Getting It All Together

Evidence from WA of an Integrated Grains Industry

1 February 2007
Outline

- WA Grain Supply Chain Task
- Supply Chain Planning
- Supply Chain Characteristics
- History – Reviews and Changes
- Recent Review
  - Process
  - Possible Outcomes
- Concluding Observations
WA Grain Supply Chain Task

Major Freight Flows

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Projected Grain Receivals
Based on CBH Grain Receivals 1933 - 2006

- Historical Receivals
- Agwest 2001
- Minimum harvests
- Maximum harvests
- Trendline

Million Tonnes

Years


0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0
WA Grain Supply Chain Task

Grain Flows

- Rail – receival bin to port
- Road – receival bin to port
- Road – receival bin to receival bin
- Road - farm to port

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Supply Chain Planning

- Harvest
- Intermodal Activity
- Transport
- Weighing
- Sampling
- Intermodal Activity

Stockpile
- Intermodal Activity
- Transport
- Intermodal Activity
- OR
- Intermodal Activity
- Transport

Intermodal Activity
- Stockpile
- Intermodal Activity
- Transport
- Intermodal Activity
- To Customer

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Supply Chain Planning

The Role of Logistics

- Network or Supply Chain Design
- Transportation
- Inventory Management
- Warehousing/Materials management
- Logistics Information
  - Operations
  - Planning (including forecasting)
Supply Chain Objectives

Desired level of customer satisfaction vs. Minimum total logistics cost
Logistics Cost Trade-offs

Planning/Scheduling
Information Management
Warehousing
Storage
Inventory
Transportation

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Supply Chain Operating Objectives

- Minimum variance
- Minimum inventory deployment
- Movement consolidation
- Rapid response & recovery capability
- Total quality approach
  - Performance certainty
  - Reliability & robustness
Supply Chain Characteristics

Strategic Receival Point Facilities
Supply Chain Characteristics

Train Loading Facilities
Supply Chain Characteristics

Train Configurations

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Supply Chain Characteristics

Road and Rail Types
History – Reviews and Changes

- 1975 – South Western Australia Transport Study (SWATS) Note: review of total rail system including grain system
- 1970s to mid 1990s – rationalisation and upgrading of grain handling and rail transport facilities
- 1998 – A Review of the WA Grain Logistics System (GLS)
Objectives
- Policies to ensure efficient use of resources
- Co-ordinated approach to development
- Implementation plan

Participants
- Led by govt
- Input from industry and community stakeholders

Report note
- Regulatory policies developed in the 1920s and 1930s did not reflect a systematic approach to transport policy
Recommendations

- Competition best basis on which to develop an effective transport system
- Regulation of road transport minimised
- Govt overview – maintain balance in the transport system
- Road maintenance costs to be recognised and any subsidies to be transparent
- Timetable for removal of regulation
### History – 1970s to Mid 1990s

- Joint strategic planning by grain industry
- Major rationalisations and upgrading of grain handling and transport system
  - 50% less receival points
  - Approx 1000 km less railway
  - Improved loading and unloading facilities
  - Improved track axle loads and grades
  - Elimination of many low capacity and high cost rollingstock
Industry initiated review with Govt involvement

Strategic plans shared between participants (incl CBH strategic receival point concept)

Reviewed track reduction options ranging from 200 km to 800km

Outcome: rail network reduced by 200km
History – 1998 Review of GLS

- Report Note: Over period 1980 to 1998:
  - Rail task increased – 2.50 to 7.25 mtpa
  - Wagon numbers reduced – 3000 to 600
  - Wagon utilisation increased - <1000 to 10,000 tonne/year
History - Rail Rationalisation

Rail Rationalisation
- 1960 - mid 1990’s network closures
- 1998 GLC network closures
- 1998 GP21 Option 5 network closures

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History – Current Network

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History – CBH Rationalisation

Portion of Network - 1965

Portion of Network - 2000

Approximately 50% reduction

- Strategic Receival points
History – Structural

- 1989/90 - Grain transport deregulated
- 1998 - Rail access regime established
- 2000 - Rail industry privatised
Recent Review – Process Overview

2004/05 - Grain Infrastructure Group (GIG) established
- Independent ‘top-down’ strategic review
  *(WA Strategic Grain Infrastructure Study – WASGIS)*
- Industry ‘bottom-up’ supply chain review
  *(Grain Network Review – GNR)*

2005/06 - WASGIS & GNR presented to State Government Minister
- Commercially based Grain Freight Supply Chain modelling

2006/07 - Presentation to GIG and Minister for endorsement
Included:
  - Likely network scenarios
  - Required investment & funding mechanisms
  - Stakeholder engagement strategy
Aims
- Identify requirements for sustainable network
- Determine infrastructure investment for next 25 years

Key aspects
- Consider future viability of rail system
- Determine impacts on road network of any rationalisation (Network and CBH)
Recent Review - Process

- Approach
  - Reference previous studies
  - Integrated total supply chain approach
  - Iterative approach involving all stakeholders
  - Develop commercial model with confidential stakeholder inputs
Recent Review - Process

- Rail Network Scenarios

- CBH Receival Point Consolidation
Recent Review - Process

- Grain Freight Modelling
  - Commercial & current industry data
  - Total supply model incl:
    - Above and below rail (ARG & WNR)
    - Above and below road (Industry & MRWA)
    - Storage & Handling (CBH)
  - Detailed road freight mapping & road infrastructure assessment
A sustainable rail system is in best interests of growers and rural and urban communities

A sustainable network will require investment in rail, road and terminals

Road ‘under recovery’ will be an issue

Close cooperation along the supply chain between industry and government is the way forward
The evidence in the WA grain industry demonstrates the benefits of taking a total supply chain approach

- Joint government and industry planning and review
- Developing total supply chain costs (incl under recoveries where appropriate)
Despite the past and potential network rationalisation in WA:

- The rail task has grown & can grow further
- Asset utilisation has improved & can improve
  - Recent study – possibly outcomes:
    - Tonnes to Port by rail – no change
    - Task (NTKs) – reduces by 10%
    - Asset utilisation – potentially increases by >50%
    - Above rail costs – potentially reduces by 10% to 25%
From a rail industry perspective the approach in WA is a good model:

- The focus is on customers and on developing a common understanding of how a supply chain operates
- Rail practitioners role is to educate others on how to use rail effectively
- Likely outcome - rail used only where it is effective and efficient
The End
Victoria’s Regional Railway

Past, Present and Potential

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RTSA Regional Rail Symposium, Wagga Wagga

1 February 2007

Disclaimer – All views and opinions expressed in this paper and the accompanying PowerPoint presentation are solely those of the author and in no way purport to represent the views or intent of any other person, organisation, company, department or government.
Victoria’s Regional Railway – Past, Present and Potential

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  - Regional rail network viability now a national issue
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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
Network development (contd).

- 1950-60’s - closures of numerous branch lines
- 1962 Melbourne-Albury standard gauge line opened eliminating passenger and freight transhipment 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)
The current network (contd).

<table>
<thead>
<tr>
<th>Victoria’s Regional Rail Network (route kilometres) as at January 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>(excludes interstate and metropolitan passenger lines)</td>
</tr>
<tr>
<td>Broad gauge (route km) Standard gauge (route km) Total</td>
</tr>
<tr>
<td>Combined passenger and freight lines 1712 - - 1712</td>
</tr>
<tr>
<td>Freight-only lines 1673 368 2041</td>
</tr>
<tr>
<td>All services suspended 290 86 376</td>
</tr>
<tr>
<td>Totals 3675 454 4129</td>
</tr>
</tbody>
</table>

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 Receival 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.
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.
Victoria’s Regional Railway – Past, Present and Potential

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.

- 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 Corporation\(^1\).

\(^1\) 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.

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Export grain</td>
<td>2.3</td>
<td>1.6</td>
<td>805</td>
<td>560</td>
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<tr>
<td>Domestic grain</td>
<td>0.6</td>
<td>0.4</td>
<td>180</td>
<td>136</td>
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<tr>
<td>Bulk rice to Echuca</td>
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<td>nil</td>
<td>16</td>
<td>nil</td>
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<tr>
<td>Export containers (including empty containers)</td>
<td>1.2</td>
<td>1.5</td>
<td>348</td>
<td>465</td>
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<td>Bulk petroleum</td>
<td>0.2</td>
<td>0.1</td>
<td>52</td>
<td>30</td>
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<tr>
<td>Quarry products</td>
<td>0.5</td>
<td>0.6</td>
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<td>42</td>
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<td>Bulk cement</td>
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<td>34</td>
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<tr>
<td>Briquettes</td>
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<td>Fertiliser</td>
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<tr>
<td>Paper products</td>
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<td>0.1</td>
<td>34</td>
<td>19</td>
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<td>LCL (less than car load traffic)</td>
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<td>&lt;0.1</td>
<td>32</td>
<td>14</td>
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<td><strong>Totals</strong></td>
<td><strong>6.1</strong></td>
<td><strong>4.9</strong></td>
<td><strong>1689</strong></td>
<td><strong>1405</strong></td>
</tr>
</tbody>
</table>

\(^2\) 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
Victoria’s Regional Railway – Past, Present and Potential

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.
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.
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.
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
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.
Victoria’s Regional Railway – Past, Present and Potential

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 receival 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.
Lessons for governance from regional NRM
Overview

The attractions of regional delivery
The regional delivery model
Governance principles
Strengths and limitations of regional NRM
NRM: the challenges

Uncertainty about outcomes and process
Complex problems where no single actor can solve problems
Diversity of stakeholder values
Long time frames for some problems
Regional NRM: the attractions

Planning and action at most appropriate scale

move beyond the local to systems approach

enable strategic approach to investment

support local/ regional response to complex, persistent sustainability challenges

ensure more accountability for investment

Devolution of responsibility for action

Combine regional planning and local engagement
Regional NRM: the model

Regional scale/ catchment-based planning
Regional plans identify issues/ assets and investment priorities accredited by governments
Priorities set by appointed reference groups
Substantial investment government funds but rely on voluntary change
Separation of purchaser and provider roles
Increasing range of policy instruments applied
Governance

After Lockwood et al. 2006

Governance involves collaborative arrangements to coordinate and guide decision-making through formal institutions of government and informal arrangements among government and non-government actors...
Governance principles

Founded on ethics and rationality:

Normative statements that make claims about how the exercise of power should happen and in what direction

Governance principles are therefore about both the means and ends of power
Governance principles

1. Legitimate exercise of authority
2. Inclusive engagement of stakeholders
3. Fair and equitable processes and distribution of costs and benefits
4. Connected functionally (coordinated) across scales/sectors/regions
5. Consistent strategic direction/vision
6. Competent and effective delivery (eg assessing trade-offs)
7. Well-informed (eg different knowledge systems)
8. Responsive and self-reflexive
9. Durability of policy and institutions
Regional NRM: achievements

Improved integration across agencies (DEH/ DAFF)
Fostered regional perspectives
Raised level of NRM literacy amongst participants
Building partnerships to deliver onground work
Respected, competent organisations
Move to assets-based planning
Regional NRM: issues

High transaction costs in establishing regional governance

Asking groups to accomplish complex tasks with little guidance

Some stakeholders not adequately represented

Focus on action and insufficient attention to reflection

Short-term funding cycles (longevity issues)

Tendency to move from one policy option to next
Regional NRM: issues

Groups have limited capacity to respond to regional needs (limited devolution of power/ excessive reporting)

Blurring of purchaser/ provider roles

Limited inter-regional cooperation

Inability to identify trade-offs for investment choices

Data/ knowledge management issues
<table>
<thead>
<tr>
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<th>Score (1-10)</th>
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<tr>
<td>Fair and equitable</td>
<td>7</td>
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<tr>
<td>Connected/ coordinated</td>
<td>5</td>
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<tr>
<td>Consistent vision</td>
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<td>Competent</td>
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<tr>
<td>Well informed</td>
<td>8</td>
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<td>Responsive/ reflexive</td>
<td>4</td>
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<td>Durable</td>
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Reflections

A bold experiment with considerable achievements
More successful than similar countries in getting balance between local engagement and regional planning
Refinement over time
No guarantee that will continue long-term
Regionalism, Railways and Local Government

Ian Gray
Regionalism

• The idea that there is an optimum area across which services, public or private, should be organised and provided

• And the idea that the people who have a stake in those regions should be involved in, if not controlling, the organisation of services

• In Australia the States, which provide most of people’s day-to-day public services, are often *not* seen to be the optimum area for service provision
NSW Constitutional Values Survey - Australia has a three-tiered system of federal, state and local governments...

How do you believe the system will look in another 50-100 years?

How do you believe the system should look in another 50-100 years?

The colonial customer was in Britain; the class enemy was in the bush.

Map source: NSWGR Country Timetable 1960
Australian local government is a product of localism, not regionalism.

*Source: Chapman and Wood 1984*

### Table 1.3 Councils grouped by population: all states and the Northern Territory

<table>
<thead>
<tr>
<th>Population</th>
<th>NSW</th>
<th>Vic.</th>
<th>Qld</th>
<th>SA</th>
<th>WA</th>
<th>Tas.</th>
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<th>%</th>
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<td>1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

*Source: ACLGA, Discussion Paper No.2.*
Localised in service, but not administration

Source: NSWGR Country Timetable 1969; SV Foulkes 1937
Local Government and Railways

‘... railway people, including railway workers, were convinced that some Narrandera street trees had been accidentally poisoned from a railway drain, but in 1983 the men in Sydney decided that this was not the case, and the council was obliged to let the matter drop.’

Source: Gammage, *Narrandera Shire*, 1986
There has been very little application of regionalism to transport in Australia.

- Lots of ‘nationalism’, very sensibly in railways - but what about ‘the regions’?
- Persistent anomalies
- Integration advantages of regionalisation
- Possibilities (and dangers) of ‘localism’
- Regionalisation of local government
RTSA Regional Rail Symposium
Wagga Wagga
1 February 2007

Victoria’s Regional Rail PPP:
Past, Present, Potential
John Hearsch
Historical Perspective

- Network developed from 1857 (Geelong line)
- 1862 reached Ballarat and Bendigo, Echuca in 1864
- 1870’s reached Wodonga, Portland, Colac and Sale
- 1880’s to early 1890’s frenzy of building new lines
- 1910 to 1920 – infill branch lines and into wheat areas
- 1942 reached - maximum size of 7668 route km
- 1950-60’s – closure of numerous branch lines
- 1980’s – branch and secondary line closures accelerated
- 1995 – Melbourne-Adelaide, Portland, Hopetoun and Yaapeet lines converted to standard gauge
Victoria’s rail network
at its maximum extent - 1942
Victoria’s regional railway - 2007
## Victoria’s Regional Railway - Today

Route kilometres as at January 2007
(excludes interstate and metropolitan passenger lines)

<table>
<thead>
<tr>
<th></th>
<th>Broad gauge (route km)</th>
<th>Standard gauge (route km)</th>
<th>Total (route km)</th>
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<tr>
<td>Combined passenger and freight lines</td>
<td>1712</td>
<td>- -</td>
<td>1712</td>
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<tr>
<td>Freight-only lines</td>
<td>1673</td>
<td>368</td>
<td>2041</td>
</tr>
<tr>
<td>All services suspended</td>
<td>290</td>
<td>86</td>
<td>376</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>3675</strong></td>
<td><strong>454</strong></td>
<td><strong>4129</strong></td>
</tr>
</tbody>
</table>
The 1980-90’s transformation

- Completely revamped grain operations – new locos and wagons, block trains, Central Receiving Points with long sidings, Geelong Grain Loop, Portland line upgrade
- Average size & weight of grain trains more than doubled
- Block container trains from regional terminals
- Extensive track maintenance catch-up and upgrading
- Closure of over 1200km of lightly-used lines
- Major reduction in shunting task – closure of many yards
- Scrapping of thousands of old 4-wheel wagons
- Statewide train-to-base radio communication
- Large reductions in staffing – reform of work practices
- Two-person crewing of freight trains – no guard’s vans
The 1980-90’s changing task for rail

- Road captured most general and some bulk traffics
- Virtual elimination of casual wagonload traffic
- Freight-only network became largely reliant on grain and some intermodal business
- Drastic reduction in numbers of scheduled trains
- ‘As required’ services for grain traffic
- Bunker storage eliminated most peak harvest movements
- Train services pre-planned to meet shipping programmes and domestic grain orders
- Consolidation into full train loads or wagon blocks on scheduled trains.
Rail Privatisation – 1999 to 2006
Structure and Investment

- V/Line Freight sold May 1999 to Rail America for $163 million – ‘above rail’ assets, freight contracts and 45-year infrastructure lease (PIL). Traded as Freight Australia.
- Sept. 2004 – on-sold to Pacific National (then 50-50 joint venture Toll Holdings & Patrick Corporation)
- 2006 – Toll acquired 100% of Pacific National
- Effectively zero ‘above rail’ investment since 1999
- A few new and upgraded locos and new wagons but some 400 grain wagons (half fleet) transferred to NSW and approx one-third of locos (mainly newer ones) re-allocated to NSW or used on Melbourne-Perth intermodal services
Rail Privatisation – 1999 to 2006
Infrastructure (1)

- Pre-1994 - regional network maintained on a planned ‘steady state’ basis after 1980’s major catch-up programme
- From mid 90’s – changed culture, network considered over-maintained, cost cutting, major sleeper renewal gangs disbanded. Asset base began to degrade but relied on redundancy from catch-up
- PIL post-1999 – no specific maintenance obligations for freight-only network – some for passenger lines
- 1999-2006 – almost zero major maintenance or investment on freight-only lines – only essential ‘fix when fail’ repairs
- Today – some lines inoperable, others nearing same, most under speed restriction mainly due to very poor timber sleeper condition
Rail Privatisation – 1999 to 2006

Infrastructure (2)

- May 2001 – Vic. Govt. announced approx. 2000km of broad gauge network to be standardised - $96m allocated, did not proceed due to non-agreement with Freight Australia
- Since recognised that standardisation no longer feasible without major work to overcome maintenance backlog
- Some major work done on regional passenger lines – all funded by the State and V/Line, e.g. Regional Fast Rail
- Passenger projects are little or no benefit to freight services
- Freight trains now largely excluded from Ballarat and Bendigo lines except at night, Latrobe Valley limited paths
- Victoria’s regional rail infrastructure given poor ratings in several engineering surveys and most recently by Australian Industry Group
Traffic Task

- Average freight task on Vic. regional network has fallen by estimated 20% since late 1990’s (before privatisation) despite strong State economic growth
- Attributable to increased road competition (particularly B-doubles) and seasonal conditions
- Degradation of freight network also a factor – impacts operating efficiency and causes loss of customer confidence
- Only traffics to increase are export containers, logs and quarry products
- Major declines in grain, also petroleum, cement and paper
- Paddy rice, gypsum, sand, fertiliser no longer on rail at all
Rail Privatisation – 1999 to 2006

Commercial realities

- Expectations of privatisation in better marketing and developing regional freight business not realised
- Anticipated efficiency gains generally not realised – undue optimism of new owners, little appreciation of earlier gains
- Trucking productivity gains not matched by regional rail
- Competitive pressure on freight rates and margins
- Increasingly thin utilisation of freight-only network
- No part of network commercially viable and some unlikely to ever be economically viable – no incentive to invest or to spend maintenance dollars
- Final outcome – infrastructure residual life now largely consumed – ‘asset stripped’, benefits to shareholders through maintenance cost savings and sale proceeds
Current perspectives
Grain industry, local government & communities

- Grain industry seeking further transport and handling cost reductions
- Impact of drought and future climate change
- Ongoing grain transport task disaggregation
- Dissent re prospect of ‘single desk’ dismantling
- Grain trucking options becoming more attractive
- Inevitability of further facility rationalisation
- Increasing awareness of declining rail lines condition
- Concern at more heavy vehicles on local roads
- Most local roads under maintained, not designed for heavy vehicles, particularly B-doubles
- Councils being squeezed for funding
The 2006-07 Regional Rail buy-back

- State to buy-back 45-year infrastructure lease (PIL) for $133.8 million from Pacific National
- Buy-back includes some other commercial leases
- Staff in PN’s Network & Access Division to be re-employed by the State
- A new division of V/Line will manage infrastructure assets, maintenance, train control and ‘above rail’ access
- PN to maintain existing leases at South Dynon terminal, Spotswood and parts of Tottenham Yard. Dynon freight terminal previously surrendered
- Final details currently being negotiated
- Change of control expected late February 2007
Regional Rail viability a national issue

- SA Eyre Peninsula grain lines - $15m AusLink funding for upgrade subject to matching funding
- SA broad gauge grain branch lines no longer used
- Tasmanian rail network to receive $78m federal funding for upgrading and $40m State maintenance funding over 10 years with track reverting to the State
- 1000km of WA lines under threat without subsidy
- NSW & Qld have significantly funded non-coal ‘below rail’ regional network and grain branch lines
- Some NSW grain lines now non-operational and concern re continued services on others after PN’s grain haulage obligation expires later in 2007
Victoria’s rail freight policy

- To increase rail share of freight movement
- Achieve 30% rail share of all port-related freight by 2010. (Currently estimated around 16%)
- Approximately 70% of regional rail freight is export oriented
- No State subsidies have been provided for rail freight or freight-only rail infrastructure to date
- Given trends of recent years, 30% market share target will be a considerable challenge for the regional network
Threats for rail (1)

- Grain traffic (and most of the freight-only network) now facing a vicious circle and a real threat of major losses to road transport
- Trucks getting even larger – push for B-triples
- External factors include deregulation of domestic grain market, potential dismantling of ‘single desk’, production volatility, climate change, product segregation, road transport availability and on-farm storage
- Rail industry factors include seriously degraded network condition impacting operating efficiency, opportunities to re-deploy equipment elsewhere, isolation of broad gauge fleet and reducing critical mass of traffic driving up unit costs
Threats for rail (2)

- Rail now very capital intensive – its viability relies on economies of scale. Critical volume thresholds determine both commercial and economic viability.
- If a critical mass of grain business goes to road, very few lines will survive.
- Should the State remain non-interventionist (irrespective of reversion to State control), within 3 to 5 years most lines will be inoperable, almost all export grain will be on road and most regional intermodal hubs will no longer be rail-served.
- Should the grain industry cease its primary dependence on rail, the asset will disappear and is most unlikely to ever be reinstated.
Opportunities for rail (1)

- Buy-back should enable the State to manage network investment (including upgrades) and address the maintenance backlog.
- Under the right conditions, rail can be a highly productive and efficient part of the logistics chain.
- A case exists for government subsidies, for at least a transitional period, for non-commercially viable rail infrastructure that can be economically viable.
- For now, operator access should be free or at very low cost.
- Limited subsidies would encourage rail operators to maintain services whilst the grain logistics network is re-structured for greater efficiency and to become self-sustaining.
Opportunities for rail (2)

Scope exists to significantly reduce costs and improve efficiency of the grain logistics chain by:

- Creating a national market for grain haulage by rail to at least cover Victoria, NSW and much of SA with a combined annual traffic task (normal seasons) of 10-14 million tonnes.

- Rehabilitating the retained core grain network to allow reasonably efficient ‘above rail’ operations and re-introduce a ‘steady state’ maintenance programme.

- Converting most of the retained Victorian broad gauge network (about 1300km) to standard gauge to allow unrestricted movement of rolling stock.

- Providing high throughput grain facilities at several new or existing key locations to replace smaller facilities.
The Line Ahead
A window of opportunity to break the vicious circle

Given that some lines will close, the challenge is to retain overall volume on the retained core network. This requires:

- Creation of a national rail grain haulage market as a primary defence against further disaggregation of the transport task – provides an attractive opportunity for several rail operators
- Limited operating subsidies on a transitional basis
- Restoring 1600 route km for reasonably efficient rail operations - would cost around $190m (including $73m for Geelong-Mildura – already announced) over 3-4 yr period
- In conjunction with rehabilitation, standardisation of most remaining Victorian BG freight-only lines for unrestricted movement of rolling stock – estimated cost <$110m
- Provision of high throughput facilities by grain industry at new or existing key locations to replace smaller facilities
The Line Ahead

The vicious circle must be broken to prevent regional rail fading into oblivion. It can and must be done!
COOPERATIVE APPROACHES TO RAIL IN THE HUNTER VALLEY COAL EXPORT INDUSTRY

KENN CLACHER
KENN CLACHER & ASSOCIATES PTY LTD
PRESENTATION OUTLINE

- Structure of Hunter export coal industry
- Hunter logistics task
- Incentives for cooperation
- Examples of cooperation
- Application of Hunter model to grains transport
STRUCTURE OF HUNTER EXPORT COAL INDUSTRY

- 17 individual coal suppliers
- 80+ coal types
- many buyers
- non-seasonal
- three largest sellers account for 75% of market
- single export port
HUNTER LOGISTICS TASK

- 80Mtpy exports
- small but rapidly growing domestic coal railings
- 30 coal mines
- 23 points loading coal onto trains
- two rail freight operators
- two shiploading terminals
- rail hauls from 20km to 350km
NETWORK DIAGRAM

Source: Pacific National
INCENTIVES FOR COOPERATION

- logistics vital part of production process
- coal high volume, low margin business
- rail costs were 15% – 30% of total f.o.b. costs with monopoly rent component
- rail part of public network
- rail network was inefficient
- cooperation essential to maximise efficiency, minimise costs
- introduction of National Competition Policy
EXAMPLES OF COOPERATION

- Hunter Rail Access Task Force (HRATF)
- Port Waratah Coal Services (PWCS)
- Hunter Valley Coal Chain Logistics Team (HVCCLT)
HUNTER RAIL ACCESS TASK FORCE

- committee comprising nearly all Hunter Valley coal exporters
- presents united front on rail access matters
  - arose out of Hunter Valley Rail Project
  - maximise benefit to coal industry
  - little justification for competition on access
  - free to seek competitive advantage from competing rail operators
- makes representations to regulators such as NCC, ACCC, IPART
- negotiates with infrastructure owners, rail operators on behalf of coal producers on access issues
- makes representations to Government, PC, Parliamentary Committees etc.
ORGANISATION OF HRATF

- run by executive committee, varying in number from 3 to 5
- funded by cash calls on participants
  - relative contributions based on use of network
- work all conducted by consultants
- secretariat carries out administrative work and prepares strategy and submissions
- NSW Minerals Council provides some administrative support
- EC and participants meet as needed
HRATF ACHIEVEMENTS

- negotiated phaseout of monopoly rent on rail access
- beneficial changes to NSW Rail Access Undertaking adopted, including
  - rights for major customers of rail operators
  - regulatory oversight incorporated in access undertaking
PT WARATAH COAL SERVICES

- evolved from changes in coal industry
- operates coal loaders in Port of Newcastle (monopoly but common user facility)
- owned by
  - Hunter coal producers
  - Japanese customers
- imposes common user charge
- makes its own decisions on new investment
Hunter Valley Coal Chain Logistics Team

- contains representatives of all participants in Hunter coal logistics (excluding mines)
- responsible for logistical planning of all coal exports from the Hunter Valley coal industry
- main objectives
  - single point of coordination for all planning decisions
  - maximise daily coal export tonnages
  - coordinate planning for the provision of future coal chain infrastructure.
THE ADVANTAGES OF COMPETITION

A MONOPOLY'S WHEN YOU HAVE NO CHOICE WHO TELLS YOU TO WEAR IT OR GET LOST.

A DUOPOLY'S WHEN YOU DO.
Differences between Coal & Grains Industries

- relatively small number of producers
- marketing arrangements
- much larger quantities
- rail network access charges for coal constrained by ceiling test
- freight charges significant proportion of f.o.b. costs
- currently no port competition
**SIMILARITIES BETWEEN COAL & GRAINS INDUSTRIES**

- complex logistical task
- capacity issues
- common problems on Hunter rail network N and S of Muswellbrook
- non-Hunter issues similar
- scope for efficiency improvements
SUMMARY

- Hunter cooperation in coal highly successful
- Fortuitous circumstances prompted cooperative structures in the Hunter
- Success depends upon recognising common good and being prepared to share benefits