Road user and congestion charging

PUBLIC TRANSPORT USERS ASSOCIATION

PTUA position paper – 31 March 2006

Summary

- The issue of road user charging is a hot topic with planning experts and government figures, hence there is a need for the PTUA to have a clear position.
- The PTUA believes that although roads are to some extent a public good, it is inappropriate for public funds to subsidise the harmful effects of over-dependence on private cars and road freight, as currently occurs to the tune of $15 billion a year or more.
- People make a rational decision to use their car instead of public transport in part because public transport is unavailable or is of inadequate quality, and in part because car use has been made artificially cheap through market failure.
- It therefore makes sense that road users pay a charge that properly reflects the cost of driving, particularly for freight which is almost entirely price-driven.
- However, the PTUA maintains that for passenger transport, unavailability and inconvenience are a greater deterrent to use of non-car modes than price; accordingly, reform of transport planning and public transport provision remains a more important objective than reform of road user charges, and our policy on road user charging must be read in this context.
- Specifically, the PTUA does not support the imposition of new types of road user charge for private cars before public transport has been improved to a competitive level; new charges are unlikely to win community support and will be dismissed as punitive revenue-raising measures, and are also socially inequitable in the absence of viable alternatives.
- The PTUA also does not endorse selective charges such as tolls or area-specific congestion levies, for either passengers or freight, as these will only encourage "rat-running", or shift activity away from areas with relatively good public transport access to locations that are more car-dependent.

1. Introduction

Road user charging has attracted increased attention as a potential demand management tool to address growing traffic congestion in urban areas. Pricing options include tolls, parking levies, cordon pricing and distance based charges.

To a large extent the existence of traffic congestion reflects the rational choices of households and businesses taking into consideration the internal costs of motoring and the quality of substitutes such as public transport and rail freight. The internal costs paid by motorists only include the monetary outlays made by the household or business to own and operate the vehicle and do not include various externalities such as air, noise and water pollution, use of valuable land under roads, wear and tear on road surfaces, the provision of health and emergency services and congestion. Since the financial costs of these externalities are not borne directly by motorists, the current quantity of motoring (and therefore the level of congestion) is significantly higher than what it would be if motorists paid these external costs directly in proportion to their level of road use. The extent to which the external costs of motoring exceed revenue from motorists is referred to as the *road deficit*. Table 1 below gives a conservative estimate of the road deficit in Australia not including congestion.

Table 1: The road deficit in Australia

Costs	**($ million)**	
Road construction & maintenance	8,500	
Land use cost	6,000	
Road trauma	15,000	
Noise	700	
Urban air pollution	4,300	
Climate change	2,200	
Tax concessions	4,200	
State fuel subsidies	600	**41,500**
Revenue		
Fuel excise	9,800	
Registration fees	3,300	
Insurance premiums	10,000	
Tolls	1,000	
Other revenue	2,150	**26,250**
Road deficit		**15,250**

Source: http://www.ptua.org.au/myths/petroltax.shtml

Economically efficient resource allocation and transport outcomes will not occur until motorists pay the full cost of motoring and eliminate the road deficit.

Without endorsing any particular road pricing proposal, the PTUA believes that any attempts to introduce road or congestion pricing should aim to achieve economic efficiency, social equity and environmental sustainability. In particular, road pricing measures should incorporate the principles discussed below.

2. Revenue

The fiscal impacts of negative externalities associated with motoring include:

- health systems costs resulting from road trauma, pollution and sedentary lifestyles;
- cost of capital invested in roads, earthworks and land under roads;
- road system maintenance;
- emergency services standing costs and response to crashes;
- environmental remediation resulting from air and water pollution; and
- disaster preparedness and response flowing from increased frequency and severity of climate-related natural disasters and other climate change adaptation measures.

As the vast majority of these financial impacts fall upon government, the revenue obtained from road user or congestion charging must flow into government consolidated revenue rather than flowing to private infrastructure providers. Furthermore, the revenue from such charging should not be seen as a means to reduce other charges on motoring until such time as the road deficit is substantially eliminated.

The worst public policy outcome would be to earmark (or hypothecate) revenue from road user charging specifically for roads. The addition of road capacity has been proven to encourage extra traffic by inducing additional journeys and diverting existing journeys away from other modes such as public transport and cycling. This outcome is referred to as generated traffic.

Allocating the revenue from road user charging to building more roads would therefore be self-defeating due to the generated traffic which would fill the new road capacity. In this light, hypothecating the revenue from road user charging to roads could be compared to installing cigarette vending machines in the state's schools with the proceeds of tobacco taxes.

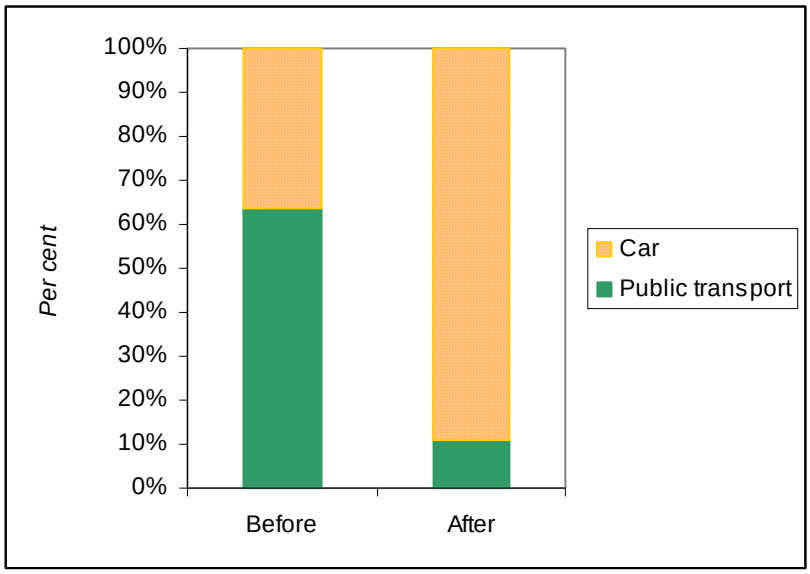
The PTUA would encourage the government to allocate this revenue to enhancing non-car transport options that meet the community's underlying demand for mobility – including for the many people that are unfit to drive, lack confidence behind the wheel or are on low incomes – without contributing to car-dependent land-use patterns that generate additional motor vehicle journeys and pollution. Priority areas for funding would include improving the coverage and frequency of public transport and improving facilities and safety for cyclists and pedestrians.

3. Geographic coverage

Road pricing should be broad-based to minimise distortions and perverse outcomes.

Where pricing is applied to a limited area, as is the case with the CBD parking levy and cordon pricing, the resulting cost differential can result in a leakage of activity away from the affected area to non-affected areas. Since such charges are generally applied to central areas that are well-serviced by public transport, the leakage of activity to areas that are less well-served by public transport can result in a net increase in motor vehicle journeys. For example, when Coles Myer relocated its head office from the CBD to Tooronga, a drastic shift from public transport to car travel occurred as shown in Figure 1 below. This type of distortion can be minimised by applying charges uniformly across the metropolitan area, rather than solely in areas that are comparatively well-serviced by public transport.

Figure 1: Priority mode of travel to work – Coles Myer Relocation



Source: Public Transport Corporation

It should also be noted that a significant number of journeys through heavily congested areas originate or terminate in relatively uncongested areas that are poorly serviced by public transport[1]. In these cases, car use and consequent congestion is more a reflection of the poor quality of transport alternatives than under-pricing of road access.

Where pricing is applied to particular routes or points, as is the case with tolls on CityLink, the resulting cost differential can encourage "rat-running" where motorists take nearby local roads to avoid the charges. This phenomenon has been witnessed in the vicinity of CityLink whereby traffic on local roads has increased significantly since the

[1] Schulz, M, 2006, "Public transport 'poor past 10km'", *Herald Sun 26 March 2006*, <http://www.heraldsun.news.com.au/common/story_page/0,5478,18603291%255E2862,00.html>

introduction of tolling on the Tullamarine and Monash Freeway corridors, with negative impacts on local amenity[2]. This distortion can be minimised by ensuring that all motor vehicle travel, rather than travel on specific routes, is captured by charging.

4. Addressing the marginal costs of travel

The key factors influencing the decision on mode choice will include convenience, overall journey times (including waiting) and reliability. Cost is often a secondary consideration relative to availability and service quality, however significant differences in price may influence mode choice for some journeys.

For many motorists, the marginal cost of undertaking a journey by car is negligible compared to the overall cost of vehicle ownership and generally less than using public transport for the same journey. A typical motorist will have sunk considerable funds into vehicle purchase, registration, insurance, maintenance and roadside assistance before they drive a single kilometre. When faced with a choice between the virtually invisible additional cost of driving to their destination or purchasing a public transport ticket, driving will almost always win out over anything other than a high quality public transport network.

The transport playing field could be levelled by shifting some of the costs of motoring from a fixed periodic basis to a variable distance-based approach[3]. For example, rather than registration and compulsory third party insurance being charged per year, these charges could be reduced for vehicles that travel few kilometres and increased for vehicles that travel many kilometres in each year. Such an approach would be based upon sound actuarial principles that recognise increased risk from increased travel and would enable lower insurance premiums for businesses and households that contribute to congestion reduction through reduced motor vehicle use.

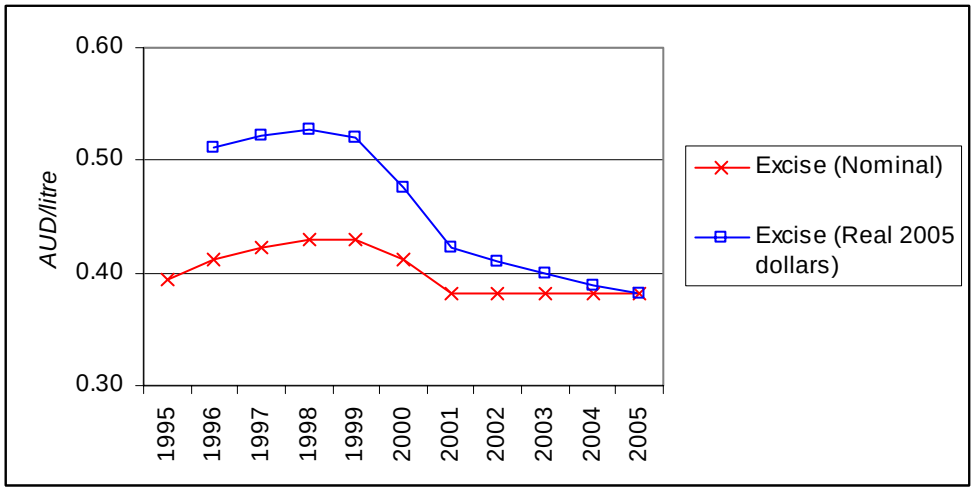
A rebalancing of the cost of motoring in this manner could encourage motorists to use active or public transport where it offers a viable alternative, while avoiding many of the distortions inherent in location-based and route-based charging schemes.

While fuel excise should not be regarded exclusively as a road user charge, it is worth noting that fuel consumption (and hence payment of fuel excise) varies broadly in line with road use and vehicle weight. Fuel taxation, therefore, acts like a form of *de facto* road pricing. Ironically while the focus of many commentators is on the introduction of

[2] Moonee Valley City Council, 2006, *Traffic Congestion on Arterial Roads as a Result of CityLink*, Submission to VCEC Inquiry into Managing Transport Congestion, access 31 March 2006, from <http://www.vcec.vic.gov.au/CA256EAF001C7B21/WebObj/Submission77-MooneeValleyCityCouncil/$File/Submission%2077%20-%20Moonee%20Valley%20City%20Council.pdf>
Wheeling and Dealing, 2006, transcript of television program, 4 Corners, ABC Television, Sydney, viewed 31 March 2006, from <http://www.abc.net.au/4corners/content/2006/s1571546.htm>
[3] Litman, T., 2005, *Distance-Based Pricing*, Victoria Transport Policy Institute, Victoria B.C., accessed 31 March 2006, from <http://www.vtpi.org/tdm/tdm10.htm>

new forms of road pricing, the closest proxy currently in place has been declining in real terms since automatic indexation was eliminated in 2001 (see Figure 2).

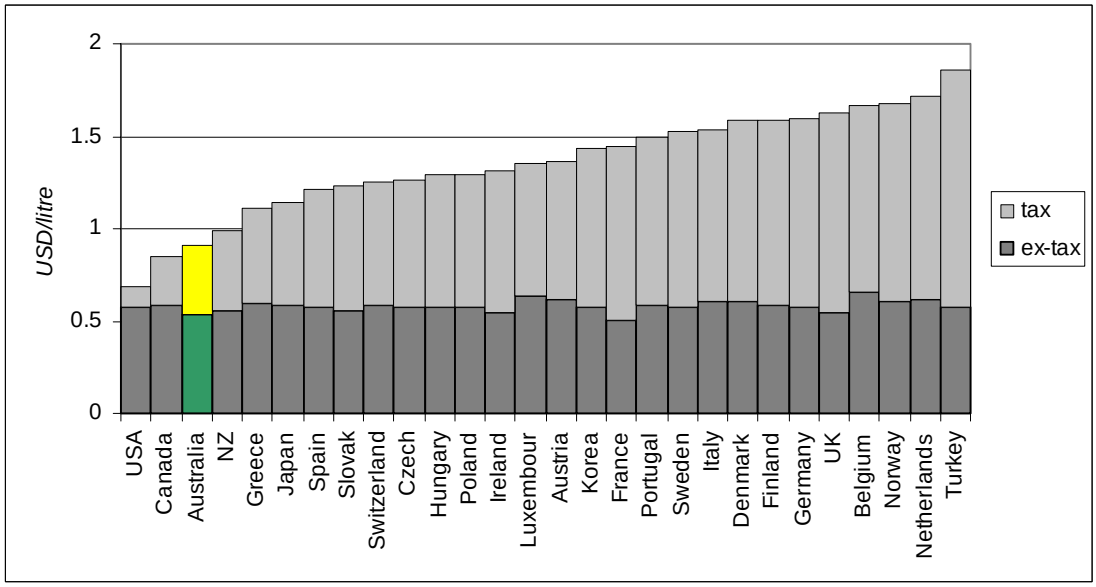
Figure 2: Real and Nominal fuel excise in Australia



Source: International Energy Agency

Fuel taxation is recognised as a valuable tool for reducing energy consumption, pollution and congestion[4]. Furthermore, fuel tax does not lead to many of the distortions discussed above (Section 3 - Geographic coverage). Nevertheless, fuel taxation in Australia is among the lowest in the industrialised world as shown in Figure 3.

Figure 3: Unleaded gasoline prices and taxes



Source: International Energy Agency

[4] Litman, T, 2005, *Appropriate Response to Rising Fuel Prices*, Victoria Transport Policy Institute, Victoria B.C., accessed 31 March 2006, from <http://www.vtpi.org/fuelprice.pdf>
Fulton, L. & Noland, R., 'Pricing and taxation-related policies to save oil in the transport sector', *Energy Prices & Taxes: Quarterly Statistics*, 2005 Edition, International Energy Agency, Paris

The low level of fuel taxation in Australia is a key factor leading to the road deficit outlined in Table1.

5. Complementary measures

International experience has shown that road user charging has been most successful in minimising congestion where it is implemented in tandem with improvements to alternative modes of transport (especially public transport), complementary land-use policies and reductions in the provision of car parking[5].

Any proposals to introduce congestion pricing can only be regarded as a revenue raising measure without any likelihood of achieving significant reductions in congestion unless strong measures are taken to ensure that real alternatives to driving exist right across the metropolitan area wherever journeys may originate or terminate.

The provision of frequent, full-time public transport services right across the metropolitan area is a fundamental prerequisite for road user or congestion pricing to be implemented. Failure to ensure that public transport offers a viable alternative for all households in Melbourne will ensure that the full potential of pricing is not realised and is likely to have a harmful effect on low income households. This applies especially to outer suburbs, where the majority of low income households are located, and where the provision of quality public transport – especially rail – has lagged woefully behind residential development and road construction.

6. Further reading

Inquiry into Managing Transport Congestion in Victoria, Submission from the Public Transport Users Association, December 2005, available at: http://www.ptua.org.au/2006/01/02/vcec-submission/

[5] MVA, 2005, *World Cities Research*, Commission for Integrated Transport, London