

## **Submission re Maldon to Dombarton Rail Link Feasibility Study**

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The present submission will draw on ongoing research conducted at the University of Wollongong. However, it does not necessarily reflect the views of the University.

The conducting of the feasibility study and recent release of the issues paper is appreciated. So also is the release of the prefeasibility study in July 2009.

To this writer, the contents of the prefeasibility study gives support to the completion of the Maldon Dombarton rail link, with a role for the operation of some passenger trains (e.g. peak hour Wollongong-Campbelltown- and possibly Parramatta).

During 2010 two significant events strengthened the case for completion of the Maldon Dombarton link. These are as follows:

A. Plans for further expansion of Port Kembla Outer Harbour as per a 2010 Environmental Assessment and submissions report. This noted, inter alia, capacity constraints on the existing Sydney-Wollongong railway and road constraints.

B. The growth of container movement through Port Kembla to over 1.9m TEU in 2009-10 suggesting that a planning cap of 3.2m TEU per annum will be reached this decade rather than the next.

A summary of a recent conference paper, with a listing of relevant factors, is given in Appendix A.

A concern is expressed about the terms of reference, only looking out to 2030. A 20 year time frame for a long term investment is unduly short and raises the question: if the time frame was say 30 years would there be a difference between the project proceeding or being indefinitely deferred?

In the same way, would inclusion of the benefits and costs of passenger trains make a difference? The least that could be done, and should be possible given the funds allocated to the study, is to briefly examine the potential train patronage if passenger train services were to be offered. These could be limited to weekday peak hour commuting services. Already there is a non trivial number of people living in Wollongong and working in Campbelltown. Plus living in or near Campbelltown, and travelling to work in the Wollongong region or attend the University of Wollongong. How many such people

is a good question, as would what would be the likely patronage if direct train services were offered.

It is understood that Wollongong City has about 19,000 residents who work in parts of Sydney. Of these about 4000 use trains to commute to Sydney. How many more would use trains rather than cars to commute if there were more trains on the existing line, and these trains were faster, is another question. More passenger trains would be facilitated by removal of most freight trains from the Illawarra line.

Attention is drawn to statements on page 4 of the **2006-2031 Illawarra Regional Strategy** of the Department of Planning as follows (emphasis added).

*"It is important that the Region's transport networks support economic growth and maximise the efficiency of freight transport. In particular, what is required are strategic transport corridors to support development of the port of Port Kembla, **increase the proportion of freight transported by rail**, efficiently link regional centres and towns, and support public transport."*

In addition, attention is drawn the 2006-07 draft Sydney Wollongong Corridor Strategy released by the federal Department of Transport and Regional Services (DOTARS 2007) as part of the former AusLink programme identified many issues relating to present and projected demands in moving people and freight between Sydney and Wollongong.

The strategy notes that the demands on the existing road and rail network will be compounded by the further development of Port Kembla and an expected growth in the number of people commuting between Wollongong and Sydney as well as between Wollongong and Campbelltown/Western Sydney. The projected *"rapid growth in corridor freight"* will also pose additional challenges.

The draft strategy found (DOTARS 2007, p13) that the Mount Ousley Road is already at capacity in the morning peak (AADT 34 500 in 2003 including about 5500 heavy vehicles).

As noted in the updated 2010 NSW Transport submission to Infrastructure Australia on page iv, it is desirable to plan for an energy constrained world. To quote: *"Cities and regions, due to their scale, are large consumers of scarce resources. They are at risk from peak oil and climate change..."*

In addition, the draft Integrated Freight Strategy for Queensland states (page 13) some 10 issues and challenges. These include energy security (expanded on page 41).

This issue, along with that of climate change, is considered as increasingly important. It is suggested that both issues be considered in more detail.

### **Comment re coal**

Firstly, a Maldon Dombarton line would give both Tahmoor and Western Coal an easier path to Port Kembla. There is a question as to which would be the better path for the odd train load of coal that comes from the Northern Coal Fields to Port Kembla, via Sydney or via a Maldon Dombarton link.

The issues paper on page 4 asks if a Maldon Dombarton line allow any mines now served by road to switch to rail transport ?

The two most obvious candidates are NRE. No 1 Mine Russell Vale that has foreshadowed expansion to 3 million tonnes per annum (mtpa), and from the Appin/Westcliff Colliery complex.

The road haulage of coal to Port Kembla has been contentious for at least 40 years, and has involved loss of life, including a reported 27 lives in a 9 year period to the mid 1980s, and as recently as 2008. More details are available on request. It is of note that the original consent granted in 1979 by Wollongong City Council for a coal loader at Port Kembla was for a maximum of 2 mtpa of road haulage. This limit was imposed in June 1979 with the consent of the NSW Government.

State Environmental Planning Policy 7 (SEPP 7) was gazetted in December 1982 by the then NSW Minister for Planning, and, that this occurred after the then new Port Kembla Coal loader had been officially opened on 22 November 1982, and in part because the 2 mtpa limit consent condition became untenable for various reasons.

During 2008-09 the Department of Planning processed a Major Projects application by the Port Kembla Coal Terminal (PKCT) to lift a long standing curfew on road deliveries by coal trucks to the PKCT and to lift already high levels of road haulage of coal of some 5.1 million tonne per annum (mtpa) of coal to the PKCT to a maximum of 10 mtpa (with additional conditions past 7.5 mtpa).

The application resulted in the NSW Department of Planning receiving 122 written objections. To quote from their Director-Generals Report (2009, p12), "The main grounds for objection included:

- noise, road safety and driver behaviour, dust and air pollution, impact on infrastructure and greenhouse gas emissions due to an increase in heavy traffic movements;

- choice of road transport in preference to provision of a rail link, in particular the completion of the Maldon-Dombarton rail line to transport coal more efficiently from the Western Coalfield; ...
- limited community consultation during the environmental assessment process."

The Director-General's assessment notes, inter alia, on page 16 that PKCT in response to submissions indicates *"that it is willing to ... consider any potential proposal for completion of the Maldon-Dombarton rail line..."* The question is will this apply to increased output from the Appin/Westcliff mine complex ?

The Bulli Seam Project proposal, currently before the NSW Dept of Planning Major as Projects Application 08-0150 includes: augmenting, upgrading and using the existing infrastructure at the Appin and West Cliff coal mines; extracting up to 10.5 million tonnes of run-of-mine coal a year from the Bulli coal seam for a period of 30 years ...; transporting product and run-of-mine coal from the site by road...

The Executive Summary for the Environmental Assessment "Bulli Seam Operations" has on page ES-18 a section on Road Transport. It does not mention either conveyors or completion of the Maldon Dombarton rail link. In a similar way Appendix K Road Transport Assessment does not mention Maldon Dombarton and conveyors are only noted in Figure 2, with rail given a brief mention for transport from Dendrobium coal mine to washery.

On Page 6 of Appendix K, it is noted that operations in 2007 resulted in the highest recent trucking movements (from the Appin Mine and Westcliff Colliery) was to PKCT (3.4 mtpa), Bluescope steelworks (1.9 mtpa), Corrimal/Coalcliff coke works (0.15 mtpa) and Dendrobium washery (0.4 mtpa). (This is a total of 5.85 mtpa)

Also noted on Page 6 of Appendix K is proposed coal transport levels, with trucking movements to PKCT (7.5 mtpa), Bluescope steelworks (4 mtpa) (merely noting as "would increase" above current levels (some understatement here, they would DOUBLE on these figures) whilst Corrimal/Coalcliff coke works (0.2 mtpa) and Dendrobium washery (up to 0.5 mtpa) are as noted, "marginally increasing", from current levels.

This is total of 12.1 mtpa. Although the road system is coping, under some stress, with about 6 mtpa on coal from the Appin Westcliff coal complex, 12 mtpa is likely to impose unacceptable impacts (see section below re Port Kembla expansion).

The NSW Planning and Assessment Commission in their Bulli Seams Operations PAC report dated July 2010 considers Roads and Traffic in Section 14 of this report. As

this report notes on page 352 and Table 35, in order to accommodate the planned increase in coal production, there would be a significant increase in daily truck movements, particularly to and from PKCT.

Page 353 makes the point that questions are raised “as to the public’s ability to understand the traffic impacts of the proposal.”

For many people, given the “very substantial and complex” nature of the project proposal (page i of the executive summary, including subsidence issues), the potential significant traffic and transport impacts of the proposal were not noticed at the time of exhibition.

The Panel in its report notices that a proper assessment of certain issues (road impacts, p353, intersection performance, p354 and road safety, p354) could not be made on the information then available. On page 355, some five issues were noted by the panel re road transport, and that these be resolved before “any increases in coal production being permitted.” Alternatives to road transport also need resolution.

### **Comment re cars**

On top of main roads with large numbers of coal trucks, Wollongong road users are now faced with further truck movements of car carriers. As of December 2010, as part of the consent given in 2006 by the NSW Minister for Planning, some 20 per cent of cars imported through Port Kembla are supposed to be moved by rail. To date, all car imports have been moved by truck.

Here it is of note that Port Botany has a target of 40 per cent of freight on rail but only about 20 per cent of freight actually moves to the port by rail. So more is needed than targets for rail freight.

Completion of Maldon Dombarton should allow many cars to be moved by rail from Port Kembla to car holding yards in South Western Sydney.

### **Comment re expansion of Port Kembla**

Proposals for further expansion of Port Kembla Harbour are currently before the NSW Dept of Planning Major as Projects Application 08-0150, and include a concept plan and proposed Stage 1 reclamation and operations.

The June 2010 Submissions Report includes comment by the NSW Roads and Traffic Authority that for even Stage 1 Port Kembla outer harbour traffic volumes (bulk, general and limited containers) if the predicted rail mode share could not be achieved,

there would be likely "... *unacceptable impacts to road safety and traffic efficiency as well as environmental issues such as amenity, noise and air quality.*"

The current proposal to expand Port Kembla Outer Harbour, as per the Environmental Assessment (on exhibition in Autumn 2010), puts too much reliance on the Unanderra Moss Vale line, to move by rail new bulk and bulk break cargo to and from Port Kembla. The reliance on the Unanderra Moss Vale line noted in both the Environmental Assessment Report, and defended in the Submissions Report, is due to the somewhat congested nature of the Sydney Wollongong Port Kembla line, which is already subject to extensive curfews on freight train movements.

Given the extra length involved in using the Unanderra Moss Vale line and its steep grades, those consigning bulk and non bulk freight are more likely to choose road freight. However, main roads such as the Picton Road, the Appin Road, the Mt Ousley Road and the F6 Road already have too many heavy trucks.

The remedy would be both completion of the Maldon Dombarton railway and a quota on the number of heavy trucks. This is with a view of turning the number for use of rail noted in the Environmental Assessment into reality as opposed to aspirational targets (such as for cars to Port Kembla).

### **Comment re containers**

The 2010 NSW Transport submission to Infrastructure Australia in the section Container freight improvement strategy) notes (p13) that by 2036, the population of Western Sydney is expected to be almost three million people, compared with the current 1.85 million people. The next page notes a very large 8.644m TEU by 2032-33. This number is far in excess of the current cap of 3.2m TEU per annum. Accommodation of 4m TEU per annum containers at Port Botany is likely to be very expensive; and includes the M5 East Expansion. A

Although the M5 East Expansion is favoured by the present NSW Government, its 2010 updated submission notes that this will cost \$4.5 billion. This estimate is quite possibly conservative. In any event, bringing forth completion of the construction of the Maldon Dombarton link would be about \$550 million (2009 estimate) and expansion of Port Kembla is likely to be much less costly than expansion of Port Botany, and construction of the M5 East.

Reservations, as expressed in March 2010 to the NSW Government, about construction of the M5 East are attached as Appendix B.

Port Botany is the major container port for New South Wales and currently has a 3.2m TEU per annum planning cap. This is likely to be reached this decade rather than next.

There would appear to be two main options.

EITHER the planning cap remains unaltered, or is slightly increased  
OR the planning cap is significantly increased.

It is understood that no NSW government announcement has been made that the planning cap will be lifted. Accordingly, this scenario should be modelled with the likely implication for development of a container port at either Newcastle or Port Kembla. Given the relative proximity of Port Kembla to the growth area of South Western Sydney, the scenario of keeping a cap of 3.2m TEU per annum at Port Botany with overflow to Port Kembla could be usefully modelled as part of the current Maldon Dombarton feasibility study.

The feasibility study could also usefully explore the likely cost of significant expansion of container movements by say 50 per cent to 4.8m TEU per annum. This would be likely to require not only major upgrading of the rail capacity of the rail line to Port Botany (which could usefully be costed) but also a major upgrade of the M5 East. Updated costings of both the rail and road upgrades to support expansion of Port Botany would be helpful.

### **External costs**

The issues paper notes that external costs will be considered and this is appreciated. The question is what values will be used, and will as well as emissions and noise (as per AusLink project assessment in the *National Guidelines for Transport System Management In Australia* released in 2004 (and updated in 2006) by the Australian Transport Council) and accidents, will the under-recovery of road system costs from articulated trucks hauling heavy loads over large aggregate distances each year be included.

Although the subject is open to debate, there is general agreement at the Federal and State level of government that the operation of B-Doubles hauling heavy loads and large aggregate annual distances are subsidised. Here, the Productivity Commission independently found in 2006 that the current methodology used by the National Transport Commission for determining charges is “conservative” by international standards (i.e.

resulting in lower charges) and that payments made by certain six axle articulated trucks do not meet NTC allocated costs. In addition, it is noted the ratio between New Zealand and Australian road user charges for a heavy 9 axle B-Double hauling long annual distances is about four to one, and, for heavily laden semitrailers hauling long annual distances, the ratio between the New Zealand user pays charges and the charges is about three to one. (2010 details can be given on request and comment is given in Appendix C).

External costs were also addressed in a 2001 Australian Rail Track Corporation Track Audit (by Booz Allen and Hamilton) which gave unit estimates for '*... noise pollution, air pollution, greenhouse gas emissions, congestion costs, accident costs, and incremental road damage costs*' for road and rail freight in both urban and non-urban areas. Their earlier estimate for incremental road damage (or wear and tear) costs was 0.64 cents per net tonne km.

Re external costs, in evaluating Maldon Dombarton, the feasibility study is requested to include a charge for under-recovery of road system costs. The above cited 2010 submission to IA also notes road crash costs formerly estimated by Booz Allan and Hamilton (for the 2001 Track Audit) as 0.40 cents per net tkm in 2010 values; it is suggested that this estimate is conservative with Appendix D noting a 2004 value of 0.60 cents per net tkm.

These unit estimates were revised as part of research at the University of Wollongong for Queensland Transport and the former Rail Cooperative Research Centre (CRC) as follows (in year 2000 values): 2.75 cents per ntkm for road haulage in urban areas, 1.98 for road haulage in non - urban areas, 0.43 for rail haulage in urban areas, and 0.17 for rail haulage in non - urban areas. More comment is given in Appendix D.

It can be seen that rail has significantly lower external costs for the movement of freight in general and coal in particular when track access charges include a capital component (as they do in Queensland and the Hunter Valley).

### **An overseas example**

The Port of Tauranga, situated on the East Coast of the North Island is now one of the largest ports of New Zealand. Along with bulk cargo, over 580,000 containers were moved through this Port during 2008. Of these, 170,000 were moved by rail to or from an inland port facility called MetroPort in South Auckland. MetroPort Auckland was opened in 1999, and has customs and quarantine facilities. The distance from Tauranga to

MetroPort Auckland is about 225km and currently about 22 rail shuttle services are provided each week.

Auckland remains New Zealand's largest container port, recently handling over 867,000 TEU per annum.

Tauranga is now a port of choice, and sometimes a North Island sole port for many overseas shipping lines. These include MSC, Maersk, NYK, MOL, OOCL, and Hamburg Sud. Cruise ships also call.

All of this would not have been possible except for the opening in 1978 of an upgraded Hamilton Tauranga railway. This included a new 24 km deviation with an 8.9 km tunnel. Within seven years, the Port of Tauranga was chosen ahead of Auckland Port by New Zealand Steel to service its export/import trade.

### **Connection with a future Wentworth route**

The Maldon - Dombarton link could also be tied in with a 36 km Menangle - Aylmerton rail deviation (known as the Wentworth Route) to improve freight and passenger train operations on the NSW Main South railway. Brief details of this route appear in the 2001 ARTC Track Audit, and benefits include transit time reduction and less use of diesel fuel and reduced track maintenance costs.

It is a good question as to whether there would be synergies in completing both the Maldon - Dombarton link and the Wentworth deviation, and there is scope for staged development of the Wentworth deviation. Please contact this writer for further details, including of possible connections near the proposed Wilton crossing loop for the Maldon - Dombarton link.

### **Conclusions**

The case of completing the Maldon Dombarton Rail link has grown stronger in recent years. Wollongong-Sydney rail and road links are sharing increasing congestion and have a high, if not excessive number, of heavy trucks. The cost of a major upgrade of the existing railway is likely to appreciably exceed the cost of completing the Maldon Dombarton rail link.

Upgrading the Mt Ousley road and other main highways linking Wollongong to Sydney and South West Sydney is also likely to be expensive.

As well, expanding Port Botany and upgrading the M5 is likely to be much more expensive than expanding Port Kembla and completing the Maldon Dombarton rail link.

## **APPENDIX A An Illawarra Macarthur rail link**

From a paper given by this writer to the Australasian Transport Research Forum 2010 Proceedings 29 September – 1 October 2010, Canberra, Australia

### **Conclusions**

With the constraints on the existing road and rail networks, the ongoing expansion of Port Kembla, and increased demand for passenger train services on the existing South Coast railway, the case for completion of the 35 km Maldon - Dombarton link is stronger than it was in 1988 when worked on it was suspended.

Given the positive findings in the pre-feasibility study, either the Federal or the NSW Government should move to acquire the complete corridor (most is already held) and commence additional environmental impact assessment to meet any new requirements introduced since the 1983 EIS was completed. The results of the full feasibility study will be awaited with interest.

The Maldon - Dombarton link could also be tied in with a 36 km Menangle - Aylmerton rail deviation to improve freight and passenger train operations on the NSW Main South railway. Corridor protection for this and other Main South rail deviations could well be expedited.

### **Recent factors include:**

A. Ongoing demand for electric train services from Sydney to Wollongong, with demand for more passenger trains leaving less paths for freight trains on the Illawarra Line. Current NSW Dept. of Planning projections indicate strong population growth for the Outer South Western Sydney statistical subdivision (239,600 to 362,400).

B. Increased rail congestion in Sydney, coupled with the extra costs of raiing coal via inner Sydney (with increased curfews on coal train movements each working day), and the steep Como bank needing 4 diesel electric locos for a 45 wagon train. Rail congestion is an ongoing issue in parts of Sydney.

C. The Maldon Dombarton link for some coal traffic would tie in with use of the 32 km ARTC South Sydney Freight Line from Sefton to Macarthur. This line is now due for completion in 2011.

D. Although coal tonnages have not met some earlier projections made up to 1992, and some mines have closed, there is potential for a Maldon Port Kembla railway to carry new freight and passenger traffic. This is opposed to increasing road haulage of coal on public roads.

During 2008-09 the NSW Department of Planning processed a Major Projects application by the Port Kembla Coal Terminal (PKCT) to lift a long standing curfew on road

deliveries by coal trucks to the PKCT and to lift already high levels of road haulage of coal of some 5.1 million tonne per annum (mtpa) of coal to the PKCT to a maximum of 10 mtpa. The application resulted in the NSW Department of Planning receiving 122 written objections.

E. The Port Kembla Port Corporation is currently seeking approval from the NSW Department of Planning (2010b) for a three stage development of the Outer Harbour of Port Kembla. The 2010 Environmental Assessment notes (Appendix I, p19.4) of the limitations of rail capacity on the existing main line to Sydney, and suggests rerouting freight trains with new cargo going into and out of Port Kembla via the Moss Vale Unanderra line. However, the Moss Vale Unanderra line has severe speed-weight restrictions.

The June 2010 Submissions Report includes comment by the NSW Roads and Traffic Authority that after consideration of the impact of Stage 1 Port Kembla outer harbour traffic volumes (bulk, general and limited containers) **if the predicted rail mode share could not be achieved, there would be likely "... unacceptable impacts to road safety and traffic efficiency as well as environmental issues such as amenity, noise and air quality."**

F. Port Botany is the main container port for New South Wales and during 2009-10 saw a total movement of containers amounting to 1.928 million Twenty Foot Equivalent Units (TEUs); also, the present planning consent places a maximum movement of 3.2 million TEUs per annum (Sydney Ports Corporation 2010). At a 6 per cent per annum growth rate, this cap would be reached in 2019. The NSW Government will need to decide whether to lift this cap (which may require extensive investment in expanding the M5 highway) or accommodating this growth at either Newcastle or Port Kembla.

G. The Australian government (2010) has made a commitment to develop a large (220 hectares) Intermodal terminal at Moorebank to handle container traffic from interstate rail freight and Port Botany, and subject to planning approvals, commence staged development in 2013. Completion of the Maldon Dombarton link would support the operations of the new terminal at Moorebank.

H. Failure to complete the Maldon Dombarton link will require over time additional capacity and other upgrades on the existing Sydney - Wollongong Railway. These are likely to prove expensive and could include a new Waterfall -Thirroul route with a long tunnel as promised in 1998 by the NSW Government in its Action for Transport 2010 statement, estimated in 2003 to cost about \$1.4billion  $\pm$  30 per cent. Two partial realignments of this winding track were noted at an indicative cost of \$779 million (best travel time savings) and \$600 million (best value).

I. A commitment has been made to release an Illawarra Transport Strategy by the end of 2010. Both strategies may address some of the above issues. In addition, longer term "oil vulnerability" does need addressing.

## APPENDIX B Edited Submission re the M5 (East) March 2010

This submission (to [m5expansion@rta.nsw.gov.au](mailto:m5expansion@rta.nsw.gov.au)) has drawn on research conducted at the University of Wollongong. However, it does not necessarily reflect the views of the University.

In background material, it is noted the M5 corridor is the main “freight, commercial and passenger” road with two sections (a 22km toll road and a 10km freeway), and that the road is congested with high numbers of heavy vehicles (road trucks). In addition, significant benefits (\$6 billion of travel time savings over 30 years) are claimed for its expansion (<http://buildingsydneyhighways.com.au/m5-corridor> “The motorway part of the solution”, and a three page “Fact Sheet” dated November 2009).

Transport options including more use of rail and/or rail expansion are listed, along with improving the existing road network (e.g. more grade separation), and a little bit about demand management. However, it is quite possible that a combination of all of the various (non new motorway) transport options could well be effective.

The costs of the preferred option involving freeway expansion are large - both in monetary terms and encouraging road vehicle use. A 21+ page “Overview” brochure gives estimate of the cost of the project at \$4.5 billion. This brochure has an introduction by the Minister for Transport who notes, inter alia, “*Tough decisions need to be made to deliver transport infrastructure projects that will provide the greatest NSW benefits.*”

This submission will call for tough decisions in transport policy but of a different nature to the preferred proposal.

It is submitted that the main proposal should be put on hold until improved road pricing has been introduced and rail infrastructure has been upgraded. By improved road pricing is meant full “user pays” and “polluter pays.” This should include congestion pricing in the Sydney CBD and near Sydney airport plus mean-distance pricing for heavier trucks. Both congestion pricing and distance based pricing were noted in the 2004 AusLink White Paper and by the Henry Tax Review. Progress to date on these fronts has been mainly limited to time of day tolls for the Sydney Harbour Crossing.

With regard to “*polluter pays*”, cars meet some external costs through payment of federal excise at 38.143 cents per litre. However, trucks gain a rebate of 16.443 cents per litre of diesel ([www.ato.gov.au](http://www.ato.gov.au)) and as of 1 July 2009 pay only a modest 21.7 cents per litre road user charge. As such, there is no offset to external costs.

### Freight

Appendix C includes notes on the under-recovery of road system costs for heavy trucks whilst Appendix D deals with external costs. Appendix E notes that health costs associated with air pollution from the operation of articulated trucks – are 19.0 cents per vehicle kilometre (year 2000 term) in Sydney (Laird 2005). This is about 25 cents per vehicle kilometre in 2009 terms ([rba.gov.au](http://rba.gov.au) indices - CPI (1.32)).

A further dimension is that the NSW Government has a target of getting 40 per cent of containers moved via Port Botany onto rail. Further details are given in a **Landside Improvement** section at: [www.sydneyports.com.au](http://www.sydneyports.com.au) which in part states (under Increasing the Role of Rail) *"A key element in port freight and logistics planning for metropolitan Sydney is maximising the use of rail. These volumes include export products from regional NSW, and port shuttle movements of exports and imports within metropolitan Sydney. With the NSW Government and Sydney Ports having the shared objective of achieving a 40 per cent mode share for containers transported into and out of Port Botany by rail. This offers industry an alternative system that has a higher level of efficiency, competitive usage costs and lower air and noise emissions."*

Under a subsection "Managing Road Transport Movements" it is noted *"Extensions to the motorway network have improved accessibility between Port Botany and key distribution and industrial areas across Sydney. However since this infrastructure is shared with commuter vehicles, heavy traffic volumes are inevitable during peak periods. An increase in the volume of freight will translate into an increase in the number of trucks using the road system. While the future number of port trucks on the road will continue to represent a low proportion (between 1 and 2 per cent) when compared to total traffic, it is important that this growth can be accommodated on existing infrastructure through better traffic and operational management."*

Data at this website shows container volumes (increasing from 1.37m TEU in 2005-06 to 1.54 m in 2008-09) and the percentage of containers moved by rail varying from 21 per cent in 2005-06 to some 22.9 per cent in 2008-09.

## **Recommendations**

In place of the preferred option, it is recommended that along with improved road pricing and rail infrastructure more attention be given to improving the existing road network and that this be funded by tolling. Tolling options include a toll on the M5 East (varying as to the time of day), a toll for trucks to access the Port Botany area, and a toll for any vehicle to access the airport.

Tolling should be accompanied by **measures to improve rail freight and passenger services**. This would include measures additional to those currently underway by the ARTC to improve rail freight operations, and a marked improvement in the Airport Rail Link passenger services.

In respect of the airport, which is a major traffic generator, improved rail services is one way forward. This could be done on either of two fronts: lowering fares as recommended by the Independent Public Inquiry - Long Term Public Transport Plan in its interim report released in February 2010 by the Sydney Morning Herald and/or a real improvement to the train services. In the short term, this could include provision of luggage friendly trains confined to the airport line and the City Loop.

It is also recommended that before any project approval is given, or funding from the federal or state government is made available, a study should be done on the cost to the wider community for not imposing a toll on the M5 East when it was opened in 2001. This study would include not only the foregone revenue to the NSW government, but also

quantify the additional traffic using the M5 East and its external costs. Attention is also needed to the amount of traffic the M5 East has induced to date.

In addition, a study is needed to provide clear estimates on how much traffic would be induced in the future on the M5 road corridor under the various scenarios.

It is also submitted that future studies need to assess future demand under various scenarios. These should include oil pricing at various levels (including the CSIRO \$8 per litre). In addition, the impact of port development at Newcastle and Port Kembla on Port Botany on the M5 road corridor should also be assessed.

### **A question of priorities**

Finally, the large cost of \$4.5 billion for the preferred option raises questions as to priorities – not only between roads and alternatives to roads, but various road works needing attention. These include the Princes Highway and the Picton Road, which for many years have seen significant traffic growth with only limited upgrading.

## **APPENDIX C      Re road pricing for heavy trucks**

i. From the website of the National Transport Commission (NTC) accessed 13 October 2008.

The NTC was directed by the Australian Transport Council (ATC) to update heavy vehicle charges after the Productivity Commission's *Road & Rail Freight Infrastructure Pricing Inquiry* (2007) concluded: "*Substantial increases in road investment in the past couple of years make it likely that heavy vehicle charges would have to rise to maintain cost recovery.*"

In April 2007, the Council of Australia Governments' (COAG) endorsed the charges review as the first 'building block' of broader road pricing reform.

*Why are large increases proposed for B-doubles?* Bigger trucks are currently cross-subsidised by smaller trucks. COAG's pricing principles require those cross-subsidies to be removed.

B-doubles have benefited significantly from higher road spending; particularly improved access around ports, urban arterials, grain silos, sale yards etc. The number of B-doubles has increased by 267% to 9,564 vehicles since 2000.

Governments have little incentive to further extend the B-double (and other high productivity vehicles) network if they don't pay their way. The Business Council of Australia's *Infrastructure Roadmap for Reform* (September 2007) recently concluded: "We need to ensure that high productivity (that is, larger and longer travelling) trucks are charged appropriately. Not only will this help road/rail neutrality, it will facilitate having B Doubles and B Triples on our roads." - (BCA 2007)

*Is the NTC calculation accurate?* "The Productivity Commission independently audited and endorsed NTC's charges methodology noting that it is "conservative" by

international standards (i.e. resulting in lower charges).”

ii. As noted by the 2006 Productivity Commission Road/rail freight infrastructure pricing report (on page 125), the recent annual subsidy paid for the operation of a 9 axle B - Doubles hauling the 75 th Percentile distance (227 500 km) is \$23,000. This was under National Transport Commission (NTC) charges and methodology, based on revenue of \$34,200 and an allocated cost of \$57,200.

iii. There appears to be three notable broad groups of estimates for road system costs attributable to heavy trucks<sup>1</sup>:

- **Conservative or NTC** - as per the National Road Transport Commission (NRTC) first and second determinations and the NTC third determination.
- **Intermediate** - including the former Inter-State Commission findings<sup>2</sup> during the 1980s, the 1990-91 Over-Archiving Group (OAG) recommendations and NSW permit fees for heavier semitrailers and all B Doubles in use to 30 June 1996.
- **High, or "user pays"** - including the Bureau of Transport and Communications Economics (BTCE) 1988 report<sup>3</sup> noted in the draft report of the Productivity Commission, McDonnell's methodology (NSW) (see for example<sup>4</sup>), and ongoing New Zealand Road User Charges.

When announcing the NRTC first generation charges in 1992, the chairman, the late Gordon Amadee, conceded they would not be “user pays” as this would not be tenable<sup>5</sup>. The costs to the NSW Government of implementing the then new NRTC charges (as of 1 July 1996) was over \$60 million per year and NSW annual permit and registration fees of \$12,650 a year in 1989 for an 8 axle B-Double were slashed to \$5500. With Consumer Price Indexation, the 1989 NSW B-Double fee would in 2007 be about \$20,775. This is more than two and a half times more than July 2008 NTC charge for an 8 axle B Double of \$8041.

Subsidies are one reason why the number of large B-Doubles has grown so rapidly in recent years, as noted in the draft report of the Productivity Commission - up from about 700 in 1997 to more than 6000 now. The difference between road system costs attributable to articulated trucks under the 2005 NTC model and using Macdonell's Methodology is approximately \$1.5 billion per year.

iv.. New Zealand has had in successful use, since 1978, a system of mass-distance pricing for heavy trucks. These charges for the heavier articulated trucks hauling long distances are appreciably higher levels than the combined annual registration charges and

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<sup>1</sup> *Road pricing in Australia – too much or too little*, P Laird, Australian Road Summit, February 2007

<sup>2</sup> Inter-State Commission (1986) Cost recovery arrangements for interstate transport, to (1990) Road use charges and vehicle registration: a national scheme Canberra

<sup>3</sup> BTCE (1988) *Review of road cost recovery*, Canberra

<sup>4</sup> Laird PG *Freight transport cost recovery in Australia*, Australasian Transport Research Forum, Gold Coast

<sup>5</sup> Sydney Morning Herald April 13, 1992 “Recession puts truck plan off road.”

fuel road user charges that apply in Australia. These were recently increased in July 2008, and for a 9 axle B-Double operating at 62.5 tonnes Gross Vehicle Mass with 22.5 tonnes on the prime mover and 20 tonnes on each of triaxle trailers would amount to \$NZ942 per 1000 km (taking the prime mover at the average of charges of \$452.03 for 22 tonnes and 523.33 for 23 tonnes plus \$227.19 for each trailer to 20 tonnes).

From the above 2006 Productivity Commission report, a 9 axle B - Double hauling the 75 th Percentile distance of 227 500 km) in a year would pay \$34,200 and have, under the NTC's 'conservative' methodology, an allocated cost of \$57,200. Yet, the same B-Double in New Zealand would pay \$NZ214,305 in road user charges. Even allowing for currency conversion, GST, the New Zealand charges being current, and the NTC ones being c2005, there is a large difference. The ratio between New Zealand and Australian road user charges for a heavy 9 axle B-Double hauling long annual distances is at least four to one. For heavily laden semitrailers hauling long annual distances, the ratio between the New Zealand user pays charges and the recent NTC charges are about three to one.

## **APPENDIX D Land Freight External Costs**

Executive Summary of an Australasian Transport Research Forum Paper *Revised Land Freight External Costs in Australia* Sydney September 2005 Philip Laird, University of Wollongong

This paper outlines some estimates of external costs of land freight transport published in Australia since 1990. The earlier reports include those of the former Inter-State Commission, the National Transport Planning Taskforce, the Victorian Environment Protection Authority and the Bureau of Transport and Regional Economics with its 1999 report *Competitive Neutrality between road and rail*.

With the increasing land freight task and projections for future growth, estimates of external land transport costs have been of increasing interest to government. Recent examples include Queensland Transport, the Victorian Department of Infrastructure, the NSW Department of Transport study of grain transport options, the Australian Transport Council's 2004 *National Guidelines for Transport System Management*, and, the 2003 Austroads report *Valuing Environmental and Other Externalities*. A New Zealand Ministry of Transport *Surface Transport Cost and Charges* study released in 2005 is also of note.

The paper gives particular attention to six external costs of road and rail freight operations in both metro and non-urban areas identified for the Australian Rail Track Corporation's 2001 Track Audit. These external costs are accidents, air pollution, noise pollution, greenhouse gas emissions, congestion, and incremental road damage. The results of two studies conducted for Queensland Transport in 2001 and 2004 that provided updated estimates for each of the Track Audit externalities are discussed. The revised estimates of unit costs include:

1. Australia wide accident costs of 0.6 cents per net tonne kilometre (ntkm) for road freight moved by articulated trucks and 0.03 cents per ntkm for rail freight.

2. An average cost of air pollution in capital cities of 0.65 cents per ntkm for freight moved by articulated trucks and 0.22 cents per ntkm for rail freight moved by diesel electric locomotives. These estimates are based on PM10 emissions as discussed in two BTRE reports *Health Impacts of transport emissions in Australia: Economic costs* (2005) and *Urban pollutant emissions from motor vehicles: Australian trends to 2020* (2003).
3. Noise in capital cities - 0.22 cents per ntkm for road, 0.12 cents per ntkm for rail.
4. A greenhouse gas cost (based on \$25 per tonne of carbon dioxide) of 0.18 cents per ntkm for road freight moved by articulated trucks and 0.06 cents per ntkm for rail freight.
5. Road congestion (metro only) 0.10 cents per ntkm for road. -
6. Pending the third determination of road user charges for heavy vehicles of the National Transport Commission, under-recovery of road system costs from articulated trucks at 1.0 cents per ntkm.

**Table 1 Recommended revised Australian land freight externality costs**

<b>Externality Measure</b>	<b>Road (c/ntk)</b>	<b>Rail (c/ntk)</b>
Accident Costs	0.60	0.03
Air pollution		
- Metro	0.65	0.22
- Rural	0.13	0.04
Noise pollution		
- Metro	0.22	0.12
- Rural	0.07	0.044
Greenhouse gases	0.18	0.06
Congestion (Metro only)	0.10	-
Increased road maintenance	1.00	
<b>TOTALS</b>		
<b>Metro</b>	<b>2.75</b>	<b>0.43</b>
<b>Rural</b>	<b>1.98</b>	<b>0.17</b>

Reference: As per text. Note that road maintenance costs for roads of light construction are higher, also that any rail track subsidies may need to be taken into account.

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It may be noted that, excluding unrecovered road system costs, the metro articulated truck road external cost of about 1.75 cents per net tonne km is less than half the approximate value cited in the above Austroads report of some 4 cents per net tonne km.

Lower unit costs are given for air pollution and noise for road and rail haulage in non-urban areas.

Even if the users of land freight transport are not required to meet their full external costs, such costs should be fully accounted for when major infrastructure investment decisions are being made. Based on the information in this report, the values in Table 1 are recommended.

It is also of note that road vehicle operators using petrol pay an appropriate de facto externalities charge through fuel excise without rebates, and the assigned average health costs from car use (1.3 cents per km) in the state capital cities equates to about 12 cents per litre of petrol used.

However, following introduction of the New Tax System in 2000, the operators of heavy vehicles were granted conditional rebates for the use of diesel, which have since been further extended to effectively require no payment of external costs (cf about 20 cents per litre prior to 2000).

**APPENDIX E** Edited excerpts from the above cited 2005 ATRF paper *Revised Land Freight External Costs in Australia*

### **3.1.1 Articulated truck movements in urban areas**

With these and other caveats, broad estimates are made for the costs of air pollution from articulated truck movements in urban areas. This will be from drawing on two reports of the BTRE (2005, 2003)<sup>6</sup>. The BTRE (2005) Working paper updates BTRE (*The economic consequences of the health effects of transport emissions in Australian capital cities*, paper by J Amoaka et al to the ATRF, Wellington) with the later paper giving a mid-range estimate of the annual health related costs from air pollution from motor vehicles in Australia's capital cities which was \$2.33 billion for the year 2000. This comprises \$1596 million from the estimated cost of mortality (premature death as a result of air pollution), and \$735 million for morbidity (quality of life and/or productive capacity of victims impaired or reduced as a result of air pollution; ...

Following Kunzli et al (2000)<sup>7</sup>, the BTRE (2003b and 2005) approach in part attributes air pollution costs to PM10 (particulate matter of size less than 10 microns) levels. The BTRE (2003c, Tables 3.9 and 3.116) report notes that the aggregate PM10 emissions from articulated trucks for Australian state capital cities in 2000 was 865 tonnes, and for all vehicles was 13,380 tonnes. This suggests that the health costs from air pollution on a PM10 basis due to the operation of articulated trucks in capital cities of \$146.6 million. With articulated trucks hauling 996 million km during 2000 in Australia's state capital

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<sup>6</sup> (2005) *Health Impacts of transport emissions in Australia: Economic costs WP 63* and (2003) *Urban pollutant emissions from motor vehicles: Australian trends to 2020*

<sup>7</sup> Kunzli N Kaiser R and Medina S (2000) Public health impact of outdoor and traffic related air pollution: a European assessment, **Lancet** Vol 356, Sept 2 2000.

cities and having an average load of 22.62 tonnes (see Appendix CA), a unit cost of 0.65 cents per net tonne km results.

It would be possible for articulated truck metro air pollution costs to be allocated on a fuel use basis. However, the use of the values based on PM10 emissions is recommended. As well, as intercity truck loads and bulk haulage loads are generally above average tonnages, metro truck loads are below average. For these two reasons, the estimates in health costs based on fuel use and cited above in cents per net tonne km will be conservative.

We note also that the above \$147m estimate is appreciably lower than the BIC annual estimate of \$342m, also the Australian Transport Council (2005 Volume 2 Appendix 2) Default Externality Values include air pollution at 0.87 cents per net tonne km in urban areas as against the above 0.65 cents per net tonne km.

### **Metro vehicle use and health costs - PM 10 basis**

This Appendix gives Bureau of Transport and Regional Economics (BTRE, 2003) estimates of vehicle use and PM 10 emissions for the year 2000 in Australia's metro areas from various classes of motor vehicles (cars, Light Commercial Vehicles (LCVs), rigid trucks, articulated trucks, buses and Motorcycles (MCs)) for each capital city. These are summarised in Table A.1. The BTRE (2003) estimates of health costs air pollution costs are given in Table A.2 along with estimates of PM 10 emissions.

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**Table A.1**      **Estimates of metro vehicle kilometres**  
billion vehicle kilometers in the year 2000

City	Cars	LCVs	Rigid Trucks	Artic. Trucks	Buses	MCs	Total
<b>Sydney</b>	<b>28.93</b>	<b>5.73</b>	<b>1.38</b>	<b>0.326</b>	<b>0.250</b>	<b>0.27</b>	<b>36.89</b>
Melbourne	28.09	3.56	1.04	0.293	0.177	0.17	33.33
Brisbane	11.29	2.28	0.47	0.141	0.122	0.17	14.47
Adelaide	8.21	1.16	0.23	0.078	0.077	0.06	9.84
Perth	9.97	2.2	0.41	0.143	0.097	0.07	12.81
Hobart	1.39	0.22	0.08	0.015	0.021	0.01	1.74
Darwin	0.55	0.2	0.05	0.014	0.018	0.01	0.85
Canberra	2.82	0.52	0.06	0.006	0.026	0.03	3.2
All Capitals	91.24	15.88	3.73	1.016	0.788	0.79	113.4

Reference: BTRE (2003c) Tables 1.36 to 1.41 inclusive. LCV = Light commercial vehicle

The data in Table A.3 is found by apportioning the health costs on the basis of PM 10 emissions in each State capital city for each class of vehicle in Table A.2 and then dividing by the relevant estimate of vehicle kilometres in Table 1. It is of note that the assigned average cost of health costs from car use in the state capital cities is 1.3 cents per kilometre. At an average fuel use of 11.3 litres of petrol per 100 km in the year 2000 (ABS, 2003), this equates to an external cost equivalent to about 12 cents per litre of petrol.

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**Table A.2 Estimates of health costs and metro PM10 emissions**

City	Health costs (\$m)	Thousands of tonnes of PM10 in the year 2000					
		Cars	LCVs	Rigid Trucks	Artic. Trucks	Buses	TOTAL
<b>Sydney</b>	<b>1036</b>	<b>2.135</b>	<b>0.888</b>	<b>1.048</b>	<b>0.277</b>	<b>0.275</b>	<b>4.64</b>
Melbourne	658	2.078	0.553	0.823	0.249	0.194	3.91
Brisbane	295	0.826	0.349	0.367	0.12	0.134	1.81
Adelaide	162	0.617	0.182	0.191	0.072	0.084	1.15
Perth	153	0.74	0.343	0.314	0.134	0.107	1.64
Hobart	11	0.1	0.033	0.061	0.013	0.022	0.23
Darwin	7	0.039	0.031	0.034	0.013	0.02	0.14
Canberra	8	0.201	0.083	0.046	0.005	0.029	0.36
All Capital Cities	2330	6.737	2.462	2.885	0.883	0.865	13.88

Reference: BTRE (2005) Table 6.10 for health costs, and for PM10 emissions BTRE (2003c) Tables 3.9, 3.53, 3.75, 3.97, 3.116 and 3.136

**Table A.3 Estimates of health costs from metro fuel use apportioned by PM 10 emissions**

City	cents per vkm in the year 2000				
	Cars	LCVs	Rigid Trucks	Artic. Trucks	Buses
<b>Sydney</b>	<b>1.6</b>	<b>3.5</b>	<b>17.0</b>	<b>19.0</b>	<b>24.6</b>
Melbourne	1.2	2.6	13.3	14.3	18.4
Brisbane	1.2	2.5	12.7	13.9	18.0
Adelaide	1.1	2.2	11.7	13.0	15.4
Perth	0.7	1.5	7.1	8.7	10.3
Hobart	0.3	0.7	3.6	4.1	5.3
Average of State Capital Cities	1.3	2.7	13.6	14.7	18.7

Reference: Using Tables A.1 and A.2

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