

Victoria's Regional Railway

Past, Present and Potential

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Historical perspective

Network development

- Initial country lines built to Geelong, Ballarat and Bendigo by 1862 and Echuca by 1864
- Construction then took place in several spurts:
 - 1870's – reached Wodonga, Portland, Sale and Colac
 - 1880's to early 1890's - frenzy of construction of numerous secondary and branch lines
 - 1910 to 1920 – numerous “infill” branch lines, extensions into northern and north-western wheat areas.
 - 1942 – the network reached its maximum size of 7668 route km including lines into NSW. (see map below)

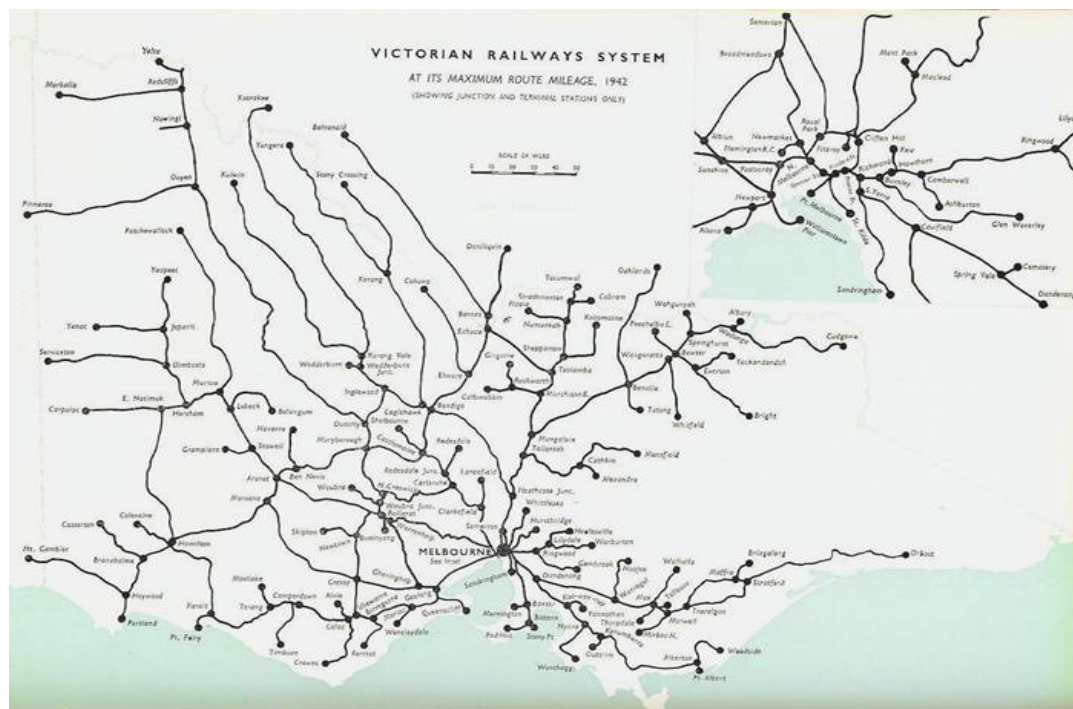


Fig. 1: The Victorian rail network at its maximum extent of 7668 route km in 1942

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Network development (contd).

- 1950-60's - closures of numerous branch lines
- 1962 Melbourne-Albury standard gauge line opened eliminating passenger and freight transshipment at Albury
- 1970's - rail passenger services discontinued on almost all remaining branch lines
- 1980's - branch and secondary line closures line accelerated
- 1995 – Melbourne-Adelaide, Portland, Hopetoun and Yaapeet lines converted from broad to standard gauge.

The current network

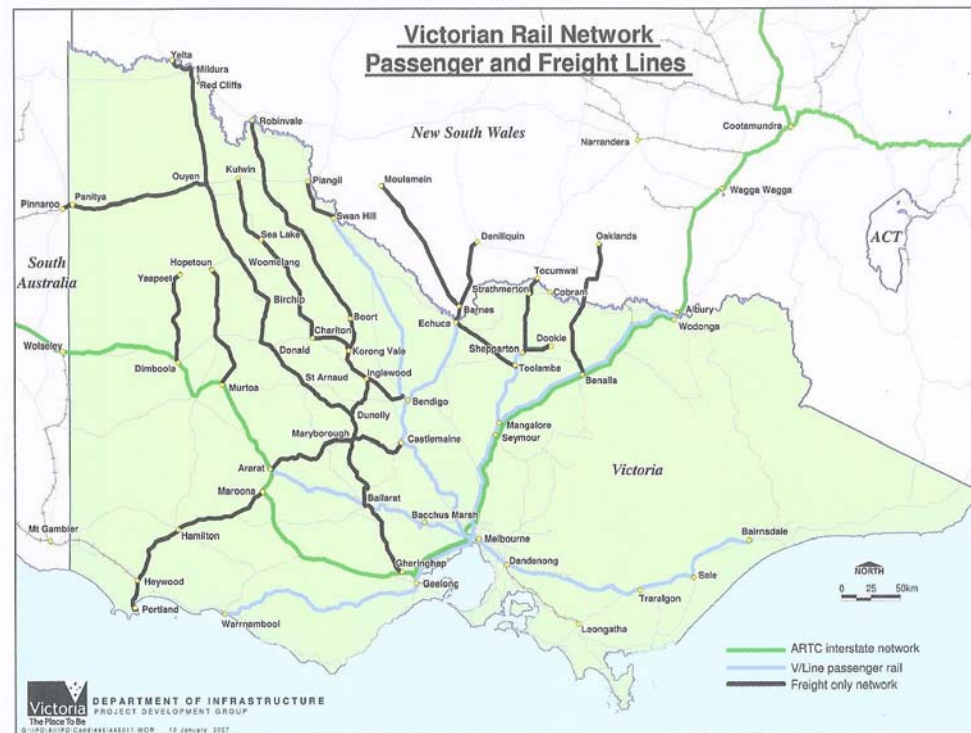


Fig. 2: The current Victorian rail network (January 2007) showing passenger, freight-only and ARTC interstate lines (map courtesy Department of Infrastructure, Victoria)

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The current network (contd).

Victoria's Regional Rail Network (route kilometres) as at January 2007 (excludes interstate and metropolitan passenger lines)			
	Broad gauge (route km)	Standard gauge (route km)	Total (route km)
Combined passenger and freight lines	1712	--	1712
Freight-only lines	1673	368	2041
All services suspended	290	86	376
Totals	3675	454	4129

Traffic task

- Arrival of the railway - huge advance on stage coaches for passengers and horse or bullock carts for freight.
- Early 20th Century - railways became freight “common carriers” and were required by law to carry almost any freight capable of being handled.
- After World War I - motor vehicle use and road construction accelerated; limited competition emerged from trucks and buses. Initially, competition was un-regulated - a “free for all”.
- 1933 - legislation in Victoria to regulate trucks and buses competing with rail on specific routes and for many types of goods.
- World War II - rail usage peaked - passenger traffic reached levels yet to be again achieved.
- 1954 - High Court decision de-regulated interstate freight and passenger traffic.
- 1974 to mid 80's - intrastate road freight progressively de-regulated. All rail “common carrier” obligations abolished. Dramatic impact resulting in the loss to road of much non-bulk freight, other than some containerised commodities. (Rail's response was the creation of Regional Freight Centres that drastically reduced the number of stations handling general freight from around 450 to 46 and eliminated the need for regularly scheduled train operations on most branch and secondary lines).
- Mid 1980's – rail abandonment of livestock and casual wagonload traffic.

The 1980's-90's transformation

Massive changes and re-investment took place on the Victorian regional network during the 1980's and early 1990's including:

- Complete re-vamping of regional passenger services including new locomotives and carriages.
- Re-structuring of grain operations including new locomotives and wagons, block train operations, introduction of Central Receiving Points with rapid inloading and outloading facilities and construction of the North Geelong Grain Loop. The average size and weight of grain trains more than doubled during this period.
- Introduction of block container trains serving regional intermodal terminals.
- Extensive track maintenance catch-up and upgrading programme.
- Major reduction in the shunting task and closure of numerous shunting yards.
- Closure of over 1200km of lightly-used branch and secondary lines.
- Elimination of many thousands of old 4-wheel wagons and rationalisation of the locomotive fleet.
- Introduction of statewide train-to-base radio communication.
- Elimination of labour intensive safeworking and signalling arrangements..
- Two-person crewing of freight trains - elimination of the position of guard and use of guard's vans on the rear of trains
- Dramatic reductions in staffing levels and accompanying reform of work practices, industrial processes and agreements.

The changing task for rail

- Partly driven by rail's own rationalisation impetus (including the virtual elimination of casual wagonload traffic), road transport captured most general freight and some bulk traffics during the 1980's and 90's decades, leaving the freight-only network largely reliant on grain traffic and, in a few cases, intermodal (export container) flows.
- The rationalisation of general freight and casual wagonload traffic resulted in a considerable reduction in the number of regularly scheduled freight train services on most lines and the operation of "as required" services for grain traffic.
- Introduction of bunker storage (thus effectively eliminating traditional massive peak harvest movements) enabled train operations to be pre-planned based around export shipping programmes and domestic grain consumption.
- All other commodity movements were consolidated into full train loads or were handled using blocks of wagons attached to scheduled services.

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Rail privatisation – 1999 to 2006

Structure and investment

- V/Line Freight Corporation was privatised by trade sale in May 1999 to Rail America (trading initially as Freight Victoria, later Freight Australia) for \$163 million. The sale comprised all freight related “above rail” assets, goodwill of the freight business (including ongoing freight contracts) and a 45-year lease (known as the PIL – short for Primary Infrastructure Lease) of the intrastate non-metropolitan “below rail” network.
- In September 2004, a further trade sale occurred with Freight Australia sold by Rail America as a going concern to Pacific National – at that time a 50-50 joint venture between Toll Holdings and Patrick Corporation. Freight Australia’s “above rail” operations have since been largely folded into the wider Pacific National business.
- In 2006, Toll Holdings acquired all of the shares of Patrick Corporation and currently controls 100% of Pacific National.
- Since privatisation, significant investment by the new owners of the regional “above rail” business has been effectively non-existent. Prior to its sale to Pacific National, Freight Australia had completed or committed the acquisition of seven new locomotives and a major upgrade of a further seven existing locomotives. It had also acquired 40 new high capacity grain wagons. However, since 1999, almost half of V/Line’s former 800 strong grain wagon fleet has been progressively transferred to NSW and approximately one-third of the former V/Line locomotive fleet (including many of the more modern units) has been re-allocated to NSW operations or to Melbourne-Perth intermodal services.

Infrastructure

- Prior to 1994, the entire regional network had been managed on a “steady state” planned preventative maintenance philosophy following the major maintenance catch-up programme that had been completed during the 1980’s.
- A changed culture emerged from the mid-1990’s that considered the network to be over-maintained and sought to reduce ongoing costs by downsizing maintenance resources and phasing out mechanised sleeper renewal gangs that provided the underlying maintenance task. The short term perception was one of significant cost savings but in reality the asset base began to again degrade and retention of the network’s capability increasingly relied on the redundancy installed with the earlier maintenance catch-up program.
- Under the PIL, no specific maintenance obligations for the freight-only network were imposed on the new track managers and requirements for the passenger lines were only defined in terms of a ride quality index which does not necessarily correlate with actual track condition.
- Over the seven year period 1999 to 2006 inclusive, almost no major maintenance or investment has taken place on any portion of the freight-only network, with only essential repairs being carried out on “fix when fail” basis. As a consequence, some lines have become, or are on the verge of becoming, inoperable and most others are under speed restriction, in the main due to severely degraded timber sleeper condition.

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Infrastructure (contd).

- Examples currently include:
 - the 127km long line from Ouyen to Pinnaroo on which trains are now permitted to operate at only 20 km/h, and thus take more than 13 hours per round trip, not including time for shunting and train loading.
 - the 60km line from Warracknabeal to Hopetoun which is restricted to 30 km/h, as is 86km of the 175km line between Korong Vale and Manangatang.
 - Similarly, most of 543 km long line from Gheringhap (near Geelong) to Mildura is now variously restricted to maximum train speeds of either 50 or 60 km/h.
- In May 2001, the Victorian Government announced that some 2000km of the broad gauge regional network would be converted to standard gauge. Notwithstanding an initial \$96m funding allocation, this work did not proceed due to the difficulty of achieving any agreement with Freight Australia. Moreover, in recent years, it became recognised that gauge conversion was no longer physically feasible in the absence of a major programme to overcome the maintenance backlog.
- The degraded condition of most freight-only lines accelerated in recent years, notwithstanding successive dry seasons, as the various components of the track structure began to fail. In the absence of early major work, should a sustained period of wet weather occur, it can be expected that progression to complete inoperability of several lines will be more rapid than previously experienced.
- Considerably more work has taken place on the regional passenger lines although it is understood that a considerable maintenance backlog exists on some line sections. However, virtually all investment and maintenance on the regional passenger network appears to have been funded by the State through its Regional Fast Rail (RFR) project, other projects (such as the restoration of rail passenger services to Ararat, Bairnsdale and Echuca) and access payments by V/Line.
- Although the RFR works addressed an overdue maintenance backlog, there has been little or no benefit to rail freight services. Other than at night, freight trains are now largely excluded from the Ballarat and Bendigo lines and there are limited pathways on the Traralgon line.
- Victoria's regional rail infrastructure has received poor ratings in several engineering surveys and most recently by the Australian Industry Group.
- Traffic task
- The average freight traffic task on the Victorian regional network has fallen by a further estimated 20% since the late 1990's when the network was still operated by the State-owned V/Line Freight Corporation¹.

¹ This assessment is based on the author's own information and observations. However it has been publicly reported that an overall decline of around 20% in the Victorian regional rail freight task has occurred over a 5-year period since 2001, attributable amongst other things, to the degraded condition of the network (for example, see Australian Financial Review article "Toll wants \$19m to stay on rails" dated 30 June 2006).

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Traffic task (contd).

- This can be attributed to a number of factors including increased road competition, particularly the ever-expanding use of B-doubles and seasonal conditions.
- The continued degradation of the freight-only network is a contributing factor to traffic losses, as this impacts the efficiency of train operations and generates a loss of confidence of industry and customers in the future of the rail network.
- As shown in the following table, only three commodities have shown growth during this period, being export containers, logs and quarry products.

Victorian Regional Rail Estimated Freight Task – late 1990's and 2006 (includes all intrastate traffic and freight on Victorian lines in southern NSW)				
Commodity	Annual Average Task ² 1996 to 1998 (million net tonnes)	Estimated Task ³ 2006 (million net tonnes)	Annual Average Task 1996 to 1998 (approx million NTK's) ⁴	Estimated Task 2006 (approx. million NTK's)
Export grain	2.3	1.6	805	560
Domestic grain	0.6	0.4	180	136
Bulk rice to Echuca	0.2	nil	16	nil
Export containers (including empty containers)	1.2	1.5	348	465
Bulk petroleum	0.2	0.1	52	30
Quarry products	0.5	0.6	35	42
Bulk cement	0.3	0.2	54	34
Briquettes	0.1	nil	38	nil
Gypsum	0.1	nil	57	nil
Sand	0.2	nil	18	nil
Logs	<0.1	0.3	14	105
Fertiliser	<0.1	nil	6	nil
Paper products	0.2	0.1	34	19
LCL (less than car load traffic)	0.1	<0.1	32	14
Totals	6.1	4.9	1689	1405

² Source – Sale of V/Line Freight Corporation Information Memorandum, September 1998

³ Source – Author's estimates.

⁴ NTK's – net tonne kilometres – Author's estimates

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Traffic task (contd).

- Cessation of bulk rice, briquettes and gypsum traffic was due to closure of production facilities at Echuca, Morwell and Cowangie, respectively whilst sand traffic from Lang Lang ceased following closure of the South Gippsland line beyond Cranbourne. Retention of the remaining fertiliser traffic on rail (to Wodonga and Congupna, near Shepparton) appears to have not been sought by Pacific National.
- A substantial drop in domestic grain movements on rail followed deregulation of the domestic grain market.
- Clearly, expectations expressed at the time of privatisation in 1999 that the private sector would show considerably greater capability than its State-owned predecessors in marketing and developing the rail freight business, have not been realised. This is particularly concerning given the strong economic growth throughout much of regional Victoria during this period.

Commercial realities

- Anticipated efficiency gains by the private sector were also generally not realised. This is at least partly attributable to over-optimism on the part of the new operators and an inadequate appreciation of the major gains made during the previous decade and a half under government ownership.
- Conversely, average increases in truck gross loads of 0.45 tonnes per annum occurred over the past decade (in line with permitted increases in vehicle mass limits) that have not been matched by commensurate increases in rail productivity.
- Almost all regional rail freight was becoming contestable (particularly given the extensive use of road sub-contractors operating at near marginal cost). This imposed significant ongoing pressure on rail charges and eroded margins.
- Freight customers placed increasing emphasis on driving down costs along the entire logistics chain, including the rail component.
- The reduced traffic task exacerbated the already thin utilisation of the freight-only network. The return on “above rail” operations was also inadequate to support investment and proper maintenance of the freight-only network. The operator therefore focussed on short term profitability.
- Realistically, none of the network was commercially viable and its least utilised parts even had little chance of ever being economically viable. It was therefore unsurprising that a commercially focussed organisation was disinclined to invest in improving an unviable network or even spend significant dollars on maintaining it.
- The final outcome of Victoria's infrastructure privatisation, at least for the freight-only network, is that the residual life of the asset has been largely consumed by its private sector owners. In other words, the railway has been “asset stripped”, with much of its former value (at least until September 2004) flowing to Rail America's shareholders by way of maintenance expenditure savings and the significant proceeds from its sale to Pacific National⁵.

⁵ This should be read as criticism of the privatisation decision – not of the private operators whose behaviour in this regard was consistent with commercial reality.

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Current common perspectives

The grain industry

- Sees the need for further reductions in transport and handling costs.
- Sees market requirements forcing ongoing transport task disaggregation.
- Widespread dissent about threatened dismantling of the 'single desk' for export wheat.
- Sees trucking options becoming more attractive as road capacity and efficiency improves and on-farm storage increases.
- Obvious impact of widespread drought.
- Sensing the inevitability of further storage and handling facility rationalisation.
- Increasing awareness and concern at the declining condition of rail lines serving most grain production areas.
- Sees it as others' responsibility to contribute to the cost of rail upgrading and/or improvements to local roads.

Local government and communities

- Concern at the increasing volume of heavy vehicle traffic on local roads and through townships.
- Most local roads are under-maintained and not designed for current vehicle loads and speeds.
- Local councils being squeezed for funding.
- Recognition that the largest vehicles (particularly B-doubles) do not adequately contribute to the economic and social costs that they generate.

Rail operators and track managers

- Highly variable demand for grain transport undermines commercial justification for infrastructure investment and significant maintenance.
- Concern at the ever increasing infrastructure maintenance backlog.
- Increasingly severe track speed restrictions impacting rolling stock and train crew utilisation and therefore increasing operating costs.
- Low outloading rates at many country silos with limited opportunities for night-time loading.
- Freight rates and margins being eroded by competition.
- Diminishing overall service quality contributing to loss of business.

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The 2006-07 network buy-back

The deal

- The State is to buy-back the 45-year Primary Infrastructure Lease (PIL) for \$133.8 million that was sold to Freight Australia in 1999 and subsequently on-sold to Pacific National in 2004.
- The buy-back also includes a number of commercial leases not included in the PIL, comprising portions of yards and sidings at South Dynon and Tottenham. Pacific National had earlier surrendered its lease on the Dynon intermodal terminal.
- Staff employed in Pacific National's Network and Access Division (including infrastructure maintenance and train control staff) to be re-employed by the State.
- The State (through a new division of V/Line) will assume responsibility for management of the infrastructure assets, including maintenance, train control and third party access.
- Pacific National will maintain its existing leases on the South Dynon intermodal and steel terminals and Spotswood locomotive depot, together with some parts of the South Dynon locomotive maintenance facility and Tottenham Yard.
- Change of control is expected to take place in late February 2007.

Short term challenges

- Gearing up (through V/Line and DOI) to manage "below rail" operations for which the State last had responsibility pre-privatisation in 1999.
- Managing continuity of projects being implemented on the regional network including Mildura line rehabilitation, standard gauge access in the Geelong Port area and Wodonga rail bypass.
- Undertaking a full condition assessment of the regional network infrastructure.
- In the immediate future, preventing key grain lines from becoming inoperable and then addressing the significant maintenance backlog throughout much of the regional network, particularly the freight-only lines.
- Resolution of issues for potential standardisation of the broad gauge line between Seymour and Albury and the Benalla-Oaklands grain line.
- Creating a climate that will encourage one or more operators to commit provision of ongoing rail freight services on the network and, where suitable potential exists, to aggressively compete for new business that will improve overall rail service viability
- Determining, in consultation with key stakeholders, at least the short to medium term future of the freight-only network.

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Threats and opportunities

Regional rail network viability is now a national issue

Examples in other States include:

- SA Eyre Peninsula rail network (narrow gauge) which predominantly hauls grain - \$15m AusLink funding provided for network upgrade subject to matching contribution from the State, industry and local governments.
- SA broad gauge grain branch lines are no longer used - only one silo on broad gauge still rail served – at Roseworthy (49km north of Adelaide).
- Tasmanian rail network to receive \$78m federal funding for track upgrading and \$40m in State funding over 10 years for track maintenance subject to Pacific National agreeing to invest \$38m in rolling stock upgrades and replacements and revert the track back to the State.
- 1,000 km of WA rail freight network under threat of closure without subsidy.
- Queensland and NSW have provided significant funding for their non-coal regional network and grain branch lines.
- Several grain branch lines in NSW have become non-operational due to their poor condition and there is concern that services on other grain lines may no longer be provided after Pacific National's obligation to do so under its Grain Haulage Deed" expires later in 2007.

State policy

- Victoria's stated policy is to increase the rail share of freight, and specifically, to achieve a 30% rail share of all port-related freight by 2010.
- Rail's current market share is estimated to be around 16%. Around 70% of the State's existing regional rail freight movements are export oriented.
- Given the trends of recent years, for the regional network at least, the 30% market share target will be a considerable challenge.

Threats

- The critical mass of Victoria's rail grain traffic (and hence the future of most of the freight-only network) is seen as now facing a vicious circle that presages a real threat of major losses to road transport.
- Underlying reasons that threaten the rail network are both external and internal to the rail industry. They include:
 - External factors -
 - deregulation of the domestic grain market
 - potential partial or complete dismantling of AWB's export wheat monopoly
 - production volatility

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Threats (contd).

- climate change likely to affect marginal grain producing regions
- increasing commodity segregation (by variety and quality) to meet export customer requirements
- increasing size, efficiency and availability of heavy road vehicles on a generally high quality road network (local roads excepted)
- increasing volume of on-farm storage
- Internal rail industry factors -
 - seriously degraded condition of the freight-only rail infrastructure
 - slow operating speeds increasingly impacting efficient utilisation of train crews and rolling stock
 - more frequent and faster V/Line services on most passenger lines restricting freight train access
 - ageing equipment
 - opportunities to re-deploy some equipment into more lucrative and consistent traffics in other states
 - isolation of the broad gauge locomotive and wagon fleet
 - reducing critical mass of traffic driving up unit costs.
- Rail transport being now a capital intensive business with high fixed costs, competitive and efficient operation can only be achieved through exploitation of economies of scale. Once traffic levels fall below certain thresholds, rail lines cannot survive commercially. In quite a number of cases, line retention on economic grounds alone is also now very problematic.
- Almost all freight-only lines now have grain as their dominant traffic, the only partial exceptions being the Echuca-Deniliquin and Shepparton-Tocumwal lines where intermodal business (export containers) generally exceeds 50% of the total traffic.
- Should much of the grain business transfer to road, only these two lines, and possibly the Geelong-Mildura corridor (more for political than economic reasons), would be likely to survive.
- For the freight-only network generally, a non-interventionist “business as usual” approach by the State (irrespective of its return to State control) will, within 3 to 5 years, almost certainly result in:
 - most lines being no longer operable
 - almost all export grain traffic handled on road; and
 - regional intermodal hubs on the broad gauge network being no longer served by rail.

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Threats (contd).

- To the extent that the grain industry ceases its dependence on rail, the asset will almost certainly disappear and, in the absence of some major resource development, is highly unlikely to be ever reinstated.

Opportunities

- Buy-back should better enable the State to manage investment in the network, including potential upgrades, and address the maintenance backlog.
- Given appropriate conditions and effective coordination with other modes, rail transport can potentially be a highly productive and efficient component of the logistics chain. (Conversely, rail is inherently inefficient when traffic volumes are low or demand is highly irregular.)
- Victoria's regional passenger network is likely to have a long term future, given current government commitment to rail passenger service and assuming ongoing substantial 'above' and 'below rail' subsidies.
- A case also exists for either (or both) 'below rail' and 'above rail' subsidies from government where it can be shown that, for at least a transitional period, continued rail operations are economically justified but cannot achieve full commercial viability.
- 'Below rail' subsidies could be provided through a policy of free or very low cost access for all rail freight operators on the regional network, with the balance of ongoing 'below rail' costs being met by the State.
- Limited subsidies would encourage private sector rail operators to continue to provide rail freight service (provided that it remains commercially viable for them to do so) whilst the grain logistics network is re-structured to become much more efficient and potentially self-sustaining.
- Scope exists to further significantly reduce overall costs and maximise efficiency of the total grain logistics chain whilst retaining rail as the principal line haul mode. In order to achieve this it will be necessary to:
 - create a national market for grain haulage by rail to at least cover Victoria, New South Wales and much of South Australia in order to establish an attractive combined annual traffic task (in normal seasons) in the range of 10-14 million tonnes.
 - rehabilitate the retained core grain network to a standard that would permit reasonably efficient "above rail" operations and allow re-introduction of a "steady state" planned preventative maintenance programme.
 - convert most of the retained Victorian broad gauge freight-only network (probably around 1300 route km) to standard gauge to allow unrestricted movement of rolling stock across the wider network.
 - provide high throughput grain handling facilities (new sites or major upgrades of some existing sites) and longer sidings at several key locations to replace smaller facilities on both closed and retained lines.
- A short window of opportunity therefore exists to transform the current vicious circle of decline into a virtuous circle of improvement and sustainability. This is addressed in the following section.

The line ahead

- Continued progression of the current vicious circle to the point of effective oblivion of the rail freight-only network is not inevitable and there is a short window of opportunity for rail to continue to play an important part in meeting the regional transport task.
- Assuming that lines with current and potential low average traffic volumes are unlikely to survive on economic grounds, the challenge will be to retain overall volume on the core remaining parts of the network.
- Creation of a national market for grain haulage by rail on standard gauge to at least cover Victoria, New South Wales and much of South Australia would be a primary defence against disaggregation of the transport task and more so should dismantling of the 'single desk' eventuate for export wheat. This would establish an attractive combined annual traffic task (in normal seasons) in the range of 10-14 million tonnes.
- With limited operational subsidies on a transitional basis to ensure that private sector rail operators can continue to provide a commercially viable rail freight service, a potentially deliverable scenario is retention of up to 1600 route km of the existing 2041 route km Victorian operational freight-only network.
- Restoring all 1600 km to a condition that would permit reasonably efficient 'above rail' operations and allow re-introduction of a 'steady state' planned preventative maintenance regime would cost around \$190 million over a 3-4 year period. (This includes \$73 million for the Geelong-Mildura corridor upgrade which the State has already announced). Thereafter, ongoing annual maintenance costs should settle at around \$19 million per annum at current prices.
- Undertaken in conjunction with the rehabilitation programme, conversion of most of the then remaining broad gauge freight-only network (around 1300 route km) to standard gauge to allow unrestricted movement of rolling stock across the wider network would cost less than \$110 million. A smaller programme to initially convert only the North Western Victorian grain network and the Benalla-Oaklands line would cost around \$65 million.
- Provision of high throughput grain handing facilities (new sites or major upgrades of some existing sites) and longer sidings at several key locations to replace smaller facilities on both closed and retained lines would also be an essential element of the overall strategy.
- A more drastic rationalisation of the freight-only network is likely to prove counter-productive because:
 - a large fleet of high capacity vehicles will be required if grain is to be transported relatively long distances between farm and a small number of strategically located 'super sites'. Once established, the natural tendency will be for road contractors to offer competitive rates for direct movement to port.
 - alternatively, multiple handling costs will be incurred if grain is subsequently transferred from local receipt sites to a small number of 'super sites'. This will tend to render the rail component of the haul uncompetitive.
 - the critical mass of grain traffic across the network that is essential for rail to remain viable and competitive will be eroded.