Government of South Australia

SUBMISSION TO THE PRODUCTIVITY COMMISSION

REVIEW OF ECONOMIC COSTS OF FREIGHT INFRASTRUCTURE

AND EFFICIENT APPROACHES TO TRANSPORT PRICING

July 2006

Executive Summary

The South Australian Government considers that the Productivity Commission, in considering efficient road and rail pricing, should focus on the following key areas:

- The impacts on rural, regional and remote areas, given that freight transport is integral to the economic viability of regional industries and the regional communities where they are based. In many parts of rural, regional and remote South Australia (and other states and territories), road freight is, and will always be, the only freight transport option for servicing those communities.

- The need to bring a strong focus on the practical aspects of freight pricing reform, rather than many of the more theoretical aspects of efficient pricing.

- The establishment of a strategic framework with overarching principles to facilitate COAG reaching broad agreement on the desired intention for pricing reform.

- That transitional implications be at the forefront of any deliberations, with the development of a clearly defined timeframe that recognises that while transition may need to be over a long period, it may be important to start the transition in the near future.

- Ensuring that pricing reform options are based on a comprehensive understanding of costs for road and rail, and their markets.

- That costing methodologies to be used for road and rail be 'forward looking' and ensure the replacement of valuable assets over the longer term.

- That externalities be considered in any future pricing reform, with an initial focus on cases where externality pricing has the best chance of being implemented in the short term.

- That the future pricing system be able to reflect changes in transport usage patterns over time.

- Recognition that, with rail prices often pegged to road prices, any cost under-recovery in road freight has major implications for rail. The implication for regional rail freight lines in South Australia has been that track condition has deteriorated and services are ceasing, as a result of an inability of the track owner to recover sufficient revenue to fund appropriate track upgrading.

- Consideration of the range of road pricing technologies (old, new and under development), the practical feasibility of their introduction (including implementation costs), and ensuring that they deliver net benefits. Any new system should be designed to enable ease of transition to newly developing technologies, as those technologies become increasingly cost effective.

- That there be effective coordination with other transport sector reforms, and consideration of complementary policies.

1. Overview

1.1 The Government of South Australia welcomes the opportunity to make a submission to the Productivity Commission's Review of Economic Costs of Freight Infrastructure and Efficient Approaches to Transport Pricing.

1.2 South Australia notes that:

> "*the purpose of the review is to assist the Council of Australian Governments (COAG) to implement efficient pricing of road and rail freight infrastructure through consistent and competitively neutral pricing regimes, in a manner that optimises efficiency and productivity in the freight transport task and maximises net benefits to the community*." [1]

1.3 South Australia also notes that COAG, in commissioning the Productivity Commission to undertake the Inquiry, requires that the Inquiry include:

> *"… analysis of how particular communities might be impacted. When COAG considers this* Productivity Commission *report, it will ensure that the interest of rural, regional and remote Australia are addressed."* [2]

1.4 South Australia believes COAG's requirement for consideration of rural, regional and remote impacts is of critical importance to this review. South Australian regional communities make a significant contribution to the state's economy. Regional South Australian economies include various industries (agriculture, mining and processing, aquaculture and viticulture, and tourism) with a strong export focus. Freight transport is integral to the economic viability of these industries and the regional communities where they are based.

1.5 It is therefore important that the Productivity Commission Inquiry pay close attention to the fact that in many parts of rural, regional and remote South Australia (and other states and territories), road freight is, and will always be, the only freight transport option for servicing those communities.

1.6 South Australia recognises the key economic and social role played by freight transport in Australia. It impacts on every part of the economy, and affects every community, and is central to international competitiveness. It is therefore critical to have national and state freight transport systems that:

- link jurisdictions with the national and world economies;
- encompass all transport modes; and
- are efficient, effective and sustainable.

1 Terms of Reference.
2 COAG Communiqué 10 February 2006, page 6.

1.7 Pricing reform could play a key role in achieving these outcomes, particularly given the expected doubling of the Australian freight task in the coming two decades.

1.8 The Productivity Commission has an opportunity to add real value to the pricing reform debate, although it notes in its Issues Paper that because of the scale and complexity of this issue, and the Inquiry's time frame, it will need to prioritise what it is to focus on. South Australia believes the Productivity Commission can best add value by bringing a strong focus on the practical aspects of freight pricing reform, rather than many of the more theoretical aspects of efficient pricing.

2. *Scope of the Inquiry*

2.1 The Terms of Reference and the Issues Paper raise a range of complex and detailed matters. This submission does not seek to address all matters raised in the Issues Paper, but focuses instead on some key areas.

2.2 In dealing with such complex and detailed matters, South Australia agrees with the Productivity Commission's observation that a key outcome of this review would be to establish a strategic framework with overarching principles. Such an approach would facilitate COAG reaching broad agreement on the desired intention for pricing reform, and the practicalities in moving forward towards efficient pricing of road and rail freight infrastructure.

2.3 Whilst the Terms of Reference are specifically focused on road and rail freight transport, there also are close relationships with other freight modes, particularly sea freight transport, that could at least be acknowledged by the Inquiry.

2.4 Pricing reform will inevitably involve transitional costs for some groups in the business and wider community, particularly given the distance to our major markets and the importance of transport costs in our competitiveness, both nationally and internationally. Transitional implications need to be at the forefront of any deliberations to ensure, for example, that our exports are not threatened. This was clearly implied by the COAG communiqué.

2.5 A framework of appropriate principles could provide for some flexibility in implementation by jurisdictions. Proposed options and solutions need to be practical and be able to be delivered in a clearly defined timeframe that recognises that while transition may need to be over a long period, it may be important to start the transition in the near future.

2.6 Page 14 of the Issues Paper raises the question of whether the Inquiry should explore "... *mechanisms and institutional arrangements that would better integrate infrastructure supply and demand*" (there is certainly a long standing observation that efficient pricing provides information/signals for efficient investment decisions). Such an exploration may be necessary

in addressing the Terms of Reference, e.g. if it relates to infrastructure cost estimation and allocation, and the determination of prices as part of a regulatory process. To go beyond this, say in considering issues of funding for infrastructure supply, would seem to be outside the Inquiry's Terms of Reference. The Terms of Reference specifically state that fiscal implications are to be separately addressed after this Inquiry.

2.7 In terms of the most effective institutional reforms needed to promote a more commercial approach to road and rail infrastructure provision and pricing, experience with the construction of markets for electricity and gas, and the purchaser provider model, would suggest caution if corporatisation type approaches were to be considered. If new institutional arrangements are contemplated, they would need to be specially designed to accommodate efficient pricing structures and the public interest in efficient resource allocation, rather than private interest (alone) in the infrastructure investment opportunities and transaction costs.

2.8 Whilst there are possible private sector supply mechanisms, such as deferred payment / BOOT schemes, the transport system has a number of characteristics that point to a significant ongoing role for government. These characteristics include significant government involvement in "ownership" of networks / corridors, planning, compulsory land acquisitions, endemic public benefit / externality issues, transaction costs, and integration with transport regulation / compliance.

3. *Key Principles*

3.1 Both efficiency and equity considerations are always important in designing pricing systems. The COAG communiqué has clearly emphasised this by highlighting the need for close consideration of distributional impacts, e.g. on regional communities.

3.2 The South Australian Government's understanding is that efficient pricing requires usage charges that reflect the marginal cost of use, and that this principle should apply consistently within and across all modes.

3.3 In addition, where marginal cost usage charges lead to under recovery of financial costs, efficient pricing requires that the revenue gap be raised with minimum efficiency loss.

These methods take into account the overall benefit that the user is able to gain from having access to the infrastructure. They also acknowledge that different operators on different routes have the ability to earn vastly different rates of return. In contrast, fixed charges assume that all users are able to gain the same benefits and value the existence of or access to the system the same.

3.4 If the equity outcomes resulting from efficient prices are unacceptable, efficient pricing principles again require that prices be revised in a way that introduces the least efficiency loss.

3.5 Australia agrees with the Productivity Commission's interpretation of consistency. That is, the same high level principles should apply consistently across and within all modes (e.g. economic efficiency, pricing to reflect environmental costs, etc). Consistency should also apply, where appropriate, to methodology and parameters. Within this consistent approach, differences may appear between modal prices to reflect differences in key characteristics of modes such as public good characteristics and different sized externalities.

4. *Economic costs*

4.1 Establishing a framework and principles for pricing road and rail infrastructure as well as implementing the resulting price paths (over a medium to longer term), needs to be based on a comprehensive understanding of costs for road/rail and their markets.

4.2 South Australia agrees with the Productivity Commission that economic costs should be the primary focus, with financial costs being a stepping-stone towards economic costs. Economic costs allow the freight pricing issue to be considered from a national perspective, including full costs on all parties. Financial costs have a narrower focus.

4.3 The estimation of the full costs associated with the supply and maintenance of freight transport infrastructure should include an understanding of any nuances in the nature of costs between and within modes, and any resulting implications for a national pricing regime. This should include consideration of the degree of cost disaggregation that is compatible with delivering a practical cost effective pricing system.

5. *Costing methodologies*

5.1 In relation to costing methodologies to be used for road and rail, it is appropriate that the methodology used be 'forward looking' and ensures replacement of valuable assets over the longer term.

5.2 Over the very long term, an expenditure based system (e.g. the current heavy vehicle cost allocation system, Pay As You Go (PAYGO)), may achieve this, although this is presently unclear. The Inquiry should consider the range of available methodologies and assess their overall relative merit. Whilst, the Depreciated Optimised Replacement Cost (DORC) methodology may play a role in those considerations, the Inquiry should not be constrained to such a methodology (for either road or rail) if there are more appropriate costing methodologies.

5.3 Some infrastructure costs are directly attributable to a particular category of vehicle or category of use generating (or causing) the costs. Efficient pricing principles require that these costs be recovered from the specific group of vehicles causing those costs. For example, the cost of a bridge to accommodate heavy vehicles will be higher than the same bridge designed to only carry light vehicles. Under efficient pricing, the cost

difference would be recovered only from heavy vehicles. These types of costs would be included within the calculation of Long Run Marginal Costs for heavy vehicles as they are avoidable.

5.4 Where non-separable costs exist, these are typically allocated across user classes in proportion to gross vehicle mass, train length, or other such physical measures. Such methods for distributing non-separable costs should not be assumed to have superior efficiency outcomes as compared with the general run of taxation instruments (e.g. company income tax).

5.5 The cost of regulatory activities should also be taken into account. Recovery of these costs is feasible for both road and rail, although currently they are only recovered for rail.

6. *Externalities*

6.1 Externalities are an important consideration in any future pricing reform. In transport, there is a range of them, including: components of accident and time costs; emissions, contributing to climate change (greenhouse) and affecting local air quality and water quality; and noise.

6.2 A comprehensive coverage of externalities is provided for in the National Guidelines for Transport System Management in Australia, published by the Australian Transport Council in November 2004.

6.3 The National Guidelines are being proposed for adoption as a standard within the transport sector. Key points worth highlighting include:

6.3.1 All externality cost estimates are based on overseas data.

6.3.2 It is widely recognised in transport circles that there is a need for estimation of externality values based on Australian data. To date, no major initiative of this type has occurred, or is scheduled to occur. The best available estimates are based on a major Austroads study several years ago, inferring Australian estimates based on the latest overseas estimates.

6.3.3 At this point in time currently charges fail to specifically reflect externality costs.

6.3.4 Greenhouse cost estimation is a particularly problematic area. True greenhouse costs are a function of both damage costs and abatement costs. The former are very difficult to estimate. Most current estimates are based on abatement costs, although these could significantly underestimate long-term greenhouse costs. Estimates need to be closely related to research in to, and outcomes of, carbon trading schemes, and the likely permit prices they predict.

6.4 Where possible, efficient pricing would require freight transport externalities to be directly regulated via appropriate taxes/charges/regulation and hence directly impact on the externality. (For example prohibition of exhaust brakes within towns, or a charge on the level of carbon emissions).

Where it is not possible to separately account for freight transport externalities at their source, the next most efficient approach is for the externalities to be indirectly accounted for within the general freight transport-charging regime. In particular, the user charge, which would be based on the Long Run Marginal Costs calculation for freight transport, would include the cost of the externality. Although this is a second best approach, inclusion of externalities within the Long Run Marginal Costs is likely to move consumption of freight services towards the socially optimal level.

6.5 Given externality pricing is still a largely untried approach in transport, a practical option would be for an initial focus on cases where externality pricing has the best chance of being implemented in the short term. A good starting point might be accident externalities (over and above existing coverage by insurance).

7. *Competitive neutrality*

7.1 South Australia considers that the Productivity Commission's definition of competitively neutral pricing as "... *an absence of 'differential' subsidies between transport modes, or within them*…" is a practical one for this Inquiry.

7.2 It is important, however, not to confuse this definition of the term with its use in government business sector reforms. It was originally used as a concept designed to improve the performance of government providers of charge funded services (utilities etc) by instituting governance arrangements resembling those for a hypothetical contracted and regulated private sector supplier of the relevant service. This included establishing tax equivalence regimes and ensuring government and private businesses faced similar regulatory requirements (eg environmental standards).

7.3 As the Productivity Commission Issues Paper notes, competitive neutrality contrasts with full user cost recovery, which " … *requires that there be no subsidies at all related to freight infrastructure use*".

7.4 In cases of substitute services markets, such as road and rail transport, there are important cross elasticity effects to consider. These can be analysed with standard economic concepts.

7.5 With regard to road charging, any departures from efficient economic pricing principles to mirror financial regulatory arrangement for privatised rail operations need to be justified according to economic principles (i.e. second best pricing, with optimal departures from efficient pricing) not the concept of competitive neutrality as between public and private providers per se as outlined above.

7.6 This is particularly important considering that inter-modal competition is limited to certain market segments, and varies significantly across routes (i.e. remote and regional). If changes to road freight charging are made on the basis of the rail industry regulatory arrangements, they may not suit

situations where routes, industries and regions are not serviced by the rail industry.

7.7 It should be noted that in other regulated industries, financial regulation of private providers has tended to focus very little on the structure of regulated charges (i.e. to encourage two part tariffs and marginal cost pricing).

8. *Rail and road charges*

8.1 Leaving aside consideration of externalities, the assumptions and analysis underpinning the National Transport Commission's 3rd determination work suggests there is over-recovery in aggregate (i.e. across all vehicle types) of the road infrastructure costs allocated to heavy vehicles. However, the National Transport Commission's work suggests significant under-recovery of road infrastructure costs for large heavy vehicles (eg. multi-combination vehicles – B-Doubles and Road Trains) and over-recovery for small heavy vehicles (eg. rigid trucks).

8.2 The Productivity Commission specifically asks in its Issues Paper if road use can be linked to infrastructure cost. The key attributes of road use likely to affect road infrastructure costs include mass, distance, the type of road, road location (e.g. urban v's non-urban), environment and the time of use. The last point has a number of dimensions. One is that some infrastructure costs are due specifically to peak period demand. The other is that infrastructure costs vary during and between years. Road pavement damage costs vary between seasons, and from year to year, as weather conditions vary. Damage costs are higher in wetter periods and years.

8.3 An efficient pricing system would require that usage charges reflect the key variations in cost from one situation to the next. The current pricing system fails to do this in a number of ways, as reflected in the assumptions on which it is based, e.g.:

- The national averaging approach used to estimate utilisation of the network by vehicle classes;
- The assumption that all roads are of a common construction and wear at the same rate;
- The assumption that the mix of vehicle types utilising the national network is homogeneous; and
- The assumption that network expenditure in any year equals the actual cost of damage to the network in that year.

8.4 An efficient pricing system would need to be able to reflect changes in transport usage patterns over time. For example, industry restructuring in the grain storage and handling sector has seen significant rationalisation and consolidation of activities. The consequent changes in grain freight patterns has resulted in an increasing number of local lightly constructed roads being used by heavy trucks for which they were not never designed for.

8.5 In some cases, the link between road use and infrastructure cost can be significant for even an individual trip. For example, movement of machinery and rigs in South Australia's far north outback roads during periods of prolonged wet weather, when the road sub-structure has been weakened by moisture, have resulted in damage estimated at around $20,000 per trip.

8.6 For freeways and highways, the links are more complex. With respect to pavement costs, on these more heavily constructed roads, pavement depths are designed specifically with heavy trucks in mind. At the same time, once those pavements are built, marginal pavement usage cost is low because the pavement is designed to accommodate heavy trucks.

On the other hand, capacity costs on these roads are determined by overall truck and passenger vehicle traffic levels.

8.7 In rail freight, the Australian Rail Track Corporation charges a flagfall rate, and a variable rate based on gross-tonne-kilometres. The charges apply equally to all users. This is a simple model to administer and is transparent, but has been designed around large inter-modal trains.

8.8 Alternatives to gross-tonne-kilometres could be developed that more accurately reflect an infrastructure "consumption" model. This could consider the effects of different train types and charge in proportion to the amount of asset used (this is similar to the use of "friendly suspensions" for trucks and their ability to apply higher axle loads). Peak load pricing may also be worth consideration.

8.9 It appears that rail pricing is closely linked to road pricing. Where rail competes with large heavy vehicles, rail operations appear to charge to maintain a market share, which can result in revenues below full cost recovery levels. Over the long term this will result in under investment in rail maintenance and upgrading. A key issue for railways is therefore the balance between cost recovery and a need to get the incentives right in order to attract rail use.

8.10 South Australia is experiencing this in its regional rail freight lines, where track condition has deteriorated and services are ceasing, as a result of an inability of the track owner to recover sufficient revenue to fund appropriate track upgrading. The freight transport system on Eyre Peninsula is an interesting illustration. The rail track owner indicated that because their revenue is pegged to road prices, they were unable to raise sufficient revenue to adequately fund asset replacements. A solution has been negotiated involving Federal and State governments, rail industry and grain growers. The following web links provide access to:

- A 2002 Transport SA Issues paper: http://www.roads.sa.gov.au/paru/content/resources/Eyre%20Peninsula%20Grain%20Transport%20Issues%20Paper.pdf .

- The South Australian Parliamentary Public Works Committee (see report 239 under > documents > reports > transport):

http://www.parliament.sa.gov.au/committees/committee.asp?doCmd=show&intID=133

9. *Technology*

9.1 This Inquiry is an important opportunity to reflect on the extent to which road pricing technologies have evolved. It is important to consider the range of technologies available, old, and new and under development. In doing so, a strong focus is required on the actual practical feasibility of introducing whatever technology options are available.

9.2 The cost of implementation must play a central role in determining the net benefits of any pricing reform options.

9.3 Pricing reform options must be feasible, cost effective and able to deliver net benefits.

9.4 Any new system should be designed to enable ease of transition to newly developing technologies, as those technologies become increasingly cost effective. In the first instance, this may require implementation of the technology using broad estimates of some operational parameters (e.g. distance, mass, location). As the technology subsequently develops further, a transition to more refined parameter estimates may then become feasible and desirable.

10. *Impediments*

10.1 There is a clear need for transport sector reforms to be coordinated. Failure to do so could create an impediment. The COAG National Competition Policy Review Report 2005 stated:

> *"The efficient pricing of road and rail infrastructure will not, by itself, ensure Australian freight travels on the most efficient mode or that productivity in the sector is maximised. This will also require a comprehensive agenda of reforms to road and rail regulation. Reforms in pricing and regulation implemented as a complementary package will provide benefits to industry and the community through more efficient use of, and investment in, freight transport infrastructure".* [3]

Other related work includes the COAG review of urban congestion, and the COAG work schedule for harmonising and reforming road and rail regulations.

10.2 Another barrier may be the equity, distributional, sector-specific and region-specific impacts of pricing reform. The acceptability of pricing reform options may therefore depend on complementary

[3] Final Report: COAG National Competition Policy Review, February 2006, Page 20.

policies/programs being identified to manage those impacts, whilst still delivering overall net gains.

10.3 A potential barrier may arise if an efficient pricing system is difficult for users to understand. This requires consideration of trade-offs with design simplicity, and a communication campaign to explain any changes to the public.