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Parliament House
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Dear Dr Dacre

RE INQUIRY INTO SUSTAINABLE **CITIES**

Please accept this letter as a supplementary submission to the Committee from the Railway Technical Society of Australasia.

1. The end of cheap oil?

Since lodging our main submission in December 2003, the international price of oil has moved to higher levels. The world has been exposed to two major oil price increaseds during the 1970s, and temporary prices rises in 1990-91 and 2000-01. These have generally been seen as short term issues and with an expectation that 'normal' or at least 'business as usual' conditions will return. Indeed, both ABARE and the International Energy Agency as recently as 2003 were predicting oil prices at the end of this decade at about $12 per barrel. However, it now appears that this projection, or even a revised estimate made earlier this year of $15 per barrel will not be realised. The recent prices are about $US40 per barrel.

The Chartered Institute of Transport in Australia found in 1998 that the oil situation required a sternly worded statement at their National Symposium that year in order to warn the government, industry and the general public as follows.

"Our greatest ever source of cheap energy may soon contract and the 'Petroleum Age' in which we live now can be seen to be approaching an eventual end.

The Symposium heard that a clear consensus is emerging that cheap oil production outside the Middle East will begin permanent decline around the year 2000, to be followed by permanent world decline within 15 years.

We have reached a crucial stage in the development of our local, national and international transport services. Our present path is leading us into potentially serious economic, social and environmental problems. New directions are needed for our future transport fuels and vehicles.

'More of the same' in our current transport plans and ways of thinking is no longer tenable. A shrinking supply of cheap oil will characterise the next century and confront us with one of the greatest transformations of human affairs. The signs are already there. Risks of chaos, disorder and conflict will arise unless we face up to this great challenge and make the difficult decisions essential to the future well-being of us all. These decisions must be based on the care of people and of the environment if we are to proceed down the path of constructive change.

Congestion, pollution and diminishing oil supplies are the central drivers of this change. Communities across the world are increasingly going to be faced with the need to revise their transport systems in response to these drivers. Congestion and pollution are already major factors in some cities - the diminishing fuel supplies will increasingly become more apparent as the next century progresses.

Should self-interest predominate, we could become locked in conflict, unable to adapt and with the likelihood that we will dissipate unproductively the scarce high quality petroleum fuels so essential to a safe transformation to a world 'beyond oil'.

However, the response of the present Federal Government to this kind of concern was to make cars and diesel much cheaper on 1 July 2000 as part of the GST, and to follow this with a freeze on fuel excise indexation on 1 March 2001. Foregoing fuel excise indexation has since cost the Federal Treasury in excess of $1 billion at a time transport infrastructure is in need of upgrading. The related issue to high oil consumption of high greenhouse gas emissions is also in need of further attention. Both the RTSA and Engineers Australia have previously indicated its support of Australia to sign up to the Kyoto agreements.

2. Advice from 25 years ago

In response to the second oil crisis in the late 1970s, the Fraser Government moved Australia to world parity oil pricing, with a Prime Minister's statement and an Australian Transport Advisory Council (1979, pp. 85-86) report. Its findings are still relevant. *"The present modal split in transport is determined by numerous factors, including government regulation and pricing policies. As far as possible pricing and cost recovery policies should be consistent across the modes so as to encourage use of modes appropriate to particular tasks. Appropriateness may be defined broadly as minimising the total social cost of transport services, including externalities.*

"As far as possible, externalities such as airport noise, urban congestion, highway law enforcement, accident prevention and air pollution should be internalised to the transport users... This is in fact synonymous with an objective of achieving maximum economic efficiency."

However, for most of the 1980s and 1990s, Governments in Australia were not too concerned about energy efficiency (or indeed economic efficiency) in transport. Indeed, State Governments were more likely to be concerned about air pollution in their State capital cities, which is now mostly due to vehicle emissions. The Federal Government, despite spending billions on health care, appeared even less concerned about liquid use in transport and its twin evils of urban air pollution and greenhouse gas emissions.

With so much at stake, one could be excused for thinking that Governments would now be moved to action. There have been limited measures to conserve fuel such as energy labelling of cars. This, along with 50 km/h urban speed limits, came to Australia long after other OECD countries had introduced them.

In 1996, the BTRE recommended no fewer than 16 measures (including five 'no regrets') to reduce greenhouse gas emissions in transport. The BTRE revisited the issue in 2002, with some 11 groups of measures to reduce vehicle kilometres travelled (VKT), nine measures to reduce emissions per VKT, four road pricing measures (mass- distance charges for heavy trucks, tolls, internalising transport externalities and emission charging), carbon taxes and tradable permits. Optimal charging seems to hold the most promise.

3. More on sustainable transport

A further expression of concern of transport sustainability was given by the Institution of Engineers, Australia (1999) in their report "Sustainable Transport: Responding to the Challenges". The broad recommendations from this report on Sustainable Transport were as follows:

A Taxation and fiscal policy instruments should encourage sustainable transport. At present, these measures encourage car and truck use.

B There is a strong case for increased investment in transport infrastructure that is more sustainable and less greenhouse gas intensive. Where market forces fail, government should intervene.

C More holistic approaches that integrate considerations of impacts on health, sustainability and greenhouse gas emissions into transport decisions are needed.

D There is a need for research to support cleaner transport fuels and technologies, along with transport pricing, economics and demand management technologies.

4. A ten Point Land Transport Pricing Plan

The Committee is invited to consider recommendations that will improve road pricing. Based on earlier RTSA representations to Government, the following is suggested.

1. Re tolls

A. remove toll rebates in Western Sydney. This is a costly scheme to administer, and even a Sydney Morning Herald editorial has suggested that it should go.

B. reinstate tolls at Berowra and Waterfall, with the proceeds being used to expedite long-overdue improvements of both the Pacific and Princes Highways.

C. ensure that the Mitcham - Frankston motorway is built as a toll way.

2. Remove the Queensland Fuel Subsidy Scheme, at least from South East Queensland. It costs Queensland about $500 million per year, and NSW over $35 million per year.

3. Impose a congestion charge for access to the Sydney and Melbourne CBDs. It works well in London. And/or impose an environmental fuel levy for motor vehicle use in the

Greater Metropolitan Areas of state capital cities and Canberra. Note that according to a 2003 Report of the Bureau of Transport and Regional Economics, one estimate health costs of air pollution from motor vehicles in Australia's major capital cities are $3.3 billion per year including Sydney at about $1 billion per year.

4. Restore fuel excise indexation, with the additional revenue going into improved transport infrastructure. To ensure best use of funds, replace road funds (as enjoyed by the NSW Roads and Traffic Authority) by transport funds (as per Western Australia, New Zealand and as proposed under AusLink).

5. Ensure that the third determination of heavy vehicle road user charges by the National Transport Commission recovers - at least the populous zone - the full road System costs from heavy articulated trucks, B-Doubles and road trains. At present, these vehicles are cross-subsidised by other road users. Ensure that additional revenue is directed towards not only National Highway System maintenance (to compensate for changes under AusLink), but improved intermodal facilities.

6. Increase annual registration fees for the heavier four wheel drive vehicles.

7. Support the recommendation of the Productivity Commission from its 1999 Inquiry into Progress in Rail Reform into an inquiry into road provision, funding and pricing. Also have the Productivity Commission examine urban transport. It all assists in helping to lift the level of public debate.

8. Increase rail fares, with all proceeds going into a better rail system.

10. Ensure that major airports and seaports are not in receipt of hidden subsidies.

5. A further ten point transport plan

The RTSA would also draw attention to ten recommendations of a paper Transport, Environment and Health" of the National Committee for Transport of Engineers Australia, This paper is accessible at www.nctr.org.au and partly complements more important works such as the WHO Europe 1999 Charter on Transport, Environment and Health and the British Medical Association's 1997 report on Road transport and health cited by Dr Chloe Mason Transport and health: en route to a healthier Australia / Medical Journal of Australia, (2000) Vol 172 p 230-232 with 31

The RTSA shares the view that the following ten policy directions would provide an appropriate framework for developing Australia's transport systems in line with aspirations for the national environment and public health. These do not, of course, replace any statutory requirements for environmental protection, which must be adhered to at all times. A detailed case for some of the points below is documented by the Institution of Engineers, Australia (1999) in their report "Sustainable Transport: Responding to the Challenges" and the book "Back on Track;Rethinking transport policy in Australia and New Zealand. "

5.1 **Vehicle** size

Vehicles that are bigger than necessary for the task in hand are wasteful of energy. The sustainability of a society ultimately comes down to its consumption of water and energy and its treatment of its waste. The strongest link with transport is with energy. Much of the energy consumed by transport is devoted to moving the containers (vehicles) rather than the contents (people or payloads). The imbalance is particularly evident in urban use of cars. The use of a high-powered vehicle weighing more than a tonne - three tonnes in some cases - for short-distance travel not requiring the seating or carrying capacity or power of such a vehicle is extravagant. New hybrid vehicles with advanced technology for lower fuel consumption and regenerative braking are desirable for their improved environmental performance, but their size is essentially equivalent to conventional cars. While congestion is not strictly speaking an environmental problem, it is often a consequence of this imbalance. There are many ways of influencing this behaviour - for instance by the provision of cycling infrastructure, by the provision of appropriate public transport, by the management of scarce road space to favour multi-occupancy of conventional vehicles, by the promotion of low-energy vehicles such as

mopeds and by a variety of non-engineering means such as better information on travel choices.

5.2 **Pricing settings**

Current pricing and charging settings for transport are not immutable. Pricing reform is generally recognised as a necessary condition for significantly lower environmental impacts, but few can agree on the nature of such reform and because of its sensitivity there is little political support for it in any form. Nevertheless it should be recognised that the existing system is itself a pricing and charging regime, which emphasises access rather than use for private transport, and use rather than access for public transport. The undesirable environmental and public health impacts of this are evident. Several pricing reforms could be made, particularly to target road congestion in urban areas, including:

* the replacement of all government "road funds" by "transport funds"
* all cities to impose CBD parking fees with the proceeds used to improve urban public transport
* all States to ensure that their capital cities use some congestion tolls
* federal taxation benefits for cars to be reduced and urban public transport tax benefits to be allowed

5.3 **Importance of freight**

Movement of goods and services is an important part of the transport task. Because the personal transport sector tends to be much better understood by planners than the commercial sector, the latter receives relatively little attention. Yet it is the larger loads carried by the commercial sector that impact to a disproportionately greater extent on the environment. Given the current state of knowledge on commercial transport, the principal practical way forward is to remember that this sector exists and constantly to seek to increase the amount of available information shedding light on how it does what it does. The modal options for freight movement should be assessed holistically, on the lines promoted in the Federal Government´s AusLink Green Paper of November 2002. Freight-related recommendations include:

* shifting of some freight from road to rail as a road safety and efficiency measure

* an equitable level of road cost recovery from heavy vehicles
* there needs to be a national effort to collect transport and travel related data in a consistent and comparable manner - the Green Paper proposes establishing a National Bureau of Transport Statistics. Data on land freight transport is particularly woeful at present

5.4 **Public transport**

Public transport cannot be designed to meet the needs of its users until there is clarity about what it is for. Public transport is generally considered a mode to be promoted in pursuit of environmental and public health goals. However it can potentially serve several functions. In small conurbations it tends to take on a welfare flavour by providing mobility and accessibility for those without access to private transport. As the population increases, so additional functions appear related to peaks in the transport task - for example taking children to and from school, taking commuters to and from work. Ultimately in a large metropolitan area public transport could be a feasible alternative to private transport for most of the people most of the time - though it would need to be designed for this task, with high frequencies, extended service hours, easy interchanges and comfort, on weekends as well as weekdays. It is important to be clear about what the public transport system is expected to do in each particular case. This would clarify, among other things, the case for according public transport a higher priority than it currently enjoys in most places.

5.5 **Private vehicle ownership and usage**

Usage and ownership of private vehicles do not necessarily have to go together. "Private" transport is usually taken to be transport privately owned, not privately controlled by the user. Because of the emphasis on system access in the charging regime and the capital cost of the vehicle itself, ownership of a vehicle will heavily influence mode choice for any trip (in favour of the continuing use of the owned vehicle). The success of "car clubs" in Germany, Switzerland, the Netherlands and similar European countries suggests that the nexus between ownership and use can be broken, with results that are beneficial to the environment (through lower vehicle use) and to individual health (through more active transport, if appropriate).

5.6 Community awareness and responsibility

The community should be aware of environmental and health issues associated with transport and individuals should accept personal responsibility for their actions. It is the choices of myriads of transport users - individual businesses or private users - that generate the environmental and public health impacts of public transport. While engineers can influence these decisions by the provision (or non-provision) and management of infrastructure, vehicles and services, those individual choices still have to be made. Lack of full information on the consequences may lead to sub-optimal choices based largely on financial criteria, already distorted by current charging regimes. Community awareness campaigns - especially those involving schoolchildren, tomorrow's adults - are an essential element if public behaviour is to be influenced towards better environmental or health outcomes (or both). Ultimately individuals and businesses must recognise their own responsibility for achieving the outcomes they face, especially if they do not like the current outcomes. Lifting the level of public debate on transport issues would be supported by more and better transport data. An integral part of travel demand management is better education of people about their transport choices.

5.7 **Management of road infrastructure**

The road system should not be expected to be all things to all people all the time. The road network is an infrastructure system in a public space, and motorised road users are predominantly private individuals or businesses licensed to use it in the vehicles of their choice (subject to appropriate regulation by the infrastructure owner). But many road users are unmotorised and unlicensed, and indeed many roads abutplaces where people live. In contrast, train services and rail infrastructure tend to be well integrated in the rail network, even when the trains are privately operated, with rigorously controlled access. Some elements of the road system are managed for subsets of road users - for instance motorways, where no pedestrians will be found - and the environmental and health consequences of this for the beneficiaries are evident (for instance higher road safety on motorways). Different road standards for each road type in the road hireacrhy are used. Road design engineers should reflect that they are providing infrastructure for a wide range of potential users and should consider whose needs should take priority. This requires an understanding of urban planning and design. In subdivision design, for instance, it is important to design for walking and cycling to services,

providing quick, safe and amenable routes that minimise interaction with motorised vehicles. Sub-divisions must be designed for public transport accessibility, with particular attention paid to having direct and safe pedestrian routes to public transport stops or stations.

5.8 Regional self-sufficiency

Regional self-sufficiency can reduce growth in the transport task and hence its environmental impacts. Forecasts are not facts. In particular extrapolations of current growth rates will tend to produce high estimates for the future transport task, especially for freight, which will only be realised if inter-regional interaction increases. Designing to cater for such growth is likely to result in a self-fulfilling prophecy : it can also be dampened by designing for regional self-containment rather than regional interaction. Conflict is liable to arise between proponents of environmental and economic goals and the engineer should accept neither view uncritically. Put simply, the replacement of local sources of goods by more distant and more efficient production sources may not be as efficient as a financial analysis would suggest, when the environmental impacts of the associated transport are taken into account.

5.9 Energy **requirements**

A holistic systems view when planning would need to consider energy requirements as well as financial requirements. Transport systems tend to be evaluated in economic terms, implying that the costs of environmental and health degradation have to be allowed for in monetary terms. Appropriate knowledge on which to base this approach is still embryonic and does not reflect the sustainability aspect of transport. Given that sustainability -however defined - is heavily inter-related with energy use, a holistic energy profile of an infrastructure option (allowing for embodied as well as operational energy) is likely to be more relevant to assessing its sustainability than an economic one. The continuing development of appropriate techniques should be encouraged.

5.10 Learning from others

It is not necessary to re-invent the wheel - Australia should adopt "world's best practice" where appropriate as a short-term method to raise performance. Areas in which this would be particularly appropriate include the environmental regulation of new road vehicles, with a

view to reducing greenhouse gas emissions; the integration of urban planning with transport planning, and in particular with public transport provision in major urban areas; upgrading of substandard sections of intercity rail track and the adoption of stronger road safety measures.

6. Revisiting earlier inquiries

As per a 2001 UNSW Press Book *Back on Track: Rethinking transport policy in Australia and New Zealand* by Laird, Newman, Bachels and Kenworthy there have been no fewer than 12 inquiries into land transport during the 1990s. By way of example, we look at the inquiry conducted by the Industry Commission in the mid 1990s. Quoting, in part, from Chapter 5 (Policy Paralysis) of this book

6.1 The Industry Commission tackles urban transport reform

Ten years ago, the Industry Commission's 1994 final report on Urban Transport gave a good assessment of problems, and gave a good way forward with a stage approach. Some quotes from this report follow:

'Australia's urban transport systems are falling far short of their potential contribution to the economic and social wellbeing of our cities. There are no 'quick fixes' available: rather a mutually reinforcing package of policies is needed. This chapter develops a program for reform that attempts to balance practicalities, equity concerns, and transition costs with the imperatives for change. While the approach entails some potentially difficult and far-reaching changes, avoiding these decisions will fail to secure the transport systems needed for the next century.

'Transport is vital to making our cities work. Many believe that the financial, economic, social, and environmental consequences of the way we build and operate our urban transport systems cannot be sustained.

'In Australia in recent years, significant reform has occurred in other areas of transport such as long distance road transport, and domestic and international aviation. Urban transport lags behind, although there have been some notable improvements in several States in recent times...

'There are no easy answers to the many problems facing urban transport in Australia today. In part, this reflects the complex interlinkages between urban transport and the city. As a result, many of the recommendations in this report are interdependent" ...

Given the need for a phased approach, the IC mapped out a timetable for reform. ***'... The key action is to start the process.'***

The IC also noted that the process may well change over time and be influenced by changes in technology. An IC priority was to begin introducing competition into those areas where it was largely absent, in the expectation that competition would drive other necessary reforms. For example, governments could ensure service coordination and integrated ticketing arrangements are in place, together with a framework for delivering community service obligations such as transport concessions and non-commercial services.

Although the absence of comprehensive direct road pricing limits the degree to which road authorities can pursue commercial objectives, the IC considered that there was scope for improving the performance of road provision and maintenance with more private sector involvement.

Initial steps should be taken towards direct road pricing. The IC recommended an incremental approach, starting in Sydney and Melbourne with tolls (preferably electronic) on certain new or upgraded urban arterial roads, bridges and tunnels. In due course this should lead to public acceptance of more sophisticated approaches. Meanwhile, parking restrictions, parking taxes and traffic management measures should continue to form part of demand management strategies implemented on an area-wide basis.

The IC considered that public transport fares should be restructured to create a greater difference between peak and off-peak fares, and to increase with the distance travelled. Any fare increases should be phased in over several years and should be accompanied, if not preceded, by improvements in service quality. As well, early reform of the taxi and hire-car industry and improving accessibility for the transport disadvantaged was called for. The needs of cyclists and pedestrians should be given higher priority in transport planning, with a national bicycle strategy adopted. This would go a long way to enhancing the role of what are, after all, the only non-polluting modes.

The IC also considered that a number of initiatives aimed specifically at addressing environmental concerns should be commenced or continued. Emission standards for vehicles are playing a role in ameliorating pollution and should continue to do so. A system of emission tests, with fines or loss of registration for 'dirty' vehicles, should be introduced as a means of reducing pollution in those cities where pollution problems are most severe. Should these measures fail to achieve pollution standards which governments consider acceptable, further measures such as differential fuel franchise fees and surcharges on road pricing charges in particular areas should be considered.

The broad thrust of the recommendations put forward by the IC in its 1994 Report on Urban Transport received Commonwealth Government support (Joint Ministerial Statement cited IC 1993-94 Annual Report, p394) in principle. It was then stated that the Federal Government had decided to request the IC to report on progress on urban transport in 1997.

This did not happen. However, the IC inquiry into urban transport was followed by an inquiry into urban air pollution by the Australian Academy of Technological Sciences and Engineering (AATSE, 1997). This report recommended that land transport reform on several familiar fronts be undertaken. However, this is yet to happen.

As noted in the 1994 IC report on urban transport, the lack of a simple solution is reflected in the number of recommendations, and a staged approach. The trouble is that the limited gains Australia has made towards sustainable urban passenger transport during the 1990s have been far outweighed by robust road-building programs with virtually no congestion pricing for car commuters.

Although some progress had been made on some of the IC recommendations in the late 1990s, none was made on road pricing, with the sole exception of Melbourne's new ring road with electronic tolling that started in 1999.

7. Summary

As per our main submission, a new approach to urban land transport within Australia is needed. Many inquiries conducted by the Federal Government during the 1990s and more recently have shown a way forward.

If we wish to reach Sustainable Cities by 2025, a start will need to be made now. This will require attention to road pricing as well as development of 'fit for purpose' rail infrastructure.

Yours sincerely,

P G Laird,
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