

Submission re Manildra - Port Kembla Bulk Liquid Terminal

Philip Laird, University of Wollongong, August 2022

This short submission is based on research conducted at the University of Wollongong. However, the views are the responsibility of the writer.

It is of concern that the proponent plans to use road transport rather than rail transport, for the delivery of 200,000,000 litres or more of ethanol per annum from Bomaderry to Port Kembla.

The use of road transport is considered to be in need of review by the proponent and the NSW Government should require Manildra to give further consideration to the use of rail between Bomaderry and Port Kembla. Indeed, given the concerns expressed in response to a 2021 proposal, it is odd why the proponent was not required by the NSW Government to address the costs and benefits of using rail transport.

The EIS for the proposal estimates that the development would result in the shipping of up to 200ML or 157,860 Tonnes of ethanol per year via the pipeline running to the Berth. Elsewhere in a Greenhouse Gas assessment estimates that Scope 3 emissions from the road transport of ethanol to the site are to be CO₂-e per year of operation.

The Transport Impact Statement suggests that there will be, each year, to 250 ML of ethanol road hauled to Port Kembla, a distance of 70 km, using trucks carrying 74,000 litres of ethanol. This is some 58 tonnes, implying the use of A Doubles rather than B Doubles.

Just what is the quantity to be moved should be clarified. Plus what type of trucks (if trucks have to be used) will be used.

It is noted that the total storage capacity of the proposed premises is 24ML or 18,943 tonnes.

This berth is adjacent to a rail line. The EIS states, *“The use of the rail network for the transport of ethanol was not achievable for the proponent due to the limited availability and accessibility of rail infrastructure between Bomaderry and Port Kembla to account for the expected ethanol shipping requirements.”*

This should be queried by NSW Planning, and further advice should be sought from TfNSW, who appear, in their advice to inform the SEARS, appear to accept that road transport is to be used but do not rule out rail (see below).

It is of note that in July 2022, TfNSW announced that the NSW Government had just completed \$40 million rail upgrade to 13 kilometres of track on the South Coast Line to a 25-tonne axle loading between Berry to Bomaderry and the tunnels between Kiama and Berry (see <https://www.transport.nsw.gov.au/news-and-events/media-releases/40-million-rail-upgrade-south-coast-line-complete>).

Here, the Minister for Regional Transport and Roads, the Hon Sam Farraway MLC said the upgrade will play a significant role in ensuring more freight can be transported by rail in NSW

“Rail freight is the most sustainable and cost-effective way to transport large quantities over long distances - one 600-metre-long train can carry the equivalent load of more than 54 trucks and enough wheat to make more than 250,000 loaves of bread.”

This Media Statement of July 2022, which is quoted in the August 2022 edition of Railway Digest, also cites a spokesman for Manildra as follows:

“The track upgrade to 25-tonne axle loading between Berry to Bomaderry and the tunnels between Kiama and Berry allows our company to operate heavier and longer rail services through the network,” Manildra Group National Transport and Logistics Manager Mark Ownes said.

“This ultimately means we can meet both our current and future growth targets for both inbound raw materials to our Bomaderry facility and for our export freight to the Port of Botany to meet the export market, which benefits both regional employment and the NSW trade and economy.”

Why not then use the upgraded line for the export of ethanol to Port Kembla?

As before, the Department of Planning should require Manildra to address this question. This would be in accord with the current 2006-2031 Illawarra Regional Strategy of the NSW Department of Planning goal that states: *"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."*

A. A case for rail

Firstly, road safety. In general, as noted by the Independent Pricing and Regulatory Tribunal (IPART) of New South Wales in its 2012 *Review of Access Pricing for the NSW Grain Line Network* the accident cost of road freight are some 0.60 cents per net tonne kilometre (cents per ntkm) for road freight as against 0.03 cents per ntkm for rail freight. This is a ratio of 20 to one.

Secondly, on average, rail freight has one third of the emissions than does road freight. Given the strong commitment of the NSW Government to reduction of emissions, at the very least, the proponent could be asked to address the fuel use, and emissions produced by each mode of transport.

Accepting the consultants estimate that the use of trucks to haul ethanol to Port Kembla will produce 953 tonnes of CO₂-e each year, and the one to three ratio as above, if the ethanol was to move by rail, there would be a reduction in CO₂-2 emissions of 635 tonnes per year.

In Australia, road user charges for heavy trucks based on annual registration fees and discounted fuel excise are arguably too low for the heavier trucks hauling large distances each year. If one accepts that the long standing New Zealand mass distance charges for heavy trucks are user pays, then the annual hidden subsidy to the operations of six axle articulated trucks and B Doubles in Australia amounts to over \$2 billion per year. This works out to a hidden subsidy of about one cent per net tonne kilometre.

This estimate could well be conservative. An estimate of 3 cents per net tonne km for under-recovery of road system costs from heavy truck operations was accepted in a series of decisions in the New South Wales Land and Environment Court (Justice Stein, 1989, Transcript of Judgement re Baulkam Hills Shire Council and another party). This Court has upheld in a number of cases the right of Local Government Councils under the New South Wales Environmental Protection and Assessment Act, 1979 to impose additional road use

charges on heavy truck haulage as a condition of development consent where road haulage is involved.

Further comment is given in a 1990 Report of the Wollongong City Council Coal Transportation Task Force. This report noted, inter alia, that the NSW Roads and Traffic Authority had then suggested that an average external cost of pavement wear and tear due to bulk haulage is 3 cents per net tonne kilometre.

The above cited IPART report gives average values for external costs for road and rail freight in both urban and non-urban areas. These included estimates with an allowance for unrecovered road system costs from trucks (of 1 cent per net tonne km), accident costs, air pollution, noise, emissions and road congestion, in cents per net tonne kilometre (tkm), as follows. [CPI adjusted to late 2021]

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| 2.75 cents per ntkm for road haulage in urban areas | [3.34 cents per ntkm] |
| 1.98 cents per ntkm for road haulage in non - urban areas, | [2.41 cents per ntkm] |
| 0.43 cents per ntkm for rail haulage in urban areas, and, | [0.52 cents per ntkm] |
| 0.17 cents per ntkm for rail haulage in non - urban areas. | [0.21 cents per ntkm] |

These 2012 IPART costs have likely increased more than CPI. The CPI increase is as per the RBA site.

Using these estimates, assuming a 70 km haul and say 30 km of haulage in urban areas (so 40 km in non urban areas) the external cost for haulage by road is about \$1.97 per tonne. The external costs by rail is about \$0.24. This is a ratio of about eight to one.

The estimated additional external costs for the movement of 157,860 Tonnes of ethanol per year for using road freight rather than rail freight, is about \$272,650 per annum. Why should taxpayers and the wider community have to pick up this?

B. Is rail feasible for this freight task?

Yes. The Manildra plant at Bomaderry is directly connected to rail, and as noted in the EIS, the proposed site for the ethanol facility at Port Kembla is adjacent to a railway line.

Here, it is important that in construction of this facility that a condition of consent be imposed that rail freight should be capable of use, if not initially, then at least not precluded at a later date.

The South Coast line, south of Unanderra has ample capacity, which has recently been upgraded, at taxpayer expense. There are plenty of precedents for rail haulage of different types of bulk liquids.

By way of example, to quote from the Association of American Railroads (at <https://www.aar.org/article/freight-rail-ethanol>) Because of its alcohol content, ethanol cannot move in oil pipelines, making railroads the chief mode of transport for this commodity. Today, railroads account for 60 to 70% of ethanol movement. Each of the seven U.S. Class I railroads transport ethanol, with some serving several dozen plants. An estimated 15 to 20% of ethanol rail movements originate on short line and regional railroads — not surprising, given the rural nature of many short lines and much of America's ethanol production.

See also the accompanying fact sheet. Note US/Canada standard wagons for liquids when loaded have an axle load exceeding 25 tonnes, a smaller one has a capacity of about 63,000 litres with an axle loading of about 23.2 tonnes.

If a Bomaderry – Port Kembla train used such wagons, say 30 in a (short) train, it would be capable of carrying 1.89 million litres of ethanol. This could easily be stored in the proposed facility. If the facility at Port Kembla is working at 200 million litres per year, this corresponds to about 106 trains per year; or roughly two loaded trains per week.

It is of note that milk was for many years conveyed by rail from the South Coast to Sydney, and milk has been conveyed by rail, and continues to be moved by rail, in New Zealand.

It may be argued that 70 km is too short for a viable rail freight operation. However, there are many shorter hauls in Australia. For example, coal haulage from Metropolitan Mine at Helensburgh to the inner harbour at Port Kembla is about 40 km. This is facilitated by 'push pull' operation with a locomotive at each end of the rake of wagons.

Even shorter hauls are the container shuttles between each of Enfield and Cooks River to Port Botany. Further information is given by the Bureau of Infrastructure, Transport and Regional Economics in their 2016 report *Why short-haul intermodal rail services succeed*.

The letter dated 21 December 2021 from TfNSW to the Department of Planning, Industry and Environment re SEARS requirements is noted. It briefly mentions rail as follows.

"TfNSW has completed a review of the information provided (report from TFA Project Group dated 3 December 2021, Rev C) while focussing on the impact to the state road network, rail corridors and waterways. This has included consultation with Sydney Trains and NSW Maritime. "

An attachment notes, inter alia,

7. *Consultation*: TfNSW encourages further consultation, if required, during the preparation of the EIS to discuss issues/impacts on state classified roads (i.e. development.south@transport.nsw.gov.au) and/or rail corridors (please see to additional comments below).
9. *Sydney Trains*: Sydney Trains have reviewed the submitted documents and raise no concerns. Sydney Trains requests to be consulted as a separate agency prior to lodgement of the EIS and when the EIS is formally exhibited (i.e. DA_sydneytrains@transport.nsw.gov.au).

At no place in this letter is support given to the proposition that the South Coast line south of Port Kembla does not have adequate capacity to take ethanol trains between Bomaderry and Port Kembla.

It is of note that each of Victoria and Western Australia have a Mode Shift Incentive Scheme (MSIS) to help get more freight on rail and less loads on roads; also, NSW used to provide a modest payment to keep bulk oil on rail. There is scope for a MSIS in NSW.

C. Is the use of A Doubles a good idea ?

It depends who you ask. Claims are often made that the use of such trucks will mean fewer trucks, but then, fewer trucks could be achieved by use of rail. These are very large trucks, up to 35 metres in length, that are appreciably longer than B-Doubles at 23 metres, and semitrailers at 19 metres. A photo of an 'A-double' truck on the streets of Melbourne follows.



The use of such trucks may be problematic on various sections of the main road network between Bomaderry and Port Kembla. Such sections include the Kiama Bends on the Princes Highway, and where the Princes Highway connects with Five Island Road, along Five Islands Road and Old Port Road and the road to the proposed Manildra facility at Port Kembla.

Even along straight dual carriageway sections of the Princes Highway, there is the potential for road crashes involving A Doubles and cars. The question is raised, has there been any trials of the use of A Doubles on the Princes Highway south of Wollongong ?

As noted above, the use of road transport has significant external costs. These include unrecovered road system costs, road crash risk, noise, air pollution, emissions and road congestion.

D. Conclusions

Road transport is an option. However, given the recent upgrade of the South Coast line south of Kiama, the rail link to Manildra's facility at Bomaderry, and the rail tracks near the proposed methanol facility at Port Kembla, the use of rail should be given further consideration.

Further factors favouring the use of rail are an improvement in road safety, the high external costs of road freight, and the reduction in emissions resulting from the use of rail, as opposed to road.

If, however, road transport is to be used, strict conditions should be imposed such as those sought by Wollongong City Council's Neighbourhood Forum 5 and 7.

These include designated routes, hours of operation, payment of a levy on the proponent for Council and State Road upgrades and repairs, and Manildra to undertake and transparently publish the results of traffic surveys at regular intervals with a view to confirming the traffic projections provided in the application.

There is also a case for all trucks accessing Ports located near urban areas, including Port Kembla, to be required to meet the current emission standards that are standard in Europe (Euro-VI Stage-C).