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# **Network Rail October 2007 Strategic Business Plan**

**Supporting document**

**Community Rail**

## Community Rail

Network Rail is committed to supporting the Department for Transport's Community Rail Strategy. To that end, it wishes to develop its relationships with community rail partnerships around the country, facilitating their work to develop ridership and contributing to work to reduce costs across the network, including on community rail routes.

A number of workstreams will continue, including plans to make greater use of redundant buildings for community use and working with local groups to improve the railway environment.

There will also be work on standards and processes on the rural network which seeks to identify ways to reduce costs, and, where investment is warranted, to make that investment more efficiently by adopting standards appropriate to the community railway.

Network Rail follows a risk-based approach to the management of its assets, based on an understanding of the degradation characteristics of each asset and how this may impact on the delivery of outputs required by customers, stakeholders and funders. Asset management activity associated with any particular asset is therefore related to the corresponding level of risk of asset failure or degradation, taking into account current and future use.

Consequently, and where safety is not compromised, an increased likelihood of asset degradation may be tolerated where the business impact of this degradation is not considered material. Conversely, where the business risk is considered significant the degradation threshold when intervention is required may be reduced.

For community railways, the company's approach to standards and asset policies is based on this risk-based concept. It is worth noting, however, that even on relatively lightly used routes our asset management policies and standards are based upon a mix of train services and rolling stock. As a community railway is likely to have a more restricted service level and limited range of rolling stock, further modifications to these policies may be possible.

Work has already started on a pilot local route plan, developing from existing route plans but specific to a single line and looking further than existing markets: local route plans will also seek to identify how the community railway can tap new passengers and new freight opportunities. If the pilot demonstrates the approach adds value, further local route plans covering the pilot lines will be developed.

## Current position

The Community Rail strategy covers local and rural railways which, whilst differing in many of their characteristics, have a number of things in common:

- relatively low speed (less than 25 mph)
- single or double track (not multiple track)
- one passenger train operator providing the bulk of the services;
- not directly serving the major conurbations with commuter services;
- no major freight flows; and
- they are not part of the European TENs network.

In addition, these lines are also loss makers with costs exceeding revenues by a significant margin.

	No. of lines (SRS*)	Total track miles	Total route miles	% of network route mileage
Route sections with completed line designation	13	182	173	1.8%
Route sections with completed service designation	9	387	242	2.5%
Route sections proposed for line designation by DfT (inc completed)	44	1214	845	8.8%
Route sections proposed for service designation by DfT (inc completed)	28	1480	861	9.0%
Strategic route sections identified by NR as community rail	31	999	804	8.4%
Strategic route sections covered by a community rail partnership				78
Strategic route sections total network				310
Total network track mileage				18126
Total network route mileage				9588

\* There are slightly fewer strategic route sections than lines, as for example the Wherry and Bittern lines form part of one SRS

## Facilitating Local Involvement: Community Adoptions

With five million lineside neighbours, it is unsurprising that some want to take practical steps to improve their local environment. Recognising its obligations in this area, Network Rail is working with community groups around the country who wish to become involved in enhancing disused platforms and other Network Rail - controlled areas – usually around stations.

The company is trialling a standard process that will enable groups such as these to 'adopt' suitable areas of the land it manages. This process will differ from 'station adoptions' managed by train operating companies in that groups will be able to access areas not currently open to the public.

To achieve this, careful steps must be taken to manage the many risks that exist around the railway. Agreements will only be drawn up with recognised groups and access will be restricted to designated areas, including securable safe access routes. Activities will either be supervised by industry track safety specialists or be within delineated areas, fenced where necessary and volunteers will receive individual safety instructions and high-visibility clothing.

Within Network Rail, property, safety, maintenance and legal specialists have worked with the Community Rail team to make the process a reality, reflecting the shared aim of using innovative techniques to improve the railway environment for rail users, staff and the railway's neighbours.

### **Managing Down Costs: Local Route Plans**

A pilot 'Local Route Plan' (LRP), covering the St Ives Bay line, is currently being drawn up in cooperation with First Great Western, the Devon & Cornwall Rail Partnership and Cornwall County Council. Spanning a 20-year timescale, the LRP aims to reduce the gap between costs and revenue, both by seeking ways to stimulate passenger demand above current levels and by looking for opportunities to make more effective use of infrastructure.

Input from the County Council, Rail Partnership and train operator have defined the needs and expectations for the route, which is growing strongly on the basis of high summer Park & Ride traffic. Future needs revolve around expansion of the Park & Ride, plus aspirations to encourage more through travel to regional centres in the off-season.

Infrastructure and rolling stock costs have been addressed through workshops, examining options for future maintenance, and innovative approaches to track and rolling stock. A wide range of options have been identified, utilising both established and emerging technologies, and further data is being gathered to narrow these down.

If the pilot proves successful, identifying both growth and cost reduction opportunities that have not been identified elsewhere (e.g. through the RUS process, albeit focussed on managing the capacity gap), Network Rail will consider adopting this process initially on the other community rail strategy pilot lines, and elsewhere if there are clear benefits through the approach.

### **Making the most of railway properties: community uses for redundant buildings**

Supporting with ACoRP (the Association of Community Rail Partnerships) and Central Trains, there has been considerable success with the Central Stations project. This project recognised that there is a certain amount of railway property, no longer required by the industry and for which a commercial tenancy was not an option. This might be for a number of reasons, but typically the money required to bring the property up to a lettable standard was not warranted by the returns to be achieved.

However, it is no one's interests (industry, stakeholder or rail user) to have this property lying empty. The solution was to invite community organisations to take on the property on relatively long leases and low rents, in exchange for which the tenant provides the capital funding to return the building to a reasonable condition.

Following the success of the Central Trains scheme, Network Rail will invite other train operators to consider similar arrangements using the same streamlined process and will look at the property portfolio for which the company is responsible to identify similar opportunities there.

### **The right railway: standards enabling best value for the rural railway**

The Rail White Paper set out the Government's view that the rail industry should further assess the operating and infrastructure costs on more lightly used routes,

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especially where there is little prospect of freight services operating. They suggest that such routes could benefit from risk and usage-based adjustments to engineering approaches and standards so that these are more appropriate for their particular circumstances while maintaining a safe, fit-for-purpose network.

Network Rail's key track standards already differentiate the railway based on total usage expressed as a relationship between speed and equivalent million gross tonnes per annum passing. The majority of community rail lines fall with track categories 4 and 5, requiring visual inspection weekly or fortnightly for jointed track and fortnightly or four weekly for CWR. A similar relationship (on a far less frequent basis) exists for ultrasonic inspection and for track geometry recording.

The company believes that there may be opportunities for further differentiation based on light weight vehicles. Whilst vehicle weight is implicit within the standard, currently no distinction is drawn between frequent light weight trains and heavy less frequent trains. The work to determine what benefits such further differentiation might bring will be completed within the first two years of the Control Period. However, it will also be necessary to take account of freight requirements. Such an approach may provide incentives to encourage the use of lighter weight rolling stock on the rural network.

Network Rail will look at innovative ways of cascading materials to secondary routes and to community railways in particular. Many lines currently laid in jointed track can be maintained almost indefinitely by sleeper replacement and occasional rail replacement. However the maintenance input required for fishplate oiling, bolt tightening and checking and replacement of rail fixings will never diminish. This can only be achieved through conversion to CWR, but there is no financial justification for this on many routes.

The company will investigate whether materials can be cascaded straight to rural railways from the sites at which they are lifted, for subsequent installation. This approach could significantly reduce haulage costs and justify renewal of lines currently laid in jointed track. Network Rail's track policy now allows the cascade of serviceable rail onto class 4 to 6 routes without some checks that were previously required.

Off track, the current application of fencing standards will be reviewed. Protecting the railway from incursion and providing appropriate secure separation between the railway's neighbours and the railway itself will always be a high priority. But clearly the risks in an urban context are significantly different from those in a rural environment, and train speeds and frequencies are generally lower on the rural network meaning a different approach may be appropriate. Network Rail will also be mindful of the visual impact fencing can have on a visually sensitive landscape.

Work will continue with partnerships to consider the most appropriate approach to the management of lineside vegetation. Network Rail has reviewed the current standard for vegetation management and as a result has reduced the requirement for the cess to be clear of vegetation from 5 metres from the nearest running rail to 3 metres where it is safe to do so. In the case of some rural lines their tourism potential is significantly impacted by excess vegetation obscuring views. Strategies will be sought that optimise costs of vegetation management, taking into account the views that the railway can provide. There may be an incremental cost to such an approach and careful consideration will need to be given to where that might fall.

## **Signalling**

Elsewhere in this Strategic Business Plan, the ongoing work on trials of the European Train Control Systems (ETCS) signalling system as part of the ERTMS trials on the Cambrian line is discussed. The impact of these radio based systems on community railways is not yet clear: whilst they may reduce the amount of lineside equipment and are expected to increase network capacity and flexibility their high capital and operating costs may not be appropriate on rural routes.

A strategy for secondary routes is being developed, which is less technically challenging in that it builds on existing principles and interfaces and therefore does not require any train fitments. This development, unlike ETCS is evolutionary and therefore less of a technical risk.

Many rural lines need little in the way of signalling and existing technologies could be adapted to suit. Some minor changes to standards may allow a simplified application of those existing systems thus reducing ongoing costs.

One such example is Hydro Pneumatic points. This system was provided to allow the points to move under the weight of a passing train in one direction, returning to the 'normal' position for trains in the other under the force of a spring and piston system. The number of such applications has now reduced to the point where no suitable parts can be sourced at an economic price. An inexpensive solution is being developed to power operate points so that they act in a similar way to hydro pneumatic installations. Trials are planned on the Central Wales Line, which if successful will eventually have universal application, including on RETB lines with some further minor development.

Network Rail will continue to review level crossing controls and trials are being planned for a number of possible less expensive solutions.

## **Stations**

We will review opportunities at stations, but it is believed that such opportunities may be limited. Lighting was an area that had been suggested for cost saving. However, much of the cost of renewal is associated with the power supply, and that changes little. The quantity or light output of the luminaires cannot be reduced too much, as a well lit station contributes towards people's feelings of safety and security. The rigorous but inappropriate application of standards of the past needs to be avoided, but current standards do not prevent a sensible approach.

The company continues to look for less expensive platform construction techniques and options, but benchmarking in this area suggests that traditional blockwork and fill is still generally the most cost-effective. Cost savings could be achieved if the height of platforms is reduced. Work on tram train is intended to cover low-floor vehicles and thus investigate the consequences of changing the current standard.

Work on modular buildings is targeted at stations generally larger than those found on community rail routes, but where methods can be cascaded for greater efficiency we will adopt those approaches. The work will also consider platform construction. Network Rail will continue to learn from various workstreams, some with the TOC's, on a more carbon efficient approach to stations: the 'Eco Station' scheme from Northern Trains is one example.

## **Minimising the cost of community railways: the maintenance challenge**

Investigations will continue into ways in which the costs of maintenance and renewal on the rural network can be reduced. This will come through changes to working methods, organisation and standards.

Consideration will be given to whether there is a business case for dedicated maintenance units for some groups of branch lines. Most lines on their own could not support a gang: as noted elsewhere a minimal intervention approach is used on these lines where asset condition is such that this approach is appropriate. This means that for straightforward maintenance work, limited time is spent on the branch and the potential cost savings are small.

If a group of lines is considered such as the Cornish branches, this may provide sufficient volume to justify a dedicated gang. Work needs to be done to identify whether the benefits of specific route knowledge, greater 'ownership' and the retention and development of traditional railway skills, outweighs the additional costs that might

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arise through greater travel time and reductions in efficient scheduling of resource. Even in these circumstances, the costs are relatively low and the potential savings are correspondingly low.

For renewals the picture changes totally, and indeed this is where much of the cost of maintaining the branch line network rests. On some lines, major renewals can be avoided almost indefinitely, without penalty, except that the level of maintenance will never reduce. This is consistent with current practice.

On other routes, previous 'maintenance holidays', and the use of heavy locomotives, has meant that a 'heavy maintenance' approach is no longer sustainable. Renewals are the best option but they are still expensive.

The use of innovative methods and greater use of planned cascading of materials from main line renewals may yield benefits, and over the first two years of the Control Period Network Rail will actively investigate how those benefits might be realised.

Work is currently underway to benchmark similar routes in a number of European railways against Network Rail. This benchmarking is already suggesting some further avenues for investigation and may well point up some of the standards changes that are required on the rural network to allow more efficient use of resources.

### **The right trains: tram train trials**

Development will continue into ideas around tram train technology and the goal of a trial of this technology in the UK will be actively pursued with our partners in Northern Rail and the Department for Transport.

Tram train is seen as providing a new tool that might be deployed in city centres to improve the public transport offer, taking people to where they want to go rather than where the railway historically has been.

However, the UK has a relatively low number of street tramway systems and so early deployment is unlikely. A trial will allow informed decisions for the future and will clear the way by identifying necessary controls and standards changes that would facilitate introduction of this standard European technology.

From a community rail standpoint, tram train gives the opportunity to quantify the benefits of reduced weight vehicles. It also allows tests of passenger reaction to a tram style of vehicle that might have application on the rural railway. Potentially, it also allows testing of the impact of low-floor vehicles. This would be a major departure from current UK heavy rail practice which could improve accessibility and reduce the cost of platform construction. This in turn would allow stations that are less visually intrusive and could give greater flexibility on where they are built.

But, a standard platform height (currently 915mm) does allow interchange of rolling stock between different routes without introduction of access and gauging issues and an understanding needs to be developed of the degree to which this would be inhibited by a low-floor approach.

### **Encouraging local involvement: strengthening community rail partnerships**

The Government's Community Rail Strategy has already delivered real benefits to the national railway network: the specific focus on the rural network has raised confidence, encouraging use. It has brought local stakeholders together to focus resources where they can produce most benefit for local people. It has also enabled the industry to ask some searching questions about how we manage the rural railway and reduce the burden on taxpayers whilst improving the service to rail users.

Network Rail has provided specific resource to work with community rail partnerships. However, as the momentum has grown it has become clear we need to commit more resource to work with partnerships.

Network Rail will review how it engages with partnerships at a local level, providing a direct linkage to TOC relationship management teams and giving partnerships access to local knowledge. This will enable an improved flow of information between Network Rail and the partnership, allowing stakeholders to understand the work being done on the railway and the reasons behind possible disruption to services, and giving Network Rail a better understanding of local market conditions, local issues with respect to the railway and possible service opportunities.

It is vital that the consistent national focus that has developed is kept, with direct access to leading board members: community railways are important and Network Rail is determined to provide a sufficiently senior focus to maintain that momentum. The community rail team will continue to provide the central resource, will be available to service the needs of partnerships nationally and will set the strategic direction. But increasingly, the team will seek to get local colleagues more engaged with partnerships on the ground.

To date, Network Rail has not been a formal member of any partnership, but has taken an active role, providing practical support and information for partnership projects. This support cannot extend to financial commitments but benefit in kind will continue to be provided where possible. The position on formal membership of partnerships will be reviewed and whether, if invited, it is appropriate for Network Rail to become a full member.

### **Vertical integration – dedicated delivery and relevant standards**

The Department for Transport in its recent review of the Community Rail Strategy noted that it is considering “the local operation of a small number of lines as vertically integrated businesses – possibly on a social enterprise model.”

Network Rail appreciates why the desire exists for this approach: there is a widely held belief that the company can do little to address its cost base on the rural network. This is not the case.

The company believes that the best value for the whole network can be delivered through an integrated approach provided that we engage in effective partnerships at a local level. The high capital and operating costs for substantial items of plant are best reflected across the whole network rather than trying to allocate parts of the cost to individual sections of route: it would be inappropriate to try and allocate part of the cost of a tamper, costing tens of millions of pounds to the St Ives branch, when it is used there once in two years for less than one shift.

However, there are improvements that can be made. As discussed under maintenance, Network Rail is keen to review the opportunities for dedicated maintenance teams on groups of rural lines. The company believes that this will not only lead to a sense of ownership, leading to improvements in quality delivery but will also aid clarity of costs.

Breaking up the network in the way suggested will probably lead to short term cost reductions, but Network Rail is convinced that the total cost of maintenance and renewal will increase overall, with greater incentives to defer renewal in favour of ‘patch and mend’, even when that approach is no longer sustainable.

The way forward is, in the company’s view, relevant standards for monitoring, maintenance and renewal of the infrastructure, allied to improvements in the wheel rail interface to reduce wear on both train and track, delivered by dedicated teams with a

close understanding and ownership of ‘their’ assets. Allied to a close working relationship with local stakeholders and the TOC, Network Rail believes this is the way to provide for long term stability and sustainability.

### Community rail fit with DfT Technical Strategy

Project	Lead body	Outputs	Fit with community rail	Delivery
ERTMS Programme – long-term product development	Network Rail (via Cross-Industry Team)	ERTMS work on advanced positioning	Position unclear pending trial. Secondary route strategy being developed	2007 on
Selective Door Operation Initiative	RSSB (via V-TC&C SIC)	National specification for Selective Door Operation	Could have application on less well used stations for shorter sections of platform set to gauge	2007
Better timetabling	Network Rail and TOCs	Faster method of producing better-optimised timetables based on consistent network data	Would allow greater flexibility for partnerships to propose timetables that meet local needs	2007–09
Intelligent Infrastructure Project	Network Rail	Improved reliability, better quality and reduced cost infrastructure	Limited application due to low complexity infrastructure, but remoter monitoring could have application	2008 on
Tram–Train Project	Network Rail/ Northern	Evaluation of benefits of low-mass vehicle on rural lines	Key development area for community rail	2009
Corporate Network Model	Network Rail	Consistent data model of network	Will assist understanding of costs and renewal options	2009 on
UK input into Innotrack	Network Rail	Innovative track forms with lower whole-life cost	May have some application	2010
ATOC NRMM Compliance Programme	ATOC	Integration of low-emission diesel engines into UK diesel trains	Application as rural lines are mostly non-electrified	2011 on
UK input into European Low Impact Trains Initiative	RSSB	Low-mass train designs	Key issue for rural railways is to reduce the impact of trains, thus reducing maintenance and renewal input	2012
Next Generation Multiple Unit Projects	DfT/industry	New generation design for electric and diesel multiple-unit renewal	Application as much rolling stock on rural lines is coming up for replacement	2012 on
Hybrid Traction Development	DfT/industry	Accelerated development of hybrid traction to support NG-DMU.	Application as rural lines are mostly non-electrified	2012 on

ERTMS Programme	Network Rail (via Cross-Industry Team)	ERTMS Level 2 on Cambrian, then migration to ECML, GWML	Position unclear pending trial. Secondary route strategy being developed	2015 onward
UK input into European Hydrogen Trains Initiative	RSSB	Integration of hydrogen fuel chain into railway trains and infrastructure	Application as rural lines are mostly non-electrified	2020 to 2025