such as between Bristol and London and Bristol; and Birmingham
 - d. Access to airports
9. There has been significant growth in passenger demand 2000-2006. Traffic grew:

Information Note

- a. 20% between Bristol urban area and London
 - b. 30% cross-Bristol
 - c. 60% between Bristol and Birmingham
10. Demand for seats currently outstrips supply on services during the morning peak by as much as 10% from Swindon, 45% from Reading. The GWML Route Utilisation Strategy (RUS) anticipated annual growth to 2012 of 2.6-3.3%. The DfT has more recently forecast unconstrained growth of 103% over the next 20 years.
- a. The emerging RPAs anticipate growth of 85% in weekday morning peak arrivals at Paddington by 2016 with a further increase to more than 100% by 2026.
 - b. Inter city growth from Bristol to Paddington is forecast to be in excess of seating capacity by as much as 18% from as far west as Chippenham.
 - c. Load factors on inter city services in to Reading will be well above 100% by 2026 and car parks throughout the route will be unable to accommodate growth.
 - d. Demand for Cross Country travel is also increasing. 40% growth in unconstrained demand by 2026 is forecast for services between Bristol and Birmingham.
11. Significant potential demand exists for freight capacity, notably for construction materials, petroleum and metals. The Freight RUS for the period to 2014/15 highlights planned developments at the Port of Bristol allied to a predicted 62% increase in import coal trains to the electricity supply industry. A 74% growth in freight services between Southampton to the Midlands and further north is also predicted. These services make will make use of the GWML for a significant part of their journey.

Capacity

12. The current capacity of the route is insufficient to meet forecast passenger and freight volumes:
- a. London Paddington operates to near capacity throughout the day and to full capacity at peak times
 - b. The route between London Paddington and Reading is operating at near capacity. The *Business Plan* shows the route as one of twelve identified as suffering the most significant capacity constraints
 - c. Reading capacity is insufficient to meet current demand

Information Note

- d. The intermittent four-tracking between Didcot and Swindon is insufficient to meet the forecast traffic mix and volume
- 13. Service provision is constrained by:
 - a. Inadequate signal spacing in the Bath-Bristol corridor
 - b. Calls at lightly used stations in the Bristol area
 - c. The single line between Swindon and Kemble
 - d. The single line Weston Super Mare loop
 - e. Shortage of platform and route capacity at Bristol Parkway
 - f. Signalling arrangements in the Severn Tunnel
- 14. The construction and implementation of Crossrail “will have a dramatic effect on the GWML and of all other routes that are linked in to it”, although it may alleviate crowding on local services in to Paddington. Airtrack will also impact on GWML, but only in the Reading station area.
- 15. Network Rail considers that capacity enhancement is required to meet the DfT’s recent forecast of 103% unconstrained growth. It estimates that by 2026 seven trains per hour will be required in each direction between London and Bristol/South Wales/Cheltenham. It identifies a number of enhancements, including:
 - a. Enhancement of Paddington station capacity
 - b. Additional track capacity between Paddington and Reading
 - c. Development of Reading station area
 - d. Additional capacity between Didcot and Swindon
 - e. Additional capacity across the wider Bristol area
- 16. A prime cause of the current unreliable performance of the Great Western Main Line (it is the worst performing in the country) is the poor condition of track, which is age related, combined with lack of spare capacity making service recovery difficult at times of perturbation. The age of the rail and the sleepers on the route is amongst the highest on the national network and varies between 30 and 40 years old.

Investments

- 17. Network Rail is proposing a number of remedies which are intended to address reliability, performance and capacity issues. At the heart of Network Rail’s proposals is the concept of improving the provision of the capacity for high speed services. Where practicable, the main lines will be developed for uninterrupted high speed running on

Information Note

dedicated tracks, with 'relief' tracks being provided for slower trains. This strategy, known as the Core High Speed Line Strategy, will be reinforced by investment to relieve infrastructure bottlenecks, to improve diversionary capacity in order to facilitate enable improved engineering access with minimum service disruption and to ensure greater resilience in recovering from perturbations to the service.

18. A number of the proposed investments will bring benefits to more than one route, particularly those on the congested section between London Paddington and Reading where problems can impact across the wider network.
19. The need to address potential flooding issues on the Somerset Levels, on the flood plain to the north of Exeter, the River Axe and in relation to the Dawlish Sea Wall is acknowledged.
20. The following paragraphs provide a selective summary of the more innovative proposed investments:

21. **London-Reading**

- a. Major enhancement of the Paddington station area to enhance capacity through the construction of additional, longer platforms capable of taking electric trains, including provision for a high speed Paddington-Reading shuttle
- b. Expanding the existing relief line capacity for slower services (including evaluation of the possible provision of a bi-directional fifth track between London and Slough and the reduction of signalling headways between Heathrow Airport Junction and Reading to improve capacity of Core High Speed Line)
- c. Remodelling and rebuilding of the Reading station area to enhance capacity, work beginning in 2009 (with weekend diversions and disruptions for two to three years), with potential for additional platforms and provision for Crossrail, including evaluation of reopening an underpass at Reading East for potential use by Airtrack and grade separation at Reading West (co-funded with Third Party)
- d. Major resignalling scheme for completion in 2013, complementing major track layout and station modernisation project

22. **Basingstoke-Oxford (via Reading-Didcot)**

Information Note

- a. Clearing the route from Southampton to take 9' 6" high ISO containers and accommodation of longer trains. This project is under consideration by the Transport Innovation Fund. (See also 23a below)
- b. Evaluation of reduced signalling headways between Reading and Didcot to provide improved capacity on Core High Speed Line

23. Swindon/Wiltshire/Gloucestershire area

- a. Evaluation of an alternative freight route from Southampton to the Midlands via Salisbury-Westbury-Melksham-Chippenham to accommodate forecast growth
- b. Evaluation of extension of four-track railway throughout between Didcot and Swindon to provide main lines for uninterrupted high speed service as part of Core High Speed Line strategy
- c. Reinstatement of double track on sections of the Oxford and Worcester route (through Moreton in Marsh) to improve performance and reduce importation of delays onto Core High Speed Line
- d. Redoubling the single track Swindon-Kemble section as the first phase of the Swindon-Gloucester-South Wales line upgrade for delivery in 2008/9 (being the key Severn Tunnel diversionary route), also facilitating new North Swindon station
- e. Evaluation of reinstatement of the third platform at Chippenham

24. Birmingham-Taunton

- a. Evaluation of raising the target line speed between Birmingham and Taunton to 125mph, thereby reducing journey times and increasing capacity, with track improvements planned between 2012-12

25. West of England

- a. A further additional platform at Bristol Parkway to facilitate parallel moves towards Bristol and South Wales, for delivery in 2009
- b. Doubling of Worle Junction, part redoubling of the singled line towards Weston Milton and provision of a turn-back facility at Yate in 2008/9 to facilitate a standard pattern, cross-Bristol shuttle service

Information Note

- c. Upgrading of goods loop at Pilning to passenger status in 2008/9 with improvements to line-speed and operating flexibility through the Severn Tunnel
- d. Shorter signalling headways in the Bath area to improve capacity and performance
- e. Evaluation of reinstatement of bay platform 2 and extension of existing platform 13 at Bristol Temple Meads
- f. Evaluation of extension of four-track railway between Bristol Temple Meads and Filton Abbey Wood.

Reading to Penzance Route Plan

26. This section of route is the main line from Reading to Taunton and on to Penzance (including the branches to Barnstaple, Exmouth, Paignton, Gunnislake, Looe, Newquay, Falmouth and St. Ives and the freight branches to Whatley, Merehead, Heathfield, Plymouth Cattewater, Fowey and Drinnick Mill together with a connection from Crediton to Coleford Junction leading to the privately owned Meldon Quarry line through Okehampton.

Demand

27. The emerging *Regional Planning Assessments* (RPAs) for the South West and for the Thames Valley identify role's rail as being to support London's role as a world city and the local economies of other key urban centres by:
 - a. Linking employers to skilled labour (commuting)
 - b. Supporting the growth and integration of the by linking London to key centres
 - c. Supporting wider social connectivity in the South West by providing important regional links
 - d. Contributing to surface access to Heathrow
28. The main markets are identified as:
 - a. Medium distance commuting to London
 - b. Short distance commuting to London, from the eastern end of the route
 - c. Commuting to other main centres such Exeter and Plymouth
 - d. Interurban travel between the main centres and the South West and London and the Midlands
 - e. Intra-regional inter-urban travel
 - f. Access to airports
 - g. Leisure and tourism

Information Note

- h. The 'social dimension' of branch lines
- 29. There has been significant growth in passenger demand 2000-2006. Traffic grew:

- a. 20% between Exeter and Taunton and London
- b. 40% to the Midlands

There was minimal growth from Plymouth and Cornwall to similar locations and demand has been 'fairly static' for local journeys to Exeter and Plymouth.

- 30. Demand for seats on main line services to London during the morning peak exceeds provision from Newbury by 5%.

- a. The DfT forecasts growing demand for passenger traffic from the south west peninsula to London, as well as for holiday traffic to Devon and Cornwall.
- b. The business need for connectivity is acknowledged with future journey times of under two hours from Exeter and under three hours from Plymouth.
- c. The emerging RPAs forecast that the demand for journeys in the morning peak to London will be met throughout the route, up to 2016, by increased service provision.
- d. By 2026, seating demand is forecast to be in excess of capacity from Westbury by as much as 14%.
- e. Significant growth is forecast in demand for local services to Exeter.
- f. Demand for cross country travel is forecast to increase
- g. Significant growth is forecast in aggregates' movement, already a major source of freight traffic from the Mendips. China clay, the other significant source of freight traffic, is mostly exported locally through Fowey.

Capacity

- 31. Capacity is constrained in the Reading area while the single-track Devon branches (including that to Gunnislake in Cornwall) operate at, or close to, capacity, along with that to St Ives.

- 32. The route suffers from the poor condition of the track, whose rail and sleepers are amongst the oldest on the national network, and the effect of reactive delays from both on and on the route compounded by the limitations of the existing infrastructure. A sustained programme of track renewal is currently underway with the intention of removing Temporary Speed Restriction by March 2009. Network Rail

Information Note

intends to develop the route as a Core High Speed line which will facilitate the introduction of the new Inter City Express rolling stock in 2015. However, it has also identified key sections of this route as one of a set of “Fragile Routes” where the residual life of the infrastructure would be compromised by any additional loco-hauled traffic. The branches to Barnstaple, Exmouth, Paignton, Gunnislake, Falmouth, Newquay and St Ives as well as the route from Plymouth to Penzance are in this category while also seen by the industry as likely to be required to cope with additional traffic.

33. Network Rail has identified a number of ways of meeting the demands of passenger growth and future capacity requirements:

- a. Longer trains on cross country services
- b. Station platform lengthening
- c. Simplification of the timetable structure and mix of train types
- d. Increased line speeds between Taunton and Reading
- e. Reduced signalling headways between Newton Abbott and Plymouth
- f. A new signalling centre in the Thames Valley in mid-2009
- g. An alternative route from Southampton to the Midlands via Salisbury, Westbury and Melksham, cleared to accommodate 9' 6" high ISO containers, easing congestion in the Reading area.

Investment

34. The following are amongst the more innovative investments currently planned or under consideration:

- a. Extended platform and passing facility at Penryn on the Falmouth branch to enable occupation by two trains at one time. Due for completion in 2008
- b. Improved station facilities at Torre, Torbay and Paignton (in conjunction with Third Party)
- c. Extension of Bedwyn turn-back facility to accommodate 6-car trains (in conjunction with FGW)
- d. Reinstatement of fourth platform at Westbury (in conjunction with FGW)
- e. Line-speed improvements as Core High Speed line between Reading and Taunton

Information Note

- f. Reduction in signalling headways between Newton Abbott and Plymouth to improve capacity and performance (in context of area signalling renewal)
- g. Conversion of both tracks for reversible working between Exeter St Davids and Exeter Central (FGW proposal)
- h. Elimination of Salmon Pool crossing, line-speed increases and passing loop improvements on Barnstaple branch (FGW proposal)
- i. Reduction in signalling headways between Plymouth and Penzance and redoubling of single line from Long Rock to Penzance to improve capacity and performance (FGW proposal)
- j. Reinstatement of the second platform at Newquay to increase capacity (FGW proposal)
- k. Line-speed improvements on St Ives branch (FGW proposal)

Wessex Routes Route Plan

35. These comprise the corridor from Worting Junction on the Waterloo to Southampton line (near Basingstoke) to Exeter, the lines between the Southampton area and Bath/Chippenham on the South Coast, Bristol and South Wales group of routes), the line from Castle Cary to Dorchester (on the Bristol-Weymouth route) and the freight branch to Ludgershall.

Demand

36. The *Route Plan* gives no route specific details for recent passenger growth but indicates that it is in line with the general rate of growth of 22% over the last six years of the South West Trains franchise. It also notes 'considerable increases in passenger flows' to destinations away from London such as Salisbury and Exeter, as well as from the Southampton to Bristol route.
37. Exeter Airport is reported to be attracting an increasing number of rail passengers and a strong off-peak demand for leisure and tourism is noted.
38. Freight traffic is concentrated on MoD to and from Ludgershall, aggregates flows from the Mendips and diversionary traffic from the Southampton area to Basingstoke and beyond.

Information Note

39. Network Rail predicts continuing strong growth in both passenger and freight demand. Passenger growth is expected to be around 20% over the next decade and greater on some sections. Commuting from west of Yeovil to London is predicted to rise 38% by 2017, for example. Demand for travel to and from Exeter is also expected to rise considerably, particularly with planned development along the corridor of the line east of Exeter. Aggregates traffic is projected to grow 1-2% annually. Network Rail predicts worsening congestion unless growth is accommodated.

Capacity

40. Capacity is constrained by the long single-line sections of route on the corridor west of Salisbury to Exeter combined with the existence of two key demand drivers – traffic to London and in to Exeter. Performance suffers from the effects of reactionary delay on the single-line sections. Capacity utilisation of the South Coast to Bristol route is constrained by congestion in the larger cities and towns through which it passes especially Bristol and Southampton.

41. Network Rail has identified a number of ways of meeting the demands of passenger growth and future capacity requirements:

- a. Provision of an enhanced passing loop in the area of Chard Junction extending south to Axminster to facilitate an hourly Exeter-London frequency
- b. Operation of ten car services from Salisbury to London
- c. Line-speeds are generally considered adequate but small improvements may be delivered through routine renewals.
- d. It may be necessary to upgrade parts of the route to take 9'6" ISO containers if the route is to remain a diversionary route for traffic from Southampton port.

Investment

42. The following are the more significant investments being planned or considered:

- a. Yeovil – Exeter frequency enhancement and provision of enhanced passing loop in the Chard Junction-Axminster area by 2008/9
- b. Reinstatement of platform 1 at Salisbury and extension of platform 3 to 10-car capability

Information Note

- c. Increased line speeds with renewal of level crossings in the Test Valley

South West Main Line Route Plan

43. *This comprises principally the routes from London Waterloo to Southampton and onwards to Weymouth and Portsmouth and including freight branches to Hamworthy Goods and Furzebrook (abutting the Swanage Railway).*
44. The following sections seek to summarise the key issues relating to the SWML's services in the South West.

Demand

45. The South West trains franchise recorded a 22% increase over the last six years leading to frequent overcrowding. Southampton and Bournemouth airports attract an increasing flow of rail passengers. There is a strong off-peak demand for leisure and tourism activities. Continued strong growth and worsening congestion is predicted unless growth is accommodated. Growth in commuting to London is expected to be strongest in outer areas.
46. It is expected that travel demand in relation to Olympic events in Weymouth can be "broadly accommodated" with the current network capability. Extra services may be provided at certain times but it appears that most additional capacity will be provided by "regularly implemented service strengthening" – running certain trains at greater length.
47. The Weymouth Tramway, serving Weymouth Quay, is temporarily out of use. Its traffic potential is being explored but Network Rail notes that it may seek its closure in 2009.

Capacity

48. Significant sections of the route, especially in the approaches to London and between Bournemouth and Southampton, are operating at capacity. Elsewhere in the South West, single line sections of track between Moreton and Dorchester South and the approaches to Weymouth restrict capacity.

Investment

49. Although Network Rail acknowledges that the growth in demand must be accommodated its current investment proposals are limited in number. They include:
 - a. Increasing capacity on shoulder peak services by running trains to maximum length

Information Note

- b. Remodelling Waterloo to accommodate train lengths of at least ten cars, later twelve across the suburban network, at all platforms
- c. Introduction of sophisticated pricing tools to manage supply and demand at different times of day
- d. Power Supply Upgrade where necessary to accommodate longer trains
- e. Addressing the prevention of infrastructure failures as the most effective way to achieve targeted train performance.

Conclusion

50. Network Rail's relatively ambitious *Route Plans* for the services operating out of Paddington are in contrast to its plans for those from Waterloo. The first group is based on the elaboration of a radical strategy – creating Core High Speed lines with, wherever possible, dedicated infrastructure and trains, and addressing the bottle necks around key nodal points such as Reading, Bristol and Exeter, supported by a programme for tackling the back-log of maintenance and renewals and taunted by a decade-long legacy of appalling operating performance. The second group seeks to accommodate the expected growth in passenger demand within the constraints of minimal additional capacity in order to operate services broadly similar to those with which we are familiar today.
51. The *Route Plans* reflect aspirations as well as budgeted commitments. They reflect the industry consensus of what is needed and what is doable. The South West has no assurance that the improvements will be delivered in their entirety. Its rail network already suffers from the lowest level of Government investment of any region in Britain when measured in terms of £ per track route kilometre. It is also the region where business use accounts for the highest proportion of kilometres travelled by passengers. The South West needs to press its case against the background of its commitment to the qualitative and quantitative objects of the Regional Spatial strategy and the Regional Economic Strategy.

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