2015

Rail freight for regional development

Ian Gray
*Charles Sturt University*

Philip G. Laird
*University of Wollongong, plaird@uow.edu.au*

Nick Montague

Follow this and additional works at: https://ro.uow.edu.au/eispapers1

**Recommended Citation**
https://ro.uow.edu.au/eispapers1/3703

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au
Rail freight for regional development

Abstract
The potential of rail freight to grow regional economies by boosting local primary and secondary industry is now well documented in research and commentary, as is the desirability of increasing rail freight's modal share. Branch line railways can contribute. North American experience, where small railways contribute 25 per cent of the freight moved on the main lines, and attempts at reviving branch line freight here, have revealed what could be done with the right model. The case of the Blayney-Demondrille (Cowra) line in the Central West of New South Wales shows the promise. However, its ongoing process of revival also shows the necessity for a simple and effective model of a way to make it happen. The overall economics of branch line operation is not what is getting in the way. People trying to develop rail freight are hampered by misconceptions among potential rail customers, governments and even parts of the rail industry. These misconceptions include ideas about distance breakeven points for road and rail, the capital and operating costs of railways, the potential for ‘first and last mile’ railways and relations among large and small rail operators. There also appears to be little appreciation of the benefits of railways which focus on local and regional development. The paper discusses these issues with an eye on potential developments in regional New South Wales and proposes some principles for a simple and reliable process of branch line development.

Publication Details

This conference paper is available at Research Online: https://ro.uow.edu.au/eispapers1/3703
Rail freight for regional development

Paper presented at the SEGRA Conference, Bathurst NSW, 21st October 2015

Adjunct Associate Professor Ian Gray, Institute for Land, Water and Society, Charles Sturt University
Associate Professor Philip Laird, Honorary Principal Fellow, University of Wollongong
Nick Montague, Department of Transport & Main Roads, Brisbane, QLD.

Abstract

The potential of rail freight to grow regional economies by boosting local primary and secondary industry is now well documented in research and commentary, as is the desirability of increasing rail freight's modal share. Branch line railways can contribute. North American experience, where small railways contribute 25 per cent of the freight moved on the main lines, and attempts at reviving branch line freight here, have revealed what could be done with the right model. The case of the Blayney-Demondrille (Cowra) line in the Central West of New South Wales shows the promise. However, its ongoing process of revival also shows the necessity for a simple and effective model of a way to make it happen. The overall economics of branch line operation is not what is getting in the way. People trying to develop rail freight are hampered by misconceptions among potential rail customers, governments and even parts of the rail industry. These misconceptions include ideas about distance breakeven points for road and rail, the capital and operating costs of railways, the potential for 'first and last mile' railways and relations among large and small rail operators. There also appears to be little appreciation of the benefits of railways which focus on local and regional development. The paper discusses these issues with an eye on potential developments in regional New South Wales and proposes some principles for a simple and reliable process of branch line development.

Introduction

Railways are a desirable means of moving land freight. By doing so more cheaply than other modes, they can enable economic development which might not otherwise occur. By lowering transport costs, they make local industry more competitive. They did so spectacularly during the 19th century and for most of the 20th century, particularly for grain transport. They continue to do so now, but transportation systems have become much more complex and the likelihood of a railway offering drastically cheaper transport costs to any particular industry is much less certain. This is partly because, in both urban and regional situations, there are fewer railway lines present to offer a service. It is also due to there being very little incentive to offer a rail service in a competitive environment where costs are not equitably distributed. A rail operator may be lowering costs more for the benefit of other industries.

A freight train service can offer opportunities, especially to industries for which transport is a relatively high cost or which suffer from inadequate availability of transport services, ie are
‘transport constrained’. A dollar value of between 1.5 and 2.5 million per annum was placed on the potential savings to regional industry from a reinstated regional rail freight service. These figures are based on two feasibility studies, as assessed in the Ministerial Task Force report on the New South Wales Blayney to Demondrille (‘Cowra Lines’) railway (Ministerial Task Force 2012). More broadly, the Victorian 2014/15 budget papers stated with respect to a funded rail renewal project: ‘this project is a major step towards improving the efficiency of freight movements, which will benefit businesses and residents of the Mildura area’ (Victoria 2014). Pitt and Sherry estimated that the direct financial benefit to Tasmanian industry from rail freight service was 9 million dollars in 2013/14 (Sherry 2015). The benefits of regional railways for local economic development are often voiced in the USA (see Stich and Miller 2014), especially when industrial and/or property development is linked to the railway, such as in Sternberg and Banks (2006). The recent announcement of the intention of a relatively small railroad company to reinstate a freight service was greeted with excitement by, reportedly, local and state officials as well as industry (Progressive Railroading 2015). This scenario has occurred many times in the USA and Canada over the last 30 years, where ‘short line’ operations add value to many regions. New Zealand's rail system, which in some respects is a large regional railway, has been revitalised following its return to the public sector in 2008 (Laird 2013a), and in 2014 moves both dairy products and logs assisting the overall economy (Kiwirail 2014).

Nevertheless, there is a lot of scepticism about the potential of regional railways in Australia, particularly given the progressive loss of freight on systems in South Australia, Victoria and Queensland. This seems to persist despite the notable success of a rejuvenated Tasmanian system, which can be considered regional due to the relatively short distances covered by its operations and the persistence of some short haul and less-than-trainload operations over many remaining branch and main lines. Scepticism could be based on two misguided views; one being that rail fixed costs are relatively very high and the other than rail is only competitive over long distances. We will discuss both of these after considering some real impediments with long historical roots.

A history of impediments

These impediments warrant consideration as they form, collectively, an effective basis of unintended influence by industries and governments in a ‘socio-technical regime’ (Montague 2005). This has maintained an ideological climate in which it is widely assumed that rail is congenitally disadvantaged. We will examine interpretations of systemic features which become very difficult to change because people’s ideas about them have long historical roots. Some historical features of Australia’s railways are widely interpreted as permanent and immutable.

The Australian railway system has been hampered from its outset by the unfortunate differences in gauge. The regional system is hampered by much more. The gauge problem persists in a few situations but is not so prominent now, with all the mainland capitals being connected directly to their neighbours and all the other capitals by standard gauge railway. The present interstate system developed from lines established only to serve the individual colonies. The regional system now is what was left after those few interstate connections raised the status of elements of the original regional system.
Throughout its history, the regional system has been hampered by centralised administration. Established as agencies of urban interests to expand commerce based in the colonial capitals, Australia’s regional railways had their own centralised administrations, to varying degrees of centralisation, around the colonies/states. New South Wales and Victoria were particularly centralised, with little possibility of authority or initiative being exercised outside the capital city headquarters (Gray 2009). When road competition emerged from the 1920s, attempts to operate regional freight competitively were doomed by centralisation when the organisation was unresponsive to local needs.

The regional railway system has been hampered recently by much more. In particular, referring to New South Wales, it has suffered from

- a ‘socio technical regime’ that is resistant to change, so experimenting is difficult and hence learning that challenges existing assumptions is limited.
- negative frames of reference around the potential role of branch lines in local / regional economic development
- lack of community ownership of the outcomes / potential delivered by branch lines
- Government and industry wide focus on promoting competition (the ‘competitive obsession’) as opposed to fostering cooperation
- lack of clarity amid politicisation of branch line discontinuance / closure processes (as opposed to the USA and Canada)
- a one size fits all approach to rail regulation and policy
- many branch lines becoming dependent on grain but all being labelled ‘grain lines’
- the popular notion that rail costs, particularly capital costs, are very high
- strategic control of suitable rollingstock assets predominantly resting with existing mainline operators.

*The particular circumstances of regional railways*

Little or no account was taken of regional lines when the decision was made to apply the vertical separation and ‘open access’ model to create a competitive market. The 1991 Industry Commission report on rail (Industry Commission 1991) recommended open access in addition to extensive service closures. It stated that ‘railways should be free to concentrate on what they do best and to discontinue those services which are not financially viable’ (page xvi). This aligned with the spirit of US Federal Government deregulation of railways in the 1980s, but unlike the US, no consideration was given in Australia to any means of retaining regional lines under different management. The 1991 Industry Commission report contains indications that the forthcoming changes would benefit interstate freight movement but adversely affect the regions. That observation apparently had no impact.

Nor did the position taken by the Australian Rail Track Corporation (ARTC) when, in a 2006 submission to a parliamentary inquiry, it mentioned that it was not opposed to vertical integration on lightly trafficked regional lines. However, the recent call for tenders for reinstatement of the Blayney-Demondrille (‘Cowra’) Lines offered a leasing model which permits vertical integration but retains provision for access, as has applied in Queensland and in Germany (Cairns 2013). Reluctance to adopt this model may have been associated with

---

1 The operation of trains is separated from the administration of the tracks so as to allow multiple train operators to compete with each other under conditions known as open access.
reluctance to apply regulation. As argued by Ivaldi and McCullough (2001) with respect to proposed change in the USA, the vertically integrated operation can charge excessive access fees to discourage competition. But with basically only two (the ex-government) operators plus some smaller spatially-focused operators dominating the main lines, extensive competition on regional lines appears, and always has appeared, unlikely. At no stage has there been effective consideration of the particular problems of regional lines, including the likelihood of any effective competition, and how regionals might be used to greatest benefit, other than studies and reports on the value of what came to be known as the ‘grain lines’.

Another point of policy neglect amid the competitive obsession has been the conditions affecting the ease of start-up for small regional operators. An instance in Queensland illustrates the issue. As reported by Carter (2014), Aurizon, the privatised Queensland government operator, priced itself out of the market for a freight service in Queensland and then refused to sell the equipment it had been using to a company wishing to offer the same service. Carter mentions that the big ex-government operators have almost always sold their surplus equipment, which could be used to maintain or expand rail freight, to overseas buyers only, and on the condition that it not be sold back to a potential Australian competitor. Hence the freight moved onto road transport. Carter (2008) includes an active market in second hand equipment as necessary to the development of regional rail freight in Australia. In contrast, both the UK and the USA have active markets in second hand equipment (Carter 2014). Any cooperative relationship that develops between small and large rail operators has to survive these conditions, and overcome the current notion of strategic rollingstock control. Further impediments to regional rail include thorough rail safety regulation by formerly stated-based regulators, and arguably relatively light handed safety regulation of road freight.

Grain Lines

The term grain lines refers to 10 branch lines in New South Wales which are predominately, but not entirely, used for grain transport. ‘Grain Line’ is unfortunate because each of them is capable of carrying any and all kinds of freight, subject to any load restrictions. A submission from a rural local council to an inquiry into the access charges applied to the grain lines illustrates the problem. Warren Shire Council points out that only grain traffic is considered by a state government inquiry when their local branch line also conveys significant quantities of other products. Note that the Council still uses the term ‘grain line’, which has become the default terminology (Wielinga 2011). Both of these issues have probably weakened the prospects for branch line traffic by maintaining the disconnection between railways and local interests.

Costs

With reasonable loads, trains have significantly lower unit operating costs than trucks measured in cents per net tonne kilometre (c/ntk). In simple economic terms, the dollar cost of operating an equivalent service by truck can be double that of operating a train over the same route (see CRA International (2006)). This is borne out by various studies, particularly those regarding grain transport, such as Deloitte Touche Tohmatsu Ltd (2012). This cost advantage is lowered when road transport to or from transhipment is required, or when rail takes a widely divergent route from the optimum. (The importance of either locating freight origins and destinations at railways or vice versa will be considered later.)
The point about lower operating unit costs is widely accepted. Widely debated, however, is the extent of the recovery of the costs which are imposed on infrastructure and the community by road and rail modes. This was the subject of an inquiry by the Productivity Commission (2006). A case can be made (Laird 2006), by use of methodology different to that used by the National Transport Commission, that in 2005-06 there was under-recovery of about $1.5 billion of road system costs from articulated trucks. Whilst argument remains over the value of mass-distance charging of heavy road vehicles to recover road costs from the heavier articulated trucks (that has been in successful use in New Zealand) there can be little debate that rural roads are affected by increased freight traffic and that the costs of those impacts are insufficiently recovered in many situations. The extra costs of road maintenance can adversely affect local government finances.

The socio-technical regime has accepted and repeated the view that rail has low variable (operating) costs. Unfortunately the idea that rail has high fixed (infrastructure) costs is presented as though it were common sense. High cost in relation to what? Unfortunately there is only incomplete and inconsistent evidence of rail construction costs when viewed relative to road costs. For example, Ernst and Young (2011) found road construction costs to be lower than rail, but this study was concerned with interstate comparison of the components of cost rather than comparing road and rail construction tasks, as it was concerned with major main line/road projects and does not specify the location of the projects as costed. A direct attempt at road/rail comparison was made by the Australasian Railway Association and reported in Nye (2013). Here rail construction appears to cost a little more than half the cost of comparable road infrastructure. There appears to be insufficient evidence to support the view that rail infrastructure costs are very much higher than road costs in comparable situations.

While also difficult to establish by appropriate comparison, road maintenance costs may be much higher than rail. Both road and rail maintenance is divided into annual and major periodic work. With respect to the Cowra Lines proposal, the Ministerial Taskforce reviewed two feasibility studies which estimated maintenance costs. One study put the annual cost at around $20 000, based on ‘fit for purpose’ standards (see Michell 2010) and the other at $26 000 per kilometre over the first 20 years of operation. The former study proposed that after 15 years of major work, total annual maintenance costs would be $12 000 per kilometre per annum.

Road costs may be at broadly comparable levels, but could also be much higher. The Tasmanian Grants Commission found annual routine maintenance costs for sealed rural roads to be just $2 400 (Jeff Roorda & Associates 2012). This may be a low estimate. For rural local roads, base maintenance costs can vary from $2 000/km to $5 400/km based on earlier information (Commonwealth Grants Commission 2006). Regular and necessary rehabilitation is much more expensive at over $400 000 per kilometre (Jeff Roorda & Associates 2012). How frequently rehabilitation is necessary is hard to determine on average. One western Victorian council puts the average life of a bituminous seal at 15 years (Yarriambiack Shire Council 2012), putting rehabilitation costs at $27 000 per annum. On this basis rail maintenance costs could be half those of road.

The cost advantage of rail over road has been demonstrated in two studies of the New South Wales grain transport system. Studies conducted in 2004 and 2009 (Commonwealth Department of Infrastructure 2009) concluded that, while maintenance of a small number of lines was no longer warranted, the cost of upgrading roads to take grain traffic would be
higher than the cost of maintaining the rail service on most lines. The Independent Pricing and Regulatory Tribunal was later commissioned to investigate a lowering of government maintenance funding to share the cost more widely (Independent Pricing and Regulatory Tribunal 2012), but the NSW Government did not want to discourage use of rail due to the higher costs involved with road transport. The Ministerial Task Force (2012) into the Cowra Lines concluded that savings in road costs would be between $496,000 and $940,000 per annum if the railway were to be functioning.

**External Costs**

In terms of externalities, including rail and road accidents, air pollution, noise and greenhouse gas emissions, road freight costs have been calculated to be more than 6 times greater than rail in urban areas and 10 times greater in rural areas (Laird 2005). Access Economics conducted a comparative study of rural freight which was relatively kind to road transport but emphasised the operating cost and externality cost advantages of rail (Access Economics 2007 p. x). Access Economics reported in the first case study it was found that while there is generally close to full-cost recovery for road wear, there is significant under-recovery of externality costs. In the second [rail-based] case study it was found that there is full-cost recovery for both infrastructure use and externality costs… access to timely rail services sometimes forced the exporter to utilise road transport on an ad hoc basis, thus imposing high costs to the exporter and reducing Australia’s international competitiveness, and imposing additional externalities on society that would have been fully cost-recovered had rail been used.

The NSW Independent Pricing and Regulatory Tribunal of New South Wales (2012) gave two sets of values for external costs for road and rail freight in non-urban areas as well as urban areas. The higher value unit costs (that include an allowance for unrecovered road system costs from articulated trucks of one cent per net tonne kilometre (c/tkm)) are, in non-urban areas: road freight 2.79 c/tkm - rail freight 0.24 c/tkm.

**Oil Vulnerability**

Road transport is highly energy intensive. Energy efficiency and oil vulnerability issues affecting the transport of people and freight are identified in many reports, including the 2013 Queensland Moving Freight strategy document (Transport and Main Roads, 2013). To quote (page 28)

Oil vulnerability will drive the need for the freight system to adapt to alternate sources of energy, explore more efficient supply chain models and exploit the use of technology. Australia is a net importer of crude oil and currently imports 30% of its refinery feedstock. Furthermore, Australian refineries produce around 62% of locally consumed diesel fuel, the remainder is imported.

Freight transport and primary industry in Queensland is heavily dependent on diesel fuel and therefore transport and production costs are sensitive to international oil prices. There is continuing debate about when global oil will reach peak production. If this occurs sooner than predicted, the most likely result will be a steady increase in oil prices. The long-term sustainability of the freight transport sector will depend on its
ability to manage the impact of international oil price volatility through increased operational and energy efficiencies.

Although oil prices may be currently low when compared with past prices, oil vulnerability is relevant in considering longer term land freight scenarios.

**Some comparative freight railway performance**

Though statistically complex, the best international comparisons are to be made with North America. They suggest that Australia is making relatively very little use of the advantages offered by rail transport. European railways tend to be dominated by passenger services, with rail conveying just 17 per cent of freight (Ponti, Boitani et al. 2013). In the USA, rail and road share about equal proportions at 41 per cent of total freight by ton-mile (Frittelli 2013). In terms of volumes, this figure makes Australian rail’s 49 per cent share look good. However, the Australian figures are affected by the 80 per cent of rail freight consisting of iron ore and coal, very bulky commodities with little or no intermodal transfer cost of the kind suffered by intermodal.

The share of intermodal freight on rail on Australia’s east-west route can exceed 70 per cent, as it does between the Northern Territory and South Australia. In 2009-10, rail moved 85 per cent of Western Australia to Victoria freight and 64 per cent of freight from Western Australia to New South Wales. However, in the same period, rail moved only three per cent of intermodal freight from New South Wales to Queensland (Bureau of Infrastructure Transport and Regional Economics 2012). Transport for New South Wales puts the rail share of interstate freight in New South Wales at just eight per cent (Transport for New South Wales 2013). Rail does better on the Victoria to Queensland route having a 26 per cent share. Just three per cent of Victoria to New South Wales freight, showing the greatest tonnage of all the interstate routes, goes by train (Bureau of Infrastructure Transport and Regional Economics 2012).

Introducing distance offers a slightly clearer picture and aids analysis. In the USA, trucks dominate all commodities, but only over distances shorter than 500 miles or about 800 kilometres. Rail and other modes, including waterways and pipelines, convey the majority of freight over distances between 500 and 2,000 miles (Brogan, Aeppli et al. 2013). With respect to intermodal freight, Australia appears to perform better. However, the eight per cent of New South Wales’ interstate freight still appears low, at perhaps less than half what might pessimistically be expected in the USA. Brogan, Aeppli et al. (2013) associate the 500 mile figure with the distance a truck can be driven in one day. They see opportunity at that distance and further for rail to obtain an increased share. Given that our interstate routes present comparable distances and that some of our interstate rail volumes are relatively low, there may be opportunities here also.

---

2 ie containerised - of the kind which also goes on trucks but can involve bulky products like timber and grain.

3 Direct comparison is difficult due to retention of some general freight in non-containerised rail vehicles in the USA, the wide range of freight types which can be conveyed in containers and differences in the type and extent of statistics collected.
Comparison of our rail infrastructure can be viewed as discouraging, however. The main line tracks in North America can accommodate trains which are nearly 30 per cent heavier per wagon and thirty per cent, and more, longer (Laird 2013). For intermodal (containerised) services, many rail routes in the USA have had restrictions on the height of trains lifted, after significant capital investment, so as to allow ‘double stacking’. That is, trains are loaded with one container on top of another. The introduction of the wagons which allow double stacking reduced container movement costs by 40 per cent (Resor and Blaze 2004).

In the USA, Federal regulation prohibits vehicles equivalent to our B-doubles from using the Federal Interstate highway system. So the USA railroads can operate more efficiently than ours and only compete with a less efficient road transport system. These circumstances could be interpreted optimistically. If we have any intermodal freight at all, other than over the longest distances, our rail freight system must be resilient enough to at least survive severe competition. With intermodal freight flows now being four times their volume in 1980, intermodal is growing fast in the USA. It is now the largest single source of revenue for the American railways (Association of American Railroads 2014). Given our past constraints and the success in America, perhaps there is room for optimism here. The Australian Rail Track Corporation (ARTC) appears to think so. In a report on the proposed Melbourne-Brisbane inland railway, ARTC estimates that the current 70 per cent share on road using the present route through Sydney will fall to 39 per cent even without the inland line due to rising fuel and labour costs having greater impacts on road than on rail transport (Australian Rail Track Corporation 2010).

ARTC recently reports increases for rail and foresees more following its investments in the interstate network which have, importantly, improved rail service reliability (Rail Express 2014). Although referring to the main interstate lines, this is important to regionals because their traffic very often also traverses a main line. The historical poor performance of the north-south route in the eastern states has been attributed to slow speeds and reliability problems, but track upgrades are expected to bring improvements in performance (Ghaderi, et al. 2015).

Governments in Australia have stated objectives to increase rail’s modal share. In New South Wales, this has focused on access through the Sydney suburbs to Port Botany. In Victoria, a wider view has been taken with a ‘Mode Shift Incentive Scheme’ and the establishment of a ‘rail freight facilitation unit’ (Government of Victoria 2013). I doubt that either can boast the level of success of the UK Government’s Mode Shift Revenue Support scheme, which has moved 800 000 truck journeys onto rail. Rail now has 25 per cent of the container transport market in the UK (United States Government Accountability Office 2011) despite the network being basically devoted to passenger services. British supermarket chains are extensive users of rail freight, often over distances much shorter than 500 miles (Freight on Rail 2009), and without double stacking due to the relatively small dimensions of British trains. Despite the difficulties of obtaining greater efficiencies in competition with road transport, there is international momentum towards greater use of rail in markets where road freight dominates. Aside from specific locations in the UK, there is little evidence of attributable general success among policies aimed to obtain road to rail modal shift where governments have tried, as in Germany and Switzerland (United States Government Accountability Office 2011). In these circumstances, where modal shift or even just maintaining rail’s share is desired, a contribution like the 25 per cent of Class 1 railroad freight which comes off regional and branch (‘short’) lines in the USA appears significant. At
least it probably should not be lost to rail. Several American states have programs aimed to ensure that viable regional railways are not lost (CTC & Associates LLC 2011). The Australian Commonwealth Government has been relatively quiet on this issue but the US Department of Transportation has a stated policy goal to: ‘Develop strategies to attract 50 percent of all shipments 500 miles or greater to intermodal rail’ (p 25 in Federal Railroad Administration (2010)). Australia lags in policy and practice with regard to modal shift.

The business of freight railways

From a purely economic perspective, there is one overriding factor determining the viability and profitability of a freight railway. That is the density of its traffic. This follows from the discussion about costs above. Even though rail fixed costs may not be as great as is sometimes thought, the denser the traffic the larger the revenue to offset those costs is likely to be. Rail freight density and regional economic development are related and feed on each other. Greater traffic density can permit lower freight rates, which attract more development, which increase density, and so on. The related general principle of industrial agglomeration benefits has long been identified in economic geography (Lakshmanan 2011).

The density rule dismantles the apparent distance rule. That is, the notion that rail retains competitive advantage over road freight only over long distances, as per the 500 miles quoted above re the USA, only applies to operations of comparable density, when that density is sufficient to maintain viability. While greater density brings stronger viability and potentially greater profits, longer distance alone does not. It is volume of paying freight moved per length of line which really matters. Capacity utilisation has been identified in Australia to be essential to maintaining rail’s cost advantages (CRA International 2006). It has been argued that the overall allocative efficiency of transport systems will be enhanced by increasing rail traffic density, which basically supports the modal shift idea (McCullough 2007).

Long distances are attractive to railways, particularly for intermodal freight, because the transhipment and storage, or drayage, costs involved in loading and unloading trains can be more readily and extensively defrayed with the benefit of the lower costs of train operations over longer distances. But there is a break-even distance where total costs of road and road+rail are equal. The break-even distance can be short. As Transport for Scotland puts it: ‘it is generally accepted that rail is most competitive when the distance freight must be conveyed is at least 300 miles. Rail freight distribution can still be economically viable if there is a regular flow, regardless of distances’ (Transport Scotland 2014). This is especially so where there is no transhipment between road and rail involved. Experiments involving very small trains over short distances carrying intermodal freight have had success overseas (Montague 2005).

The small train ‘technological niche’ in Britain is now maturing following successful Welsh trials with a modified train set in the rural timber haulage arena during March 2005 (Honeyman, 2005 & Sweet, 2005). In early 2006, the then Scottish Executive awarded a Freight Facilities Grant (FFG) of £5.2million toward the development of a new in-forest timber railhead at Barrhill and the delivery of a dedicated custom-built Freight Multiple Unit (FMU) train set by Windhoff AG to service the new railhead. The preferred railhead/FMU operator withdrew from the project in 2007 due to increased costs, however there are prospects of reviving the project with a revised scheme currently being considered (Spaven, 2008). In addition, the long-term ‘Trucktrain’ project – a joint venture between Trucktrain Developments Ltd and Coventry University to design and develop a FMU product range for
the British logistics market – entered the final phases of work following at least 20 man-years of input into design development and operational refinement (Foyer, 2008).

‘Short Lines’

In North America, despite extensive closures of branch lines, sufficient of them have been retained, and have prospered, to contribute around 25 per cent of main line traffic (American Short Line and Regional Railroad Association 2014). Since deregulation in 1980 allowed the large railway companies to cease operations on low density lines, about 550 branch lines have been abandoned by the big companies but either continued or revived as relatively autonomous regional and ‘short lines’.

These short lines are dependent on mainline (Class 1) operators for their survival. There is a negative ideological climate (and hence a policy vacuum) surrounding regional rail freight under the prevailing socio-technical regime in Australia. The idea that rail is only suited to longer distances, ignoring the density factor, pervades the industry and its political environment. As Carter (2008 p26) puts it: ‘the most famous quote which originated from Class 1 US companies which has been generally assumed as correct in Australia was “rail is not really applicable for distances of less than 600-700 miles”. This has been used as a justification for rail having become less relevant in the regional freight task and that the movement to road based transportation is almost “inevitable” in this context.’

The viability of short lines has been shown many times to be determined most strongly by traffic density, which in itself is dependent on Class 1 cooperation across the supply chain. One important feature of short lines is their localised administration, making them more capable than bigger non-local organisations to work with industry. Sternberg and Banks (2006) make this point, with the qualification that not all short lines are necessarily good at it. But locality provides opportunity to promote rail service and thereby increase density. Baldwin (2001b) argues that short line operators obtain a stake in the locality or localities they serve. As mentioned above, local development can increase density, and so on. It might also help development of back loading, something which can be elusive to rail operators.

Short lines, when rendered viable by density, increase the overall distance travelled by rail freight. In doing so they increase the competitive advantage of rail. Where they reach right to the source of freight and/or to its destination, they offer the ‘last mile’ of the railway system. This concept is often applied to road freight where access is blocked by road restrictions. For rail, with the costs imposed by pickup and delivery, including transhipment, doing the last mile is important. It is seen as offering significant opportunity for the rail industry. This applies now in Europe where single wagon loads are still common (Ilie 2014), but the principle could be applied elsewhere if shuttle or shunting services are developed further. The principle of minimising the distance from freight origin to railway and end of railway journey to final destination has its advocates (such as Hussey (2010)). So too does bundling of small volumes to make rail intermodal more viable (Trip and Bontekoning 2002).

---

*In the USA, a clear differentiation exists in policy and regulation between regional railways (Class 2), ‘short lines’ (Class 3) and interstate main line (Class 1) railways. Class 2 have at least 350 route miles, while class 3 can be very short; they include ‘last mile’, shunting and terminal operations.*
The essential feature of the short line success story (see Spychalski (2015)) in North America is its local and/or regional focus providing opportunities for increasing freight traffic density on rail. There is plenty of anecdotal evidence that having a local presence is good for rail business. Revival of a railway can inject optimism into local business (see for example Progressive Railroading (2015)). In an established US case, a small company, after buying a branch line from a large corporation, was able to double its new line's customer base in 8 years (Blanchard 2011). Opportunities to increase density have been found in the USA: ‘shortlines (who often have the local marketing expertise to find and solicit short-haul business), can use an underutilized portion of the network (including their own lines) to attract short-haul moves… Rail is at a natural disadvantage in short-haul markets because of its lesser service frequency and need to aggregate multiple shipments into trains, but short haul markets can provide much high asset turns on rail equipment…’ (Railroad-Shipper Transportation Advisory Council (2011) p 2). In turn local rail businesses can grow local economies. Ed Zsombor, Director of Rail Services for the provincial Government of Saskatchewan, told the regional rail conference held at CSU in Wagga Wagga in 2007 that $300 million of local economic development had been associated with short line railways in Saskatchewan since 1996. Shortlines, including comment on the Saskatchewan operations, were addressed by the House of Representatives Standing Committee on Transport and Regional Services (2007). The same principle of increasing asset utilisation should apply in Australia with consequent development benefits, provided that the underlying density of freight traffic is sufficient

**Regionalisation and development**

We have argued above that

1. centralised administration has historically been a hindrance to regional rail freight development
2. the localised, or regionalised, administration of the short line model offers significant advantages in terms of enhancing traffic generation and economic development
3. cooperation with mainline operators is paramount to securing local traffic flows.

At present the Australian rail freight system, although providing some relatively short freight movements, cannot be considered either localised or regionalised. Train operations are managed by centralised organisations. Can the advantages of local focus be obtained for railways in New South Wales? The concept of regional governance becomes complex because a regional institution can span several jurisdictions and run across the interests of many agencies. But what matters for regional governance is its capacity and purpose in relation to the issues at hand (Foster and Barnes 2011). Recognition and availability of capacity and purpose is related to interests; the recognition of commonality of interest at the regional and/or local level.

There are examples of local coordination through committees involving shippers (customers) (Baldwin 2001a) and very broad associations of interested parties, as in the case of the Island Corridor Foundation in British Columbia. With regard to freight, as (Baldwin 2001a) describes the scenario; it was shippers who took the initiative to revive an ailing railway. They brought along many supportive local people, businesses and organisations.

Inter-local agencies can help to avoid inter-local competition and where it occurs, replace it with cooperation. In New South Wales, we have the Lachlan Regional Transport Committee
(LRTC) which has individual and corporate members as well as councils. It discusses many issues which cross local government boundaries. LRTC draws on local interest, but also has membership at the other end of a common freight task, in this case the coastal communities around a port destination. This could be seen as inter-regionalism, an instance which moves regional thinking beyond specification of spatial entities at a level between locality and state, involving adjacent localities, to a kind of regionalism which may do this but also connect distant localities. This can happen when they form a community of interest in more efficient transport and, among other goals, reduction of traffic congestion and/or road maintenance costs. It may also move into what Morrison (2014) calls ‘metagovernance’ – the governance of governance – by taking a broader than local perspective on institutional arrangements.

In Australia, however, the tradition of centralised railway administration has left local government with room for only a narrow view of rail transport issues and no incentive or means to consider how it might partner with the rail industry to promote development. Local government councils have become involved, but rarely, as in the current Blayney-Demondrille (Cowra Lines) matter. The peak New South Wales organisation of Councils, Local Government New South Wales, states its relevant policy as: ‘the State Rail Authority should cease closing branch lines and implement a policy of re-opening previously closed lines and stations’ (Local Government NSW 2013). This may be an admirable policy but it does have a reactive tone. With some state level facilitation, there are many international examples available of local agencies joining for purposes of rail retention and development.

More formal committees can exist outside the orbit of State government legislation and beyond the legislated accountability of local government (though may be incorporated and subject to relevant accountability requirements). They have been found to be worthwhile as agencies of management (Wear 2012). They are sometimes seen as non-democratic but need not be, according to Dollery, Kortt et al. (2012). Further, Dollery, Kortt et al. (2012) argue that regional arrangements can serve both local and regional interests. Issues about the mechanisms of regional governance, including council amalgamations and even the formation of new states (Grant, Dollery et al. 2012), have often overshadowed what can be achieved, but this is more a matter of perspective than dispute over fact (Foster and Barnes 2011). With regard to railways, the local interest is almost always shared among localities in that railway lines span several, often many localities. This parallels environmental management, where for example, localities share an interest in river catchments which can extend beyond what is normally seen as a region. As Kortt, Dollery et al. (2012) argue, the sharing of services can create mutual opportunity for development. Arguably this has occurred among the five councils pursuing reinstatement of the Blayney-Demondrille (Cowra) lines.

Returning to our North American comparison, several US states have strategic policies to facilitate the retention and development of rail freight at the regional/state level (CTC & Associates LLC 2011). As one example, the state of Texas, which has 41 short line railways, facilitates ‘Rural Rail Transportation Districts’ (RRTDs) based on the participation of one or more counties. Of the 42 RRTDs, 14 have multiple county members (Texas A&M Transportation Institute 2013). Notably, Roop, Morgan et al. (2001) see ‘a board that holds

---

5 This is most likely a reference to the branch lines which predominantly carry grain, but it notably does not use the term grain line.
regular meetings, has little turnover, and has a background in shipping oriented business’ (p. x) to be essential to the success of these railways. Governance which involves local industry, and is stable, can be important. A degree of regionalisation is implied in the multiple county arrangements. These agencies indicate potential for regionalisation. State support in some form is likely to be essential, however.

How to obtain the local advantage?

In Saskatchewan, the provincial government favours localised rail revival projects. Provincial support is only provided to local stakeholders, defined as individuals or companies located within 50 kilometres of the railway in question (Zsombor 2013). The provincial government works closely with actual and potential customers (‘shippers’) rail industry and local government. When a railway closure is threatened, the (private) owner is required to give notice and a process can be initiated to investigate, and if necessary effect, the maintenance or restoration of services on a localised basis. The government then facilitates the process.

This situation, where the railway would be or have previously been owned by a national corporation, differs from New South Wales where the railways in question were and still are all owned by government. Nevertheless, the principles behind information sharing and cooperation among all parties, especially including shippers, are universally applicable. In the Blayney-Demondrille (‘Cowra Lines’) case, the government saw its role as obtaining the services of a railway operator once potential viability had been determined. Consequently the process focused on obtaining those services in the usual government purchasing manner – by tender. In Saskatchewan the government seeks and requires financial contributions, but also contributes significantly itself. Any such process has to be based on understanding of the costs, including externalities, and benefits of rail freight services and the development they bring. These principles could underlie any process, either the revival of disused lines or the further development of those in use.

Conclusion

In summary, the paper argues that:

- unwarranted scepticism about railways is inhibiting regional development opportunities
- the circumstances of regional rail freight have been ignored by policy makers among misconceptions about the costs and potentials of regional lines, with the cost advantages of rail having been demonstrated
- Australia’s rail freight performance, particularly in the eastern states, is lagging by reasonable international comparisons
- regional rail freight is retarded by insufficient appreciation of the significance of traffic density amid potentially misleading statements about the importance of long distances to achieve efficiency
- localised ‘short line’ operation, in cooperation with national operators, has merit and can be fostered by government, but is receiving little attention

---

6 It offered tenderers no financial contribution initially although some political support for a financial contribution has emerged since the tender process was terminated without a successful tender being nominated.
The relationship between local management and the opportunities which accrue to it for growing traffic density forms a basic principle for regional rail policy. When we consider the 25 per cent of main line freight in the USA which comes from ‘short lines’, and the signs of inter-local and inter-regional cooperation we have seen so far in Australia, there seems to be merit in considering a more local/regional approach to rail governance. As recent infrastructure development on the interstate lines makes rail freight in general more viable, so too the prospects for branch line freight will rise. A capacity for regional action has also been demonstrated. The Cowra Lines project along with other developments, notably those related to additional intermodal terminals and possible associated short-haul rail services in the Riverina, demonstrate that there is interest in refocusing rail freight services at the local level. However, if branch lines are to move towards anything like that 25 per cent of main line freight they contribute in North America, much more localised service development is required. This includes further exploring the possibilities for consolidation by rail: ‘last mile’ railways. The New South Wales government, and the Victorian Government implicitly in its Mode Shift Incentive Scheme (see http://economicdevelopment.vic.gov.au/transport/freight/mode-shift-incentive-scheme) and overtly in its recent funding for lines to Mildura, have recognised at least some potential for regional rail development.

For localised rail development opportunities to arise, it is essential that relations among all interested parties (including existing mainline operators) be based on trust and acknowledgement of what each party can contribute. Such trust might be enhanced by clear mutual understanding of all the costs and benefits of rail freight, and some agreed basis for their sharing. This may involve reconsideration of the ways in which government works when it considers proposals for rail developments, so that rather than being a scrutinising authority for proposals or tenders, it becomes an agency for the gathering and dissemination of information and a forum for discussion and recognition of mutual interests and individual capabilities. In a commercial world, this could bring sensitivities to the surface, but once trust is obtained, that should be manageable. After all, shippers (customers) share a mutual interest in growing the density of rail freight traffic.

References


Carter, M. (2014). Competition - you can't have it both ways Rail Express.


Rail Express (2014). Big year ahead for North South corridor: ARTC


Texas A&M Transportation Institute (2013). Rural Rail Transportation Districts (RRTDs) Update, A report to Texas Department of Transportation (TxDOT) Rail Division (RRD). College Station, Texas.


Yarriambiack Shire Council (2012). Road Management Plan.