

Brief comment National Transport Commission 2021, Heavy vehicle charges determination: consultation regulation impact statement

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It is noted that the document has some 24 questions. Time and resources do not permit a response to each question. In place some general comment is offered. Overall, the continued use of parameters including vehicle kilometres, weighted vehicle kilometres, passenger car equivalents and equivalent standard axles (revised as suggested in the report to reflect increasing weights) is supported. However, it is submitted that the current system of road pricing for heavy vehicles in Australia, and the process for determining and approving these charges, are both in need of major reform.

Other areas of road pricing are also in need of reform (as per Appendix A).

The current system for road pricing was put in place in 1992 when it was found wanting by the Industry (now Productivity) Commission in its 1991-92 Annual Report, p197-198): ***"The result is that some vehicles - the heaviest travelling long annual distances - will meet less than 20 per cent of their attributed costs.*** [emphasis added] *... Differences between the recommended charges and road related costs are greatest for vehicles competing with rail. The charges, as recommended, will therefore potentially distort the long-haul freight market as rail reforms take effect...."*

On the other hand, there are claims that the NTC charges as approved by Ministers, amount, in most years (but not all years) to full cost recovery

The process used for determining and approving these charges has problems. These were brought to light c2005 when Ministers declined to implement a benign determination of the NTC in the face of industry pressure (as noted by the Australian Financial Review). It is submitted that the long standing NTC determined charges, coupled with ongoing relaxation of mass and dimension limits, has distorted the long haul land freight market and, that these charges do not assist coastal shipping.

In 2006, the Productivity Commission in its report *Road and Rail Freight Infrastructure Pricing* found the NTC methodology for allocation of road system costs to heavy trucks as "conservative".

The 2015 Competition Policy Review (Harper et al.) noted, inter alia, "... roads are the least reformed of all infrastructure sectors, with institutional arrangements around funding and provision remaining much the same as they were 20 years ago.

"More effective institutional arrangements are needed to promote efficient investment in and usage of roads, and to put road transport on a similar footing with other infrastructure sectors. Lack of proper road pricing leads to inefficient road investment and distorts choices between transport modes, particularly between road and rail freight.

"The advent of new technology presents opportunities to improve the efficiency of road transport in ways that were unattainable two decades ago. Road user charges linked to road construction, maintenance and safety should make road investment decisions more responsive to the needs and preferences of road users. As in other network sectors, where pricing is introduced, it should be overseen by an independent regulator."

These findings now need revisiting. Instead of reform, Australia froze road user charges for heavy trucks from about 2015 to 2021. The cost base for 2021–22 heavy

vehicle charges was \$3,817.2 million compared to estimate revenue 22 at current charges (in 2020–21) of \$3,365.2 million [that is **a short fall of \$452m**].

In addition, since 2015 there has been further relaxation of mass and dimension limits. The very least that could be done, when such concessions are approved by the authorities, is that mass distance pricing at a full road cost recovery level could be a pre-condition, with the additional revenue going to maintain and upgrade roads.

Put another way, the productivity gains should be shared with Local Government and the road agencies.

Comment from a 1997 paper

Cost recovery from land freight transport is an old topic in Australia. To quote from a 1997 Australasian Transport Research Forum paper *Land freight subsidies in Australia*, P Laird and F Lander, in 1972 (nearly 50 years ago), the report of a Board of Inquiry of the Victorian Land Transport System was released. Speaking to this report at a meeting of the Institution of Engineers, Australia, on 17 May 1972, the Chairman, Sir Henry Bland observed that it did not require an Inquiry to find that the Railways did not pay their way, and, ***that the position on the road side was worse.***

Here, the road related charges paid by the road freight industry in Victoria for 1969-70 were estimated at \$14 million for trucks with load capacity exceeding 4 tonnes, whilst road construction and maintenance costs attributed to these trucks was \$56 million. As the Board saw it, neither road nor rail freight met its true costs so that Victoria was “*getting its transport on the cheap*”; also, a condition for a truly competitive environment was for both modes to bear their real costs.

Subsequent Government studies looking at both road and rail have also found subsidies to road and rail freight. At a State level, the NSW Commission of Enquiry into the NSW Road Freight Industry (McDonell, 1980) found, in addition to severe data limitations, for 1977-78, a qualified rail freight deficit of \$144.5 million; and, on one data set (Economics of Road Vehicle Use) articulated trucks and rigid trucks exceeding 4.1 tonnes carrying capacity had an attributed road system cost of \$220.5 million and road related revenues were estimated at \$141.2 million; a shortfall of nearly \$80 million.

At a national level the Bureau of Transport Economics in 1977 undertook a study of all transport modes using 1974-75 data. In the summary of results, as noted by the Commonwealth Department of Transport (1980) overall freight transport deficits were reported of \$353.2 million for urban road, \$217.2 million for rural roads, and \$229.2 million for non-urban rail, with cost recovery levels of 79%, 80% and 67% respectively.

As part of its terms of reference, the 1984 National Road Freight Industry Inquiry examined rail freight deficits and road cost recovery. In brief the Inquiry found a declared rail freight deficit of \$334 million in 1981-82 for a freight task of 37.3 billion tonne km (with revenue \$1432 million) giving an *average deficit rate of 0.9 cents per net tonne km*; (with additional capital expenditure for freight of \$400 million), and for road (p266) that “*the implied average deficit rate on road cost recovery from articulated freight vehicles is nearly 0.6 cents per tonne-km*” (noting road costs were more than fully recovered from all vehicles).

The work of the Inter-State Commission 1986, 1987, 1990) also included studies of cost recovery from interstate land freight. The work here showed that there were

interstate rail freight losses, and, that the heavier articulated trucks hauling long distances were making less than adequate contributions to road system costs.

This paper observed, in part, National Association of Australian State Road Authorities (1985) *Review of Road Vehicle Limits*, analysis that found that some freight could be lost from rail as a result of allowing heavy vehicles to increase their load limits, with the introduction of Option C limits possibly costing rail some three million tonnes a year. The widespread introduction of B-Doubles were noted by NAASRA (1985) as having the potential to cost rail another three million tonnes a year of freight.

The 1997 paper concluded in part that “Rail freight deficits in Australia have been showing a general downward trend during the 1990s. This is at a time the rail freight task is showing modest growth and its efficiency is increasing. However, despite the ongoing increases in fuel excise, the road freight industry is showing both strong growth and under-recovery from road system costs for the heavier long distance articulated trucks. ... Clearly road freight in Australia is currently being supported by the private motorist. In contrast, freight train operations are generally required to cover all infrastructure costs with minimal contribution from passenger operations.”

Further comment

Sir Henry Bland observed in the early 1970s that Victoria was “*getting its transport on the cheap*”; today, rail reform has meant that rail freight is now covering most of its costs, **whilst Australia is getting its road freight on the cheap**. The hidden subsidies extend beyond under-recovery of road system costs to include many truck drivers working unreasonably long hours.

All motorists (except for electric vehicles) are now paying fuel excise, indexed to CPI, presently at 42.7 cents per litre. Yet a moderately laden semitrailer will cause 10,000 times the road wear and tear that an average sized car does. It does not make sense why the operator (and clients) of the semitrailer need only pay 26.4 cents per litre in discounted (since the year 2000) fuel excise.

New Zealand has had since 1978 mass distance charges for heavy trucks.

“As noted on page 22 of the 2021 consultation regulation impact statement, “The result is that individual operators of a particular type of vehicle who travel less, or operate at below average weights, will pay a higher registration cost per tonne/kilometre than another user who travels above the average distance or operates above average weights.”

Thus, many operators of light trucks who haul short distances each year, are effectively cross subsidizing some operators (and in most cases, their clients) of heavy trucks who haul long distances each year,

On p23 of the 2021 consultation regulation impact statement it is also noted that “Non-implementation and a wide range of concessions being offered across state and territory governments have the potential to undermine the national nature of the charges.”

Difficulties with this approach in Victoria are noted in a submission dated 19 Jul 2021 to the NTC. It is time that this situation was reviewed.

On page 61 it is noted “As a result, any amended RUC rate that was calculated based only on information available from the SMVU and from jurisdictions’ registration databases would be likely subject to some degree of inaccuracy. Other potential options

to try to resolve this issue are:

- seek detailed data on auxiliary equipment fuel use from operators (potentially based on a sample of some of the largest operators)
- change the wording of the Fuel Tax Act to make all fuel used on public roads subject to RUC (even if used for auxiliary equipment)
- switch to an alternative variable charging mechanism for heavy vehicles, such as a form of distance-based charging.”

As before, distance-based charging for the heavier trucks is long overdue.

On page 72 of the 2021 consultation regulation impact statement, it is recommended that:

“1. Regulatory charges for 2022–23 be reset using the existing methodology and the latest available information on weight (AGM), distance travelled (VKT) and the registered heavy vehicle fleet.

2. That regulatory charges for subsequent years be automatically adjusted by scaling the 2022–23 regulatory charges up or down to recover the NHVR’s approved budget.

3. That the model law should be updated to include processes and formulae necessary to implement the automatic update of regulatory charges.”

It would appear there is little option for 2022-23 but to continue as suggested (with the proviso that if a further relaxation of mass or dimension limits are approved, it be subject to mass distance pricing at a user pays level).

However, to continue the present system past 2022-23 when the system is arguably in need of major reform, is not supported.

On page 76 of the 2021 consultation regulation impact statement, it is noted Percentage of total expenditure allocated to heavy vehicles (%) with Status quo for 2020–21 heavy vehicle charges is just 22.5 per cent.

Option A allows the **A**llocated heavy vehicle cost baseto fall to 21.7 per cent. This should be rejected. Option B suggests 23.3 per cent and Option C has 25.5 per cent.

It is of note that in New Zealand, road user charges that are mostly imposed on heavy vehicles on a mass distance basis amounted to about 45 per cent of the total revenue of their Land Transport fund (\$1773.2m in 2019-20 out of \$ 3935.7m (p 334 of the NATIONAL LAND TRANSPORT FUND ANNUAL REPORT 2020.

A heavy six axle semitrailer in New Zealand pays \$NZ589 per 1000 km. This, at a conversion rate of \$A1 = NZ1.05) is about 56 cents per vehicle km.

In Australia, NTC data (PAYGO - Heavy Vehicle Charges Model) data notes 44,759 six axle semitrailers hauling 3023 million vehicle km using 1439m litres of diesel in a recent year (which one?). At the long standing road user charge rate of 25.8 cents per litre, this would generate just \$371.3m revenue. The aggregate registration fees (at \$6225 per truck) is \$278.6 million; with diesel road user charge this adds up to about \$650 million. This works out at an average of 21.5 cents per vehicle km.

This is less than one half of what is paid in NZ. The difference is 34.5 cents per km. If one accepts that the current New Zealand charges are user pays, then with any errors and omissions excepted, then the operation of six axle semitrailers in receipt of an annual hidden subsidy of about \$1043 million per year.

A similar calculation can be done for 9 axle B-Doubles. NTC data (PAYGO - Heavy Vehicle Charges Model) data notes 26,842 9 axle B-Doubles hauling 2809 million vehicle km using 1491m litres of diesel in a recent year (which one?). At the long standing road

user charge rate of 25.8 cents per litre, this would generate just \$384.7m revenue. The aggregate registration fees (assumed at \$14,760 per truck is) \$396.2m million; with diesel road user charge this is about \$781m. This works out at an average of 27.8 cents per vehicle km.

An operator of a 9 axle B-Double in New Zealand pays \$NZ766 per 1000 km. This, at a conversion rate of \$A1 = NZ1.05) is about 73 cents (AU) per vehicle km. This is about 45 cents per vkm more than what is paid in New Zealand. Again, if one accepts that the current New Zealand charges are user pays, then with any errors and omissions excepted, the operation of 9 axle B Doubles are in receipt of an annual hidden subsidy of about \$1264 million per year.

Together, for these two classes of articulated trucks, a case can be made that their operation is in receipt of hidden subsidies exceeding \$2.2 billion per year. Other classes of heavy trucks, where trucks are involved in hauling long distances each year, are also likely to be in receipt of hidden subsidies. With an estimated freight task for all articulated trucks of about 173 billion tonne km (ABC SMVU for 2019-20, there is an *average deficit rate on road cost recovery from articulated freight vehicles of at least 1.25 cents per net tonne-km*) These estimates do not include external costs of air pollution, noise, emissions and road congestion and road trauma, of a similar order.

As observed in the 2020 National Infrastructure Summit hosted by *The Australian Financial Review*, there are distortions in the land freight market. The Managing Director MD of Qube, Maurice James, noted (AFR 15 Oct “Dismay over NSW’s bet on road over rail” and also *Sydney Morning Herald* 2 Nov “Congestion compounded as more trucks added to Sydney roads”) that in total opposition to the stated NSW Government policy of getting more Port Botany containers on rail, approval has been given by the same government for ‘higher productivity trucks’ to the port and hence on city roads. The “perverse” result was “a stagnation of rail volumes in Port Botany.”

The then CEO of Pacific National, Dean Dalla Valle (who had previously noted rail’s share of containers moved between Sydney and Melbourne had fallen to one per cent), noted that “to get a truck from Port Botany to Western Sydney is \$120 in tolls – that’s what they have to pay for the building of the road, the maintenance of the infrastructure and the management of it. A truck pays about \$60 to go to Melbourne, so who is paying the other part of that? No doubt the taxpayers and ratepayers are.”

In summary, the continued use of parameters including vehicle kilometres, weighted vehicle kilometres, passenger car equivalents and equivalent standard axles is supported, along with the proposed revision of equivalent standard axle. However, the current system of road pricing for heavy vehicles in Australia is now in need of major reform.

In the meantime, there should be no further relaxation of mass and dimension limits, unless, for a given proposal, mass distance pricing at a full road cost recovery level from the start of approval of the concession, with the additional revenue going to maintain and upgrade roads.

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APPENDIX A The following comment piece by this writer appeared in The Conversation on 6 January 2021

Distance-based road charges will improve traffic — and if done right won't slow Australia's switch to electric cars

Road-user charges on electric vehicles based on distance driven were announced in November 2020 by the governments of [South Australia](#) and [Victoria](#), while New South Wales ministers have [differing views](#). These charges are justified on several grounds, including the costs of road use and congestion.

[Critics argue](#) the new charges will deter uptake of these more environmentally-friendly vehicles. But Australian governments could learn from examples overseas, including New Zealand, where incentives for buyers of electric vehicles more than offset the impacts of road user charges.

Road use creates huge costs

One reason for introducing a distance-based charge for electric vehicles is that owners of petrol cars pay fuel excise, then (in January 2021) 42.3 cents per litre. With [average fuel use](#) of about 10.8 litres per 100km for Australian cars, drivers pay excise of about 4.6 cents per kilometre for road use. This is much higher than Victoria's proposed distance charge of 2.5 cents per kilometre for electric vehicles.

The average passenger car in Australia was driven [about 11,100km](#) in the year to June 2020 (the pre-COVID average was about 13,000km). This means the federal government collected about A\$557 in fuel excise per car.

Although the excise is not specifically dedicated to funding roads, the Australian government is a generous funder of road construction and maintenance. All up, Australia's three levels of government [spent A\\$28.5 billion on roads](#) in 2018-19. It is reasonable to expect electric vehicle drivers to make some contribution to the roads they use.

The main argument against the new charges is that Australia's uptake of electric vehicles has been slow and governments should be promoting a shift away from fossil fuels. However, the main disincentive is the cost of buying a new electric car, on par with a luxury car.

Governments could overcome this issue by reducing taxes on electric vehicle purchases and/or providing a subsidy for these purchases, as [New Zealand has done](#) since 2016 (with an exemption from distance charges until 2021).

Congested roads demand action

Infrastructure Australia found the economic [cost of road congestion](#) in the six largest capitals and their satellite cities was about A\$19 billion in 2016. If infrastructure did not keep up with demand, this was likely to increase to A\$39 billion a year by 2031.

However, the evidence from Australia and overseas is clear: building more roads does not overcome congestion. The phenomenon of [induced demand](#) means new roads simply fill up with more cars making more trips.

The emergence on our roads of electric vehicles that don't generate fuel excise revenue has led to growing calls for road-user charges on these vehicles, including from [Infrastructure Partnerships Australia](#) in 2019 and [RMIT researchers](#) in November 2020. COVID-19 has driven a shift to car use. Before recent outbreaks reduced travel, road traffic in Australian cities was as much as 25% above pre-pandemic volumes.

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[Critics argue](#) the new charges will deter uptake of these more environmentally-friendly vehicles. But Australian governments could learn from examples overseas, including New Zealand, where incentives for buyers of electric vehicles more than offset the impacts of road user charges.

Policy remedies are proven

The proven remedy for road congestion is a combination of better public transport and road [congestion charging](#). This can be a charge to enter a specific area (cordon) or a charge per kilometre. It can be varied by time of day.

In NSW, a [ministerial inquiry into sustainable transport](#) proposed such charges back in 2004. A large proportion of submissions in response to a 2002 federal AusLink green paper favoured congestion pricing. [Many Conversation articles](#) have also advocated this policy.

In a [forward-looking strategy](#), now [in January 2021] open for [public consultation](#), Infrastructure Victoria proposes a review in the next two years of the Melbourne [congestion levy on parking](#), congestion pricing for all new metropolitan freeways and, in the next five years, a trial of full-scale congestion pricing in inner Melbourne.

Singapore has used congestion pricing since 1975 and automated [electronic road pricing](#) since 1998.

London, after some controversy, implemented a cordon scheme in 2003. The [benefits](#) include reduced traffic, noise and air pollution along with improved public transport. The scheme has been modified over the years and access is now free for electric vehicles and certain hybrids and small cars.

Other large cities with congestion pricing include Stockholm and Milan. New York is expected to follow in 2022. A [congestion tax is also being considered](#) for Auckland.

Road freight is on the rise too

I discussed road-user charges for heavy trucks in a 2017 [Conversation article](#). At that time in Australia, hidden subsidies for heavy truck use in the form of unrecovered road system costs, along with related external costs of road crashes, pollution, emissions, noise and road congestion, totalled about A\$3 billion a year. I now estimate this shortfall to be about A\$4 billion a year.

Australia should introduce mass distance pricing as has been used in New Zealand since 1978 and increasingly in Europe. Instead it relies on annual registration fees and a discounted heavy vehicle fuel excise of [25.8 cents per litre](#). These charges have essentially been frozen for five years.

Proposals for a modest 2.5% increase in the heavy vehicle fuel charge [were shelved](#) after COVID-19 hit. They are now [under review](#) again.

One in three submissions to a [federal inquiry](#) into developing a National Freight and Supply Chain Strategy highlighted the need for road pricing. The final [2019 strategy](#) all but ignored this issue, despite a projected near-doubling of road freight by 2040.

Failure to reform road pricing coupled with ongoing relaxation of mass and dimension limits for heavy trucks is a recipe for [ever more “loads on roads”](#) at the expense of rail freight and coastal shipping.

In 2002, the then Treasury secretary, Ken Henry, [said](#) of the projected increases in city traffic and interstate road freight: “Not dealing with these issues now amounts to passing a very challenging set of problems to future generations.”

In 2010, the [Henry Tax Review](#) made several road-pricing recommendations. These included that Australian governments “should accelerate the development of mass-distance-location pricing for heavy vehicles”.

The review also recommended governments consider the network-wide benefits and costs of introducing variable congestion pricing on tolled roads and consider extending it across heavily congested parts of the road network.

Road pricing reform is now long overdue. And it should include [as well as heavy trucks] electric vehicles.