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Legislative Council
Sessional Committee Government Administration A
Tasrail Inquiry

Inquiry into the Financial Sustainability of Tasrail

From
Peter Mackenzie

[REDACTED]

Firstly I would like to thank the committee for the opportunity to make a submission on this important issue.

I have been an independent , non-profit researcher of transport history, policy and development for more than 45 years. I have also researched road safety issues for more than 40 years. In both cases, my work includes cross-modal comparisons, and the nexuses between transport issues, land-use planning , public health, ageing population and other issues.

I have included below, information from my own research and that of associates and others. However, as I have previously mentioned to Mr Mulder, I am certain that the Committee would gain great value for this inquiry by face-to-face (or video-conference) with some of my associates who have great expertise in various aspects of transport relating to this inquiry.

These include:

John Hearsch (John Hearsch Consulting). John has been Chief General Manager, Transport Operations Vicrail; Group General Manager Freight with Queensland Rail ; A private consultant since 1998; Director of the first rail CRC and the Australian representative to the International Union of Railways. John has excellent cross-modal (rail and road) knowledge of national transport policy and development). John is also a Director of Rail Innovation Australia.

Dr Philip Laird (Associate Professor University of Wollongong). Dr Laird is a well-respected researcher and prolific publisher on rail and other transport issues. He is a well-acknowledged leader in his field, and was invited to present the 9th Henry Parkes Oration at Tenterfield during 2011.

Barry Donaldson. Barry is a transport planner, having completed studies on ports in South Australia in addition to railway planning. Barry was a founding member of GATR (The Great Australian Trunk Railway group-The Melbourne-Brisbane "Inland railway"), and was architect of the original GATR intermodal connected plan.

Frank Hussey. Frank was an operations manager at National Rail before he became a private transport consultant, covering all land modes of transport.

I would be very pleased to connect the committee to these experts, and highly recommend that, as their expertise covers such a wide range of rail and cross-modal issues from policy, planning, funding, operations and more. They would provide very independent and expert information and answers to questions, thus providing excellent evidence-based data and information on this important issue.

My own input to the inquiry is as follows, but also draws heavily on the work and knowledge of the above people to add to that of my own.

1. Financial position of Tasrail.

-Unable to comment on Tasrail's current financial position.

However, I would like to add the following important comments on Tasrail and financial sustainability.

It is highly unlikely that Tasrail as a vertically integrated unit (ie owning and maintaining built infrastructure and rolling stock, while operating trains), will ever make a commercial profit, mainly due to the high cost of built infrastructure, and to the disadvantages rail has in competing for freight traffic against road traffic. (those disadvantages are detailed later in this submission).

It may be possible to separate Tasrail into track owner (built infrastructure) and train operating units, where the train operator pays access fees to the track owner. In that case the train operating unit may make a commercial profit, but that would be highly dependent on the track access fees charged by the track owner.

If the track owner section was expected to make a commercial return, or at minimum, to break even, and charged relatively high track access fees, it would be very difficult to say the least, for the train operator unit to make a profit, and importantly, to gain a greater share of traffic from road freight operations.

Tasrail, as with general freight train operators on the mainland, would be highly disadvantaged in competing for freight and profit against road freight operations. This is due to a number of factors that are detailed later in this submission.

2. Factors impacting on the ongoing and future financial performance of Tasrail.

a) State and Federal funding:

The media release relating to this inquiry mentioned "massive investment" [in Tasrail]. With all due respect, I don't consider the investment to be "massive" and definitely not "massive enough". I believe \$10bn for one new freeway in Sydney (WestConnex), or the \$500 million Swan Valley Freight Bypass in WA, or the \$2bn + \$4.5 bn respectively for new road and rail crossings of the Toowoomba Range could be called "massive". And importantly, these will cater for very heavy Higher Mass Limit (HML) trucks or in the case of the Toowoomba rail crossing, very high productivity rail vehicles of high axle load- and double stacking of containers (two layers of containers) with even further gains in productivity.

By contrast, the Tasrail funding is catch-up after decades of funding neglect, but importantly, does not increase axle-load, and therefore payload on the main Hobart (Brighton) - Burnie route, so does not increase productivity in that most important respect.

In the rail situation, the recent and current work is remediation for decades of neglect, not significant infrastructure upgrades to improve efficiencies, something noted by Michael Deegan when he was Infrastructure Coordinator for Infrastructure Australia.

Deegans 2010 report on Tasmanian Ports, recommended a new study of the north-south corridor and productivity increases for road and rail. However, no study has been made, and the rail line remains at a maximum axle-load of only 18 tonnes (the former EBR West Coast line is even more limited at 15 tonnes), with no plans to upgrade the track (using heavier rail) to raise the axle loads and subsequent payloads of wagons and trains.

Nor is there any plan for deviations and new alignments between Brighton and through Andover, leaving that lengthy section of line as a very difficult alignment with sharp curves and steep grade combination, the bane of rail operators the world over.

Nor are there extensions of crossing loops to allow for running of longer trains, which is beneficial to rail operation (mainland crossing loops are being extended to 1800 metres, while Tasrail is from memory around 750 metres, resulting in much shorter, lighter trains per unit).

ARTC, the track owner for interstate rail lines on the mainland, considers 18 tonne axle load to be suitable only for low-grade secondary lines. Tasrail may be considered a short-line or regional length railway, but the current and potential increased tonnage, and the importance of the key connections from industry to ports warrants a higher standard than a "backwoods" line.

While the infrastructure work on Tasrail is fixing up from a backlog of 30 years of neglect, it is really only road that is being upgraded to include various by-passes to allow for faster speeds on sections, shorter transit times and greater productivity. Tasrail's claim to shorter transit times is really because the line is truncated at Brighton.

John Hearsch in a 1998 Submission to the Productivity Commission, attributed rail's falling market share in general freight in comparison to road freight, to a number of factors, amongst which were:

- Relatively poor rail infrastructure compared with rapidly increasing road capacity and quality.
- Faster transit times by road in most areas.
- Large increases in permissible heavy road vehicle mass and dimensional limits.
- Significant under-recovery of attributable long distance heavy road vehicle road construction and maintenance costs.
- Rail operator track access charges being approximately five times that of heavy road vehicle user charges on an equivalent gross tonne-kilometre basis.
- Less stringent safety provisions for road transport compared with rail.
- Inadequacy and inefficiency of some intermodal terminal facilities.

All those factors impacted on Tasmanian as well as a mainland rail. Since that date, the situation for most of these factors has changed little.

I would add that there is one critical comparison between road and rail that has and continues to be vastly understated and undervalued.. In a 2010 research paper by this writer, I noted that for every 1% of freight transferred from road to rail, the lives of three Australians would be saved, along with an estimated seven others saved from serious injury. (Mackenzie, Peter. Loads off Roads: Shifting Freight to Rail Creates a Shift in Road Safety [online]. Journal of the Australasian College of Road Safety, Vol. 21, No. 2, May 2010: 21-23). Note that the fatality figures for 2014 would be lower than for 2010, due to improvements, while the injury figure would be very close to the same.

And again, referring to John Hearsch:

"The Australian Government also leads a national roads program that fully funds the maintenance and construction of defined national highways and thus strongly facilitates the ongoing growth of inequitable heavy vehicle competition with rail" (p19).

"Nor does there appear to be yet any clear vision as to the benefits that a well integrated intermodal policy, with each mode maximizing its potential contribution to the total task, would bring to Australia as a whole" (p19).

"However, the corporitisation or commercialization processes, or even privatization of railway that confer social benefits not reflected in their financial performance, makes little sense without a related regime which clearly segregates and quantifies the railways attributable social costs and benefits by comparison with the financial performance of its pure commercial business. This is hardly a new idea. But it seems to pose particular difficulties for some government bureaucrats and treasuries who wish to pay scant regard to the net social value that the railway does and can generate. Consequently, the social worth of rail service is consistently under-valued and its potential to add future net social benefits is often seriously discounted or totally disregarded. This particularly applies to prospective rail infrastructure investments. (p22)

Paradoxically, Australia's road authorities continue to receive generous funding from the Australian Government to construct and upgrade highway to standards that can accommodate the ever increasing mass and dimensions of heavy vehicles and do so with total reliance upon social benefit/cost analysis to justify their massive investments. However, until recently, most proposed rail investments on main lines which had the potential to achieve competitive advantage for rail by comparison with trucks were required to be justified on a purely commercial basis". (p22)

"For many years, the Australian Government has shown a marked reluctance to invest in main line rail upgrading although no such reluctance has been evident when competing road investments were considered. there is an apparent expectation that additional funding can be sourced from rail operators through track access payments or borrowed against the prospect of future access revenues. Unless a comparable road pricing regime that also recognizes gross tonne-kilometres can be achieved, this is a somewhat heroic assumption given that average track access charges are already some five times that of heavy road transport when assessed on a like for like basis. Rail infrastructure investments cannot be fairly assessed on a strictly commercial basis unless competing road investments are similarly viewed. Ironically, if this were to occur, few road investments would pass any return on investment test. Prospective rail investments also often fail to gain acceptance because investment analysts within the bureaucracy or consultancies rarely have a deep understanding of specific transport markets or of Australia's rail industry in particular...Where large scale projects are occasionally examined, analysts typically fail to sufficiently factor the realistic outcomes of a quantum leap in rail service or efficiency into their work...tend to be highly conservative and thus ensure that further falls in rail market share become a self-fulfilling prophecy". (p32)

"We need to encourage more people out of their cars [to public transport] and get more freight onto trains" (The Hon. Anthony Albanese Minister for Infrastructure, Transport, Regional Development and Local Government;Media Release 09 Mar 2009).

Similar statements continue to be made by the current Federal Minister for Transport, Warren Truss. However, despite the stated enthusiasm of both Federal Labor and Coalition governments, and most states governments over many years, there continues to be a bias towards road funding, and a general dysfunction in transport planning, project selection and funding.

b) The projected cost of current programs for upgrading above and below rail assets and infrastructure

As per above, the amount of investment in Tasrail is not adequate to upgrade the railway to the higher productivity levels required to compete against road freight. Upgrade to heavier rail would have allowed for higher axle loads and higher payloads per unit of train movement and locomotive use.

As mentioned earlier, Tasrail is limited in its ability to increase productivity by the weight of rail; by resulting limitation on axle loads and consequent wagon loads; by train lengths; by a combination of tight curves and steep grades.

As mentioned by a DIER report of 2012:

“Government recognizes that over the long life of transport infrastructure, future proofing needs to occur now to support changing demands. Similarly, works currently being undertaken, and those proposed, on the rail network are being done with a view to the future. Works such as concrete re-sleepering, replacing life-expired rail and bridge refurbishments/replacements will result in the network being capable of increased axle loads (up to 25 tonnes)... [except for the 15t axle load on the Emu bay Line, and 18 tonne on the north-south line!]...... However, there will remain a number of bridge structures that will be limited to current axle load constraints as these assets are not included within the proposed program of works”. (“Department of Infrastructure Energy and Resources 2012; “Tasmanian Government 2012 Submission to Nation Building 2 Program - Overview).

DIER also costed a new alignment between Brighton and Andover at around \$400m. This sounds a lot of money, but is significantly less than the \$500m approved by previous Federal Labor and current Coalition governments for the road freight Swan Valley bypass in WA.

Transport Planner Barry Donaldson estimates that:

“A modern, well aligned rail structure between Hobart and Launceston allowing passenger trains at speeds up to 140km/hr (yes, on narrow gauge) providing two hour transit times on a corridor just 30 metres wide will cost in the order of 1 Billion dollars, with an annual maintenance cost of \$12,000/kilometres.

In contrast, Midland Highway full duplication would cost up to \$3-4 billion, as well as having an easement of at least 150 metres. DIER says that is not justified for decades and is installing Swedish style 2 x 1 sections - which would need to be rebuilt at significant cost if it is ever to be 4 lanes.

The expensively revamped road will still be unable to carry anything like the freight axle loads that the trunk rail structure will support and will experience far higher annual maintenance charges than rail. Any additional road freight will add to the existing traffic and safety issues already experienced on these inadequate roads. Acknowledged safety issues around larger vehicles will be further compounded by an ageing driving population and growing/emerging issues with younger drivers- such as texting/phoning while driving, as well as increased drug use”.

c)The expected return on investment allowing for depreciation.

Under narrow commercial profit/loss basis, and given the unfair advantages of road freight operations, I don't believe the investment would be recouped. However, it is very important to consider the broader focus that includes all externalities.

“Obstacles have been created that inhibit the efficient operation of the freight transport market including market distortions as a result of government pricing, subsidies and investment decisions, fragmented and incremental transport planning and a regulatory environment that acts as a barrier to the efficient provision of freight infrastructure and services.

Given the projected doubling of the freight task by 2020 from 2000 levels, and the challenges highlighted above, business as usual practices in freight transport planning cannot continue. The significant inefficiencies created by the incremental, piece-meal approach to freight transport planning is no longer sustainable”.

(Towards 2050 National Freight Strategy;The Role of Rail; Australasian Railways Association 2010)

“In selecting the right mode of freight transport all externalities associated with the movement of freight should be identified and internalised where possible. While the financial cost effectiveness of freight transport is an important consideration, any transport policy should also ensure that non-financial costs associated with freight transportation are captured in the decision making process including:

- environmental costs such as emissions, noise and land-use
- safety costs such as fatalities, injuries and property damage
- congestion and its associated costs.

If the transport decision making process cannot internalise these costs, the Federal Government must ensure that the mode that exhibits the best safety and environmental performance receives incentives or subsidies to ensure that the community enjoys the benefits of this superior performance”.

(Towards 2050 National Freight Strategy; The Role of Rail; Australasian Railways Association 2010)

And the following comments from the “True Value of Rail” report from the Australasian Railway Association (2011, research by Deloitte).

An important quote from that report, as it relates to this inquiry about Tasrail, follows:

“Understanding the true value of rail in Australia requires that the benefits from rail transport which are not captured in prices and which accrue to the community at large are identified and quantified. In this report some of these social, environment and economic impacts of rail transport are identified and quantified.

The analysis indicates that, for passenger journeys, every trip made on rail rather than road can reduce costs to society by between \$3 and \$8.50, depending on the city. For freight the savings are estimated to be around 95 cents for every tonne kilometre (this translates to around \$150 for a normal container transported between Melbourne and Brisbane).

These estimates are based on congestion, accident and carbon emission costs and so benefits from social inclusion, reduced infrastructure maintenance costs and fuel security could also be added”.

d) The profitability of lines by type of freight carried, including bulk cargo and diversified freight.

Unable to comment.

3. The social, economic and environmental benefits of rail transport (if any) compared with road and other surface transport modes.

This is a surprising question, given the nationally and internationally acknowledged multiple benefits of rail over road modes (and other surface modes which would include canals or river traffic?).

In regard to this question of the social and economic and environmental benefits of rail, these are well documented, and I would firstly refer the committee to the respected various published research over many years by Dr Philip Laird, Associate Professor, University of Wollongong. Dr Laird has published much research and presented many submissions to inquiries, with evidence on the benefits of rail, the benefits of rail over road, and the bias of road funding, as well as under-recovery of the costs of road freight.

Again, referring to the “True Value of Rail” Report: “The analysis indicates that, for passenger journeys, every trip made on rail rather than road can reduce costs to society by between \$3 and \$8.50, depending on the city. For freight the savings are estimated to be around 95 cents for every tonne kilometre (this translates to around \$150 for a normal container transported between Melbourne and Brisbane)”.

However, this report, as do many others, seriously substantially downplays the safety benefits of rail over road. While the 100 or so level crossing incidents for Tasrail per annum attracts media attention for good reasons, that number of incidents would be exceeded almost, if not daily, by road traffic near-misses and other dangerous actions and incidents (regardless of the lower death toll for last year. Tasmania Police recorded 12 drivers using mobile phones in central Hobart in just three hours very recently. But this in reality is just the proverbial tip of the iceberg, while many incident involve heavy vehicles (often the fault of car drivers), with potentially disastrous results.

The main difference between road and rail is that drivers can more easily do emergency braking and swerving, running off road that prevents an incident turning into a crash. That still doesn't make it safe. What we don't have is a risk management recording and monitoring or management system in road-use, thus downplaying the dangers that, as I mentioned, play out every day on our roads.

In regard to road freight, reduction in truck movements will reduce the risks massively, and is recommended by both the National Transport Commission (NTC) and the Australian Trucking Association (ATA).

While those two bodies focus on reduction by bigger, heavier trucks, the gains through modal shift to rail are much higher again, so for example, two b-doubles replace 3 semi-trailer journeys. In comparison, one 1500 metre train can replace up to 150 semi-trailers. And one train movement will have far less risks and potential for crash, death and injury than the equivalent movement of 150 semi-trailers.

4. Opportunities and Barriers

Tasrail is not impeded by being narrow gauge - some of the world's longest and heaviest trains operate on the ore line to Saldanha in South Africa - in excess of 24,000 trailing tonnes. Queensland rail operates coal trains in excess of 10,000 tonnes trailing load, and operates tilt trains at speeds up to 160kph on a daily basis.

Steep grades alone are not as limiting as might be expected. Swiss railways, using electrification, run trains as heavy as the maximum in Tasmania, up grades as steep as the Blue Mountains line in NSW, at 80 kph. It is the combination of steep grades and tight curvature that severely limits train operations.

As mentioned earlier, Tasrail is limited in its ability to increase productivity by the weight of rail; by resulting limitation on axle loads and consequent wagon loads; by train lengths; by a combination of tight curves and steep grades.

Less obvious barriers for Tasrail are the under-restrictions on road freight speeds and weight; road not paying its way; road doesn't pay its way.

Tasrail to some degree, has placed its own barriers in the way of success. For example, the withdrawal of rail services from the line into Hobart. This was said to be due to the inefficiencies of the former Hobart rail yards, and due to the dangers of level crossings (around 30 in total) between Bridgewater and Hobart yard. This sounds plausible to many, but on closer consideration, does not seem as logical.

Brighton Transport Hub is expected to promote more efficient movement of freight between southern Tasmania and northern ports. It is an expectation that is yet to be tested. Evidence from other parts of Australia indicate that the expectations may be overly high. Some freight forwarders may truck freight straight through rather than transfer to rail at Brighton as expected. Any additional "lifts" ie transfer of freight are seen as disadvantage and additional costs.

Additionally, the plans to truncate the rail line at Brighton, overlooks the fact that 280,000 tonnes pa comes from Nyrstar.

While this tonnage previously was trucked to Hobart railyard, then railed north, the new arrangements are no better, and the potential to rail direct from the works will be lost forever if the Bridgewater Bridge is built for road only as is currently planned. The potential to lower overall sate emissions, and to lower emissions directly into Hobart will be lost.

Yet there is an existing unused branch line directly into Nyrstar works. But reopening that would mean the rail line would need to be added to plans for the \$750m new Bridgewater Bridge across the Derwent River - and clearly the department (DIER) don't want that.

(Note that a modified plan to retain the old bridge for future potential rail use is a frail promise, and logic dictates that renewed problems with the lift span would almost certainly see the bridge closed to rail permanently).

In recent years, I have suggested a rail bypass be considered for Perth on the Launceston-Burnie corridor, in conjunction with and along the easy alignment of a proposed road bypass that has been submitted to IA for funding – shorter alignment and would remove up to 13 level crossings. Unfortunately a lukewarm response from the State Minister and a referral to Tasrail that was never responded to.

In fact, right back to 1998, when a new road bypass was to be built near Westbury Tas where I live, I suggested that

the rail line be re-routed along the same alignment - in short "No we don't plan road rail projects together" was the reply. It would have eliminated 6 level crossings (the safety bane of rail), and made a better rail alignment vertically and horizontally.

This is despite repeated claims by the former DIER and The State Government of integrated and coordinated transport plans, which never seem to translate into reality.

Another major barrier to proper strategic planning is the question of just how much freight is potentially capable of being modally shifted to rail-centred intermodal transport

However, in several states at least, official reports, and submissions to Infrastructure Australia Australia (IA) conclude emphatically that rail cannot substitute for road on various shorter haul and inter-regional routes and even interstate routes. Yet short haul of rail cement shuttles in Tasmania, and container port trains Tauranga-Auckland in New Zealand alone prove this incorrect, while intermodal solutions for inter-regional and interstate freight have not anywhere near reached their maximum potential.

Obviously various freight tasks aren't suitable for rail or intermodal haulage, but I am yet to find the studies on various corridors that really show just what freight is truly suitable only for road. It is just assumed, and as Michael Deegan said at the Bingara Accord Speech last year, for new roads "a photo-op on a new piece of tarmac is substituted for national long-term strategic planning".

How much freight could be modally shifted to rail on the corridor is uncertain, given there has been no detailed study of the possibilities that I can locate. However, data from the original Midland Highway Partnership Agreement notes that of the 2 million tonnes per annum on the Midland Highway, 44% was containerised freight.

In the Perkins C & Brindley M 2014; "Bass Strait Shipping-Summary Paper" by Perkins and Brindley (Regional Development Australia), the authors stated:

"The Government's decision last year to assume ownership of the rail network, investing \$40 million in rehabilitation of rail infrastructure, was critical to ensure the continuation of intermodal rail services. If rail is to increase its share of the State's freight task, further improvements are needed.

There is a high proportion of contestable freight along the north-south freight corridor, suggesting efficiency improvements that: reduce turnaround times, enable industry to locate close to the rail network and increase carrying capacity, would support a greater modal shift to rail. The use of rail to transport logs from the southern forests to the proposed pulp mill and other processors will see a significant reduction in log trucks on the public road network, but will require upgrade of the rail network to cater to this task. The greater use of rail in catering for Tasmania's freight task will contribute to improved road safety outcomes; reduced road maintenance costs; and lower cost transport options for Tasmanian business".

However, DIER, The Department of Infrastructure, Energy & Resources (recently renamed Dept of State Growth, clearly want to build roads, roads and more roads, regardless of what rail can do. In recent years they have added into their submissions to Infrastructure Australia, a rider that says: "Use of rail to meet future productivity needs could be seen as an alternative to upgrading road infrastructure. However, as noted in the submission Overview document, road and rail act in a complementary manner to meet Tasmania's freight needs. Rail has inherent advantages in the movement of bulk freight and some growth in the intermodal task is expected. However, the majority of the freight task will continue to be moved by road, as the service characteristics of road are, in most cases, better suited to freight market needs. Consequently, road network upgrades will continue to be a priority in Tasmania, especially along key freight corridors, like the Illawarra Main Road".

And Michael Deegan's from Infrastructure Australia's suggestion for a new north-south transport study was basically ignored by the State Government and DIER continued on as before, with plans to upgrade the Brooker Highway, build a new road only replacement bridge across the Derwent at Bridgewater, the Brighton Bypass, bypasses around Perth and various safety upgrades along the Midland Highway.

And in 2012, DIER said “The location of these projects on a single corridor (with the exception of key connecting regional rail and road links) represents a targeted and integrated approach to improving freight efficiency and productivity from port to distribution centres. On the Burnie to Hobart corridor, *rail complements the road system by providing a dedicated freight route for the movement of containerised bulk products. Although rail is expected to increase its intermodal market share, the substantial majority of freight movement will still occur by road, due to the natural affinity [????????] of many products with the more flexible nature of road transport*”.
(Department of Infrastructure Energy and Resources 2012; “Tasmanian Government 2012 Submission to Nation Building 2 Program – Overview).

Another concerning situation was that the local governments along the Launceston-Hobart corridor joined with the State Government in a partnership to upgrade the Midland Highway. But approaches by myself and Transport Planner Barry Donaldson, requesting a similar partnership for the rail line, and a total transport study for the corridor, met with less than disinterest.

Finally the experience of the most successful land transport system in the world, that of North America, is that rail and rail-centred intermodal freight, including short-lines, carries a far greater range of freight types successfully.

Tasmania needs a proper, truly independent study that properly answers the many questions raised by my submission.

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