

**DO GOVERNMENTS UNDERSTAND THE ECONOMIC  
ROLE OF THE ROAD SYSTEM? DISENTANGLING  
OBJECTIVES AND CONSTRAINTS**

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**ABSTRACT**

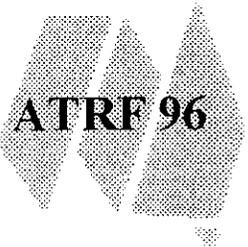
Recent debate in Australia has uncovered the need for government to correctly define its role in the economic management of the road system, and indeed, in the transport system more generally. The road system is expected to be efficient, but at the same time to be a stimulus for regional development, a promoter of equity and for some, to be an arm of macro-economic policy.

This paper addressed the importance of setting clear and simple objectives for public sector road providers. The prime economic objective is efficiency which might best be achieved through a commercial orientation. Other policy objectives and constraints relevant to the roads system could then be applied through the regulatory or tax systems, as is the case for other microeconomic agents. The commercialised road authority then becomes responsible for profitability supplying road services subject to community mandated standards for safety and environmental quality. Road services deemed necessary on equity grounds would be supplied to government under a service contract, provided a road intervention was identified by the appropriate agency to be the most effective means to redressing an identified inequity.

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## 1 INTRODUCTION

This paper addresses the importance of setting clear and simple objectives for public sector road providers. The prime economic objective is efficiency, which might best be achieved through a commercial orientation. Other policy objectives and constraints relevant to the roads system could then be applied through the regulatory or tax systems, as is the case for other microeconomic agents, or located within agencies charged and equipped to address them. The commercialised road authority then becomes responsible for profitably supplying road services subject to community mandated standards for safety and environmental quality. Road services deemed necessary on equity grounds would be supplied to government under service contract, provided a road intervention was determined by the appropriate agency to be the most effective means to redressing an identified inequity.

The hypothesis of this paper is that governments (the reference being to Australian governments) do not clearly grasp the meaning of and relationship between economic objectives and non-economic constraints. Proving the hypothesis is beyond the scope of this paper. Instead the paper identifies the types of policy confusion which seem prevalent, some implications and suggested directions for change.

This paper is concerned with three *economic* objectives typically attributed to the roads system, namely:

- *economic efficiency*, involving the maximisation of economic welfare from the utilisation of the available resources of land, labour, capital and knowledge;
- *economic activity*, involving the achievement of a level of economic activity which in turn will facilitate the achievement of the desired level of employment; and
- *regional development*, with its concern for some desirable spatial distribution of economic activity.

The paper is concerned also with a set of constraints on the development and operation of the transport system, including:

- safety
- environmental quality
- accessibility.

Several recent Australian studies have confronted the relationship between each of the economic objectives, and between the economic and non-economic objectives (including Allen Group (1993); Austroads (1994); Cox (1994); Kinhill Economics and

Access Economics (1995)). The Australian Government's National Transport Planning Taskforce (1994) also posed questions that suggested a need for policy to have a clear conception of this relationship

## **2 WHY ARE OBJECTIVES AND CONSTRAINTS IMPORTANT?**

Objectives represent statements of desired outcome, and constraints the obstacles to be overcome along the way. In the more specific context of transport policy, a cohesive policy response to the challenges of congestion, pricing and funding, investment and modal co-ordination will emerge only if the guiding economic objectives are internally consistent, and cohesive with the broader design of the community's economic arrangements. The community allocates objectives to the transport system, and balances them by the imposition of constraints. The constraints in effect are intended to actualise the achievement of those community objectives that are common to all economic sectors. They include equity, environmental quality, accessibility to goods and services and the development of disadvantaged areas. The juxtaposition of individual objectives and community imposed constraints imbues our social and economic arrangements. The corporation is free to pursue profit subject to the constraint that it obeys the law. Individuals are free to enjoy their material wealth provided they abide by the community's legal and social constraints.

The intention of the constraint is to achieve some desired social end. The challenge for policy is to enter constraints into individual and corporate decision making in such a way as to facilitate a happy accommodation between conflicting community objectives (economic efficiency, equity), and between the objectives of individuals and those of the community.

## **3 TYPICAL POLICY POSITIONS**

The pressures on the road authorities in Australia would suggest that this successful accommodation between individual (and corporate) and community objectives is some way off in the area of roads policy. The tensions are familiar. Governments and the transport industry need to co-ordinate service provision and infrastructure (NPTI 1994). The road authorities should be responsive to regional economic development, efficient investment strategy, safety and environment, while according special priority to the needs of commercial road user (Austroads (1995)). Additional road investment is fundamental to continuing national economic growth (Allen Group (1993)). Reducing motor vehicle use is one of a range of measures needed to control the negative environmental effects of road based transport (AURDR (1995)).

In part, these policy stances are reflective of the Australian federal system, of a tradition of public ownership of the major transport infrastructure and until recently of significant operating units. At a deeper level however, they are a function of a particular understanding of the role of the roads system.

In an era of a world wide retreat of governments from regulation and/or operation of major assets and services, it is appropriate here to ask why the Australian road system remains reliant on a system of funding which separates revenue raising from spending, why our rail systems are being deregulated and disengaged from government, but the

road system continues dependent upon political patronage for its direction, or why the rail system is continually exhorted to demonstrate its financial viability, but the road system is subject to no objective test of the effectiveness and efficiency with which it uses its assets. At its most extreme, we see a very efficient road freight sector juxtaposed against road policy decision makers who have the freedom to define their objectives, but not the responsibility to test those objectives in the market place

#### **4 WHY ECONOMIC OBJECTIVES?**

The roads system, as with some 70% of goods and services production in the Australian economy, provides an economic service. In a society which broadly accepts the market as a fair and effective means of distributing resources according to individuals' wants, there is little justification for treating transport within any different frame of reference. Road authorities provide an economic service in the senses that, with emerging developments in technology, road use can be priced, and users can be "excluded" from consumption according to their willingness to pay. In other words, the road authorities provide a service which could feasibly be supplied through the pervasive market mechanism, but for the unwillingness of the political process to countenance the possibility

In the face of the feasibility and acceptability of a market model for road service provision, the opposite view, that the market is an inappropriate mechanism can rest only on the perception of government as being "for the good of the people by experts or officials who think they know better than any non-official person or than the mass of the people themselves" (quoted in Skidelsky (1995), p17).

This is not to say that roads policy is irrelevant to the achievement of other community objectives. Rather, the first and prime responsibility of the road authorities should be to respond to the demands placed on the system by their customers. To accept any alternate position entails accepting also that manipulation of the roads policy to achieve non-economic objectives is more efficient and effective than the pervasive taxation, social security and regulatory systems.

#### **5 THE ECONOMIC EFFICIENCY CONCEPT**

The concept of economic efficiency is inextricably linked to the expression of individuals' preferences through the market. The market responds by providing those goods and services for which users are willing to pay, and which can be profitably provided at prices no greater than the willingness to pay. Provided markets are reasonably competitive (that is, free of domination by small numbers of powerful buyers or sellers) and unimpeded by artificial constraints, the resulting patterns of production and consumption will be reasonably efficient. This means nothing more than that the resulting pattern of production and distribution represents the most effective satisfaction of individual preferences, given the constraints of the available resources

The efficiency concept drives the larger part of economic activity in our communities, and there is no reason, given its characteristics why it should not motivate the roads system. An understanding of economic efficiency is clearly fundamental to understanding the roles of pricing, funding, investment and institutional structure in roads, and to facing the challenge of inter-modal co-ordination.

The economist's interest in the market mechanism is a function therefore not of some blind rationalism, but of acceptance that no better system is known for efficiently satisfying individual preferences. Those who decry what they describe as economic rationalism focus their attentions disproportionately on the discipline that the market imposes on consumers. They overlook the market's countervailing discipline over producer decisions—in terms of what they supply and the prices at which they supply. In the market, but not necessarily in the roads system, suppliers survive by reading and obeying the market, by investing only where a profitable return will be earned. The earning of a profitable return then implies a financial capacity for survival, and funding sufficient to maintain and replenish the business.

Once the desirability of a market based approach to roads policy is accepted conceptually, the challenge is one of operating efficiently, *subject to the constraints which the community imposes on the functioning of the market system.*

## **6 THE ECONOMIC DEVELOPMENT OBJECTIVES**

### ***National Economic development***

At this point some critics will raise the spectre of the importance of transport for regional and national economic development. Why, they ask, should we sacrifice the developmental potential of transport on the altar of economic rationality. This potential they imply, transcends the operations of markets, and indeed, efficiency and market solutions are a sideshow to this main game of fostering economic development. A reading of history, and of the relevant theory illustrates that this particular policy emperor is at best only scantily clothed. It is a response though which must be dispensed with before a clear understanding of economic objectives and non-economic constraints can emerge.

I say scantily clothed because the road system is undeniably important to economic welfare. It is an important task given to our economic system – and not uniquely to the transport sector – to provide employment and a satisfactory standard of living for all. Yet the challenge for policy is the formulation of economic arrangements by which development will occur within the framework of a democratic political system. Development, in other words is one means to the realisation of our political objectives, and transport one of a range of means to the realisation of development.

The stream of literature commencing with Aschauer (1989) sought to identify a peculiar potential for public sector transport investment and public economic infrastructure

generally, to yield significant increases in private sector output. In Australia and particularly in the roads sector, some policy makers took this evidence to warrant a sea change in the objectives we assign to the transport system. No longer, it has been argued, should we be concerned with the responsibility of the transport system to satisfy the demands of individuals. Cost benefit analysis, the technique economists use to test efficiency where efficient prices do not prevail, is no longer sufficient or adequate as a decision making tool. The political process has a more important objective to pursue - to maximize the gross domestic product.

After all, according to the proponents of this view, if the national policy objective is the maximisation of gross domestic product, shouldn't we, the transport policy makers, pursue the same objective. And as policy makers don't we suppress the importance of transport investment if we continue to pursue a purely microeconomic objective (satisfying consumer preferences) when the big decisions are macroeconomic ones (maximising the gross domestic product).

The outcome of this misunderstanding of the purpose of economic activity has been to divert attention from the means by which the transport system makes its contribution to economic well-being. Rebutting the alternative view does not entail denial of the significance of an adequately resourced transport system for national economic goals, notwithstanding the scepticism with which the macroeconomic evidence has been received (for example Gramlich (1994)). The tacit assumptions of this new "macroeconomic" view of the world are that any transport investment will be good for the economy, and that more investment will be even better. Both are theoretically unsustainable. Any investment which earns a lower return than could be earned elsewhere in the economy will constrain economic growth. Perhaps more importantly, a focus on more investment as the key to a more effective transport system overlooks the simple rule, that the economically desirable level of investment is a function of its expected profitability. An expansion of transport investment in the face of insufficient effective demand (as measured by the market's willingness to pay) will divert resources from more highly valued uses.

In other words, that level of investment which is desirable for the economy cannot be established independently of microeconomic decision making, at the level of individuals, firms or government agencies. In this sense, those transport decision makers who deny the fundamental significance of microeconomic decision making have not established a new analytical framework. They have instead made the simple but dangerous mistake of misunderstanding the old, time proven theory. Macroeconomic consequences may be of interest in political dialogue, and sometimes in the assessment of those rare, extremely large investments, but they are otherwise irrelevant to the decision making of the road authorities.

There remain those policy measures instituted by the national government to stimulate investment in the economy generally during recessionary periods. Increasing transport investment or reducing the cost of transport services could have a stimulatory effect on

economic activity in the short term. But similar measures in other economic sectors may well be at least equally stimulatory. Transport has no special significance in these circumstances. Fiscal or monetary measures to stimulate activity will also be general rather than sector specific. Governments will choose that combination of general and sector specific measures with the shortest lead times, the greatest capacity to lift activity in the most adversely affected areas, and the least potential to cause damaging price inflation.

### *Regional economic development*

Regional economic development policy embraces those measures considered to achieve a faster rate of economic development in particular regions, or a different pattern of development than would prevail in their absence. It is another objective sometimes advanced to justify any and all road investment. In general, the evidence does not support the proposition that enhancements to transport systems in developed economies improve the stability, performance or regenerative capacity of less developed, or more economically stressed regions. Other factors - resource availability, skills and technology - appear to be more significant in economies whose transport systems are reasonably mature. (See BIE (1994); Luskin et al (1996))

Why should the road authorities postulate separate efficiency and regional development objectives? A road investment which stimulates regional development will be economically desirable if those benefiting from the resulting development are willing to meet the costs of that investment, including a satisfactory return on the road authority's capital. In this sense regional development may be considered a sub-set of the efficiency objective. (For a related discussion in the rail context, see Luskin et al (1996)) Frequently though, policy makers in the road authorities perceive efficiency and development to be mutually exclusive economic objectives. The reasoning may derive from a belief that all wealth emanates from the land (a sort of modern day physiocracy); it may signify a confusion about the respective meanings of economic efficiency and economic activity; or it may simply reflect a desire to facilitate a more even distribution of the available budget.

Whatever the reason, the pursuit of a regional development objective without regard to the efficiency consequences can only be detrimental to national economic welfare. Inefficient regional development investment will draw resources away from more highly valued uses elsewhere.

It is a different matter however to bias expenditure to regional areas in pursuit of some sort of spatial equity objective. This, more than any specifically economic notion probably motivates the regional development objective in road authority policy statements. The policy difficulty surfaces however when decision makers fail to draw the clear distinction between those efficient road system initiatives which happen to be located in regional areas, and inefficient initiatives in regional areas which are only justifiable against the concept of spatial equity.

Economists have no theoretical ground for questioning the desirability of a spatial equity objective. Equity is a legitimate constraint on efficiency, and one largely outside the economist's frame of reference. The economist can legitimately argue however for a partitioning of equity and efficiency considerations in decision making. Separation simplifies decision making, and simplicity and clear direction can only conduce to efficiency. An agency delivering economic services has no inherent capacity to judge equity. Partitioning also forces governments to bear the consequences of equity driven decisions. They can no longer hide inefficient decisions under some mantle (such as regional economic development) of dubious economic validity. Partitioning of equity and efficiency allows the costs of equity-based services to be identified, thereby enhancing the accountability of government for the costs and effectiveness of its equity based policies.

## **7 THE COMMERCIALISED ROAD AUTHORITY**

The relevance of the economic efficiency objective is not denied or reduced by the claims to national and regional development objectives for our transport systems. The appeal to a national economic growth objective without regard to efficiency may well produce the opposite effect on national economic welfare. This particular debate about the national economic significance of the road system needs to focus not on the potential GDP consequences of investment, but rather on the *means* to achieving the greatest possible contribution to economic welfare.

At the regional level, it is feasible to separately identify those inefficient system initiatives which might nevertheless be justifiable on equity grounds. A clear separation between the two allows the road authority the scope to deliver economic services efficiently, while leaving to government decisions about equity-driven interventions. In this sense the pursuit of an efficiency objective for road supply does not preclude the delivery of services justified on equity grounds. Both can be done, but the balance rests with the political decision makers. As is outlined later, the policy challenge is in designing the appropriate arrangements for implementation, to facilitate that accommodation of individual and corporate objectives referred to earlier.

But in broad terms, once the various economic objectives are understood in their proper context, the way is open for the road authorities to pursue commercial agendas, not because a commercial focus is good in itself, but because economic efficiency is more likely to be achieved when service providers are commercially oriented. Remember that efficiency is a market derived concept. Its very definition means doing things that the market wants done, in the ways and at prices that the market wants. In Australia, according to Newman (1995), the state road authorities are almost unique as public sector service providers, in having remained immune from the pressures of privatisation and corporatisation. The road freight industry has been progressively relieved of the burdens of economic regulation, and the airline and airports industry is being opened to greater competition. Similar initiatives have been occurring in the rail industry in

response to financial pressures and to the weight of the National Competition Policy agenda.

Certainly the separation of the road authority revenue raising and expenditure functions impedes fruitful moves to commercialisation. Australia's system of fiscal federalism seems much to blame in this respect. The road authorities will claim significant progress already on commercialisation, in the outsourcing of design, maintenance and other services. The pressure for those initiatives is nonetheless political, and is less secure and lasting for that. This form of commercialisation is nonetheless limited in its efficiency advantages because the road authorities remain still shielded from the carrots and sticks of the market, in which suppliers are pushed by consumers on the one hand, and pulled by shareholders and lenders on the other. Supply side commercialisation attacks only the technical, not the allocative efficiency component of economic efficiency.

It would be correctly argued that a sufficient level of competition is the necessary adjunct of a commercialisation policy designed to enhance efficiency. Here we encounter the natural monopoly characteristic of the road system which derives from the economies of scope offered by the service network as distinct from economies of scale as in rail. Network economies of scope militate against the establishment of the sort of competitive structure which would be achieved by breaking the existing road authorities into separate units.

Monopoly as a barrier to change dissipates somewhat if the market served by the road system is defined in sufficient breadth. It is not a market limited to the supply of and demand for road based travel, or even to travel generically, irrespective of mode. Road suppliers more properly operate in the market for communication and access. When the market is defined in this way, the scope of competitive influence broadens significantly. It then includes alternative methods of work (teleworking) of information transmission (faxes instead of couriers; telephone rather than face to face meetings) of distribution (use of other modes; more proximate location of production and distribution), and even alternative activities.

Some form of regulation of commercialised road authorities would remain a necessity because the monopoly road authorities would likely be the predominant if not the only suppliers of *road* services within each of the state and territory jurisdictions. The need for regulation may be greater initially. But once competitors - including other transport modes, the telecommunications and land development industries - digest the potential to profitably capture former road markets, regulators should be able to reduce the intensity of their oversight.

The case for the commercialisation of road authorities - to an extent beyond the current limited application of the concept in the roads sector - is not necessarily a case for privatisation for, following Newbery (1994), there are sound technical and institutional limitations on doing so. Commercialisation has the potential nonetheless to foster

efficient provision and use of road assets by exposing the road authorities to the same pressures bearing on their customers, their private sector competitors, and increasingly, their public sector competitors.

## **8 COMMERCIALISATION AND NON-ECONOMIC CONSTRAINTS**

A commercialised road authority will tend to have a different perception to a departmental agency of the relationship between its organisational objectives and the broader set of community objectives. From anecdotal evidence and experience, the public road authorities continually caution against decision making which is solely based on economic grounds. They argue against leaving many road policy decisions subject to the benefit and cost calculus: environment, accessibility, social justice and regional development must also be considered. And in this, they are without doubt correct. But this is not the same as saying that the road authorities should themselves be doing the balancing. To the extent that they are accorded (or assume for themselves) this role, as already discussed in the context of regional development, the outcome will be road based. Inevitably and with the best will in the world, the solution to every constraint will be seen as entailing more expenditure on roads.

The broader advantage of commercialisation lies in the potential it offers to relieve the road authorities of the responsibility for balancing the complex and often conflicting community objectives of efficiency, a clean environment, minimum levels of accessibility and the facilitation of development.

A commercialised road authority should need only to pursue one objective: namely, to satisfy the demand for road based services in a manner which yields the target return on its invested capital. Other objectives normally accorded or assumed by the road authorities would for a commercialised agency take the form of constraints which normally face private entrepreneurs (in the case of environment, safety and price/quality regulation) or of community service obligations to be explicitly and transparently subsidised by government (accessibility and regional development). All governments have in place agencies to manage the community's non-economic objectives. It is those agencies which rightly should be advising on the appropriateness of road-based solutions.

### ***Environment and safety***

Road authorities are more likely to advance better roads rather than less traffic as responses to environmental and safety risk. The failure of the road authorities to champion non-road-infrastructure responses to these risks is a function of their conflicting interests as road builders and transport managers. The commercial road authority model offers a clearer route to consideration of the broadest range of potential policy responses to these risks. To see how, we need only put ourselves in the position of the private sector commercial enterprise. Irrespective of any publicly stated commitment to desirable economic and safety practice, the enterprise's ultimate and

permanently pressing objective will be profitability. The task of government is to devise a set of economic and legal incentives to corporate compliance with mandated environmental standards, and with standards for workplace and product safety. Government mandates the standards, acting on the advice of its appointed authorities. The firm itself does not have the liberty to set the standards it will meet (unless of course they exceed those of the government). Firms act then to achieve their commercial objectives, within the non-commercial constraints set by government.

The same distribution of decision making could be envisaged in the context of the commercialised road authority. Government would specify the performance standards to be met by the commercialised agency. A range of pricing or infrastructural measures, or customer standards would then be considered by the road authorities to meet those standards. Traffic could be "priced off", additional capacity provided (to achieve freer flowing conditions), sound barriers or sound deadening pavements installed, or regulations imposed to control vehicle and driver quality. The combination of measures chosen would be that which maximised the return on the authority's assets, *subject to* the externally imposed constraints. At some point, the price consequences for users may be such as to divert traffic to other modes or to stimulate changes in land use decisions. The commercialised road authority would appropriately revise its maintenance and investment decisions in accordance with changed revenue expectations. It may reduce its planned expenditure in total, or redirect it consistent with expected changes in the distribution of demand.

The difference between this model and that currently prevailing lies in the distribution of decision making. The appropriate agency of government decides the performance standards to be met. The authority as a market agent decides how best to meet them having regard to its profitability targets. Other more environmentally sensitive transport and communications suppliers then respond to the price signals transmitted in the road using market. Rail and bus service providers may respond to higher prices for car use by expanding the range of services they offer, or by cooperating with the land development industry to facilitate new transport/land use products.

An externally determined safety objective would influence a chain of road and competing provider reactions in the same way. Government's predetermined targets for risk reduction could force price, supply and user responses which reduce road traffic, divert it, or demand a standard of driver behaviour so onerous as to significantly enhance the attractiveness of alternative, safer transport and communications options. For these mechanisms to be effective, it must be in the financial interest of the commercialised road authority to maintain an adequately resourced inspectorate to enforce its by-laws. The related implication is of course that the commercialised road authority and its directors would face an enforceable statutory obligation to achieve mandated environmental and safety standards.

The key characteristics of this model can be summarised as follows:

- Government, not the road authority sets performance standards and is accountable for them as for other legislative instruments. Agencies independent of the road authority -such as an environment protection authority and a transport safety inspectorate - enforce the standards.
- The commercialised road authority is constrained from internally trading off mandated performance standards against its own profitability in order to achieve an inefficient political objective. It is exposed to public view in respect of its known financial target, and of the identifiable set of regulations with which it is statutorily obliged to comply.
- Provided competing suppliers are free to act commercially, the internalisation to road users of the costs of meeting standards stimulates them to search for combinations of service type, quality and price which meet their objectives, and indirectly, the government's objectives for the economy, the environment and for safety.

#### *Accessibility and regional development*

This model could also process accessibility and regional development objectives in a manner which encouraged economic efficiency and at the same allowed a comprehensive evaluation of alternative policy options by the most suitably qualified public sector agencies. It is important to remember here that the need to resolve conflicting objectives is not at issue. What is at issue is the inadequacy of reliance on multi-criteria analysis processes to achieve a satisfactory resolution of conflicts, when those processes are carried out by individual service provider agencies acting in isolation from each other and in pursuit of their own sectional objectives.

In the commercialised model, the road authority's principal obligation is to earn a satisfactory return on the community's invested road capital. With its performance measurable against a readily comprehended objective there is reduced scope available to cross-subsidise unprofitable services in pursuit of the (overt or implicit) political objectives of government. Instead the road authority must ensure that its owner, the government, understands that some service standards cannot efficiently be met, whether they be social justice determined standards, or those perceived by some to be necessary for regional development irrespective of the efficiency consequences. Government has three possible responses to consider:

- firstly, it could reassess the desirability of those standards, and, if they remain justifiable then -
- secondly determine the most cost effective means of delivery then -
- if road service improvements are the most cost effective delivery measure, negotiate a subsidised service delivery contract with the road authority

The commercialised road authority in this model retains the incentive to act commercially and efficiently, while the community is able to achieve the most cost effective delivery of its non-economic objectives. Implicitly, the road authority has been relieved of the onerous responsibility of interpreting the balances between the conflicting objectives of government. The removal of the comfort of internal cross subsidy confronts government with the true and publicly identifiable costs of policy and places additional pressure on policy makers to comprehend: firstly that objectives can be achieved in more than one way; and secondly that the meeting of any one inefficient objective denies resources to the achievement of community objectives elsewhere.

The objection may be raised that divesting the road authorities of these responsibilities does not solve the problem of balancing conflicting community objectives. Someone surely must have the responsibility for balancing, in this instance, equity and efficiency considerations. Arguably, that someone should be each state or territory's regional development agency. It has the broader grasp of regional development needs and a better understanding of the delivery mechanisms. In addition, its regional development objective does not constrain it to supplier driven responses to perceived developmental constraints. The regional development agency is best able to compare *alternative* options for the relief of an identified constraint, and recommend the option that achieves the developmental objective at the lowest possible cost. One of those initiatives might take the form of the subsidisation of an otherwise inefficient road system intervention; or in effect the purchase of the initiative from the road authority at a price which covers the authority's costs. There is no reason why this funder-provider distinction which applies in other areas of policy should not apply in roads as well.

The approach outlined here has obvious implications for road authority funding. With direct and comprehensive road pricing, implementation is at least conceptually simple. Service standards are determined by the amounts users are willing to pay. The community as a whole funds unprofitable initiatives from consolidated revenue, in the form of service purchase arrangement with the road authority. Where revenue hypothecation is the sole route to commercialisation, the challenge is greater, if only because governments must determine the proportion of fuel tax revenue to be considered as charge for road use. That proportion having been set however, the resulting fuel tax revenues, plus the proceeds of flat registration charges become the revenue base on which the commercialised authority must survive. Services or service improvements which cannot meet the predetermined profit target must be reduced in quality or considered for delivery as community service obligations through a service purchase contract.

## **9 COMMERCIALISATION AS A PRECONDITION OF FURTHER REFORM**

The departmental model system management itself impedes reform in other areas. Decisions are taken politically, without recourse to the intentions of the customers, and against objectives which are not readily amenable to objective verification. The

Australian road authorities in recent years have almost universally espoused the cause of more efficient economic management. But in contrast, their structures, funding and the disciplines which bear upon them prevent them from acting efficiently. The use of economic decision tools such as cost benefit analysis will be conducive to efficiency only if the road authorities are disciplined to implement the results and have the appropriate incentives to do so. This is unlikely to be the case when political decision making and inefficient funding arrangements interpose between the supplier and the customer.

As was noted earlier, efficiency is a market concept, one which relies for its achievement on interactions between buyers and sellers each pursuing their own opposing interests. Arguably, the failure of the road authorities to champion direct road pricing derives in part from their lack of exposure to the market system, a system which balances the supremacy of the customer against the supplier's desire for profit and financial survival.

The lack of progress on direct and comprehensive road pricing in turn limits the opportunity for the decentralised market mechanism to stimulate the effective and efficient inter-modal co-ordination and competition. Without some form of road pricing, road and rail performance cannot be compared in economic terms. Until commercialised, the road system will enjoy the relative luxury of being judged according to different criteria than apply to the commercialised, corporatised or privately operated modes. In this sense, the concern of the National Transport Planning Taskforce to develop policy mechanisms for intermodal co-ordination is perhaps misplaced. An efficient level of co-ordination can surely not be achieved until each of the transport modes faces the same incentive to co-ordinate. Ensuring the appropriate disciplines face each mode should be a more promising route to reform than additional efficiency-distorting policy interventions.

Ecologically sustainable development (ESD) is another policy area in which the inadequacies of road authority structure and funding stand as barriers to effective change. Without a commercial discipline and access to direct pricing, the road authorities cannot play an effective part in policies and initiatives directed towards a more environmentally friendly transport system. Re-allocation of demand to the most efficient modes, and any necessary suppression in pursuit of environmental objectives cannot occur so long as roads are unpriced at the point and time of use, and road authorities lack the incentives to be responsive to their market. In the ESD context, efficiency requires consistent internalisation of environmental costs across competing sectors or competing modes, not just in rail, sea or air, but in road also.

Economic instruments cannot be used effectively in pursuit of the *community's* environmental objectives if one major player in the transport sector is structurally incapable of delivering and responding to those instruments.

## 10 CONSTRAINTS TO COMMERCIALISATION

The early discussion in this paper about the putative influence of the road system over the nation's macroeconomic performance is illustrative of the almost mythical significance of roads in policy making. The supporting logic is not easily deduced. Contributing factors may be the tendency to monumentalism in the political process, the power of the engineering profession, or the prevalence of car ownership among voters, who in addition perceive themselves as being heavily taxed for road use. This idea of roads as a special product is probably the most significant constraint to the realisation of the concepts outlined here. Roads do have peculiarities, but not ones such as to stand in the way of applying those same market disciplines to which the Australian economy is increasingly being exposed.

The second constraint is the more tangible one of the separation of revenue and expenditure responsibilities between the commonwealth and the states and territories. Its influence is to impede even the hypothecation of revenues by the states and territories to their road authorities, hypothecation being the first step to true commercialisation. The pursuit by the recently elected federal government of a shift of responsibilities back to the states and territories may offer the scope for some change in this respect.

The third constraint - the unwillingness of governments to countenance direct and comprehensive road pricing - cannot entirely be separated from the first two. The barriers to pricing are no longer entirely technical, but governments continue to perceive roads as a service to which the normal rules of efficient economic conduct and management do not apply.

Curiously, pricing is acceptable for privately funded roads as in New South Wales and Victoria; and in Queensland, successive state governments have certainly not discouraged the myth the toll road operating company is privately owned. But pricing appears unacceptable on roads built, owned and managed by the state and territory road authorities themselves. Policy makers may fear the misunderstandings engendered in the minds of users by the existence of federal fuel taxes. Users quite rightly are averse to paying twice for the same service. In this sense, the ceding of fuel taxing powers to the states and territories could be a powerful first step to reform.

## 11 CONCLUSIONS

The commercialisation of the state road authorities is a fundamental precondition to the efficient use of transport resources. Commercial disciplines underpin service provision consistent with the demands of the market (rather than of elected politicians) and to the efficient provision of those market dictated services. Contrary to the argument advanced by some, this purely microeconomic reform does not endanger the capacity of the road system to contribute to national economic welfare. Rather, the road system can

only make this contribution if all microeconomic agents involved in its operation - the road authorities, their customers and suppliers - are able and required to act efficiently

A commercialised model also provides the framework for those non-economic objectives which bear on the road system - accessibility, safety, environment, regional development - to be evaluated and delivered in their proper context. In the commercialised road authority, these non-financial objectives become constraints on the authority, in the same way that regulation is a constraint on the profit motive in the private sector. A commercialised road authority would price its services accordingly, but seek an explicit and transparent subsidy from government in respect of any constraint which it could not profitably meet. In this sense, decision making for the road authorities is rendered simpler and more readily comprehensible. They pursue profit and comply with the same laws as do other enterprises. They send price signals which encourage other enterprises to provide the same ultimate service more efficiently. Governments can continue to pursue other non-market objectives - such as regional development - but in a context removed from the dangers of sole reliance on road-based delivery mechanisms

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