
**SUBMISSION TO THE
INQUIRY INTO AUSTRALIA'S FUTURE OIL SUPPLY AND ALTERNATIVE
TRANSPORT FUELS**

**LES CHANDRA
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INTRODUCTION

I am pleased to make this submission to this inquiry. I have recently completed a two year research study into the relationship between urban form, transport provision and motor vehicle use, and hence feel qualified to make a contribution to this debate.

I am not an expert in oil supply forecasting. Nevertheless, I accept that there are many indications that world supplies of oil will peak within the next decade, and it is therefore essential that Australia begin to make changes now to deal with the inevitable shortages and cost increases.

While Australia is lucky to have local reserves of oil and gas, the realities of an international marketplace mean that Australia's reserves will be under increasing demands from overseas markets. Therefore, we cannot assume that our supplies of natural gas will be able to fulfil our needs for energy whether for transport fuel or electricity generation. Evidence also suggests that alternative oil sources, including biodiesel and ethanol will not be able to make much of an impact into our fuel needs.

Given this, I conclude that any strategy to reduce dependence of transport on fuel oil requires a strategy consisting of three core initiatives:

1. Reduce need for fuel oil through reduction in vehicle use
2. Support development of alternative energy sources
3. Establish mechanisms to distribute remaining oil equitably

It is the first of these that I wish to address in this submission.

The key to this initiative is to move from the least fuel efficient modes of travel to the most efficient modes of travel. In general for of passenger transport, this means moving away from the private car towards walking, cycling and public transport, and for freight, this means reduction in road-based transport towards rail.

In this submission I will highlight some of the stumbling blocks to this transition, with emphasis on the role that the Commonwealth Government can play.

PASSENGER TRANSPORT

Private car travel has come to dominate Australian passenger travel. This is because of not only the existence of cheap and plentiful petrol, but also because of ongoing development of a fast road network at the expense of public transport networks.

The development of extensive arterial road networks has occurred in Melbourne and Perth over the past two decades, and now increasingly in Sydney and other cities. There remains increasing pressure to continue construction of more of these roads.

Research in Australia and overseas has concluded that construction of more and faster roads results in:

- Generation of additional traffic (and hence greater fuel use) as more trips become easier and faster. This is the induced traffic effect (Hill, 1996)
- Taking journeys away from public transport, as car trips become more attractive (Mewton, 2005)
- Urban development that cannot be served by walking or public transport and hence become dependant on the private car (PTUA, 2002)

What is more, the improvements in individual fuel efficiency by more smooth running cars is massively outweighed by the increased car use made possible (Newman, Kenworthy and Lyons, 1988).

Clearly, this results in unsustainable transport patterns.

Recommendation 1: The Commonwealth to cease funding urban and interurban arterial roads and freeways. Furthermore, grants should be withheld from State governments that continue to construct such roads.

Bicycle and pedestrian are most fuel efficient modes of passenger transport. These need to be encouraged through

- improved facilities (more footpaths, cycle paths)
- improved urban design (such local shopping centres rather than regional drive in centres)
- changes to road allocation, changes to road philosophy (such as taking space away from cars and give to cycles, priority for pedestrians and cyclists at traffic signals)

Road design guidelines, including road rules, are now coordinated nationally, and therefore a national approach to their revision needs to be undertaken

Recommendation 2: The Commonwealth, in association with the relevant state authorities, to oversee the drafting of a new set of national road design guidelines that give precedence to pedestrians and bicycles (and public transport) over the flow of private motor vehicles.

Most realistically, public transport provides an alternative for many passenger trips and if well patronised it is the much more fuel efficient than the car.

To be well patronised, public transport requires

- services frequent enough to encourage users: services in most areas of Australian cities are currently too low to make a discernable impact on motor vehicle use (Chandra, 2005)
- an integrated extensive network to make a wide range of trips as convenient as possible (Mees, 2000)
- a competitive speed of operation, which means priority at intersections and on roads (Newman and Kenworthy, 1998)

Rail based systems, such as trams and trains not only carry high volumes of passengers, but are also more attractive to potential users than buses. This is partly because they provide a “sense of permanence” not provided by buses (Industry Commission 1993). They can also provide impetus for improved urban design that can support greater pedestrian use and enhanced local sustainability (Newman and Kenworthy, 1998).

Fixed rail systems are also especially suited to electrification, and thus reduce the use of fuel oils dramatically.

Although some cities (Perth, Brisbane) have seen a upgrades in urban rail in recent years, many of Australia’s urban rail systems are run down (Adelaide), under considerable strain (Melbourne, Sydney) or closed (Hobart). In all cities, expansion of the rail network to expanding urban areas is required.

Unlike roads, where considerable Commonwealth funding has been provided, there has been practically no Commonwealth contribution to urban rail in recent decades.

Recommendation 3: The Commonwealth to contribute to the urban public transport through the funding of major rail projects, including new lines, capacity upgrades and electrification.

FREIGHT

Rail is traditionally viewed as only suitable for long distance bulk traffic. This statement is made primarily on economic grounds. This situation arises because rail must pay the full cost of its network, while road operators pay only very small contribution to cost of roads. As a result, the rail networks have been severely pruned in recent years, and many lines remaining carry only seasonal bulk goods (wheat), with all general freight transferred to road.

On fuel consumption grounds, environment grounds, rail is most efficient for anything other than very small loads (e.g. single container loads) and therefore the assumption on the relative roles of rail and road should be challenged.

Outside the main interstate corridors Australia’s rail network is in a parlous state.

Private operators have shown to be effective at running services, but not at infrastructure maintenance and development. This can be seen in the near collapse of the Tasmanian and Eyre Peninsula (South Australia) rail networks. A similar problem has occurred in the in the UK where the physical collapse of a run down network under the privately owned Railtrack lead to new state-owned Network Rail taking control.

Recommendation 4: The Commonwealth to take ownership of the entire Australian non-metropolitan rail network, rehabilitate it and provide open access at competitive rates.

URBAN FREIGHT

Much road construction in Australia's cities in recent years has been justified by the benefit to urban freight. However, when freight demands are examined in more detail, a different pattern emerges.

First, many of the largest freight flows are on clearly defined. These include flows from major industrial areas to intermodal terminals and ports. Some of the older freight centres and ports retain some rail access, but in the main these defined bulk flows are currently on road. It is essential that these be transferred to rail for most efficient use of fuel.

Other freight flows are dispersed, and will continue to use local road networks.

Recommendation 5: The Commonwealth to engage with all State Governments to ensure that a freight access strategy is in place for all capital cities and major regional centres. This strategy should identify major freight flows and the rail system development necessary to support them.

Recommendation 6: The Commonwealth and State Governments jointly fund expansion of metropolitan rail networks to accommodate additional key freight flows.

ROAD PRICING

There is, and should continue to be, debate on the merits of different forms of road pricing. I am convinced, however, that congestion pricing and similar urban road pricing should be withheld until there are appropriate alternatives available.

Nevertheless, there is clear evidence that non-urban highways are significantly under-priced and in particular heavy vehicle movements do not contribute adequately to the cost of such roads.

Recommendation 7: National road network should be priced to reflect true cost of building and maintaining roads, and to provide an additional incentive and fund base for the national rail system.

CONCLUSION

A reduction in transport fuel use can only occur with transfer of goods and passengers from less efficient modes of transport to more efficient modes.

Over the past few decades there has been an considerable investment in the nation's road infrastructure, without a corresponding investment in alternatives such as rail.

Not only is there considerable catching up to do if the rail network is to reach its full capacity, there must also be a reduction in the amount being spent on expanding the road network.

At present, the Commonwealth contributes heavily to regional and urban road systems, but little or nothing to public transport and freight rail networks. This position must be reversed if there is to be a significant mode switch from private car towards more sustainable – and fuel efficient – alternatives.

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Submission by

Les Chandra
BA(hons), MA *Monash*, GradCertIT *Swinburne*, MCityPolicy (pend) *Murdoch*

82 Royal Street
East Perth, WA, 6004

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