

Submission to the Rural and Regional Affairs and Transport References Committee

Inquiry into the Role of public transport in delivering productivity outcomes

Philip Laird, University of Wollongong, January 2014

This submission has drawn on research conducted at the University of Wollongong and in part updates an earlier submission to the committee for a related inquiry. However, the submission does not necessarily reflect the views of the University.

1. The year of 1974 saw the introduction of Commonwealth funding of urban public transport in Australia's major cities under the *States Grants (Urban Public Transport) Act* by the Whitlam Government. Prior to 1974, there had been no Commonwealth funding for urban public transport in Australia's state capital cities. The Act ratified an agreement between the Commonwealth and States to upgrade urban public transport.

Note that such funding was continued under the Fraser Government by passage of legislation in 1978. Although this program was terminated in 1981, the *Australian Bicentennial Trust Fund Act 1982* allowed that some funds provided for Urban Arterial Roads could be used for approved urban public transport projects.

However, Federal funding of urban public transport in the 35 years from 1974 to 2009 has been characterised by 'on- again, off-again' funding. This cycle is now about to repeat itself. More details are given in Appendix A which notes that in the 25 years from 1974 to 1999, in 1999 values, the Federal Government allocated \$17.9 billion (bn) to the National Highway System with \$42.8 bn on all roads. A net allocation (excluding equity in National Rail) of \$1.2 bn was made to rail capital works, and about \$1.5 bn to urban public transport.

As noted¹ Federal allocations in the five years to 2004, in 2004 values (being 1.1526 times 1999 values), were about \$4.0 bn to the National Highway System, \$8.8 bn to all roads, \$0.9 to rail capital works, and virtually nothing to urban public transport. Accordingly, in the 30 years from 1974 to 2004, in 2004 values the Federal Government allocated \$24.6 bn to the National Highway System with \$58.0 bn on all roads, \$2.2 bn to rail capital works, and about \$1.8 bn to urban public transport.

It would be good to see the corresponding figures for the five year periods from 2004 to 2009, and then 2009 to 2014. The introduction of AusLink in 2004 and National Building in 2009 were steps forward with a better balance between the funding of roads as opposed to rail and urban public transport.

Regarding 'AusLink', enabling legislation was introduced to Parliament in December 2004, with Deputy Prime Minister John Anderson noting, inter alia *"We upgrade our roads and immediately they are filled with more cars. We simply have to do it in a more coordinated way and upgrade rail at the same time as we upgrade the roads. We need to do that in a coordinated and sensible fashion so that what belongs on the roads goes on the roads and what belongs on rail goes on rail."*

¹ *Australian land transport - is it sustainable ?* P Laird, G Adorni-Braccesi and M Collett Towards Sustainable Land Transport" Conference November 2004 in Wellington New Zealand

2. In Sydney alone, road congestion was estimated by the Bureau of Infrastructure, Transport and Regional Economics to cost \$3.5 billion in 2005, increasing to \$7.8 billion per annum by 2020. In the 8 capital cities, it is expected to exceed \$20 billion pa by 2020. Urban road congestion is now running at about one per cent of GDP and as such is a drag on our economy.

When all costs are considered, as they should be, road transport is a costly mode of land transport². Indeed, all up, some 11 per cent of GDP and now over \$150 billion per year. Road is also energy intensive, and rail is much more energy efficient than road. As international oil prices continue to trend up, road transport will become even more costly.

It is wishful thinking that road congestion in Sydney and Melbourne can be reduced by building more roads. The overseas experience is that a more balanced strategy, including rail, is needed to reduce road congestion. Here, as noted by Ross Gittins in the Sydney Morning Herald (SMH) for 14 August 2013: "The Coalition doesn't seem to have learnt what I thought everyone realised by now: building more expressways solves congestion only for long as it takes more people to switch to driving their cars."

3. In 1994, this writer³ recommended *"A period of further investment (by the Federal Government into urban public transport) over a decade at a level of at least \$100 million per year in a structured program is also warranted, with consideration given to the money being raised from petrol taxes."*

Both Prof Newman, this writer and others in a 2001 joint authored book (Chapter 4, page 89)⁴ found that: *"It needs a new approach to address the heavy bias to oil-based road transport in Australia. A whole new program is also required to shift passengers from road to rail in our cities and regions, and, to shift freight from road to rail."*

4. There is increased concern about climate change. This was in part reflected by the decision of the Rudd Government to ratify the Kyoto protocol in December 2007 followed by a price on carbon introduced by the Gillard Government.

Concern within Australia about global warming is also reflected by ongoing scientific reports and legislation at a State level, with South Australia of note⁵.

² *Railways in Australia: Federation Unfulfilled* P Laird
http://www.parkesfoundation.org.au/Projects_oration2011.htm

³ *Rail and urban public transport: Commonwealth funding and policy issues* P G Laird, Research Paper No.12, 1994 Department of the Parliamentary Library, Parliament of the Commonwealth of Australia (see Appendix A)

⁴ *Back on Track: Rethinking Transport Policy in Australia and New Zealand* P Laird, P Newman, M Bachelors and J Kenworthy UNSW Press, 240 pp ISBN 086840411X

⁵ See for example, Steffen, W (2006) *Stronger evidence but new challenges: 'Climate change science 2001 – 2005*, DEH-AGO, also the actions of the Government of South Australia (<http://www.climatechange.sa.gov.au>) including legislation (*Climate Change and Greenhouse Emissions Reduction Act 2007*)

5. The world scene in regards to oil supply and demand is also changing. The Senate Rural and Regional Affairs and Transport Legislation Committee held an Inquiry during 2006 into Australia's future oil supply and alternative transport fuels and in 2007, issued a report with recommendations including: "... *that corridor strategy planning take into account the goal of reducing oil dependence ... Existing Auslink corridor strategies should be reviewed accordingly.*

As per Appendix B, there have been many Parliamentary and other inquiries held since 1979 that have recommended improved rail and urban public transport.

6. New Zealand ratified the Kyoto protocol in 2002, took a number of measures, including budgetary and increasing fuel excise, incrementally over the past 12 years, to now over 50 cents per litre. The New Zealand government has continued to make transport policy decisions to reflect both greenhouse emissions and oil security. Their economy is performing to the extent that their currency is appreciating. See Appendix C re some overseas transport initiatives including both Canada and Japan.

7. Quite simply, of Australia's five major cities, only Perth has a good urban rail system that has been recently expanded to meet growth areas. In fact, and as outlined in Appendix D, Perth (assisted by smart cards for multimodal fare payment) now exhibits world best practice.

The success of expanding, electrifying and upgrading Perth's rail system, is reflected in Public Transport Authority (PTA) 2012-13 patronage data that shows a record 65.5 million rail trips. This is TEN TIMES that of 30 years ago. Of these trips, some 21 million were for a railway that was not operational until late 2007 called Perth to Mandurah. Moreover, PTA data shows Perth bus patronage growing each year since the Mandurah line was opened in late 2007.

Further upgrades are underway with the August 2013 WA budget allocating \$3.9 billion investment for the 22km MAX Light Rail and the Airport Rail Link. They would be assisted by the ongoing Federal funding of public transport.

8. Adelaide, Brisbane and Melbourne have catch-up programmes underway. However Melbourne needs a metro. In March 2013, the Napthine government outlined a 20-year plan for Melbourne's rail network, with the centrepiece being a new Melbourne Metro. The new line is planned to be 9 km long, in tunnels, and have five stations.

It is designed to follow the large Regional Rail Link project that provides about 90 kilometres of dual track from West Werribee via Sunbury to the Southern Cross Station in Melbourne. This \$4.8 billion project is being much assisted by federal funding of \$3.2 billion and the majority of construction work is due to be completed by late 2014, ahead of schedule.

The project builds on the success of Regional Fast Rail that operates on four upgraded lines to Bendigo, Ballarat, Geelong and Gippsland with new V/Locity Cars moving up to 160 km/h. Within five years from start up in 2005, patronage on the four lines had doubled. Clearly, the travelling public like intercity services that travel at speeds faster than cars. As well, Melbourne's urban rail has seen a large increase in passenger numbers, with a need to further upgrade the system to accommodate future growth.

In addition, in April 2013, Victoria's acting Auditor-General, in a report to Parliament "Managing traffic congestion" (at audit.vic.gov.au) concluded that "The economic costs of congestion are significant and rising" with recommendations including that "Public Transport Victoria develops explicit mode shift strategies and targets."

9. Sydney, due to sustained past under-investment, presents major challenges.
10. Light rail (including trams in Melbourne and Adelaide) is also important and is outlined in Appendix D.
11. Public passenger transport services include inter-urban rail services (eg Sydney-Newcastle) and may also be regarded as including intercity services such as Sydney Canberra. The quality of these services including the all important transit time depend critically on track alignment and capacity questions.

These are related to questions about the adequacy of existing interstate mainline track to support more freight on rail, as outlined in a 2007 report of the House of Representatives Standing Committee on Transport and Regional Services *The Great Freight Task: Is Australia's transport network up to the challenge?* This report outlines Australia's growing land freight task and gives numerous examples of inadequate transport infrastructure.

In regards to interurban transport, some progress has been made by the Governments of Queensland, Victoria and Western Australia. Regional rail upgrades in the past two decades of note include Brisbane-Caboolture (and now to Nambour), Brisbane - Gold Coast, the Victorian Regional Fast Rail project on four lines (completed c2006) and the current North East rail revitalization project, and the Perth - Mandurah railway.

However, much work is now needed to improve regional rail links to Sydney, including a capacity upgrade of the Strathfield - Gosford track that is now under way. A marked improvement of train services between Sydney and each of the Southern Highlands of NSW and Wollongong, with the attendant track upgrades including some track straightening is now long overdue.

Completion of the 35 km Maldon - Dombarton rail link would allow the existing Sydney Wollongong line to carry more passenger trains, serve an expanding port at Port Kembla, and allow road haulage of coal to be reduced from a high level of over 5 million tonnes per annum (mtpa) as opposed to plans by the coal industry to increase it up to a massive 10 mtpa.

12. Strong Federal government measures are now necessary to reduce oil use (and hence emissions) from moving people within major cities, and, between major cities and regional centres. These measures include investments in urban public transport in Australia's major cities, and to improve transport links between major cities and regional centres. In addition, improved road cost recovery is required. (see Appendix E).

APPENDIX A FEDERAL FUNDING OF RAIL/ URBAN PUBLIC TRANSPORT

The following is in two parts. The first part is from edited excerpts, with updates, from Rail and urban public transport: Commonwealth funding and policy issues P G Laird, Research Paper No. 12, 1994 Department of the Parliamentary Library, Parliament of the Commonwealth of Australia. The second gives some data up to 1999.

Federal funding of public transport - the Whitlam initiative

Like roads, there is no specific provision made for urban public transport in the Australian Constitution. Commonwealth funding of roads commenced in 1922. However, there was no Commonwealth funding of Urban Public Transport except within the Australian Capital Territory and the Northern Territory until 1974.

The *States Grants (Urban Public Transport) Act 1974* ratified an agreement between the Commonwealth and the States to upgrade urban public transport in major studies for the Commonwealth to provide two-thirds of the cost of approved projects. Under this Act, a total of \$188.3 million in current dollars was paid over four years. This program had been preceded by a report on urban public transport prepared in 1972 by the Bureau of Transport Economics (BTE - *Economic Evaluation of Capital Investment in Urban Public Transport*, which identified no fewer than 24 projects estimated to cost an estimated \$300 million. Other BTE reports included *Urban Transport: Capital Requirements 1977-78 to 1979-80*, 1977) at the request of the Australian Transport Advisory Council (comprising Commonwealth and State Transport Ministers). '

The actual decision for the Commonwealth to enter this field was a land transport initiative of the Whitlam Government. Here the Prime Minister's December 1972 policy speech had noted (Australian Transport, 1973-74 Annual Report of the Department of Transport, p3) a "...recognition of the need for national Government to accept a share of responsibility for the public transport systems of Australian cities. This was essential if the serious deterioration in our urban environment attributable to over-reliance on the motor car as a means of transport was to be overcome."

Federal funding of public transport under Fraser, Hawke and Keating

The *States Grants (Urban Public Transport) Act 1978* provided for expenditure of \$300 million in current terms from 1978-79 to 1983-84. However, this program was terminated in 1981 when only \$125 million had been paid out (current dollars). Despite the States receiving compensation of an extra \$50 million in 1981 in general purpose grants, the termination of the Urban Public Transport program was objected to by all of the States except South Australia (as per letters from all State Transport Ministers in 1981-82 to the former Community Transport Concern Association).

By way of compensation, the *Australian Bicentennial Trust Fund Act 1982* provided that part (initially up to 25 per cent) of funds provided for Urban Arterials could be used for approved capital works for Urban Public Transport. In this way, \$185 million was allocated until the close of the ABRD trust program in December 1988.

The Hawke Government continued similar provisions under the *Australian Centennial Roads Development Act 1988*. At the request of a State Government, funding

of urban public transport, could be made in place of funding of urban arterial roads. Under the Australian Land Transport Development program, an amount of \$200 million was committed for Urban Public Transport over three years to June 1993, with \$221.6 million apparently expended. Since then, no funding, at least for new projects (as opposed to studies) has been provided for urban public transport programs administered by the Commonwealth Department of Transport.

In the first seven years where Commonwealth tied funding was provided to the States for urban public transport, some \$236 million (about 75 per cent) was provided for rail based projects (Holthuyzen, F. *The finances and performances of Australia's railways*, 12th Australian Transport Research Forum, Proceedings, Vol 1, p 17-42, Brisbane. 1987). These projects included new rail rolling stock for Sydney, Melbourne, Brisbane and Adelaide, and modern high voltage electrification of Brisbane suburban lines (25,000 volts AC as opposed to 1500 volts DC used in Melbourne and Sydney). The trend to favour rail based projects continued through the 1980s under the ABRD program. The allocations from 1990 to 1993 included support for extension of rail electrification in Sydney and the Illawarra, and duplication of a Brisbane line along with modal interchanges, bus projects, and bicycle paths, with some emphasis being given (Department of Transport and Communications, Annual Report, 1993-94, p106) to "...outer urban areas which historically have been poorly served by public transport".

Commonwealth funding of urban rail transport assisted in an increase in urban passenger transport patronage during the 1980s.

The provision of urban public transport was further assisted by the Commonwealth through its 'Building Better Cities' program. This program, as announced in the August 1991 budget, provided grants to the States totalling \$816 million over five years by a number of 'area strategies' to improve land use and transport in certain urban areas. One project was the Brisbane - Gold Coast high speed rail corridor that received \$73.9 million over five years whilst Victoria received \$64 million to assist public transport. The main NSW allocation of \$154.3 million was for the Transit West Area Strategy which includes rail works allowing direct Liverpool - Parramatta trains, bus priority measures and a new interchange.

Urban transport policy issues

In this Section, we examine why the Commonwealth may choose to continue to support selective urban public transport capital works. Issues of reform in urban public transport have also been addressed by the Industry Commission (*Rail Transport*, 1991 and *Urban Transport*, 1994) that has repeatedly recommended that rail authorities increase urban fares.

Many Governments accept subsidies for the provision of urban public transport, and make investments for expansion of services. Typical of the reasons advanced (Australian Land Transport Development Program, Review of Operations, Vol 2, 1991-92, 1993, p63). are that "...Public transport can generate numerous economic and social benefits, ..." and meet national objectives including "...social justice and the environment."

The main problems facing provision of urban public transport services, along with low housing density and urban sprawl, is basically the high convenience and perceived low cost of owning and operating a private or company car. Raising of the price of petrol in the late seventies to then world parity prices, and a further increase in the late eighties, appears to have had little long term effect on car usage in Australia. Although some people restricted their highway driving in the late 1970s for a while (Department of Transport Annual Report 1979-80, Section on Energy and Transport, 1980, p16), and sufficient numbers of smaller and/or more fuel efficient cars were sold to improve the average car fuel efficiency in Australia, the demand for car travel has continued to increase. As a single measure, moderately higher petrol prices will do little to suppress demand for car use. As seen by the Senate Standing Committee on Industry, Science and Technology (*Rescue The Future: Reducing the Impact of the Greenhouse Effect*, Canberra, AGPS, 1991) " ... an effective public transport system is essential to any strategy to reduce transport sector carbon dioxide. It is unreasonable to expect people to reduce car use and use public transport more unless public transport systems are improved significantly."

In regards to people moving, the situation was well summarised in evidence presented in 1990 to a United Kingdom Parliamentary Transport Committee by the Automobile Association : *"It is quite clear that the growth in car ownership and use which is forecast to occur over the next 25 years cannot be accommodated on the existing road network, particularly in urban and suburban areas. The demand for travel will, nevertheless, continue to grow in line with the real rate of growth of the economy and the consequent increase in the real average standard of living. It is essential therefore that people are provided with an alternative - either to use private cars, but pay high parking charges and suffer the problems and costs of congestion, or to use a reliable, efficient and inexpensive public transport system which is also safe and clean"*. The Automobile Association also stated that in some areas, Light Rapid Transit (LRT) systems can provide a suitable alternative to car use.

By European, Asian and North American standards, Australia's larger cities are behind in the development of LRT systems. At present levels of petrol prices, there is little incentive for private investment in LRT systems or heavy rail. It is desirable that more funding could be raised for urban public transport by petrol taxes raised at either a national, state or regional level. Newman, P., Kenworthy, J., Lyons, T., Transport Energy Conservation Policies for Australian Cities, Murdoch University, 1990 (p. xi) suggest that *"A decade of emphasis on rail funding is required after a decade of emphasis on road funding which has shifted out cities towards an excessive dependence on the automobile . . ."*

The Railway Industry Council (*Rail into the 21 st Century*, A.G.P.S. Canberra, 1990) assessed an "Urban Rail Expansion" scenario and found that although this would increase deficits in real terms, the economic costs of extending and increasing urban public transport services are less than the estimated economic savings associated with the reduced road use. There would also be substantial net savings in fuel consumption and fuel importation (about 11% in all cities). There would also be positive budgetary impacts as expenditure on road construction and maintenance along with reduced demands for health services. Given these findings, and the experience of the adverse effects of air pollution from motor vehicles in Sydney, it is not surprising that the New South Wales Government would prefer (letter to this writer) the Commonwealth to provide a structured program of Urban Public Transport funding administered by the Commonwealth

Department of Transport: moreover, such a program would be "...wholly consistent with Commonwealth Government policies relating to economic efficiency, social equity and environmental sustainability". Similar such views were expressed by the Minister for Transport in Western Australia and Minister for Transport and Works in Tasmania.

Conclusions re public transport

In respect of urban public transport, Commonwealth funding to the States in programs administered by the Department of Transport that commenced in 1974 has been characterised by no fewer than two interruptions in funding in 1981-82 and 1989-90 with funding having ceased in 1993. *A period of further investment over a decade at a level of at least \$100 million per year in a structured program is also warranted, with consideration given to the money being raised from petrol taxes.*

The second part of this appendix is taken from parts of APPENDIX C of *Back on Track: Rethinking Transport Policy in Australia and New Zealand* P Laird, P Newman, M Bachelts and J Kenworthy UNSW Press, 240 pp ISBN 086840411X

The total Federal outlay in grants for roads and the maintenance and enhancement of roads, including the NHS, along with rail funding, is given in Table 1. Table 2 indicates that the total Federal expenditure on the NHS from 1 July 1974 to 30 June 1999 was approximately \$17.9 billion in constant 1998-89 prices. Of the \$17.9 billion, a broadly estimated \$3.9 billion has been expended on the reconstruction and maintenance of the Hume Highway. The result has been to change a deficient two lane road to a modern four lane highway throughout its entire length in Victoria and two thirds of its length in New South Wales.

Commonwealth outlays on roads are complemented by State and Local Government expenditure on roads, with the respective 1995-96 allocations being approximately \$1.6 billion, \$3.0 billion, and \$1.7 billion (HORSCTCMR, 1997, p48). It is also of note that the Commonwealth funding on roads is now appreciably less than Federal component of fuel excise which was \$8.9 billion in 1995-96 (HORSCTCMR, 1997, p62). Given that the Australian Constitution does not mention roads at all, one may question the significant Federal outlay on roads, which with untied grants, amounting to nearly \$43 billion over 25 years in today's terms.

Both Table 1 and Table 2 exclude outlays under various Urban Public Transport programs administered by the Department of Transport, which are given in Table 5, as a total of some \$1.5 billion.

The total of Federal allocations for rail capital works plus National Rail equity, from 1 July 1974 to 30 June 1999 in constant 1998-99 dollars was approximately \$1.2 billion (excluding AN revenue supplements). These outlays have partly been offset by Commonwealth revenue from loan repayments and interest to the Commonwealth.

In summary, the Commonwealth is a big spender on roads, at the expense of rail and urban public transport.

Table COMMONWEALTH EXPENDITURE ON URBAN PUBLIC TRANSPORT

(\$million - current dollars) (\$million - constant 1998-98 dollars)

YEAR	Total UPT	Product Deflator	Index	
1974-75	45	277	4.357	196.1
1975-76	33.9	323	3.737	126.7
1976-77	58.4	360	3.353	195.8
1977-78	51	390	3.095	157.8
1978-79	40	416	2.901	116.1
1979-80	40	456	2.647	105.9
1980-81	45	505	2.390	107.6
1981-82	0	562	2.148	0.0
1982-83	2.5	624	1.934	4.8
1983-84	19.9	666	1.812	36.1
1984-85	24.6	706	1.710	42.1
1985-86	31.7	756	1.597	50.6
1986-87	35	812	1.486	52.0
1987-88	49.2	867	1.392	68.5
1988-89	22.4	939	1.285	28.8
1989-90	0	1000	1.207	0.0
1990-91	42.2	1044	1.156	48.8
1991-92	86.2	1063	1.135	97.9
1992-93	93.2	1078	1.120	104.4
1993-94	0	1088	1.109	0.0
1994-95	0	1099	1.098	0.0
1995-96	0	1131	1.067	0.0
1996-97	0	1155	1.045	0.0
1997-98	0	1172	1.030	0.0
1998-99	0	1207	1.000	0.0
				1539.8

Reference. Annual Reports of the Department of Transport

See Table C.5 page 203 of *Back on Track: Rethinking Transport Policy in Australia and New Zealand* P Laird, P Newman, M Bachels and J Kenworthy UNSW Press, 240 pp ISBN 086840411X

Note These amounts exclude Commonwealth allocations under the Better Cities programs.

**APPENDIX B SOME GOVERNMENT INQUIRIES AND REPORTS RELEVANT
TO REDUCING OIL USE AND GREENHOUSE GAS EMISSIONS
IN TRANSPORT (including improving road pricing)**

During the 1970s

1979 Australian Transport Advisory Council *Transport and Energy Overview*

During the 1980s

1980 Sydney - Melbourne rail electrification study
1984 National Road Freight Industry Inquiry
1986 Federal Department of Energy, Inter-State Commission
1987 Inter-State Commission

During the 1990s

1991 Senate Standing Committee on Industry, Science and Technology *Rescue the Future: reducing the impact of the greenhouse effect*
1991 Industry Commission Rail Transport, and Greenhouse Gases (two inquiries)
1991 Ecologically Sustainable Development (ESD) Working Group on Transport
1994 Industry Commission Urban Transport
1994 National Transport Planning Taskforce
1996 Bureau of Transport and Communications Economics in its 2002 Report No 105 *Greenhouse policy options for transport 2020*
1997 Australian Academy of Technological Sciences and Engineering re urban air pollution
1997 House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform (the Neville Committee) Planning not patching
1998 The Neville Committee Tracking Australia
1999 Productivity Commission Progress in rail reform
1999 Prime Ministers Rail Projects Task Force 'Revitalising Rail'

During the past decade

2000 Senate Environment, Communications, Information Technology and the Arts Reference Committee *The heat is on: Australia's greenhouse future*
2001 Australian Rail Track Corporation Interstate Track Audit
2002 Fuel taxation inquiry report (is rejected by Federal Government)
2002 Bureau of Transport and Regional Economics in its 2002 Report No 105 *Greenhouse policy options for transport 2020*
2002 AusLink Green Paper
2003 Parry Inquiry (NSW Ministry for Transport) Sustainable Transport
2004 AusLink White Paper
2005 House of Representatives Standing Committee on Environment and Heritage Sustainable Cities
2005 Senate Rural and Regional Affairs and Transport Legislation Committee re AusLink
2007 Senate Rural and Regional Affairs and Transport Committee re Inquiry into Australia's future oil supply and alternative transport fuels
2007 House of Representatives Standing Committee on Transport and Regional Services The Great Freight Task: Is Australia's transport network up to the challenge?
2009 Senate Rural and Regional Affairs and Transport Committee re urban public transport

APPENDIX C SOME OVERSEAS PERSPECTIVES

New Zealand

Australia's trans - Tasman neighbour continues to take both climate change and potential oil price problems seriously. The New Zealand Parliament approved in February 2002 a Land Transport Package called Moving Forward. Along with increasing petrol tax by 4.7 cents per litre in 2002 and a further 5 cents per litre in 2005 with proceeds going to alternatives to roads and replacing of road funds with transport funds, the package aims for a transport system that is *'affordable, integrated, safe, responsive and sustainable.'*

Of note is a speech given by the Prime Minister Rt. Hon Helen Clark MP on 26 July 2007 to a conference 'Transport - the Next 50 years' held late July at Christchurch New Zealand. Limited excerpts from the address follow.

"One thing is for sure: the era when transport planning focused excessively on building infrastructure to service the private motor-car is coming to an end. Today the focus is shifting to how to plan integrated and diversified transport systems, in which many modes play their part.

"...I believe that the sustainability challenge is a defining issue for the twenty first century. ... Sustainability is a term most commonly applied to the need for sound environmental policies. But it is a concept I believe we also need to apply across economic, social, and cultural policies too. Those are the four pillars of a sustainable nation.

"The four pillars are mutually reinforcing: we cannot build a strong economy on a society where too many are left to fail, and where we plunder the natural environment for short term gain.

"Conversely we cannot build a strong society on an economy which fails to generate the wealth required to fund opportunity and security for our people, protect our environment, and develop our culture.

"Once you take a broader view of sustainability, it becomes clear that we have a once in a generation opportunity to improve our way of life, our standard of living, and the state of our environment by putting sustainability at the heart of our thinking and decision making – as we must do with transport policy."

To update re New Zealand transport, in December 2007, the New Zealand Government released "Sustainable Transport", a discussion document to update the 2002 New Zealand Transport Strategy. To quote from Minister Annette King's speech in launching the paper: *"Transport in the future will be more sustainable. There will be more hybrid and full electric vehicles. More freight will be carried by rail and sea. More people will walk, cycle, and use public transport. There will be lower CO2 emissions as travel behaviour changes and the use of electric vehicles becomes more widespread.*

The 2007 discussion paper also proposes an expanded role for Coastal Shipping and notes targets for other objectives including *"...increasing public transport use, increasing rail and shipping's share of freight movement and reducing carbon dioxide emissions from*

the vehicle fleet. Each of them is challenging and none of them will be achieved without acceptance that change is necessary and a willingness to make different transport choices."

Not surprisingly, the Automobile Association (AA) in a submission, as seen by Minister King in a March 2008 speech to the AA, *"felt the Sustainable Transport document focused too heavily on environmental sustainability and set lofty transport targets."*

However, in a March 2008 speech to the AA, the Minister reiterated the need for change: *The creation of a truly sustainable transport system – one that delivers on our economic, social and environmental needs – is not optional. We cannot carry on with 'business as usual'. Reducing transport's contribution to greenhouse gas emissions is vital. It is non-negotiable for the success of our transport system and for our position as a responsible international citizen."*

In August 2008, the New Zealand Transport Strategy was updated with stronger measures, including monitoring. These include the goal to halve by 2040 per capita domestic greenhouse gas transport emissions from 2007 levels.

Canada

To quote from the Government of Canada's ecoTRANSPORT Strategy initiatives announced to 2007 (<http://www.ecoaction.gc.ca/ecotransport>) include:

- The ecoAUTO Program encourages Canadians to buy fuel-efficient vehicles by offering rebates ranging from \$1,000 to \$2,000 towards the purchase of more fuel-efficient vehicles that meet the required criteria.
- The ecoMOBILITY Program will help municipalities reduce urban passenger transportation emissions by increasing transit ridership and the use of other sustainable transportation options.
- The ecoTECHNOLOGY for Vehicles Program will involve purchasing and testing a range of advanced technologies and showcasing them at public events across Canada.
- The ecoFREIGHT Program is aimed at reducing the environmental and health effects of freight transportation through the use of technology.
- ecoENERGY for Fleets – Benefiting trucking companies and other commercial fleet operations by helping them cut fuel costs and reduce harmful emissions. The ecoEnergy for Fleets Initiative will emphasize information-sharing, workshops and training to help fleets increase their fuel efficiency.
- ecoENERGY for Personal Vehicles – Provides Canadian motorists with helpful tips on buying, driving and maintaining their vehicles to reduce fuel consumption and greenhouse gas emissions that contribute to climate change. Reducing fuel consumption means saving money and, more importantly, helping the environment.

The fact that Canada is prepared to subsidize the purchase of fuel-efficient vehicles stands in contrast to Australia's effective subsidization of four wheel drive vehicles with lower tariffs. The 4WD subsidy was addressed by the House of Representatives Standing Committee on Environment and Heritage in its 2005 report 'Sustainable Cities': where, inter alia, *The committee recommends (#9) that the Australian Government review the tariff policy on four wheel drive vehicles with a view to increasing the tariff rate on four wheel drive vehicles, except for primary producers and others who have a legitimate need for four wheel drive capability.*

Japan/global

On 14 December 2007 the "**International Symposium-Climate Change and Transport Strategy**" was held at Nagoya with a total of approximately 350 experts in attendance from Japan and around the world, who specialize in climate change, transportation and the economy. The Symposium's Keynote Speaker was Lord Nicholas Stern, Professor at the London School of Economics who spoke on "Climate Change, Economics of a Global Deal and the Role of Transport". What follows is edited from an account at the website <http://ecotransport.jp/en/eventreport.html>

- Unless action is taken now to reduce greenhouse gases (GHG), there is positive scientific evidence that a major disaster will result.
- Targets must be established to prompt action now to reduce CO₂e (CO₂ equivalent) throughout the world by 50% (80% in developed nations). For example, targets achievable by 2020 need to be set.
- There is no specific remedy, but a combination of mitigating mechanisms are required, including a pricing system (taxes, ETS), regulations, infrastructure investment, public transportation systems, and technology.
- Transport is a principal source of GHG emissions, and thus one major cause of climate change
- Such emissions account for 13~14% of CO₂e and 23~24% of CO₂ emissions (30% in OECD nations)
- On the per passenger-kilometer basis, railways have a much smaller impact on the environment and climate change than aircraft or automobiles.
- The demand for aircraft and airports is continuing its rapid increase (5% annually on a global scale). Airports and aircraft management systems are directly confronting a serious problem of capacity.
- It was reported that the development of high-speed railways on high-density urban lines can alleviate problems of congestion as well as automobile and aircraft transport capacity, in addition to being consistent with appropriate climate change policies.

In brief summary, "*delaying climate change mitigation is dangerous and costly*" and when we consider passenger transportation from the perspective of the global environment, it is necessary to increase the traffic share allocated to railways.

APPENDIX D COMMENT RE LIGHT RAIL

The following is taken from a 2008 book "The Railway Technical Society of Australasia - The First Ten Years" by P Laird and published by the RTSA in Canberra. It includes comment on heavy rail (which conveyed 529 million passengers in 2006-07) and light rail (137 million passengers). In 2007-08, the combined patronage was expected to be over 700 million passengers. **(Section 4.8) Trams and light rail**

Trams were widely used in Australian cities for the first half of the twentieth Century and in 1950 tramways could be found in all state capitals and seven other cities. Australia's trams were moving during the mid-1940s over one billion passengers per year. In 1950, Sydney's tram network was about 245 route km as against Melbourne's 210 route km. However, by 1970, trams ran only in Melbourne and Adelaide.

Melbourne

In keeping its trams, Melbourne was favoured with wider streets, a relatively 'young' electric tram system and the remarkable Major-General Sir Robert Risson, who as Chairman of the Melbourne and Metropolitan Tramways Board from 1949 to 1970 argued forcefully for their retention. By 1980, patronage had fallen to about 100 million passengers per year. In 2006-07, it had surged to 155 million passengers.

Having made the decision to retain trams, the system was extended over time. Following conversion of the former suburban railway lines to St Kilda and Port Melbourne to 'light rail' routes in 1987, the next major extensions took place in the mid-1990s, including extensions to East Burwood. Two more tram extensions were partly funded by the Federal Government as part of the *Building Better Cities* program. A 'City Circle tram loop' opened in 1994, while the last of three extensions to Bundoora opened in 1995. In the last decade, the tram network was further extended to Box Hill (2003), Docklands and Vermont South (2005).

Other improvements have included the construction of 'platform' tram stops across the network and the purchase of 95 low-floor trams. Melbourne's tram network now extends to about 250 route km operated by some 500 trams and is now one of the largest in the world. Melbourne's trams also assisted in moving hundreds of thousands of people to the 2006 Commonwealth Games and help to service other major events.

Adelaide

After the closing of the rest of its tram network, Adelaide retained a solitary line from Glenelg (venue for CORE2000) to Victoria Square. This line was Australia's first 'light rail' conversion of a heavy rail line, being converted from broad to standard gauge and electrified in 1929. In 2004, new trams were purchased and track upgraded on the Glenelg line after 'years of neglect'. In 2005, the Rann Government decided to extend the tramline down King William Street to the western end of North Terrace. On 14 October 2007, the 1.6 km extension (costing \$31 million) was opened.

Although the extension generated some noisy opposition, it has been well received by both the traveling public (albeit with free down town rides, replacing a previous free city bus) and business. Within six months, ticketed tram patronage in Adelaide had increased about 15 per cent since the city extension was opened. As well (*Australian Financial Review* 24 April 2008), the Property Council of Australia had noted the tram extension:

"has opened the city right up ... [and] had created a significant interest in property development" in the West End of the Adelaide CBD and favoured extending the tramline to Port Adelaide. This would be facilitated by the concrete gauge convertible sleepers installed in 2002 to Outer Harbour."

On 5 June 2008, the SA Government announced connection of the tramway onto the Outer Harbor railway for operation with hybrid vehicles, tramway branchline extensions to Semaphore via Port Adelaide and West Lakes,

Sydney

The removal of the Sydney tram system took place between 1950 (when trams from Watsons Bay were removed and then reinstated) and 1961. On some routes, when the last trams had run, by the next day the overhead wiring had been removed and the tracks tarred over to prevent their reintroduction.

In August 1997, a light rail service commenced between the old tram concourse at Sydney's Central Station and Wentworth Park with an intermediate stop at Sydney's Casino using 'Variotram' light rail vehicles built by ABB at Dandenong in Victoria. The route has a mixture of street and off-street running, with the majority of the line using the old Darling Harbour goods line. In August 2000, the line was extended to Lilyfield making a total length of 7.2 km.

The \$65 million cost of the first section was augmented by \$21 million from the Federal Government's 'Building Better Cities' programme, whilst the second stage received \$16 million of NSW Government funding. The Sydney light rail is operated by Metro Transport Sydney who also operates the Sydney Monorail (opened in 1988). Recent combined patronage was over 7.5 million passengers per year, which is an increase of some 22 per cent over the past five years.

There has been no shortage of ideas for extending light rail in Sydney. One was an Inner West Stage 2 to continue along the former Rozelle Goods line. There have also been suggestions of a CBD loop, either to Park Street or Circular Quay, and extending light rail to the University of NSW main campus at Kensington.

In 2005 (*Sydney Morning Herald* 21 February) a report commissioned by the City of Sydney recommended the building of five tramlines between the CBD and each of Bondi Beach, Maroubra and Mascot, with two lines through the inner west to Burwood. As the Sydney Lord Mayor Cr Clover Moore MLA said: "...the time is right for light rail after the NSW Government has spent billions of dollars on road tunnels and toll roads - and further entrenching our dependence on road transport."

By 2008 (*Daily Telegraph* 6 April), the NSW Government was considering building a 4.1 km, \$135m light rail service running from Circular Quay to Central Station via The Rocks by 2011. This was to provide direct access to a redeveloped East Darling Harbour project (Barangaroo) as opposed to running trams down George Street. Also under consideration was a long-proposed extension of the existing light rail system from Lilyfield to Summer Hill along a former section of the Metropolitan Goods Line.

APPENDIX E SHOULD ROAD PRICING BE INCREASED ?

During the 1990s, it was common for motoring organisations and road transport interest groups to claim that aggregate vehicle related payments to Government exceeded road outlays by Government. Often, in their more extreme forms, propositions were advanced along the lines that motorists are ripped off and trucks more than pay their way. A good account of the question as to whether motorists pay too much was given in a 1999 booklet by Howard Pender¹⁰. This study was sponsored by the Australian Automobile Association and addressed three questions. First, are motorists lightly or heavily taxed? Secondly, should they be heavily taxed? Thirdly, what is the appropriate balance between taxes on vehicle ownership and use?

In 2001, Prof Peter Newman and myself argued (loc. cit. footnote 4) that hidden subsidies to road vehicle use, even when excluding congestion costs and not making any allowance for greenhouse gas emissions, resulted in the late 1990s of a 'road deficit' of \$8 billion per annum. This estimate has since been updated (footnote ref 5) and including an annual \$0.8 bn non-tariff automobile industry assistance programme; an estimated increased health cost of lack of physical activity due to excessive car use of about \$0.8 bn per annum in Australia (Mason 2003)¹⁰ and greenhouse gas emissions at \$25 per tonne, a case can now be made that there is a 'road deficit' of around \$13 billion per annum.

The two largest items were road crash costs not met by insurance of some \$5.5 billion as a cost to the wider community plus an estimate of net taxation refunds for motor vehicle use of \$4.8 billion in 2003-04. The removal of indexation in 2001 of fuel excise has resulted in a higher 'road deficit'.

In regards to estimates for the costs of greenhouse gas emissions, a value of \$25 per tonne of carbon dioxide equivalent (CO₂e) may be regarded as either too low, or too high. A BIC¹¹(2001) recommendation was for a tax using \$40 per tonne of CO₂e. There is a case for imposing modest carbon tax in Australia on transport activity and applying the proceeds to improved transport infrastructure.

Of this \$13 billion per annum, approximately \$3 billion can be attributed under one set of assumptions to articulated trucks being under-recovered road system costs (about \$1.5 billion) plus external costs (a further \$1.5 billion).¹³ It is appreciated that there are also appreciable subsidies to rail passengers that have increased in recent years, plus subsidies to rail freight that have decreased in recent years. Rail freight external costs (excluding the iron ore railways) were estimated at \$215 million.

¹⁰ *Taxing cars -fleecing the fleet or subsidising smog ?* Australian Tax Research Foundation, Research Study No 33

¹¹ Mason, C (2003) Personal communication, also *Transport and health: en route to a healthier Australia?* Medical Journal of Australia Vol 172, 6 March 2000 pp 230-232

¹² Bus Industry Confederation (2001) *Getting the Prices Right: Policy for More Sustainable Fuel Taxation for Road Transport in Australia* Submission (by Mr John Stanley) to the Commonwealth Fuel Taxation Inquiry.

¹³ Laird P (2006) *Freight transport cost recovery in Australia*, Australasian Transport Research Forum, Gold Coast