

Submission to Infrastructure Australia re the East West corridor

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By the East West Corridor is meant to include the following corridors.

- 1 Melbourne-Adelaide
- 2 Sydney-Adelaide
- 3 Perth-Adelaide

The accompanying submissions to the AusLink draft corridor strategies were made during 2006-07 and were based on research conducted at the University of Wollongong. This research was supported, in part, by the former Cooperative Research Centre in Railway Engineering and Technologies (Rail CRC Project 24; rail transport energy efficiency and sustainability). In respect of South Australia, input also arose from earlier consulting for the Government of South Australia. However, the views and research findings are the responsibility of the writer.

In 2008 the Rudd government released the 2007 revised corridor strategies. In some cases, the revised strategies address certain issues raised in submissions in the draft strategies. By way of example, for the Sydney-Melbourne corridor, more attention has been given to terminals and rail deviations have been placed as a longer term priority.

It is suggested however that three issues warrant more attention than given in the strategies in consideration of all candidates for Building Australia funding. These are:

- * external costs
- * reduction of carbon pollution, and
- * reduction of dependence upon imported oil.

In many cases there is a need for long overdue 'catch - up' rail track investment to be made to facilitate more efficient interstate rail freight operations.

External costs are conspicuous by their absence in many of the 2007 draft reports. This is despite the attention given to external costs as part of AusLink project assessment in the *National Guidelines for Transport System Management In Australia* released in 2004 by the Australian Transport Council. A second edition was issued in 2006.

Since 2006-07, the case for reducing dependence on imported oil has been strengthened due to oil prices trending upwards. The lack of attention to oil vulnerability is perhaps the major deficiency in the revised 2007 corridor strategies.

Energy efficiency and oil vulnerability issues affecting the transport of people and freight are identified in a report released 7 February 2007 of the Senate Rural and Regional Affairs and Transport Committee from the Inquiry into Australia's future oil supply and alternative transport fuels. Recommendation # 7 of the 2007 report stated "... *that corridor strategy planning take into account the goal of reducing oil dependence ... Existing Auslink corridor strategies should be reviewed accordingly.*

Given rail's superior energy efficiency over trucks in moving line haul freight, it is suggested that more attention should be given to rail proposals that have demonstrated capacity to reduce dependence on imported oil. This will have the added benefit of not only reducing air pollution but also greenhouse gas emissions.

Australian Freight Logistics Issue 14 October/November 2008 has (pages 44 and 45) an article *Rail wins the west* by Charles Pauka which concludes with the observation of SCT than rather than maintaining the track asset and holding the high market share, the ARTC ought to be planning to improve the line and to further grow the market share.

The Adelaide Hills

It is appreciated that whether to upgrade the existing route, or build a new route to bypass the Adelaide hills, is subject to ongoing study. However, if it is decided to upgrade the existing road, early consideration should be given to grade and curve easing on the Eastern slopes of the Adelaide Hills along with improved separation of freight and passenger train paths in the Adelaide urban area.

Some, excerpts from a paper 2005 (P Laird M Michell, A Stoney, and G Adorni-Braccesi) *Australian freight railways for a new century* AusRail Plus follow.

The section of track over the Adelaide Hills has some of the worst gradient/curvature characteristics not only between Melbourne and Perth, but also the North-South corridor between Melbourne, Sydney and Brisbane.

A 1997 proposal by M. Michell advocates realignment of the 65 km Murray Bridge - Mt. Lofty section to ease the present severe ruling gradients for west bound trains to eliminate the need for banking locomotives for the heavier west bound freight trains.

This proposal includes minor work between Murray Bridge and Callington, followed by a major deviation between Callington and Nairne, and significant but smaller deviations between Nairne and Mt. Lofty.

1 SUBMISSION RE MELBOURNE ADELAIDE CORRIDOR STRATEGY

The draft strategy is correct to observe the physical restrictions that impose severe speed-weight limitations on rail freight operation on the Melbourne - Adelaide corridor. This section is part of the important Melbourne - Perth rail corridor. It is also used for moving export and import shipping containers between Melbourne and Adelaide giving rail a relatively high share of intercity freight movements for a “short” corridor (noted on page 7 as 38 per cent). This compares with rail gaining less than 10 per cent on the longer Sydney – Melbourne corridor.

The strategy notes on page 16 four main impediments to efficient rail operations. In the absence of a study showing a decided advantage to building a new railway either north or south of the present route via the Adelaide Hills, it is recommended that attention be given to grade and curve easing on the Eastern slopes of the Adelaide Hills. This could well rank as a short term priority.

It is pleasing to note numerous references in the draft strategy to passenger movements along the corridor - both interstate and intrastate. However, despite the significant investment and obvious benefit for moving people between Ballarat (and Geelong or even Bendigo) to Melbourne (and back); the Regional Fast Rail Initiative is conspicuous by its absence. It is recommended that this be remedied in the final strategy. This strategy could also include a reference to the modern Southern Cross station.

Some discussion of the costs and benefits of extending standard gauge along the corridor would also be helpful - for example - via Ballarat and onto Ararat in Victoria and connecting Mount Gambier to Portland towards the Western end of the corridor.

The strategy would be enhanced by acknowledgement of external costs of moving both freight and passengers. Attention is also warranted for the likely changes that would be forced on Melbourne - Adelaide transport should oil prices continue to trend upwards. Again, oil vulnerability should be taken much more seriously in a report that looks out to the year 2030. It is trusted that this can be addressed in the final strategy.

NOTE ADDED From 2008 *East coast mainline rail track: options for 2014* by this writer at the Conference on Railway Engineering Perth Proceedings pp 357-36: A train moving between Melbourne and Perth encounters 26 km of track on steeper grades (exceeding 1 in 66) on curvature of radius less than 800 metres. All of this is to be found on the Melbourne Adelaide section. In the 122 km from Murray Bridge to Adelaide, no less than 67 km (55 per cent) fails to meet basic Fast Freight Train standards of a ruling gradient of 1 in 80 and ruling curve radii of 800 metres.

2 SUBMISSION RE SYDNEY ADELAIDE CORRIDOR STRATEGY

The Sydney - Adelaide corridor has special features of interest, including the road and rail links through productive agricultural areas.

Four strategic issues are noted in the draft strategy as follows:

1. Corridor efficiency and productivity, particularly the age of the road infrastructure and the track characteristics and condition of the rail corridor;
2. Road corridor safety;
3. Reliability of the rail corridor particularly the corridor's important role as a supply route;
4. Amenity of townships along the route and urban areas of regional centres.

These four strategic issues are considered in this response to be commendable. However, the short term priorities in the draft strategy have an strong emphasis on road upgrades and more emphasis should be given to short - term rail priorities.

The short - term rail priorities could well include ongoing upgrading of the Sydney - Cootamundra rail corridor that services not only most of the Sydney - Perth rail freight but also some Southern NSW grain exports through Port Kembla (which have the potential to increase). The ongoing track Sydney - Cootamundra upgrades, in this writers view, should include major rail deviations over the next decade. These will not only reduce point to point distance but also ease steep ruling grades and reduce excessive curvature.

Given the agricultural transport issues raised in this corridor strategy - including rice, grain and wine industries as noted on page 5 - the related issue of the condition of grain lines in Southern NSW may rate a mention in the final strategy.

Some findings from a Study Tour of Railway Engineering conducted in late March 2006 by the Railway Technical Society of Australasia (RTSA) warrant attention.

The first is a 19 Tonne Axle Loading (TAL) on grain trains from Boree Creek to The Rock where the branch line joins the mainline. The 19 TAL limit means that each grain wagon can only be partially loaded and this affects trains loaded at either Boree Creek or the ABB facility at The Rock. At the ABA silo at The Rock, this situation occurs despite the main line capable of handling 25 TAL being no more than two kilometres away. It is odd that at the time of installation in around 1999 neither ABA (with its joint partner Sumitoto), or the Rail Access Corporation, or Freight Corp sought to make a small marginal investment to lay heavier rail etc for two kilometres. It is also puzzling why this situation has persisted for so long, where now between them, ABA, the NSW Government and/or ARTC, and Pacific National have declined to make the investment. It appears that

construction of a triangle and loop on heavier rail to give direct access to Melbourne Port (where most of the wheat from this silo goes) could well be a good investment. Alternatively, the wheat could be sent to Port Kembla in full wagons by provision of heavier rail without a triangle.

The second constraint affects the export of wine from the Riverina area through the port of Melbourne (or Port Kembla). The issue of limited weight for wagon loadings also affect the Patrick Intermodal operations at Griffith. Their trains currently go via Leeton to Junee and Melbourne, but the track to Junee is restricted to 19 TAL. In this case, a modest increase 21 TAL would give good benefits. The necessary investment in rail track would be very small when compared to the private investment of over \$150m by Casella Estate Wines. This was to build a large new state of the art grape receival, wine making and bottling plant (12 million bottles a year of [Yellow-tail] wines) with most for export to the United States.

In the short term, there is a good case for the rehabilitation of branch lines. The alternative is to see more and more freight move by B-Doubles on lightly constructed roads. The fact that rail operations are no longer vertically integrated means that government may need to work harder to seek contributions from beneficiaries as well as provide funds to facilitate upgrades that will enhance Australia's export potential.

In the longer term, with "Twice the task" in freight movements, an East-West Route from Melbourne to Perth capable of allowing the movement of double stacked containers should be selected. There appear to be five options with various costs and benefits:

- a) Through the Adelaide Hills,
- b) Through Western Victoria and a bypass of Adelaide,
- c) Through Tocumal, Narrendera, Griffith, Hillston and Roto via Broken Hill,
- d) Through Albury, Griffiths etc. via Broken Hill, and
- e) Through Albury, Cootamundra, Parkes and Broken Hill.

The present AusLink corridor strategy goes some way to addressing the last three options. However, a combined examination of the five options may be warranted.

Attention is again invited to the February 2007 Final Report of the Senate Rural and Regional Affairs and Transport Committee Inquiry into Australia's future oil supply and alternative transport fuels.

This corridor is of interest because of its length, the harsh terrain traversed by the railway and road for much of the corridor, and the high modal share held by rail. This high modal share in part reflects Federal investment in the corridor since the 1960s including—the Kalgoorlie Perth gauge standardisation and new track in the 1960s and Australian National's concrete resleeper in South Australia (1978-95).

The specific inclusion of the Australian Rail Track Corporation or ARTC in assisting with the strategy is noted with appreciation. However, it is suggested that the ARTC should be involved at the same level as the WA state road authorities. In this regard, the foreword notes the "... *Strategy presented in this document is jointly owned by the Australian Government Department of Transport and Regional Services, South Australian Department for Transport, Energy and Infrastructure, Western Australian Department for Planning and Infrastructure and Main Roads Western Australia.*"

As in submissions from this writer re the Brisbane – Cairns and Sydney – Melbourne corridor strategies, it is suggested that the final strategy should address factors such as road and rail track pricing, external costs and oil vulnerability.

It is also suggested that it be noted that in some future time, a case may exist for increasing the axle loads of freight trains by relaying heavier rails. The potential use of 60 kg/m rail (as opposed to 47 kg/m rail) was noted in 1995 by the former National Transport Planning Taskforce's Commissioned Work (Vol. 1, Table 4.4, page 71) as a Competitive Goal 2 rail investment project.

In addition, improved separation of freight and passenger trains will be needed over time in Adelaide.

It is also suggested that consideration be given to an East-West Rail Corridor study with a view to improving the efficiency of rail operation between the East Coast of Australia and Perth. In the longer term, with "Twice the task" etc. an East-West Route from Melbourne to Perth capable of double stacked containers should be selected. There appear to be five options as above.