NEW ZEALAND BUSINESS ROUNDTABLE

SUBMISSION
TO THE MINISTRY OF TRANSPORT ON

OPTIONS FOR THE FUTURE: LAND TRANSPORT PRICING STUDY

AUGUST 1997

1. Introduction

This submission is made by the New Zealand Business Roundtable (NZBR), an organisation of chief executives of major New Zealand business firms. The purpose of the NZBR is to contribute to the development of sound public policies that reflect overall national interests.

The NZBR believes that substantial efficiency gains could be achieved by reforming the management of the roading system. It has therefore strongly supported the work on these issues that has been undertaken by the Ministry of Transport and has had valuable contacts with Transit New Zealand on the subject.

The latest report *Options for the Future: Land Transport Pricing Study* (the Report) prepared by the Ministry of Transport reviews the Ministry's position on issues covered in the 1996 discussion documents in the light of public responses and sets out five possible options for institutional reform. The first two are variants of the status quo, while the third (the business option) proposes analysis of a number of commercial issues. The fourth and fifth involve corporatisation.

In section 2 below we review the Report's discussion of the topics that were the subject of the previous Land Transport Pricing Study's discussion documents. Section 3 discusses the options for institutional change outlined in the Report. Concluding comments are presented in section 4.

2. The Land Transport Pricing Study Issues

2.1 Introduction

The Report provides an update of the Ministry of Transport's position on key issues that were the subject of earlier discussion documents. We provide below some brief comments on the Ministry's views.

A number of issues are identified where further work is required. We agree they are important and note that some of them should be researched prior to decisions being made on reform options.

2.2 Pricing and Economic Efficiency

In the discussion of pricing and economic efficiency the Report:

- recognises the importance of efficient pricing, including the concept of marginal cost-based prices;
- focuses less than in previous documents on the recovery of past sunk costs; and
- presents some preliminary information on the incremental and stand-alone costs for various classes of road users which could provide guidance on the recovery of common costs.

The recognition of the importance of efficient pricing is a major step forward and addresses one of the major reservations we had with the previous documents.

The Report presents some new analysis on the stand-alone and incremental costs for different road users to guide the allocation of common costs. The analysis is a useful step in establishing an efficient pricing framework.

However, in applying the stand-alone/incremental cost methodology, Appendix II of the Report includes a capital charge based on past sunk costs. This is inconsistent with economic efficiency. The methodology should apply to the recovery of current and future costs, not past sunk costs. The Report also appears to assume that if some roads are being run down, road users should be charged to compensate the road owner for the loss in value. This would also appear to conflict with efficient pricing.

The Report notes that in determining the allocation of common costs, benefits should be taken into account. Although the Report does not elaborate, it appears to advocate the use of a benefit principle. The benefit principle is an equity principle (i.e. concerned with income distribution), and may in some circumstances be inconsistent with prices based on an efficiency criterion. In our view, efficiency should be the primary criterion for deciding road charges.

The Report notes that the role of lightly-used rural roads in the roading network should be examined. It does not provide a strong case for non-rural road users contributing towards the funding of rural roads. In our view, substantial efficiency gains might be achieved by ensuring that maintenance expenditure on these roads was much more closely related to the willingness of users to pay. User charges levied on non-resident road users could supplement funding by local residents if this could be achieved efficiently.

The Report provides only a brief analysis of other pricing issues, such as the extent of economies of scope and scale, the implications of joint production costs, the feasibility of shadow tolling, and the likely timing of introduction of direct billing systems. Studies of these issues by officials need to be advanced as soon as is practicable.

2.3 National Roading Accounts

The Report recognises that efficient prices are based on future rather than past costs. As noted above, we believe this is a major advance over previous analysis.

We concur with the suggestion that establishing a balance sheet is useful as a management tool, but note that administratively determined values for sunk cost assets may be seriously defective as a guide to efficient pricing.

The Report notes that an important issue is the future use of the petrol tax and rates to fund road services. It suggests that the justification for using rate revenue to fund roads is weak. However, as long as direct user charging is not viable, roads must be funded in part from non-use related charges. Even if direct charging is feasible, marginal-cost based pricing might not cover average costs. None of the possible options for raising this shortfall in revenue is 'perfect' - the choice is between flawed alternatives. Possible options include general tax funds, Ramsey pricing, an increase in road access charges or the current options. The preferred option is the one that minimises distortions to road use (since marginal cost pricing provides the appropriate short-run signals) and induces the road operator to provide the quality and quantity of roading services that consumers desire.

A direct access charge levied on all households is one option. It has the advantage of establishing a relationship between the roading operator and road users. It would ensure that all of the funding went directly to the road operator. It would remove local authorities, with their conflicting objectives and relatively poor incentives for performance, from involvement in roading. There would be costs associated with setting up and running a direct billing system but these costs would have to be incurred in the future once direct charging for road use becomes feasible.

The advantage of using the rating system is that it is already in place. However, as noted in the paper, there are a number of problems with rate-based funding. The lack of transparency is one problem - it is not obvious to property owners what portion of their rates is being used for roading. There is also a risk that councils would not pass on the appropriate amount of funding to the road operator. Political pressures result in competing priorities for rate revenue. Further, the anti-motorist attitudes of some councils and their favouring of public over private transport is of concern. Thus, while we accept that levying a fixed charge on households to cover fixed roading costs may be consistent with efficient pricing, we share some of the Report's reservations about using rate revenue.

The Report notes that further work is required to resolve the issue of who owns the roading network and whether a capital charge could improve economic efficiency. It suggests that a capital charge that reflects the opportunity cost of capital would be consistent with efficient pricing. We agree that this might be so but reiterate our view that a capital charge on sunk cost investment is unlikely to be economically efficient.

2.4 Externalities

Environmental

The Report notes that there is insufficient evidence to justify levying road users for any environmental 'externality' impacts of road use. It also recognises that problems are likely to be site specific in many cases, so that levying externality charges on everyone is unlikely to be efficient. We concur with these points.

There is still an idea running through the Report that road users are imposing costs on others and that the optimal level of external impact is zero. However, a zero level of impact is unlikely to be optimal and there should be no presumption that it is efficient for road users to bear all of the costs of reducing road use effects. The important issue is to provide incentives for road users to face the full marginal costs of an increase or decrease in impact. This could be achieved by a tax or a subsidy. In addition, those affected by road use should face the appropriate incentives to mitigate the environmental impacts (e.g. by not locating close to a motorway, or double glazing windows where noise is a problem) at the margin. The transaction costs of identifying and implementing changes that improve on current arrangements should not be underestimated.

Safety

We concur with the Report's view that there is no current justification for introducing a safety externality charge. A charge is likely to be poorly targeted on those who create safety problems. The NZBR's submission on *Road Management: Options for Reform* discusses in more detail our views on how assigning accountability for safety to a single organisation, the roading operator, in a commercial environment could provide strong incentives for the delivery of the optimal level of road safety.

Congestion

The Report notes that road users should face the marginal costs of their decisions to travel, including congestion costs. The Report offers little comment on the feasibility of different charging options, noting that the preferred approach in any particular area is likely to be site specific and that regional and local solutions to traffic congestion may offer more appropriate solutions.

Congestion is an important issue in Auckland and Wellington. While it might be true that solutions need to be developed on a local basis, the quality of analysis currently being undertaken at a local level does not provide confidence that the issues will be properly analysed if central government does not take a lead role. For example, the Wellington Regional Council commented in its long-term strategy document *Facing the Future: The Next 10 Years 1997-2007* that "it is more important for the Region's road system to meet the needs of commercial, recreational, rural and off-peak users rather than those of rush-hour car commuters". This statement is clearly inconsistent with an efficiency criterion.

Given the mixed ownership of the roads in Auckland and Wellington (i.e. between Transit New Zealand and the territorial local authorities) and the overlapping responsibilities of the regional councils (public transport) there is a case for a coordinated approach to the congestion issue. The involvement of these various agencies may increase the difficulty of reaching a solution, given their different interests. For example, there are a number of possible options for congestion pricing. These include electronic tolling, requiring a licence for peak hour travel, or a tax on commuter car parks. The different options assign control, costs and revenues to different parties and do not necessarily ensure that the signals provided by consumers' willingness to pay will be passed back to the road operators.

We note that the Working Group on Demand Restraint and Regional Funding of Community Passenger Transport Services has been established to develop proposals for managing urban traffic congestion and funding public transport. We are concerned that different agencies with their various political interests may not identify an efficient solution, but we reserve our judgment until the outcome of the study is made public.

We note that the Ministry of Transport and Transfund are currently reviewing the justification for public transport subsidies separately from the Land Transport Pricing Study (and that the above working group is also studying this issue). We consider that the grounds (in efficiency terms) for subsidising public transport are weak at best (being based largely on a second-best argument that road users would be willing to pay people to use public transport if that relieved road congestion). This justification disappears once direct charging for road use is possible. If a congestion charge is applied, road users would face the marginal costs of travelling at peak time. People could then choose what form of transport to use based on the relative costs to users. In our view, the elimination of subsidies could yield substantial efficiency gains.

2.5 Summary

The Report has recognised a number of important issues which were ignored in the 1996 Land Transport Pricing Study's discussion documents and therefore represents solid progress towards ensuring that reforms will enhance efficiency.

However, we believe officials should be moving with greater speed to review some of the major unresolved issues, irrespective of the reform option chosen. The greater the information base, the easier it will be to select the appropriate option for the future. Government officials could usefully contribute to research in the following areas:

- principles of efficient pricing including:
    - the implications (if any) of network externalities;
    - the extent of economies of scale or scope;
    - the likely timing for cost-effective introduction of direct user charging;
    - the long-term role of funding from rates, petrol tax, registration fees, stickers and other sources;
- the case for subsidisation of public transport;
- the optimal maintenance of rural roads; and
- monopoly constraints, interconnection and competitive neutrality issues.

3. Options for the Future

3.1 Introduction

The discussion of options for the future recognises the importance of institutional arrangements in giving incentives for efficient road management. The examination of the different options is welcome and fills an obvious gap in previous discussions.

We are confident that, in the long run, a commercial model will yield the greatest efficiency gains. We are less certain about the timing of a move to a commercial model given that in the short term direct charging for road use is not yet cost effective.

In this section we examine the five options presented in the Report. We begin by reviewing the case for adopting a commercial approach.

3.2 Commercial Options[1]

The commercial options envisage corporatisation of the roading operations owned by the Crown and local authorities, either as a single entity or multiple entities. In either case, the corporatised entities would be required to move towards direct charging mechanisms in a competitively neutral environment. Although not discussed explicitly, shadow tolling could possibly be used as a transitional measure.

The corporatisation model has been applied beneficially in a variety of situations at both the central and local government levels. It works most successfully in a competitive environment where users can be billed directly for services supplied. With suitable regulatory constraints (the Commerce Act and disclosure regulations), corporatisation can provide significant efficiency benefits where an organisation has a monopoly position.

We are confident that once direct billing is economically feasible, corporatisation of roading operators would yield significant efficiency gains.

Corporatisation of the roading operators would improve management performance by clarifying management's objectives and increasing accountability. With a profit objective, a roading operator would have strong incentives to provide the services most valued by consumers (assuming revenues were sensitive to users' willingness to pay). It would have incentives to produce those services at minimum cost since by doing so the commercial operator would maximise its profits (unless profits were controlled by regulation).

If direct charging for road use were possible, users could express their preferences for such diverse roading attributes as congestion, safety and surface quality through their willingness to pay. Direct charging would allow time of day charging or route-specific pricing. A fully commercial operator would have strong incentives to maximise the information it received from customers on their willingness to pay for roading attributes and to use that information to deliver the services desired at lowest cost.

A fully commercial operator has strong incentives to optimise investment and maintenance decisions since by doing so it would maximise profits. With access to direct electronic billing it could achieve efficiency gains by:

- better managing existing capacity and improving the timing of enhancements to capacity. Congestion pricing could reduce demand for road use and may allow the road operator to defer capital expenditure. Consumers' willingness to pay to travel at peak periods would provide strong signals as to when additional capacity should be built. New capacity should not be built unless users are prepared to cover the full costs - all costs are marginal when an investment has not yet been made; and

- improving road maintenance decisions, including decisions on the timing and extent of maintenance. For example, a reduction in maintenance of lightly used rural roads which allowed the quality of these roads to deteriorate might better reflect the preferences of users if they faced the true marginal costs of upkeep. The same factors would determine when to upgrade road quality in response to increased road use.

While we are clear that corporatisation would offer substantial benefits if direct user charging were feasible, the gains achievable without direct billing would be smaller.

[1] The d~~D~~iscussion in this and the next section draws on CS First Boston~~,~~ (1993), *Options for the Reform of Roading in New Zealand*, a report~~paper~~ prepared for the New Zealand Business Roundtable.

In the absence of direct billing, corporatisation could still provide benefits by clarifying the objectives of road operators, increasing their accountability for performance, improving price signals, decreasing the scope for political interference in operations and improving monitoring of performance.

Commercialisation would also improve the incentives of the roading operator to introduce a use-related direct billing system when that became economically feasible since by doing so the operator would maximise profits. A commercial operator is less likely to be concerned by adverse consumer and political reactions to the introduction of user charging.

However, until electronic billing is economic the roading operator could not rely on direct user charges to fund road use. Without this source of revenue, the roading operator would be forced to rely on the existing user charges, on access charges and possibly on existing petrol tax and rates funding. These funding approaches provide limited information on what roading attributes road users are prepared to fund. The funding is largely unaffected by the roading operator's performance, reducing the incentives of the operator to meet consumer preferences. Thus a significant proportion of the benefits normally provided by a commercial imperative would be absent.

Commercialisation might be possible using shadow tolling. Again, however, there are problems with this option.

Under the shadow tolling option, the road operator would be paid a toll for each car using a particular part of the road network. The payment would be made by the Crown (or a Crown agency) with the funds possibly raised by the government from the current combination of licensing, fuel taxes, rates and direct user charges. A commercial organisation's objective would be to maximise its profits subject to the constraint that payments received were based on the shadow toll.

The approach does not provide signals to road users to balance the costs and benefits of road use. For example it does not encourage users to take account of the costs they impose on others when they travel during peak hour traffic flows. Conversely, it does not allow road users the ability to express their preferences through their willingness to pay for different road services - the only way such preferences can be expressed is by use of the network.

Shadow pricing has the potential to distort roading signals. For example, operators would have incentives to channel traffic on to roads where vehicle counts were made.

Because the quality of information generated through shadow tolling is likely to be much poorer than that generated through direct charging and because in some cases the approach may distort the behaviour of road managers, we are not certain that this approach would offer adequate benefits as a long-term option.

On the other hand, it might be a reasonable option as a transition to a commercial model if direct charging were likely to be feasible in the relatively short term. The shadow pricing regime would have to be carefully designed to maintain the incentive for the operator to introduce direct charging as it became economic. There might be a transition period during which the commercial operator derived funds both from direct charging and from shadow tolls.

In our view, because the strength of the case for corporatisation depends on the likely timing of direct billing, it would be prudent for officials to review when electronic billing was likely to be feasible before deciding on the preferred reform option.

Commercial Model: Multiple Versus Single Owners

The paper canvasses two commercial options. In the first, the Crown's assets would be transferred to a state-owned enterprise and the assets of each territorial local authority would be transferred to a local authority trading enterprise. The second option would involve establishing a single corporate entity, owned jointly by the Crown and territorial local authorities.

Normally, decisions on the optimal structure, organisational arrangements and deployment of resources in an industry are made through the pressures that operate in markets. The structure of industries evolves through experimentation with firm size, product bundling, organisational arrangements, contract design and so on. Because the survivorship of successful approaches rather than the reasons for their success is important in a market, it is often difficult to understand why an industry is organised in a particular way and even more difficult for a central agency to plan an efficient industry structure.

The roading industry is no exception. It would be very difficult for a government agency to obtain the information needed to choose between single or multiple ownership of roading operations. This suggests that the best option for determining the structure of the roading industry might be to give the owners and managers of current entities the flexibility and incentives to restructure their businesses in response to market pressures. The restructuring of the electricity supply industry with corporatisation and some privatisation experiences indicate the scope for significant efficiencies to be realised when the managers of individual companies have the incentives to undertake restructuring.

However, even with corporatisation, managers of roading operations are unlikely to have the ability or incentives to contemplate major restructuring. Parochial local government interests would be a major impediment to rationalisation. The reluctance of central government and local authorities to contemplate privatisation is another. If rationalisation is unlikely then a case can be made for central government deciding on the preferred shape of the industry. However, the difficulty of choosing the optimal structure should not be underestimated.

We have not undertaken sufficient analysis to be able to express a firm view on whether multiple or single ownership of roading entities would be preferable. However, it is possible to identify some of the trade-offs with the different options.

Multiple ownership could increase the costs of introducing direct billing. For example, cars might need to be fitted with multiple transponders to cope with different electronic systems. On the other hand, operators might voluntarily agree on standardisation.

If roads were funded in part through access charges under a multiple ownership model, individual motorists might have to pay a number of operators depending on the roads they were likely to use. Each roading operator would need to be able to bill each road user for any direct charges incurred. Alternatively the roading operators would need revenue sharing agreements.

A major concern with multiple ownership is the motivation and ability of local authorities to adopt a commercial approach to road management. Unless a commercial approach is adopted for all roads, the ability to adopt efficient pricing on other roads might be compromised. For example, the economics of constructing the Transmission Gully road and funding it through user charges would depend on whether or not user charges were also levied for the use of the coast road. The likelihood that some operators would adopt inconsistent approaches would increase with the number of entities.

Multiple smaller operations would generally be less able to attract high quality managers and board members than a single large organisation.

On the other hand, retaining multiple ownership provides greater opportunities for competition between providers. The scope for competition is, however, limited, particularly on local access roads. If there were a number of organisations it would be possible to compare the costs and prices charged by the different organisations (although there may be significant differences in the nature of the assets).

Multiple ownership allows greater scope for experimentation with different billing and other arrangements. It avoids the initial costs of agreeing the relative valuation of assets contributed by different authorities to a single organisation.

We commend the idea of exploring a North Island/South Island split of road operators, among other options.

3.3 Other Options Discussed in Report

Status Quo and Modified Status Quo

The status quo option represents the 'do-nothing' scenario. The modified status quo increases funding to ensure projects with a benefit-cost ratio of 4.5 or more proceed.

The efficiency case for maintaining the status quo rests on three possible arguments. First, the current method of funding, relying on an access charge (registration fee), indirect charges correlated with road use and road wear (petrol taxes and road user charges), and rates may be more efficient than direct charging when the costs of introducing a direct billing system are taken into account. The second possible reason for retaining the status quo is that public ownership might be an efficient way of addressing monopoly issues. Third, it might be best to retain the status quo while further work is undertaken to clarify the preferred option.

The first issue is an empirical one. While the current charging regime might be more efficient than alternatives at present, there will be a point in the future when direct billing becomes economic. Once direct charging becomes feasible, the case for moving to a commercial model is very strong. In the interim before full charging is possible, partial direct charging for congestion and for trucks might be feasible and should be introduced when economic. Officials should obtain expert opinions on the feasibility of introducing such technology.

On the second issue, the Commerce Act and disclosure regulation have proved to be a viable regulatory option for other network industries. Local access roads do raise potential monopoly problems but these do not necessarily warrant maintenance of the status quo.

The third justification for doing nothing does not withstand scrutiny, since some reforms are likely to be justified whatever the long-term arrangement chosen. Possible reforms include clarifying the objectives of the roading manager, eliminating the sharing of responsibility for road safety between many agencies, introducing direct billing when appropriate, franchise options, and introducing a road management regime that puts all road providers on the same legal basis.

Assuming that the benefit-cost analysis presented in the Report is soundly based, then additional funding as proposed in the modified status quo option should be applied to roading. In principle, all projects with a benefit-cost ratio greater than one should be undertaken. If a higher benchmark than this is applied, then either decision makers do not believe the results of the benefit-cost analysis or projects that would generate net benefits are being rejected.

The separation of the funding and provision of road services would continue under the status quo. The paper does not discuss the implications of the funder-provider split. A funder-provider split provides the greatest advantages when there are competing providers but where direct billing of users is not feasible or is precluded by government policies. The funder-provider split could be retained in the transition if shadow tolling proves to a useful intermediate step. However, once direct user charging is possible, it would not usually be relevant.

Business Model

The business model proposes that the roading providers adopt consistent accounts and that a number of issues such as efficient pricing, the role of rates and tax funding, the feasibility of shadow tolling, and congestion pricing be investigated.

All of the issues discussed under this option should be investigated whatever option the Crown chooses. Given their importance, the government should embark on detailed analysis as a matter of priority. The outcome of a review of these issues could influence the reform model chosen or the timing of reform.

Other Options: Privatisation

Corporatisation is likely to provide substantial benefits once direct billing is feasible. This option should be advanced at the appropriate time, whether or not the further possible option of privatisation is considered. In our view, privatisation would lock in initial gains in efficiency achieved through corporatisation and realise significant additional gains.

Private owners are likely to be more effective at monitoring management and better able to provide incentives for performance. Private investors put their own wealth at risk when they invest in an organisation and therefore have better incentives to monitor and take an active interest in the performance of a firm and its management. The threat of takeover of a poorly performing private firm provides another constraint on management performance. The opportunity of investing in a firm and improving performance provides incentives for monitoring by potential investors. For listed companies, share price performance provides strong feedback on the performance of management. Private ownership also reduces the risk of political interference in the management of the firm.

Private ownership could also be encouraged by ensuring neutral treatment of all operators and moving existing state-owned and local government road operators on to a commercial footing. Private operators would be better able to fund new developments through user charges in a competitively neutral commercial environment. Governments frequently face capital constraints because of taxpayer and ratepayer resistance.

Franchising of roads (with the government retaining ownership) is another option for introducing private sector involvement. An examination of the implications of such an approach could be of value.

4. Summary

In summary, the Report recognises a number of important issues which we believed were not adequately addressed in the previous discussion documents:

- most importantly, the Report recognises the importance of efficient pricing thereby addressing one of our major concerns with previous studies;

- it focuses less on the recovery of past sunk costs. However, we are concerned that the examples considered in Appendix II of the paper include a capital charge based on the recovery of past sunk costs; and

- it notes a number of areas where further work should be undertaken.

The Report acknowledges the importance of institutional arrangements in providing road managers with incentives to operate efficiently and makes useful progress in outlining options for institutional reform.

In our view, corporatisation would offer significant efficiency gains in the longer term, with eventual privatisation likely to achieve the greatest benefits. However, the benefits of corporatisation are likely to be smaller as long as direct charging is not cost effective.

A commercial model based on shadow tolling might offer some benefits in a transition to a commercial option.

Whatever option is chosen, the issues outlined under the business model - that is, a review of efficient pricing, the role of rate and tax-based funding, shadow tolling and so on - should be examined as soon as is practicable. The results of such a study may influence the choice of reform option or the transition path.

Variants of the status quo are unattractive since they fail to address problems with existing institutional arrangements.