CHAPTER 6

TRANSPORT EMISSIONS AND SOLUTIONS

> *Changes in urban and transport infrastructure to reduce the need for motorised transport and shift demand to less energy intensive transport modes, may be among the most important elements of a long term strategy for greenhouse gas mitigation in the transport sector… .*[1]

Introduction - Transport Emissions and Trends

6.1 In 1998, transport energy accounted for 15.9 per cent of Australia's total emissions (72.6 Mt CO_2-e). This was an 18 per cent (11.1 Mt) increase over the 1990 level of 61.5 Mt. Transport is the third largest emissions sector after stationary energy and agriculture, and is showing the second fastest rate of growth. The 1998 National Greenhouse Gas Inventory (NGGI) states that 'emissions from passenger vehicles, trucks and light commercial vehicles accounted for most of the increase'.[2]

6.2 89.3 per cent (64.8 Mt) of the 1998 total was from road transportation, with far smaller amounts for civil aviation (4.4 Mt) and rail (1.6 Mt). Road transport emissions increased 18.2 per cent between 1990 and 1998 and car emissions by 16.6 per cent during the same period. While aviation is a small total it is the most greenhouse-intensive per passenger for intercity travel. With increased competition and cheaper fares its share could potentially increase.[3]

6.3 The Australasian Railways Association (ARA) told the Committee that, due to 'Australia's excessive reliance on road transport', Australia has the third highest transport emissions per capita in the world. 92 per cent of urban passenger transport is undertaken by private motor vehicle.[4] These statistics are the end-result of strong trends towards motor vehicle use and against rail and public transport use. Car kilometres travelled in Australia doubled between 1975 and 1995, and during the

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1 Australian Greenhouse Office, *The National Greenhouse Strategy: Strategic Framework for Advancing Australia's Greenhouse Response*, 1998, p 56.

2 Australian Greenhouse Office, *National Greenhouse Gas Inventory 1998*, p A-5; and Australian Greenhouse Office, *National Greenhouse Gas Inventory: Analysis of Trends and Greenhouse Indicators 1990-1998*, p vii. It should be noted that these figures do not incorporate estimates for the land-use change and forestry subsector, which currently present major uncertainties and are listed in the NGGI in a separate volume. Subject to this uncertainty, the 1998 NGGI estimates national emissions at net 39.5 Mt CO_2-e, which would make it the fourth largest emissions sector. See Australian Greenhouse Office, *National Greenhouse Gas Inventory: Land Use Change and Forestry Sector, 1990-1998*, p A-3.

3 Australian Greenhouse Office, *National Greenhouse Gas Inventory 1998*, p A-12.

4 Australasian Railways Association, Submission 181, p 1894.

same period the urban road freight task (in tonne kilometres) doubled, and the interurban articulated truck freight task quadrupled.[5]

6.4 Australia also has a very high level of fuel use per capita - 20 per cent higher than the OECD urban average - and one of the highest levels of road freight per capita (measured in tonne kilometres per head). This is the case not merely because of the large distances in Australia, but 'in part because road transport undertakes significant interstate and bulk freight tasks'.[6]

6.5 The Committee heard a range of concerns about Australia's emissions from (and policies in regard to) transport. They included:

- that more data was needed about Australia's patterns of transport use, their trends, and about the potential to shift tasks between different transport modes ('intermodal shift') and about the greenhouse savings that could result;
- that Australia's reliance on motor vehicle transport, both in passengers and freight, was far too high;
- that the tax system encourages the use of private motor vehicles for travel to work, and discriminates against those who wish to use public transport;
- that public investment in road infrastructure has dwarfed levels of investment in rail, which has led to a severe deterioration in rail infrastructure and services and contributed to the increase in transport emissions;
- that current government initiatives, while worthwhile in themselves, will be ineffective in stimulating major abatement action in the transport sector;
- that policy, particularly in relation to taxation and new infrastructure, has failed to incorporate health and environmental costs and was increasing the over-reliance on motor vehicle transport;
- that Australia's fuel costs and taxes are low by comparison with most other countries and passenger car vehicles are larger and less fuel-efficient; and
- that Australia's passenger and freight vehicle fleet is comparatively old and there are no mandated requirements for regular maintenance or in-service emissions testing.

6.6 There are also more traditional reasons why Australia needs to reduce its transport emissions and its reliance on oil for transport. If current growth trends in demand for oil continue, Australia will face a much higher import bill for oil which will dramatically worsen Australia's balance of payments and reduce its international competitiveness. Currently only 40 per cent of Australia's oil consumption is sourced from local oilfields, and it is estimated that by 2010 Australia will be producing less

5 Associate Professor Philip Laird, Submission 101, p 826.

6 Associate Professor, Philip Laird, Submission 101, p 826.

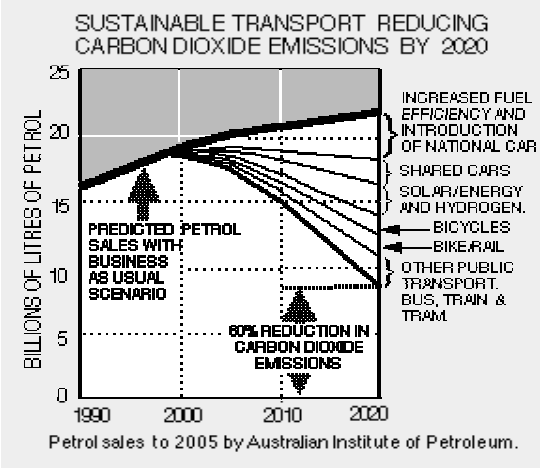
than a quarter of the current production of 420,000 barrels per day. The Bass Strait fields could be exhausted within a few years: 87 per cent of the known oil reserves have already been pumped and 47 of the known gas reserves, and there is little chance of substantial new finds in Australia or elsewhere. Oil imports could add $4 billion to Australia's current account deficit by 2010.[7] This underlines the need, not only to find fuel efficiencies, but to reduce outright the levels of oil consumption in Australia. Reducing greenhouse emissions from transport is very much part of a 'triple bottom line' solution for Australia's energy future.

6.7 In their submission, the Bicycle Federation of Australia (BFA) suggested some targets for major urban areas to reduce CO_2 emissions by 60 per cent:

- no increase in per capita passenger car kilometres travelled;
- increase the seat occupancy of commuter cars from 1.11 to 1.26;
- decrease the average fuel consumption of the car fleet by 8 per cent per year;
- reduce the sales of less energy-efficient cars by 10 per cent per year;
- increase walking trips from 14 per cent of trips to 20 per cent of trips;
- quadruple bicycle (only) trips from around 2 per cent of all trips to 12 per cent of all trips;
- double per capita public transport journeys from 100 to 200 per year (50 per cent of the increased trips would be bike/rail trips); and
- introduce land use and development and telecommunications policies that virtually prohibit or make unnecessary the construction of car dependent developments, for example, no more hyper markets set in massive car parks.

Figure 6.1

Source: Bicycle Federation of Australia



7 Ian Howarth, 'Bass Strait's last fling before the party ends', *The Australian Financial Review*, 18 September 2000; Claire Miller, 'Coming soon: The day of reckoning', *The Sunday Age*, 22 October 2000; Andrew Clark, 'The oil apocalypse', *The Sunday Age*, 22 October 2000.

Current Government Programs

6.8 The National Greenhouse Strategy (NGS) lists 'efficient transport and sustainable urban planning' as a major priority, and seeks to promote an integrated, best practice approach to urban land use and transport planning and investment. This, says the Government, draws on a 1996 IPCC Report which argued that:

> Changes in urban and transport infrastructure to reduce the need for motorised transport and shift demand to less energy-intensive transport modes, may be among the most important elements of a long term strategy for greenhouse gas mitigation in the transport sector… the resulting traffic reductions can result in greenhouse gas reductions of 10 per cent or more by 2020 while obtaining broad social and environmental benefits.[8]

6.9 Current government measures to reduce transport emissions are said to be focused on the following areas:

- the integration of land use and transport planning to make the use of public transport more viable;
- reducing the demand for travel and smoothing traffic flows;
- encouraging the greater use of public transport, walking and cycling. Public transport initiatives include integrated transport plans to improve existing services, and a national forum to investigate new public transport modes and technologies and best practice options for Australian conditions;
- *Australia Cycling - The National Strategy 1999 - 2004* was launched in February 1999 with the stated intention of providing a national framework for action by Federal, state, territory and local government, industry and the community to promote increased and safe cycling;
- efforts to improve vehicle fuel efficiency and fuel technologies, including: the Diesel and Alternative Fuels Grant Scheme (which maintains relativities between diesel and alternative fuels such as Compressed Natural Gas (CNG) and Liquid Petroleum Gas (LPG) and ethanol); fuel grants for buses operating on alternative fuels in metropolitan areas; the $35 million Alternative Fuels Conversion Program (which provides rebates for the conversion of engines over 3.5 tonnes to alternative fuels); the removal of diesel excise for rail; a tightening of vehicle emissions and fuel standards; and a funding program ($7.6 million) to establish a number of CNG fuelling stations;
- Environmental Strategy for the Motor Vehicle Industry, which includes measures such as mandatory fuel consumption labelling, a fuel consumption

8 Australian Greenhouse Office, *The National Greenhouse Strategy: Strategic Framework for Advancing Australia's Greenhouse Response*, 1998, p 56.

guide, a harmonisation of domestic and international noxious emissions standards by 2006, a 15 per cent fuel efficiency improvement target by 2010 over business-as-usual (through negotiation with auto companies), and bringing forward the phase-out of leaded petrol, taking equity considerations into account;[9] and

- rail and shipping reforms to reduce the role of government and increase private sector involvement, which it is hoped will increase rail's share of freight. Additional measures include an investigation by the states and territories and the Commonwealth of potential ways to reduce emissions from road freight, including a shift from road to rail.

6.10 The Queensland Conservation Council (QCC) was very sceptical of the ability of current government policies to influence Australian transport emissions trends:

> It should be said that, if effectively implemented, all of these strategies, in QCC's opinion, would fail to stem the growth in transport emissions and certainly would fail in turning those trends around. What is not said in greenhouse air quality and transport strategies at local, state and Federal Government levels is probably more significant than what is said.[10]

6.11 The QCC argued that transport strategies were being undermined by poor planning decisions on major projects:

> An example that we feel illustrates this particularly well is that, while the regional transport plan for south-east Queensland set modal targets that would moderate a 100 per cent increase in vehicle kilometres travelled over a 15-year period down to a 50 per cent increase, the regional transport plan did not include construction of a major inner city freeway at a cost of a quarter of a billion dollars, which has subsequently been approved by Brisbane Metropolitan Government and the State Government. If such a stark divergence from an agreed regional transport plan is possible and incurs no penalties whatsoever, we would suggest that the cautious one step at a time transport and air quality greenhouse strategies that have been developed are of very little significance.[11]

6.12 The BFA welcomed the National Bicycle Strategy (NBS) and the commitment of the Commonwealth to fund a secretariat to implement it but said it would not greatly increase the use of bicycles for transport:

> To provide adequate bicycle infrastructure it is necessary to have $100 million from the Commonwealth each year to supplement state funds and that is not being provided. Why is this so when the health benefits of

9 http://www.greenhouse.gov.au/ago/safeguarding.html (17/07/00), p 6.

10 Mr James Whelan, *Proof Committee Hansard*, Brisbane, 26 May 2000, p 673.

11 Mr James Whelan, *Proof Committee Hansard*, Brisbane, 26 May 2000, p 673.

> cycling could be measured in $billions if 12% of all trips were made by bicycle?[12]

6.13 The BFA also challenges the Federal Government's claim that its NBS will 'double bicycle use by 2004' and says the data does not exist to establish a 1999 benchmark and there is no commitment to funding a study to establish this data:

> All levels of government, because of the absence of sound data for monitoring how much walking and cycling is done and how safe it is, do not know what is happening. The only reliable national data for cycling and walking road deaths per 100,000 kms travelled is for 1985. Whereas in northern Europe reducing greenhouse gases is a serious business so national governments ensure there is good cycling and walking data for planners to work with.[13]

6.14 The Committee congratulates the Western Australian Government for its efforts in limiting the growth of car travel. Their 'South Perth Travel Smart Trial' in 1997 resulted in the 400 participants reducing their number of car trips by 10 per cent after being made more aware of other transport options available to them such as walking, cycling and public transport. No significant improvements were made to infrastructure or services to achieve these results. Subsequent programs involving 2,500 people were equally successful and the Western Australia State Government extended the concept in August 2000 with - *Travel Smart 2010* - a 10 year plan for the City of Perth.[14]

6.15 The Committee believes that the transport strategies outlined in the NGS are worthwhile, but are likely to be extremely limited in their impact. Transport is arguably one of the weakest areas in the NGS. There are no commitments to improve Australia's public transport or cycling systems, nor to fund and improve rail services and infrastructure. The NGS fails to take account of the way in which other policies, such as taxation and road funding, will undermine and frustrate existing efforts to reduce transport emissions.

Why are Australia's Transport Emissions so High?

6.16 The rapid increases in Australia's transport emissions, and the low utilisation of rail and public transport in relation to other countries, suggest to the Committee that current policies are failing to make a substantial impact. This section explores why this is the case.

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12 Bicycle Federation of Australia, Submission 38, p 206.

13 Bicycle Federation of Australia, Submission 38, p 207.

14 Bicycle Federation of Australia, Submission 38, p 207.

Rail infrastructure and services have been allowed to deteriorate

6.17 The Brisbane-based Public Transport Alliance argues that part of the problem is that current policies are too focused on fuel efficiency rather than on changing behaviour and use patterns.[15] In this regard, the ARA suggested that current policies had failed to place enough emphasis on the potential of rail and on the far greater fuel efficiencies (and thus greenhouse abatement) that it offered:

> Railways are the most energy-efficient form of motorised land transport. A steel wheel on a steel rail has just one seventh the friction of a rubber tyre on a road.
>
> Rail transport uses less than one third of the amount of fuel than road transport per tonne of freight hauled. Passenger rail services use less than half the amount of fuel than cars or buses per passenger carried.
>
> No matter what improvements in fuel efficiency and reductions in greenhouse gas emissions occur in road transport, it will never be as energy-efficient as rail and will always produce more greenhouse gas emissions per tonne of freight hauled or per passenger carried.[16]

6.18 Despite these obvious advantages, rail services and infrastructure have been allowed to deteriorate while roads have received many times higher levels of public funding. The deterioration in the rail network was underlined by a report by the London-based Economist Intelligence Unit in 1997, which ranked Australia a lowly 2 out of 5 for the extensiveness and quality of its rail network.[17]

6.19 The ARA told the Committee that over the past 25 years the Commonwealth has spent $37.5 billion on roads, more than 20 times the amount spent on rail infrastructure over the same period. They cited an Allen Consulting Report which said that 'for every $1 spent on rail, $21 has been spent on roads. This chronic underfunding of rail has led to greater road freight traffic than would otherwise be the case'. Nationally, say the ARA, government at all levels spend $7 billion per year on roads compared with $400 million on rail. Present Commonwealth rail funding of $250 million over four years on interstate mainline rail infrastructure is just 4 per cent the level of road funding over the same period. However, the Government has failed to spend even this amount, with $125 million of the funds allocated to the dedicated freight corridor still unused.[18]

6.20 However, the ARA say that the rail reforms proposed as a solution under the NGS will be inadequate:

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15 Public Transport Alliance, Submission 111, p 952.

16 Australasian Railways Association, Submission 181, p 1894.

17 Australasian Railways Association, Submission 181, p 1899.

18 Australasian Railways Association, Submission 181, p 1899.

> Rail reform alone will not solve the problems caused by inadequate infrastructure. Jack Smorgon, Chairman of the Federal Government's Rail Projects Taskforce commented that: 'The widespread perception that government investment and taxation practices favour road transport and disadvantage rail is seen as the most significant barrier to private sector involvement'.[19]

6.21 The Railway Technical Society of Australasia listed some of the problems with rail infrastructure, which hampered its efficiency and competitiveness:

> Much of the nation's interstate mainline network is in an unsatisfactory state. For example, the network has numerous speed-weight restrictions due to:
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> - old wooden sleepers in Victoria;
> - light weight rail on the Melbourne to Albury standard gauge track;
> - a curve for every kilometre plus steep ruling grades from Albury to Sydney;
> - poor alignment from Sydney to Brisbane; and
> - some 575 km or 40 per cent of the mainline interstate track in NSW fails to meet basic fast freight train standards of no grade steeper than 1 in 66 and no curve radius tighter than 800 metres. (Between Melbourne and Perth the failure figure is only 4 per cent).[20]

6.22 The RTSA also argue that the downsizing of the rail industry has led to a dearth of training and skills, especially of tradespeople and engineers. These are already creating shortages, which may become worse as an ageing workforce retires. They also cite an Institute of Engineers study which indicated a looming shortage of engineers.[21]

The taxation system is biased towards roads and motor vehicle use

6.23 A number of submitters, including the Rail Technical Society, the University of Wollongong's Professor Philip Laird, the ARA, and the University of NSW Transport Program, argued that the tax system contained distortions which encourage road construction and motor vehicle use over public transport and rail.

6.24 Professor Ian Lowe, from Griffith University in Brisbane, argued that the Commonwealth subsidies of diesel may also be having a negative greenhouse impact, a situation the new tax system may make worse:

> The effective exemption of diesel fuel from the price increases which will otherwise hit almost everything the community uses appears almost as a

19 Australasian Railways Association, Submission 181, p 1900.

20 Railway Technical Society of Australasia, Submission 37, p 193.

21 Railway Technical Society of Australasia, Submission 37, p 193.

> policy designed to encourage increased use of diesel fuel. We already have a range of policies that effectively amount to an annual subsidy that the road research board has calculated at about $30,000 per large road freight vehicle, which is effectively encouraging the transfer of freight from rail and coastal shipping to road, at considerable cost to the community in lives lost and noise and pollution, as well as cost to the community through this taxpayer generated subsidy. The holding down of the price of diesel will effectively increase this subsidy.[22]

6.25 While he does not advocate a rapid removal of the diesel subsidies, due to the economic disruption it could cause, Professor Lowe does advocate that they be gradually phased out:

> I believe that a rational strategy would be to phase out the subsidy over a period of years to avoid disruption because I think it is reasonable that people who have made investment decisions based on the current system of taxes and charges are not disrupted. But a rational approach would be to say now that we will over a period of five years or longer phase out the subsidy on road freight and we will systematically increase the price of fuels by employing a graduated carbon tax that steadily increases over time.[23]

6.26 The QCC also argued for the review of diesel subsidies:

> We support very strongly the review and reduction of fossil fuel subsides, particularly the diesel rebate scheme, linking that to our optimism that the energy credit scheme, which is due for introduction on 1 July 2002 to replace the existing diesel fuel credit scheme, will aim for an overall reduction in greenhouse emissions from the transport sector. All talk, and there has not been a lot to date, of the potential energy credit scheme suggests that this will be rearranging current arrangements without diminishing to any sector the overall level of subsidy.[24]

6.27 A number of witnesses raised the system of Fringe Benefits Tax (FBT) deductions as a problem. The ARA pointed out a discrepancy between the FBT applied to business motor vehicles versus public transport. They assert that while company and government cars represent 16.5 per cent of vehicle sales, they cause 40 per cent of peak hour traffic and 20 per cent of all traffic:

> The FBT applying to motor cars as a proportion of salary packages is approximately 10 per cent of the vehicles purchase price. The FBT applying to a public transport ticket is approximately 95 per cent of the ticket price. This policy creates a significant disincentive for companies to include public transport fares in salary packages and encourages greater use of company cars for commuter use. In contrast, in the USA employers are

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22 *Proof Committee Hansard*, Brisbane, 26 May 2000, p 636.

23 *Proof Committee Hansard*, Brisbane, 26 May 2000, p 636.

24 Mr James Whelan, *Proof Committee Hansard*, Brisbane, 26 May 2000, p 673.

> encouraged to provide public transport tickets worth A$100 per month, tax free.[25]

6.28 The University of NSW Transport Program (UNSWTP) pointed out that 'while an employee is unable to claim, as a tax deduction, for travel to and from work, nonetheless economic benefits for cars are available to employees offered a salary package':

> Under certain circumstances, employees are able to improve their financial position by leasing a vehicle and reducing their taxable income (hence salary sacrificing). The fringe benefit tax (current rate being 48.5 per cent) subsequently paid is based on a concessional rate depending on kilometres travelled per year… the statutory formula used to calculate the percentage to discount a car's value has a distorting effect. No additional cost is imposed on users as distance travelled increases - the taxable value and FBT payable actually falls the longer distance travelled - ranging from 26 per cent for under 15,000 km (the average distance travelled by a household car per year) to 7 per cent for over 40,000km. We have now verified anecdotes from people, who as beneficiaries of the FBT concessions, remark that their employers remind staff with novated leases to clock up more kilometres to reach the threshold before the end of the FBT year, 31st March each year - in practice, typically, cars are lent to friends to take long weekend trips.[26]

6.29 The UNSWTP suggest that not only do FBT concessions on business vehicles cost the Commonwealth needed revenue (an estimated $740 m in 1996-97), but that the concessions directly cut across the Commonwealth's declared policy of travel demand management, as contained in Module 5 of the NGS. They also argued that such FBT deductions led to a growth in cars used to travel to work (with up to 50 per cent of cars travelling to the Sydney CBD receiving some form of FBT deduction) and has caused an increase in the number of cars per household.[27]

6.30 In evidence, the ARA recommended that government introduce 'salary packaging arrangements that are neutral with respect to employee choice of transport', and argued that economic policy, including tax policy, needed to be consistent with national fiscal and environmental policy.[28]

6.31 Such trends are exacerbated by the large proportion of company cars in Australia's fleet. Up to 60 per cent of new car purchases are for 'company cars', and because the drivers of these cars often do not pay for their own fuel there is little incentive to look for fuel efficiencies either in engine size or usage. This is of some concern to the Committee, given that these purchases to a large extent determine the profile of Australia's car fleet as they are handed down.

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25 Australasian Railways Association, Submission 181, p 1903.

26 University of NSW Transport Program, Submission 171, p 1718.

27 University of NSW Transport Program, Submission 171, p 1720.

28 Mr John Kirk, *Proof Committee Hansard*, Melbourne, 20 March 2000, p 151.

6.32 The Committee notes that many other countries have innovative and greenhouse friendly taxation arrangements for motor vehicles. The BFA point out that since the 1970s there had been steadily increasing levels of 'motorisation' and a collective decline of all the more sustainable forms of transport. They compare Australian trends with data from the Netherlands which has a similar population to Australia. The Netherlands National Environment Policy Plans (NEPP) have aimed to constrain motor vehicle dependence since 1989.

> Without the NEPP it was expected that car kms would increase by 72 per cent over the period 1986 to 2010. With the NEPP this increase will be lowered to 48 per cent, a positive step towards ESD. Bicycle trips have substituted for short car trips and 28 per cent of all trips are made by bicycle.
>
> The performance of the Dutch car fleet is far better. At present only 23 per cent of the Dutch car fleet is older than 10 years compared to 43 per cent of the Australian car fleet and Dutch cars are on average smaller. Another factor is the 41 per cent of passenger cars powered by LPG which produces 14 per cent less GHG and significantly less air pollution.[29]

6.33 The Netherlands charge a purchase tax on passenger cars and motorcycles. They are about to lower this and introduce a surcharge calculated on the CO_2 emitted per kilometre so the outcome is revenue neutral but provides incentives for fuel efficiency. Deductions will be made for built-in feedback instruments such as econometers and dashboard computers, cruise control, etc. which can lead to 5 to 10 per cent reductions in fuel use.[30]

6.34 The BFA was critical of the Commonwealth's failure to reverse the current trends or even constrain the growth of motorisation restructuring the tax system, pointing out that the NGS states:

> 'Economic policy instruments (both incentives and disincentives) will be examined to ensure they are consistent with fiscal, economic and environmental policy, including greenhouse objective… to be completed in 1999/2000', p. 56.
>
> The Dutch experience shows that the NGS needs to be backed up by eco-taxes to replace current tax incentive to overuse cars if sustainable trends are to be reversed.[31]

6.35 The BFA lists 13 measures needed to supplement the NGS and National Bicycle Strategy:

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29 Bicycle Federation of Australia, Submission 38, p 207.

30 The Netherlands' Climate Policy Implementation Plan, June 1999.

31 Bicycle Federation of Australia, Submission 38, p 207.

- an annual petrol and diesel tax increase to encourage fuel conservation and efficiency;
- increased GST on energy wasteful vehicles and upgraded emissions standards to European levels by 2002;
- more government support for the gaseous fuels industry through excise exemptions for CNG and LPG and grants for conversions; also more funding for biofuels and ethanol/methanol;
- new design rules which stipulate that all new car and LCV engines be easily convertible to CNG;
- tax and policy measures to encourage an increasing proportion of CNG-fuelled vehicles in government and private fleets;
- salary packaging to encourage cycling and public transport, or Commonwealth rules to ensure salary packaged cars are CNG-fuelled;
- environmentally responsible taxation of workplace parking spaces;
- research funds for an analysis of the provision and pricing of parking spaces;
- GST exemptions for public transport, and greater accessibility to parking and public transport for bicycles;
- encouragement to employers to provide reimbursement for cycling on work business rather than driving;
- greater harmonisation of business developments with public transport facilities;
- urban planning regulations that include car-free housing; and
- $200 million in Commonwealth funds in 2000 for Travelsmart and bicycle strategy plans.[32]

6.36 In their discussion paper *Key Greenhouse Response Strategy in Energy and Transport for Australia*, the Institute for Sustainable Futures, University of Technology, Sydney, argues that Australia should:

> As a matter of urgency, remove tax benefits for the purchase and use of company cars and government cars, and increase the rate of import duty on 4-wheel drives to parity with that of ordinary passenger cars. … . Allow only a fixed flat-rate income tax deduction for personal vehicle use, set at the marginal cost per km of use of a fuel-efficient car, not the total cost per km. Likewise, permit business to claim only fuel costs based on 8 litres/100km or some similar benchmark (ratcheting down over time).

32 Bicycle Federation of Australia, Submission 38, p 207.

> Standard fuel consumption data could be used to apply an adjustment to the proportion of fuel cost claimed.[33]

6.37 The paper suggests that state governments should:

- remove road agencies' planning powers and guaranteed funding, and strengthen powers and funding of Departments of Transport and/or Urban Planning;
- increase taxes on car parking (from zero in some states) in city centres and sub-centres that are well served by public transport, and hypothecate the revenue to local governments for the purpose of providing facilities for cyclists and pedestrians;
- create and enforce an extensive network of transit lanes in cities;
- work with the Commonwealth to implement a national system of mass and distance charges for heavy trucks, as in New Zealand, for Australia's populous zone only;
- develop and implement integrated ticketing and fares for public transport within cities, so that passengers are charged according to distance travelled (except in the central regions of cities where a flat fare is appropriate) and are not charged extra for transfers between modes or between publicly and privately operated services. For example, in Sydney this could involve extensions to the existing travel pass system;
- set up statutory Public Transport Advisory Committees in every local government area with membership comprising representatives from state and local government, public transport providers (including private bus companies where relevant), and members of the public. These committees would have the aim of improving local public transport services and use, and recommending inter alia on proposals for Cities for Climate Protection™ (CCP) funding and on environmental levies by local government;
- from part of the economic savings achieved by other measures, create a substantial fund for cycleways (both arterial and feeders for key local destinations) and bicycle parking at key local destinations (key local destinations include railway stations, schools, and shopping centres). The local part of the bicycle plan would be implemented by local government; and
- create incentives for ownership and use of low-speed electric motor-assisted vehicles, such as scooters and buggies, with power outputs of motors up to 250 watts. This would include legalising their use in all states and territories,

33 Mark Diesendorf, *Key Greenhouse Response Strategy in Energy and Transport for Australia: A Discussion Paper*, Institute for Sustainable Futures, University of Technology Sydney, September 2000.

allowing them to use bicycle paths (subject to speed and size limits) and conducting familiarisation programs in schools.[34]

6.38 Some witnesses also suggested that the new tax system would have a negative impact on efforts to reduce greenhouse emissions from transport. The ARA asserted that the imposition of GST on public transport fares would see them rise by between 5-10 per cent, at the same time as new car prices fall by at least 6 per cent. While some of these purchases may replace older stock, they asserted that many will be new additions to the vehicles already travelling Australia's roads:

> These price effects combined with businesses being able to claim a 7 cents a litre tax credit on petrol used for business purposes are regressive measures that will discourage public transport use and increase car use in urban areas. Taxation reform will further skew the system in favour of motorists. In contrast, most European countries either zero rate public transport or apply a reduced rate.[35]

6.39 The UNSWTP recommended that public transport travel passes be tax exempt, and claimed that 'depending on conditions, we know from experience in other countries (and the TravelSmart Program in Perth) that a 10-30 per cent mode shift from car commuting to public transport can be achieved by offering tax exempt travel passes'.[36]

6.40 The UNSWTP has proposed a number of recommendations for tax reform in relation to transport:

- licence fees levied on parking bays, levied differentially according to the level of local congestion and the availability of public transport. Where public transport alternatives were not readily available, the fee would be zero or very low. Licence fees could then be applied to investments in public transport;
- amendments to FBT legislation to ensure that no financial advantage can be gained by travelling more kilometres in a vehicle under a novated lease;
- amendments to FBT legislation to provide exemption for employers who provide subsidised public transport fares or passes to their staff; and
- the introduction of road pricing in large cities 'where congestion costs and environmental impacts from road transport are the greatest. This would reflect the true social costs from motoring and put public transport in a more competitive situation in the urban transport market'.[37]

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34 Mark Diesendorf, *Key Greenhouse Response Strategy in Energy and Transport for Australia: A Discussion Paper*, Institute for Sustainable Futures, University of Technology Sydney, September 2000.

35 Australasian Railways Association, Submission 181, p 1903.

36 University of NSW Transport Program, Submission 171, p 1718.

37 Urban Transport Taxation Subcommittee, *Issues with the current concessional taxation treatment of cars and parking compared to public transport*, August 1999.

6.41 The NGS does contain a measure under which the impact of taxation policies on transport emissions may be considered. Measure 5.1 to 'examine economic policy instruments relating to transport to ensure they are consistent with fiscal, economic and environmental policy, including greenhouse objectives'. The AGO informed the Committee that this task was being undertaken by the Bureau of Transport Economics (BTE) at the request of the Australian Transport Council. The BTE's final report is to be considered by Commonwealth, state and territory transport ministers at a meeting in November 2000.[38]

Recommendation 45

The Committee recommends that the Bureau of Transport Economics' report on the economic policy instruments relating to transport be made public immediately. The Committee recommends that the planned meeting of transport ministers to consider the report be broadened to include the respective environment ministers and/or ministers responsible for greenhouse issues.

Recommendation 46

The Committee recommends that the Commonwealth work with the states to consider the following measures proposed by the Institute for Sustainable Futures University of Technology, Sydney:

- **strengthen the role of Departments of Transport and/or Urban Planning in integrated transport solutions;**
- **increase taxes on car parking in centres that are well served by public transport;**
- **create and enforce an extensive network of transit lanes in cities;**
- **a national system of mass and distance charges for heavy trucks travelling in Australia's populous zone;**
- **integrated ticketing and fares for public transport within cities;**
- **local consultative committees in local government areas with the aim of improving local public transport services and use;**
- **improve funding for cycleways and bicycle parking at key local destinations; and**
- **create incentives for ownership and use of low-emission vehicles, including low-speed electric motor-assisted vehicles (such as scooters and buggies).**

38 Australian Greenhouse Office, *Response to Questions on Notice from Senator Bob Brown*, 8 September 2000, p 13.

Recommendation 47

The Committee recommends that the Government carry out a review of Fringe Benefits Tax legislation to remove the incentive for employers to include motor vehicles for private use in salary packages, to remove financial rewards for travelling more kilometres in a vehicle under a novated lease, and to generally remove barriers to employees using alternatives to single occupancy of cars in commuting.

Recommendation 48

The Committee recommends that the Government introduce Fringe Benefits Tax deductions for the inclusion of public transport and cycling commuting expenses in salary packages.

Recommendation 49

The Committee recommends that public transport fares be considered for exemption from (or zero rated for) GST.

Recommendation 50

The Committee recommends that the proposed new Energy Credit Scheme be used to gradually phase out diesel fuel rebates and credits. The Committee supports the use of other greenhouse-neutral compensatory measures to ensure that such a phase-out does not lead to greater hardship in rural and remote areas.

Alternative Fuels

6.42 World-wide, some 50 million cars are added to the roads every year and by 2030 there could be 1 billion cars globally. For this reason many in the car industry believe the era of the 'clean car' is about to begin with fuel cell engines, hybrid drives and advanced battery systems getting closer to commercialisation.[39]

6.43 Gaseous fuels and hybrid electric and petrol and hydrogen fuel cell vehicles offer opportunities for reducing greenhouse emissions by 15 to 50 per cent over current petrol and diesel fuels. Ultra low sulphur diesel and petrol can also achieve lower emissions.

6.44 Whilst the uptake of liquid petroleum gas (LPG) has been significant in passenger vehicles, particularly taxis (30,000 megalitres in 1989 rising to 130,000 megalitres in 1999) the number of alternative fuel vehicles on Australian roads is still extremely low. It is too early to assess the success of government measures discussed above but to date around 440 gas buses have taken up the grants.

39 *Tomorrow* magazine, September/October 2000.

6.45 Ford in Australia manufactures dedicated LPG Falcon sedans and utilities. The extra cost of these vehicles is around $800 - a sum which would be recouped in fuel savings by average motorists in less than a year. No other Australian car manufacturer yet markets vehicles run on gas fuels, off their production line, although some make CNG vehicles available for fleets. Volvo is expected to release a CNG model soon but it will be fully imported.

6.46 In 1995, the California Air Resources Board Certification Branch demonstrated that a light van converted from petrol to CNG would produce 24 per cent less CO_2 emissions, 76 per cent less CO, 83 per cent less NO_X (oxides of nitrolgen), 88 per cent less non-methane hydrocarbons, 99 per cent less benzene and almost no sulphur.

6.47 A major impediment to the take-up of CNG vehicles in Australia is the lack of fuelling stations. The Commonwealth fund of $7.6 million is being used to fund up to 50 per cent of the cost of purchasing and installing equipment for a limited number of publicly accessible refuelling outlets. The aim is to establish up to 20 additional sites around Australia by 2002. To date there are only 12 CNG refuelling sites in Australia compared with 3,300 LPG outlets.[40]

6.48 Apart from the greenhouse advantages of using CNG, it is an indigenous fuel. Australia has a substantial and growing network of CNG pipeline infrastructure into many regions, the Commonwealth has a fixed 5 year rolling moratorium on the introduction of an excise and CNG is not linked with the world crude oil parity pricing system.

6.49 Although still a fossil fuel, natural gas is regarded by the Committee as an important transitional fuel for some time to come.

6.50 The UK Cleaner Vehicles Taskforce offers the view that consumers may be reluctant to pay the additional costs associated with alternative fuels and technologies and suggests that on-going market incentives will be significant in determining the market introduction of alternative fuels and vehicle technologies. The Taskforce claims that the market will be strongly influenced by one or more of the following:

- consumers' and operators' perception of costs which may be different to 'actual costs';
- predicted cost benefits to the customer/operator, such as improved fuel economy and reduced fuel costs;
- customer/operator beneficial performance features, such as drive quietness and smoothness;

40 The Australian Greenhouse Office, *Fact Sheet: Compressed Natural Gas Infrastructure Program*, http://www.greenhouse.gov.au/transport/cng.html.

- other savings in vehicle cost/complexity to the manufacturer, especially in the areas of emissions control equipment and exhaust after-treatment;
- possible vehicle access restrictions to city centres for all but low-emission vehicles; and
- increasingly stringent European legislation which may favour alternative fuels and technologies.

Hybrid Electric Vehicles

6.51 A number of car manufacturers have produced prototypes of hybrid electric and petrol vehicles which have the potential to reduce fuel consumption by up to 50 per cent. They utilise a simple and highly tuned internal combustion engine to operate an alternator to produce electricity that in turn drives hub mounted motors to power the wheels. Power from vehicle braking may be recaptured and stored in batteries. None of these prototypes hybrids is likely to be made available in Australia for the foreseeable future:

- Holden joined forces with CSIRO in Australia to produce the Eco-mmodore which uses a small four cylinder engine and an electric motor to drive the front wheels. These power sources work in tandem to attain performance levels comparable to those of the current Commodore with reductions in fuel consumption of around 50 per cent. Holden has no plans to go into production in Australia;
- CSIRO were also part of a consortium of 100 Australian companies which has developed the hybrid aXcessaustralia concept car which would produce 10 per cent of the emissions of an average family car while reducing fuel consumption by half. The car is on tour looking for interest amongst car makers;
- Toyota's Prius is powered by an electric motor, power for which is supplied by a 288 volt battery pack and a fuel-efficient twin cam multi-valve petrol motor and uses half the petrol of an equivalent sized petrol vehicle and emits only half the carbon dioxide on a typical city drive cycle. Seven production models of Prius have been brought to Australia for evaluation and the vehicle is expected to be launched commercially in Europe during 2000 but there are no plans to produce them here;
- Ford recently brought to Australia its THINK City zero emission, two seater vehicle powered by a liquid cooled, three-phase, alternating current induction motor which can be recharged in any standard 220 volt 16 or 10 amp outlet. This vehicle is on sale in Norway and will be available in the US within the next two years, but not in Australia; and
- Honda Insight is an ultra-light 1.0 litre lean-burn engine that works in tandem with a brushless DC electric motor. It achieved world-low consumption figures of 3.85 litres per 100 km and a highway rating of 3.36 litres per 100 km. This vehicle is on sale in US, Europe and Japan and can be imported into Australia.

Hydrogen Fuel Cell Vehicles

6.52 The Committee notes the development of the hydrogen fuel cell in Europe, Japan and the US and the views expressed that the longer term future of transport is in this technology. California recently passed legislation requiring at least 10 per cent of new cars to produce zero or near-zero pollution by 2003.[41]

6.53 DaimlerChrysler recently completed its NECAR 4 - the latest in a line of developmental fuel cell vehicles - which can reach a top speed of 145km/hr and has a range comparable with conventional petrol vehicles. It has also improved efficiency and up to 80 per cent of the chemical energy in the hydrogen fuel is transformed into electrical energy in the fuel cell.

6.54 In its final report of the Cleaner Vehicle Task Force, June 2000, the UK Department of Environment, Transport and the Regions says:

> Fuel cell vehicles have the potential to be very clean and efficient vehicles. There are a number of different potential fuels, but if pure hydrogen was used the only tailpipe emission from a fuel cell vehicle would be water. If other fuels such as methanol or petrol are used then the vehicle will produce CO_2 emissions and may produce small amounts of local air pollutants at the point of use, depending on the fuel used. However, fuel cell vehicles may initially be very expensive, and would need to be much cheaper than current predictions suggest to be used to reduce emissions of local and global pollutants in a value-for-money way.[42]

6.55 The UK provides financial assistance for pre-commercial fuel cell electric demonstration projects through its Powershift Program and encourages vehicle manufacturers to make fuel cell vehicles available in the UK as soon as possible.[43]

6.56 The UK have identified three main barriers which affect the introduction of hydrogen internal combustion engines (ICEs) and fuel cell electric vehicles (FCVs) as:

- the current cost of fuel cell electric vehicles, which is much higher than conventional ICE vehicles. This is largely because of the high development costs and because they are not made in large volumes. This situation may change in 2003/4 when several major motor manufacturers plan to commercially launch fuel cell vehicles;
- the high degree of uncertainty concerning the optimum system design for fuel cell electric vehicles; and

41 *Tomorrow* Magazine, Sept/October 2000.

42 Report of the UK Alternative Fuels Group of the Cleaner Vehicles Task Force, 2000.

43 Report of the UK Alternative Fuels Group of the Cleaner Vehicles Task Force, 2000.

- the high uncertainty regarding the best fuel infrastructure for supplying hydrogen. The main contenders include pure hydrogen and reforming natural gas, methanol and synthesised low sulphur petrol.[44]

6.57 The Committee also visited CSIRO's Energy Technology Division Laboratory at Lucas Heights, where hydrogen is being produced using solar energy and natural gas, a process which is able to effectively capture 20 per cent of the solar energy this way.

6.58 The Committee also notes the proposal by the Western Australia State Government Transport Department to introduce three of the 30 fuel cell buses being trialed by BP/Mercedes world-wide.

Recommendation 51

The Committee recommends that a national strategy be developed with vehicle manufacturers to increase the availability of alternative fuel vehicles.

Recommendation 52

The Committee recommends that agencies be encouraged to purchase alternative fuel and hybrid electric petrol vehicles as they replace their fleet and as one mechanism to achieve efficiency targets.

Recommendation 53

The Committee recommends that the Commonwealth Government facilitates joint purchasing arrangements for Commonwealth agencies to exercise maximum leverage over Australian manufacturers in providing fuel-efficient cars.

Recommendation 54

The Committee recommends that the Government, in consultation with the states, develop a communications strategy to educate consumers about:

- **the benefits of using public transport, walking and cycling;**
- **the benefits of cleaner, quieter, more fuel-efficient vehicles;**
- **the whole-life environmental impacts of second hand vehicles; and**
- **the benefits of better vehicle maintenance and 'greener' driving.**

44 Report of the UK Alternative Fuels Group of the Cleaner Vehicles Task Force, 2000.

Vehicle Maintenance and Better Driving

6.59 Poor vehicle maintenance can increase pollution and reduce fuel efficiency. A well-maintained 10 year old car can use up to 30 per cent less fuel than a badly maintained car of the same age. Similarly, driving in a safer and more fuel-efficient way can cut fuel use by between 10 and 30 per cent, depending on the type of trip.

Recommendation 55

The Committee recommends that a review be conducted to identify opportunities to improve environmental outcomes in vehicle maintenance, particularly in relation to frequency, service standards and personnel training.

Cycling

6.60 The BFA provided the following charts which show the growth of the human and car population, the growth of driving to work and the collective decline of all the more sustainable transport modes.

Figure 6.2

Source: Bicycle Federation of Australia

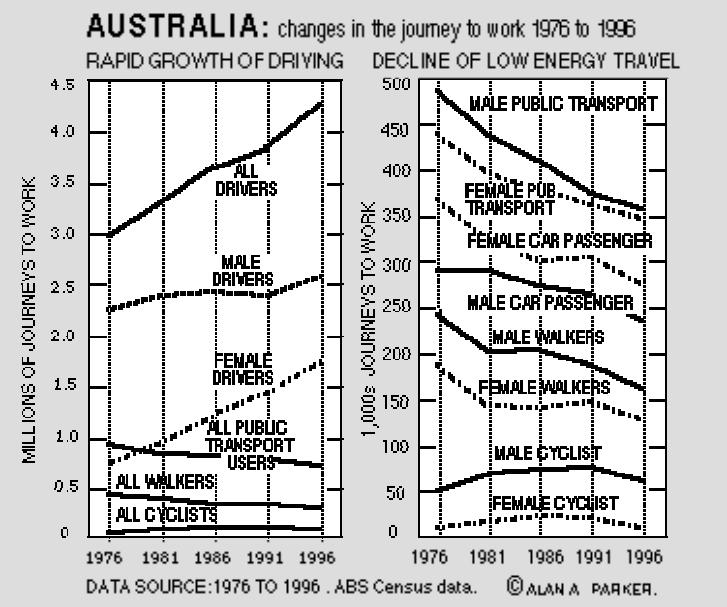
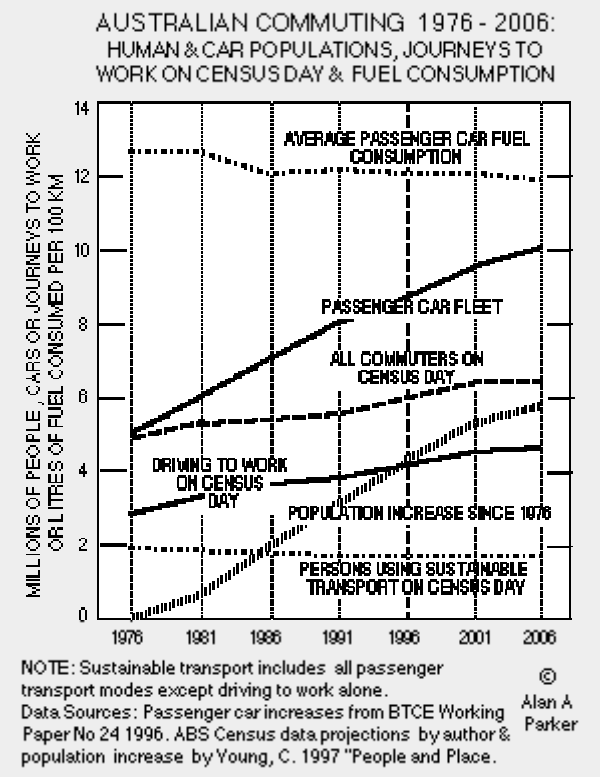


Figure 6.3

Source: Bicycle Federation of Australia



6.61 The BFA draw attention to the data which:

> … shows that the average passenger car fuel consumption has changed little in 20 years because while engine efficiency has improved energy is lost powering cars which are faster and fitted with more energy consuming features such as automatic transmissions, air conditioners and an increasing proportion of the car fleet has four wheel drives.
>
> During this 20 year period the Australian population increased [by] 4.3 million to 18.3 million by 1996. The 1.05 million increase in people travelling to work on Census day to 6 million was only one quarter of that. Most of the population increase and [increase] in people travelling to work (815,000) was in the seven capital cities. Meanwhile, the car population increased from 5.1 million in 1976 to 8.8 million in 1996; an increase of 3.7 million cars corresponding with the 4.3 million increase in population.[45]

The Potential of Rail

6.62 Witnesses strongly argued that the increased use of rail, for both freight and urban passenger transport, would create enormous scope for a sustainable long term reduction in transport emissions. The ARA argued that:

45 Bicycle Federation of Australia, Submission 38, p 204.

> Australia's railways, both freight and passenger, can play a major role in reducing greenhouse gas emissions, particularly in our cities. For Australia to be serious about reducing greenhouse gas emissions, it must enhance the role of rail in the nation's transport system. Increased investment in rail to reduce greenhouse gas emissions is strongly supported by the Australian community. In our 1999 and 1998 Newspoll surveys, we found that 86 per cent of voters believe that freight by rail is better for the environment than using large and heavy trucks.[46]

6.63 The ARA stated that just one train operating between Sydney and Melbourne could replace 150 semi-trailers, saving 45,000 litres of fuel and 130 tonnes of emissions. They estimated that every train carrying 1,000 people replaced 800 car journeys, and that Australia's urban rail services, which carry 580 million passengers a year, replace approximately 470 million car journeys and save 2.5 Mt of emissions. They claim that rail freight is three times more fuel-efficient than road, and produces less than one third the emissions per tonne kilometre:

> The Bureau of Transport Economics estimates that upgrading intercapital mainline infrastructure could result in a 40 per cent shift of intercapital freight from road to rail and generate net social benefits of $3,400 million by 2015.
>
> Transferring this amount of freight from road to rail in the Melbourne-Sydney-Brisbane corridor would save 200 million litres of fuel and 580,000 tonnes of greenhouse gases per year on the existing freight task.[47]

6.64 The ARA told the Committee that there was latent demand for rail, and that new infrastructure is rapidly patronised:

> Where governments have invested in urban rail projects we have seen improved patronage of rail services, particularly the electrification programs in Brisbane and Perth. Major investments have seen a modal shift in favour of rail. Certainly, the projects that are going ahead in Sydney are going to be desperately needed by that city. The policies that are being promoted here in Victoria to expand the network here also give us some considerable hope for the future. The situation in Adelaide is a little different. Adelaide is still very heavily car-based and we are seeing patronage of rail in Adelaide go against the trend and decline, whereas in every other city the use of rail services is actually increasing.[48]

6.65 The ARA's submissions added to this argument, saying that 'the current emphasis in Australian cities on urban freeways is out of step with overseas trends':

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46 Mr John Kirk, *Proof Committee Hansard*, Melbourne, 20 March 2000, p 152.

47 Australasian Railways Association, Submission 181, p 1896.

48 Mr John Kirk, *Proof Committee Hansard*, Melbourne, 20 March 2000, p 153.

> Cities around the world are expanding and upgrading their urban rail and light rail networks and this is reflected in patronage use. In 1997/98, the London underground had an 8 per cent patronage increase while patronage on light rail service increased by 7 per cent. In the US, heavy rail services had a 5.5 per cent patronage increase, light rail patronage increased 6.3 per cent and outer-urban commuter rail patronage increased 5.4 per cent.[49]

6.66 The Committee notes that road infrastructure has received almost 20 times the funds applied to rail over the past 20 years. Moving passengers and freight to rail has the potential to achieve significant greenhouse emissions reductions and will be an important component in meeting current and future Kyoto targets.

6.67 The disparity in Federal funding for road and rail underlines the need for the Commonwealth to become more involved in national strategies for the development and funding of new rail lines and services. The ARA argued that:

> One of the problems we have in this country is that there is no real Federal involvement in urban rail. For example, if state governments want to build roads then they can quite happily tap into tied road grants, but if they want to build urban railways they have to be state loans. Consequently, the northern suburbs railway in Perth, for example, is a state loan, whereas the parallel Mitchell Freeway and other road projects were built primarily with Federal funds. If you look at the Intermodal Surface Transportation Equity Act of 1998 in the USA, that provides $42 billion in Federal funds over the five years to 2003 for urban transit projects. So if we are going to capitalise on redevelopment of our cities and revitalisation of urban rail there needs to be a greater commitment from government, particularly from the Federal Government, to urban rail so that those projects are not state loans but come out of an overall transport fund that can used for road or rail projects, depending on what has been determined to be the best allocation of that money.[50]

6.68 A discussion paper - *Key Greenhouse Response Strategy in Energy and Transport for Australia* - by the Institute for Sustainable Futures, University of Technology, Sydney suggests that Australia:

> End the existing bias towards funding the construction of major roads, by adopting legislation similar to the USA's *Intermodal Surface Transportation Efficiency Act* (ISTEA), now known as the *Transportation Equity Act* (TEA), which requires roads to compete with rail, and includes environmental impacts in the assessments of funding proposals, which are done by cities and local regions.[51]

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49 Australasian Railways Association, Submission 181, p 1902.

50 Mr David Hill, *Proof Committee Hansard*, Melbourne, 20 March 2000, p 154.

51 Mark Diesendorf, *Key Greenhouse Response Strategy in Energy and Transport for Australia: A Discussion Paper*, Institute for Sustainable Futures, University of Technology Sydney, September 2000.

6.69 There is a strong argument for the Commonwealth to develop a national rail strategy that is guided by a declared greenhouse emissions reduction objective, and by a desire to maximise the associated benefits to the nation in regards to health improvements, and reduction in congestion and smog.

6.70 The Commonwealth has an opportunity to become involved with the development of strategies for *urban* rail and the funding of projects which have overall greenhouse and other health and environmental benefits. The Committee urges the Commonwealth Government to cooperate with the states in developing wide ranging proposals for new and improved urban rail infrastructure and services. Costings should include quantified greenhouse reductions (and other health and pollution mitigation) benefits, along with benefits of reduced congestion, reduced degrading of existing road infrastructure, and the deferral of road spending through reduced demand.

6.71 The Commonwealth should also cooperate with the states and territories in assessing needs and priorities for the improvement of interstate mainline rail infrastructure, with a view to improving rail competitiveness and efficiency in the carriage of both passengers and freight. The assessment should consider needed improvements in track speeds and weight thresholds, in access to ports, industrial sites and population centres, training and expertise, and ownership and organisational structures.

6.72 A range of funding options would be available: GST revenues, fuel excises, a much larger proportion of existing road funds, and auction revenues from an emissions trading system. The Committee believes that the improvement of Australia's rail infrastructure and services - both urban and interstate - should be a major national priority, and thus consideration should be given to the dedication of increased budget funds over the long term. An improvement in Australia's national rail infrastructure and services has the potential to provide many decades of benefits to the community.

6.73 The Committee also notes that national rail services were the subject of a major inquiry in 1998 by the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform (The Neville Committee). Its report, *Tracking Australia*, recommended that the Commonwealth invest $750 million to fix the worst deficiencies in the national track over the three years to July 2001, and an additional $2 billion over the 10 years from 2001, with the national track as a priority.[52]

6.74 It also recommended the declaration of a 'national track' on the standard gauge line between Brisbane and Perth including Melbourne and Broken Hill, and importantly for greenhouse, recommended a 'more equitable treatment of rail and road

52 House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform, *Tracking Australia: An inquiry into the role of rail in the national transport network*, July 1998, pp xix-xxxi.

by governments in terms of investment, taxes and charges, and regulatory requirements'. It emphasised that 'externalities - environment, congestion, accidents, air and noise pollution, gas emissions and greenhouse effects - should be considered when assessing the efficiency of the transport industry'. It argued for a new regulatory framework to be developed between the Commonwealth, states and territories to 'help the Australian rail industry attain international best practice' which would see the Commonwealth 'encourage rail initiatives'.[53]

6.75 The Commonwealth Government has only committed $250 million in rail upgrade funds and has failed to commit the extra funds which the Neville Committee argued were needed over both the short and long term. It failed to respond effectively to the Neville Committee's recommendation for more equitable treatment of road and rail, or to the need to incorporate externalities such as greenhouse into policy and regulatory actions. Government responses to already identified problems with rail infrastructure, funding and policy bias remain piecemeal and ineffective.[54]

Recommendation 56

The Committee recommends that the Commonwealth Government cooperate with the states in developing proposals for new and improved rail infrastructure and services. Costings should include quantified greenhouse reductions and other health and pollution mitigation benefits.

Recommendation 57

The Committee recommends that the Commonwealth Government commit to provide substantial funding for new urban as well as regional rail infrastructure and improvements to existing infrastructure as part of a cooperative strategy with the states.

Recommendation 58

The Committee recommends that the Commonwealth Government cooperate with the states and territories in assessing priorities for the improvement of interstate mainline rail infrastructure, with a view to improving rail competitiveness and efficiency in the carriage of both passengers and freight. The assessment should consider needed improvements in track speeds and weight thresholds, improvements in access to ports, industrial sites and population centres, improvements in training and expertise, and ownership and organisational structures.

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53 House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform, *Tracking Australia: An inquiry into the role of rail in the national transport network*, July 1998, pp xix-xxxi.

54 The Hon. John Anderson, Minister for Transport and Regional Services, Response of the Federal Government to Reports of the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform, *Tracking Australia*, April 2000.

A Long Term Strategy for Public Transport

6.76 In the Committee's view, the increasing funding, development and utilisation of public transport must be central to a national effort to reduce emissions from transport. The statistics cited at the beginning of this chapter - that 92 per cent of urban passenger transport is undertaken by private motor vehicle, that 89 per cent of Australia's total transport emissions are from trucks and cars, and that car emissions increased 16.6 per cent between 1990 and 1998 - are not only alarming statistics in themselves; they also point to the enormous potential for emissions reduction if much of that usage can be shifted to public transport.

6.77 The Committee notes that the NGS contains public transport initiatives; however these are limited to the National Bicycle Strategy, marginal improvements to efficiency, and the establishment of a state-Commonwealth 'forum' by July 1999 'to investigate new public transport modes and technologies and evaluate best practice options applicable to various urban conditions'. The NGS contains no timeline for the forum to report, and no clear directions as to its outcomes or influence on future government action. It appears that the forum has not made any substantive progress to date. The AGO informed the Committee that:

> The Commonwealth Department of Transport and Regional Services has undertaken consultations with state and territory agencies and interested academic and community groups. The aim of these consultations has been to further define the objectives and methodology of the project. A report on the forum will be provided to the Australian Transport Council at its meeting of November 2000.[55]

6.78 It is unclear from this response exactly what progress has been made. As valuable as the initiatives in the NGS might be, they are piecemeal and contain no firm timetables or commitments to action. Indeed, it is arguable that they appear more as an effort to defer meaningful action. In the Committee's view, what is required in this area is vision, leadership, funding and long term commitment.

6.79 The ARA was critical of a lack of Commonwealth support for public transport, saying that: 'Neither Environment Australia nor the Federal Department of Transport and Regional Services has a policy to promote public transport in the major cities of Australia. They emphatically deny any responsibility for tackling one of the biggest causes of greenhouse gas emissions in our cities. It is simply not their problem; it is a matter for the states to determine'.[56]

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55 Australian Greenhouse Office, *Response to Questions on Notice from Senator Bob Brown*, 8 September 2000, p 16.

56 Mr John Kirk, *Proof Committee Hansard*, Melbourne, 20 March 2000, p 151.

6.80 The ARA argued that funds devoted to public transport will provide far more cost-effective greenhouse emissions reductions than improvements to roads. They compared Melbourne's CityLink freeway project, which cost $3 billion and is expected to achieve some greenhouse reductions, with the potential investments in public transport which could have been made with the same (or less) expenditure. These potential improvements included: faster rail links with regional centres and rural areas; an airport rail link; faster and more frequent urban rail services; an extension of the suburban rail system to outer suburbs; a rail line east to Doncaster; more effective integration of bus and rail services; expanded car parking at railway stations; and improved passenger safety.[57]

6.81 Professor Lowe argued that there were benefits to be gained by a better integration of public transport modes:

> It has been a historic problem in Brisbane, for example, that the trains are run by the state government and the buses by the city council. For generations, they did not even meet to argue about it. They simply did their own thing - operating in parallel universes. There was no integration of timetables; no integration of fare structures. We are making some progress on that. But any realistic consideration of a city like Brisbane shows that very few journeys can be met by one trip on one transport mode. So if we are going to encourage more people to use public transport, we have to develop some form of integration.[58]

6.82 He also argued for a commitment to funding and investing in public transport:

> We also have to have a realistic investment in public transport. I think Peter Newman recently said that, in the last 30 years, we have spent about $1 billion of public money on all forms of public transport and $43 billion of public money on roads, which is exactly what you would do if you wanted to encourage people to use cars rather than public transport. It seems to me that, if we are serious about public transport, we have to regard it as a measure that deserves public investment on at least the level of the road budget.[59]

6.83 While arguing for a range of approaches which would increase the energy efficiency of motor vehicles, the Australian Automobile Association also argued strongly for a renewed commitment to public transport:

> Car dependency in Australia, and for that matter most other industrialised countries, is growing due to the failure of governments and public authorities to maintain the levels of investment in public transport infrastructure needed to facilitate a shift from personal transport modes to public transport modes. Transport policy must be geared towards

57 Australasian Railways Association, Submission 181, p 1902.

58 *Proof Committee Hansard*, Brisbane, 26 May 2000, p 639.

59 *Proof Committee Hansard*, Brisbane, 26 May 2000, p 639.

> facilitating a reduction in such car dependency and specifically first targeted at those journeys most easily changed from cars to other public transport alternatives.[60]

Recommendation 59

The Committee recommends that the Commonwealth Government work with state and local governments to urgently assess needs for new and improved public transport infrastructure and services as an additional measure to the 'forum' set up under the National Greenhouse Strategy and to be completed within 3 years.

Recommendation 60

The Committee recommends that the Commonwealth Government work with state and local governments to scope and develop new public transport proposals (including quantified projections for savings in greenhouse emissions) and develop cooperative long term funding models with the aim to achieve firm commitments to realise major new projects in the short-to medium-term.

Transport - Better Policy Directions

6.84 The South Australian Government acknowledged that transport 'is a major contributor to greenhouse, making success in this sector a necessary part of meeting Australia's international commitments'. Its contribution to that State's emissions is currently 19 per cent, with a 20 per cent growth between 1985-1995 and further growth of 42 per cent over 1990 levels by 2012.[61]

6.85 However, while acknowledging its importance, the South Australian Government argued that 'the transport and urban planning sector is unique in a number of ways making the management of greenhouse emissions from this sector very challenging':

> There are no available broad technical fixes to greenhouse gas emissions from the transport sector. As a result, [a] package approach is required which address[es] the large number and diversity of emissions sources.[62]

6.86 The Committee believes that this is an important point. The evidence presented during this inquiry demonstrates that transport emissions are a problem because of a diverse range of factors: biases in the taxation system; poor urban planning; outdated transport policymaking models; the imbalance between government funding for roads and rail, cycling infrastructure and public transport; the

60 Australian Automobile Association, Submission 122, p 1161.

61 South Australian Government, Submission 199, p 2120.

62 South Australian Government, Submission 199, p 2120.

nature of freight markets; and the absence of environmental signals in the markets for vehicles and fuels. Each of these areas needs to be addressed in a coordinated and committed fashion.

6.87 Other witnesses also argued that effective policy was hampered by a lack of analysis and statistics which could alert policymakers to negative trends. Dr Philip Laird argued that:

> We have to get better data on what is happening out there. We just do not know what is happening in transport which is a major energy-intensive sector of our community. In the last two months the ABS released its 2000 year book. It did not even have the rail freight in tonne kilometres. It is too hard to count with the part privatisation that has occurred, so they have given up. Their survey of motor vehicle usage - would you believe - had the road freight output in billion tonne kilometres falling throughout the 1990s. We need better data and we need it quickly.[63]

6.88 The Queensland Conservation Council (QCC) recommended two major policy models which government should consider. One was the US Government's transport legislation, the *Intermodal Surface Transportation Act* (TEA-21):

> The TEA-21 legislation in the states has achieved phenomenal success in increasing public transport usage, seeing the modal split rise 20 per cent. To put that into context, in our region public transport, as a modal split of all trips, represents approximately six per cent of all trips now, represented in the 1960s some 40 per cent of all trips being made in Brisbane, and has recently been reported to be declining at 2.6 per cent per annum.[64]

6.89 The QCC's Mr James Whelan argued that the US legislation was underpinned by a new mentality in relation to national transport needs:

> The Conservation Council has helped organise a national speaking tour by Don Chen of the surface transportation policy project, a Washington-based non-government organisation in the US representing a coalition of some 250 organisations across the United States which brought about the adoption of this new legislation in the US, which has turned transport funding in the United States on its head. Don Chen spoke very convincingly across the country of the death of the 'predict and provide' model for transport - that you cannot build your way out of congestion, that new roads generate new traffic and the benefits that are anticipated from new road construction are very rarely realised, certainly in terms of relieving congestion.[65]

6.90 Mr Whelan urged the Committee to consider a different way of allocating Commonwealth funds for transport:

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63 *Proof Committee Hansard*, Sydney, 22 March 2000, p 378.

64 Mr James Whelan, *Proof Committee Hansard*, Brisbane, 26 May 2000, p 673.

65 *Proof Committee Hansard*, Brisbane, 26 May 2000, p 674.

> We would urge very strongly the Senate to look at models of transport funding that would see the billions of dollars of Commonwealth transport funding prioritise preferred modes. In the south-east Queensland region, for instance, in order, we consider, for the State and local governments to obtain any transport funding from the Commonwealth, the regional and local government would need to demonstrate successful implementation of a transport plan. Currently, the State government is able to come to the Commonwealth to ask for assistance in implementing the regional transport plan which is currently failing and is delivering a major increase each year in greenhouse and other air pollutant emissions. There is no success control and no conditions for the receipt of Commonwealth funding.[66]

6.91 The Australian Automobile Association (AAA) argued for a combination of approaches. These included: the promotion of new vehicle technologies and fuel efficiencies; the promotion of alternative fuels; improved public transport and land use planning; intelligent transport systems; the education of drivers and consumers; and fiscal policies which rewards fuel efficiency and reduced emissions.[67]

6.92 However, they acknowledged that energy efficiencies and technological innovations in motor vehicles would not be enough. If the price of carbon were to be increased in an effort to achieve meaningful reduction in motor vehicle emissions, transport alternatives had to be available:

> Improving the fuel efficiency of vehicles is insufficient on its own to ensure a reduction in greenhouse gas emissions from passenger vehicles. Higher fuel duties and other so-called green taxes are being applied to motorists in an attempt to discourage car use. This strategy, however, will totally fail as motorists find that there are fewer safe, comfortable, convenient and affordable alternative forms of transport available.[68]

6.93 BP Amoco made a similar argument in relation to the potential for fuel prices to increase as the result of emissions trading. They argued that it would not necessarily cause a reduction in motor vehicle use unless public transport alternatives are available:

> But, again, for the ultimate consumer, the car driver, I do not think emissions trading in my view works in that small, small market. Again, a levy also only really works if they have options. If you put a levy on fuel and they do not have public transport, a cleaner fuel to go to or something, all you are actually doing is knocking up the cost of that family's budget.[69]

6.94 The AAA is cautious about the use of taxes to provide a disincentive to car use, opposing the 'imposition of any further increase in so-called environmental taxes

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66 Mr James Whelan, *Proof Committee Hansard*, Brisbane, 26 May 2000, p 673.

67 Australian Automobile Association, Submission 122, pp 1157-66.

68 Australian Automobile Association, Submission 122, p 1161.

69 Mr Merton Smith, *Proof Committee Hansard*, Sydney, 22 March 2000, p 320.

on motorists'. While the Committee is unaware of any taxes currently applying to motorists having been imposed for environmental reasons, this indicates an in-principle opposition to such a policy. However, the AAA argues that, if taxes were imposed for environmental reasons, revenues must be used to address environmental problems and be related to levels of use. The Committee supports a principle in which road user levies imposed for environmental reasons should be put to environmental purposes. The Committee suggests that such a principle would be embodied in an emissions trading system in which auction revenues were recycled back into the economy with environmental solutions and further abatement a priority.

Recommendation 61

The Committee recommends that the Commonwealth adopts integrated transport planning so that all transport funding proposals include an assessment of environmental impacts and alternative transport solutions. Funding allocation decisions should be based on clear and accepted principles, and be subject to the highest standards of transparency and accountability.

Recommendation 62

The Committee recommends that the consideration of bikeways and pedestrian access be required for all new Commonwealth-funded road construction.

Australian Democrats Recommendation 7

The Australian Democrats recommend that the Commonwealth Government review the current road and transport funding model, with a view to incorporating road funds into a common transport fund. This common fund should be drawn on for a whole range of investments and projects: urban and interstate rail, public transport, major roads and cycling infrastructure. Greenhouse abatement, and the development of new rail and public transport infrastructure, should be priorities in the allocation of monies from such a fund. Allocation decisions should be based on clear and accepted principles, and be subject to the highest standards of transparency and accountability.

Recommendation 63

The Committee recommends that greenhouse abatement and other environmental goals be incorporated into transport policies, and taxation and planning policies which affect transport, as fundamental and governing priorities.

Recommendation 64

The Committee recommends that Commonwealth, state and local government should adopt challenging quantitative emissions reduction targets for their fleets within 2 years and that business be encouraged to do likewise.

Recommendation 65

The Committee recommends that work be undertaken to ensure the regular and comprehensive reporting of transport statistics such as passenger motor vehicle and public transport usage, walking and cycling patterns, safety, rail and road freight, etc.