



Towards an Infrastructure Development Plan for New Zealand

A submission by the New Zealand Automobile Association (Inc)

Contents

Introduction	3
1. Why the AA has an interest in infrastructure	4
1. ACTION OUTCOMES	4
2. Long-Run National Opportunity Cost / Benefit.....	4
2. ACTION OUTCOMES	6
3. Assessing Welfare	6
3. ACTION OUTCOMES	6
4. Capacity vs Organisation.....	7
4. ACTION OUTCOMES	7
5. Substitutions	8
5. ACTION OUTCOMES	8
6. Joining Up.....	8
6. ACTION OUTCOMES	9
7. Infrastructure and Development	9
7. ACTION OUTCOMES	11
8. The value of time	11
8. ACTION OUTCOMES	14
9. Safety	14
9. ACTION OUTCOMES	15
10. Market Size	15
10. ACTION OUTCOMES	16
11. Local Government.....	16
11. ACTION OUTCOMES	18
12. Pricing.....	18
12. ACTION OUTCOMES	19
Conclusion.....	19
Further Information	19

Introduction

It is understandable that the Treasury is consulting on the question of increasing national debt to fund special infrastructure projects over the next five years. However the development of an infrastructure plan for New Zealand is considerably more involved than a shopping list of expensive new projects.

There are a number of very significant problems with New Zealand's legislation and organisation with respect to infrastructure development, many of which have yet to be addressed by Government. While special projects may be significant to Treasury in terms of its responsibilities to manage the Crown's debt risk, the Treasury also has responsibility for the oversight of the systems of expenditure of existing levels of taxation. These latter systems are not only of greater quantum but if they are not configured well will interfere with the return that can be expected from special projects. This therefore is an excellent opportunity to review the systems under which all infrastructure is developed, not just those special projects outlined in *Infrastructure Facts and Issues*.

The first and most important problem is the lack of an overall Government view on the role of long-term infrastructure development as part of economic development and productivity improvement. Internationally infrastructure development is regarded not as a cost to be met on a pay-as-you-go basis but an investment in future revenue. This whole approach is missing from our form of Government. Developing this expertise in central government is essential if the problem of infrastructure development is to be considered rationally.

In general infrastructure development is funded from debt. This only makes sense if the return on the investment is greater than the debt and the debt servicing costs. While it is normal to examine projects against a business-as-usual perspective one can also examine them against the opportunity cost of not doing them. If one takes this outlook the tendency is to examine priorities in terms of greatest welfare return which should also produce the greatest fiscal return. There is no reason why Government should shy away from notions of profitability as long as the taxation burden remains static.

Within the envelope of existing taxation there are also better methods for infrastructure development and development prioritisation which need consideration. While the Government is addressing the issues surrounding the Resource Management Act there are a number of related issues which largely come down to the organisation and legislation surrounding local government. Ultimately all the customers of network infrastructure operators are accessed via the local roading network. This includes: telecommunications, electricity and water as well as transport. Roothing is the biggest expense of, and largest asset of local government and local government is struggling to meet its commitments to roading, particularly road safety. The current arrangement for funding and management of local government needs urgent attention.

The following submission does not pretend to have all the answers. Its objective is primarily to prompt more investigation by Treasury and other branches of government into the deficiencies of New Zealand's infrastructure development system. Our point is that while it is easy to be distracted by the special projects that involve special levels of Government debt and servicing it is the everyday problems which need to be addressed if these are to succeed.

We hope that this is a useful aide memoire for future thinking on the problem of developing projects towards constructing a better process for infrastructure development in New Zealand..

1. Why the AA has an interest in infrastructure

The New Zealand Automobile Association is New Zealand's largest club, representing over 1.2 million motorists. The Association provides road service (breakdown assistance), tourism and travelling information, vehicle inspection, and driver education. The AA also has joint ventures for insurance and motor vehicle licensing.

Roading

The NZAA represents its Member interest in the provision of a safe and efficient transportation system. Congestion imposes large dead-weight costs to the country as does road- safety failure. The transport system underpins primary industry and (of more concern to the AA) tourism, New Zealand's largest income earners.

Electric Power

Over the term of any infrastructure plan technological change suggests that the AA's interest in other infrastructural matters will also increase. Most significant of these is the provision of electric power as vehicle motor technology switches from the internal combustion engine to the electric motor over the next twenty years. This technology has significant implications for energy system management and development as three million large private storage devices which spend much of the day in car parks could be a significant form of stored energy.

Broadband

Another matter of significant concern for the AA is the future provision of mobile bandwidth. Mobile bandwidth applications will include: tolling and mobile-payment; route-selection and re-routing; communications; safety and security; vehicle management; and entertainment packages. Applications will use GPS coordinates, text data, graphics (maps), sound and video data.

While this data will be delivered to vehicles wirelessly it is inevitable that the services accessed will be part of a terrestrial broadband network.

1.

ACTION OUTCOMES

The New Zealand Automobile Association should be kept informed on policy proposals which affect roading, electricity and mobile broadband.

2. Long-Run National Opportunity Cost / Benefit

Illiquid

Investments in infrastructure are a form of community saving in physical form. The community foregoes the present value of some earnings for the return that the physical asset(s) generates over the long term. An essential feature of infrastructure capital however is that one way or another it is sunk. A physical asset that does not generate a return over the long term is still a cost to the community's present earnings because they are highly illiquid.

Risk

These qualities mean that infrastructure can pose significant risks. An example from New Zealand history was the £1,783,190 invested in the Battleship *HMS New Zealand* in 1911. New Zealand was still paying for the ship in 1937 despite the fact that it was scrapped by the British in 1922 as part of their commitment to disarmament. It can be said that *HMS New Zealand* had a high long run national opportunity cost because it cost a fortune and returned minimal benefit to the community that paid for it.

A more recent case from New Zealand's economic history is the "Think Big" energy schemes. These investments by the state in heavy energy projects following successive oil price shocks in 1973 and 1979 were predicated on higher average oil prices. However when oil prices fell in 1985 many of these schemes became uneconomic.

In both cases however the risks against which these investments were made were quite specific. In a time of strategic uncertainty arms may seem prudent. The same principal applies to energy projects. All investment – even business-as-usual – incorporates some degree of risk. However an investment that is predicated upon population and economic growth (largely because it creates it) is less risky. The question is whether the opportunity cost of investing and being wrong is higher than the opportunity cost of *not* investing and being wrong.

Opportunity Cost

The costs of not building infrastructure can be said to be the foregone improvements in welfare that would have accrued had the infrastructure been constructed. These are not always obvious because they can only be inferred. In some cases it is appropriate the risk is born by the private sector rather than the public sector, and in other occasions it may be borne jointly.

Fiscal Benefit

What does not make sense is when the Government fails to invest despite there being good evidence to believe that there will be a fiscal return on investment (i.e it will make money). In this situation the Government is simply failing to capitalise on the opportunities to improve its fiscal position quite aside from any welfare benefit. In short if an infrastructure is likely make a fiscal return over time then investing is simply good business, and not investing is bad government business in terms of return on taxpayers funds.

Government Profit

There are two forms of fiscal benefit from investment for Government: direct profits (gains from sale of assets, e.g. revalued land) and indirect (taxes accruing from increased welfare). New Zealand Government agencies have not been particularly intelligent about profiting from improvements. For example Transit never bought whole corridors to realise a capital gain on land after improvement. The same applies to other departments including the Department of Conservation. However while capital gains are worth greater investigation ultimately the indirect fiscal benefit must be based on a net welfare benefit.

2. ACTION OUTCOMES

The Treasury should investigate Government operations to determine whether the Crown could achieve greater returns on the Crown's Infrastructure development processes and rely less on taxation.

3. Assessing Welfare

The key problem therefore is determining welfare benefits from infrastructural investment. This must be a core competency of the Treasury if Government is to undertake any expenditure or debt servicing for infrastructure development.

Public or

The Treasury must have a view on the long run national opportunity cost / benefit of various forms of infrastructure development regardless of Government agency which allocates Budget funding. Essentially the question is this: is the net welfare value of present earnings greater if invested in public infrastructure than if it is retained in the private sector?

Private?

This must naturally take into account the earning capacity of firms which would otherwise attract private investment. If firms can earn more in the presence of new collective infrastructure investment than without it, the infrastructure investment should proceed. If not the infrastructure investment is at best premature or at worst an opportunity cost.

Allen Report

To date this form of assessment by Government (or any other agency) has been unusual. The AA sponsored Infometrics/Allen Consulting report "*Benefits of investing in New Zealand Road Infrastructure*" (August 2004) is one of the rare occasions where this methodology has been employed. It is peculiar that it is not a standard feature of Government welfare assessment.

Advice

While econometric equilibrium models have their critics the capacity for some assessment is better than pork-barrel politics. While Governments may vary in their determination to pursue investment the civil service should have some advice to offer as to the best return on investment available from infrastructure investment dollars. For if the civil service does not attempt to balance the national interest against political expediency the denial of information to the electorate raises questions about the whole edifice of our democracy .

3. ACTION OUTCOMES

The Treasury should investigate Government project evaluation processes linked to infrastructure development to determine how opportunity costs can be better assessed. This should explicitly include greater use of econometric modelling.

4. Capacity vs Organisation

Infrastructure is largely connected to issues of through-put, be it vehicles, railway wagons, data packets, water or wattage. It is important that infrastructure investment does not become entirely fixated on network capacity.

Trademe

For example online auction house Trademe has become a key part of New Zealand's commercial infrastructure. While it certainly relies on high bandwidth capacity to operate its own business, its customers do not need such bandwidth capacity. Trademe delivers significant welfare benefits by creating an online bazaar for the whole country. This is an organising function not a capacity one.

By contrast under-investment in network capacity cannot be remedied by marginal improvements in organisation. Assessments of road capacity in Auckland and Wellington have found that no amount of organisational improvement can overcome fundamental lack of through-put capacity.

Value

It is important that welfare assessments do not lose track of the fundamental unit of welfare – return on investment. The objective is not to improve throughput of vehicles, railway wagons, data packets, water cumecs or wattage. It is to extract maximum value from the reasons these things are in motion.

An obvious example is water conservation. If the marginal (either long-run or in times of drought short-run) cost of clean water provided to a city is very high but the price signals are muted through averaged billing then it should not surprise anyone that there may well be significant water wastage as people continue watering lawns even as reservoirs empty.

The issue for infrastructure investment is to ensure that capacity investment and organisation investment (eg the billing system in the water example) are not unduly out of step and that pricing captures long run marginal costs.

4.

ACTION OUTCOMES

The Treasury should investigate proposed infrastructure developments to determine whether greater return on investment is derived from capacity increases or organisational change.

5. Substitutions

- Electricity for oil?* Another consideration that must not be forgotten when assessing welfare is the realistic possibility of substitution. For example will the electric power grid substitute for the oil refinery and distribution network for automotive energy. This is a huge issue with billions of dollars of potential infrastructural investment riding on it.
- Unit of value* Consideration must also be given to the actual markets in question. Take tourism. The unit of value is the individual tourist. Tourists seek novel experiences based on a variety of attractions. They do not seek transport experiences, indeed they wish to minimise their time exposure to these dull bits and increase their sense of value from their experience investment. Thus improving infrastructure for tourists should be predicated on minimising transit time across all modes. This might mean a different arrangement of international airports more than roading improvements.
- Organisation* Substitutions should be treated with caution. The suggestion that the provision of high capacity broadband can substitute directly for high capacity commuter transport links pre-supposes organisational changes to employment contract law which may not be borne out. Most employment contracts define employment in terms of premises. Changing the organisation of firms may be more complex than increasing capacity. Thus before embarking on capacity increases one should examine the organisational effects and vice versa.

5. ACTION OUTCOMES

The Treasury should investigate Government project evaluation processes linked to infrastructure development to determine how substitution can be better assessed. This should take into account anticipated new technologies through time. It should also examine the legislative and organisational hindrances to substitution and whether these can be changed at relative low cost.

6. Joining Up

- Because most infrastructure is provided as part of a network it is essential that investment is part of a network plan.
- Optimisation* In roading for example it has been observed that some Public Private Partnership concessions have been let which are revenue maximising rather than network optimising. The result is that one bottleneck is simply replaced by another which is contractually protected for the concession period.

Equally investments in infrastructure that are not joined up can have higher opportunity costs compared to those that are. Constructing half a bridge denies the resources to other projects which are better integrated into a network. This depends very much on the scale and timeframe of the infrastructure proposal. In New Zealand engineers have frequently built “half bridges” (islands of improvement) into the roading network to force investment in the completion in subsequent budgetary periods. An infrastructure plan should examine the total cost and welfare opportunity cost / benefit in terms of return on investment of the network link over time.

6. ACTION OUTCOMES

The Treasury should investigate Government operational planning in terms of the weighting put on joining up coherent value-chain networks to improve return on assets. While some Government agencies and organisations may have a clear view on their own networks in terms of capacity they do not assess across networks (eg road, air, sea, rail) or across tasks (eg information-communication, energy, transport) in terms of return on asset particularly well.

7. Infrastructure and Development

The provision of infrastructure improvement can and does create growth. Some refer to this growth as “induced demand” as if it were a negative thing. Changing the accessibility of a region (for example) can increase the amount of activity in that region and the value of land in that region. The most obvious example of this was Vogel’s investment in transport infrastructure from 1870 onward.

Deprivation Zones

New Zealand has a number of deprived regions which have well-known infrastructure shortcomings. These include: Northland (transport, electricity, broadband); East Cape (transport, electricity, broadband); King Country (transport, electricity, broadband); Wairarapa (transport, electricity, broadband); Tasman (transport, broadband); Marlborough (transport, water, electricity, broadband); West Coast (transport, electricity, broadband); Southland (transport, electricity, broadband).

Resources

Historical reasons for investing in new infrastructure were either military (eg Roman roads or Parisian Boulevards) or the exploitation of physical resources. The five main physical resources of interest are: energy (oil or coal); minerals or metals; wood ; and food. Demand for these resources will in turn drive prices and the demand from the private sector for infrastructure to reduce costs and therefore improve profits (e.g. the so-called “wall of wood”). Obviously there is a considerable lag between price signals and infrastructure demand.

Tourism

Tourism is one of New Zealand's largest industries and it is highly integrated into infrastructure provision. Tourism injects revenue into the New Zealand economy in attraction areas and along attraction routes. There are considerable overlaps between tourism and resource export in that inbound tourism aircraft provide outgoing capacity for high value, highly sensitive exports. For example the return per hectare on a cut-flower operation is many times greater than a dairy operation but the cut-flower operation depends on immediate access to regular outbound flights to export markets. Improving connectivity in tourism markets to attractions around New Zealand can improve the scope for high value exports all over the country. Aircraft technology developments are encouraging the potential for links between New Zealand, Australia, South East Asia, Japan and China and North America which have a network rather than a hub and spoke topography. The advent of direct flights to Queenstown and the growth of that city has demonstrated how powerful this form of infrastructure development can be to local economies. This is inevitably a situation where new development must precede growth. Internationally there appears to be scope for PPPs for this time of development.

Strange times

The present world economy is somewhat unusual in a historical context. In the 20th Century manufacturing (including ITC) nations enjoyed greater income per capita than commodity producing nations (excluding oil producing nations). While some nations (notably Britain) were forced by currency considerations to sacrifice their manufacturing base and combine commodities (oil) and services. In the early part of the 21st Century manufacturing nations are under significant pressure due to the emergence of China (and to a lesser extent India) as manufacturing powers. With low production costs and huge domestic demand these nations are re-normalising manufacturing prices. This is squeezing other manufacturing nations with higher production costs. However commodity indexes (even if oil is excluded) remain strong. If this continues New Zealand is poised to reap greater returns the more commodities it exports.

Decentralisation

Opening up territory for new development can depend very much on the technologies available. For example the ability to jet tourists directly into Queenstown has led to a boom in development and land prices in that area. The ability to land larger jets is becoming an essential infrastructural capability with relatively minor marginal costs (over smaller airstrips) but high potential returns in places like Northland, Tasman, the Hawke's Bay or Rotorua. Improving organisation so that opportunities can be realised is essential for long term development.

Who benefits?

While the purpose of community assets is to physically assist the common welfare care must be taken to avoid situations where public present earnings are being retained through taxation for investment for welfare benefits which are distributed among a very small group (stealing from the poor to give to the rich).

It is notable that some private industries can stampede Government infrastructure by simply failing to invest for the future themselves and then declaring a disaster and blaming the Government at a later date. For example foresters have a good 20 years warning of an impending harvest and the need for transport of that harvest should not be a surprise. What is also not a surprise is their unwillingness to build private roads to carry out that harvest if they can lobby Government to subsidise their crop with public ones.

PPPs

There is good reason why developers should be required to participate in Public-Private Partnerships for infrastructure rather than simply marketing the benefits of their private investment as a public good to local and central Government in an effort to lobby for subsidies. Developers can impose considerable costs on road controlling authorities/ local Government and local Government should be in a position to recover those costs either through charges or through dividends or both.

7.

ACTION OUTCOMES

The Treasury should investigate infrastructure development based on potential high value chain networks for both imports and exports in terms of potential public private partnerships. Investigations should examine return per hectare effects for trade development based on the effects of changing foreign and New Zealand developed technology change. Investigations into future requirements should also identify potential infrastructure shortfalls that private sector developers could reasonably be expected to contribute towards.

8. The value of time

The value of time is a key issue for infrastructure investment.

Private vs public

Typically the difference between public and private investment is that private investors demonstrate a keener sense of the value of time than public investors. Time is of the essence for private investors, public investors have typically shown less alacrity.

Time overhead

The New Zealand Government has a poor record in valuing imposed values of time by creating overheads for developers. Imposing time costs through legal processes on both itself and private investors is a dead-weight cost on the whole economy which has significant effects on evaluating welfare benefits from investment. The Government has, to date, done a poor job of assessing this deadweight cost across all industries but in particular those related to infrastructure.

- Opportunity cost* The value of time applies to both opportunity costs and benefits. For example failure to deepen the Rangitoto shipping lane for deeper draft vessels would have had a very high opportunity cost for the Ports of Auckland. Failure to deepen the lane would lead to the long term shrinking of both market share and income as shipping companies opt for ever larger and more economic vessels. The opportunity value of time also depends very much on the value of the opportunity. For example the Rugby World Cup is a one-time opportunity. It is important that the actual value of the opportunities are accurately assessed in order to provide a basis for trading off.
- Discount rate* The value of time is used in the allocation of resources within fiscal constraints. This takes the form of Government discount rate. The argument in favour of a high discount rate is that Government should only proceed with investments if the rate of return is at least as high as a private sector investment. This is a proxy for answering the question posed earlier: is the net welfare value of present earnings greater if invested in public infrastructure than if it is retained in the private sector?
- Fiscal envelope* The discount rate would serve as such a proxy if it was also tied to the rate of taxation. This point is made in *"Public Sector Discount Rates for Cost Benefit Analysis"* (July 2008)
- "A public sector project either displaces a private sector project, or it has to be paid for by increasing the tax burden on the private sector. p(4) A discount rate equal to the pre-tax private sector rate of return therefore seems appropriate."
- This assumption is false. The rate of taxation is the level fixed in a political market (eg rates or road user charge increases) and the discount rate has no bearing on this. In fact the discount rate is part of an allocation mechanism within a pre-defined fiscal envelope. Governments raise or lower taxes for political return not financial return.
- Comparisons* Looked at from a private investors point of view the risk free rate of return can be determined from ten year Government bonds less inflation.
- "It is widely assumed that long-term government bond rates are a good proxy for the 'risk-free' rate of interest. 10 year NZ government bonds are currently yielding around 6.4%. Deducting the currently forecast inflation rate of around 3% results in a real risk-free rate of 3.4%." (p4)
- The use of private equity prices as a comparator is sensible for some infrastructure but not for others. Telecom is an infrastructure investor, as are the electricity "gentailers", but transport firms are small and competitive with high risk where road controlling authorities are large monopolies with almost no risk at all. Private equity prices are based on the expectation of value by the market. These are based on dividend or capital gains expectations.

Government

There are no capital gains or dividend expectations from Government. In fact the only equivalent is the expectation of GDP growth. The nearest market equivalent to this price is the ten year bond market but this is, of course, the rate the Government itself offers investors based on its own projections of its future income and market perceptions of sovereign risk. It is nothing like the private investors expectations from private risk capital.

There is however an important point here and that is unlike private investors the investment decision of how to invest tax income has already been made. There is no free market for tax income. For example all income collected by transport taxes *will* be spent on transport one way or another. All the discount rate is actually determining is whether those taxes will be spent purely on assets and operations for those paying taxes now or whether they will be spent on those paying taxes now *and* those paying taxes later. The quantum of tax however does not change.

Transport

The most important point here is that investments made with the future in mind are more likely to generate long term growth. Recycling tax revenue into continuous maintenance may boost the incomes of maintenance contractors but it does little to lift overall productivity.

For operators in a private market, investment should obviously be based on whatever rate of return applies in that market. This is readily applied to telecommunications and energy markets. But the transport infrastructure market is not free nor is it small.

Where other markets are based on short time-horizons because technology is evolving rapidly and depreciation is a significant factor transport investment is significantly different. Under the right settings transport assets can readily achieve lifetimes of 50 to 100 years. The main reason we are not building assets with those lifetimes is we choose settings which lead us not to do so – in particular the discount rate. The discount rate therefore becomes a self-fulfilling prophecy.

The effect of investment in transport infrastructure on productivity is well documented (summarised in “Transport and Economic Development” European Conference of Ministers of Transport Roundtable 119). Thus the choice of building for the short-term is false economy in the long term because the economic productivity gains from transport investment are not realised.

To achieve the greatest rate of social return within this fiscal envelope the discount rate should be set at a relatively low level so that infrastructure investments are made with a longer lifetime in mind.

Effect on roading

In practice this would have a significant effect on many forms of infrastructure construction – particularly roading. The current discount rate favours a roading system where expenditure is largely focused on maintenance, and construction is

carried out in lower cost, relatively shorter-lived materials. There is no engineering reason for this as many nations on the Rim-of-Fire (Japan, Philippines, Indonesia etc) build in higher cost, longer-lived materials. Reducing the discount rate would bring New Zealand into line with the engineering practices in these other nations and potentially introduce greater scope for competitive entry for large-scale roading projects.

Knock-on effects

Roading plays a very important role in national infrastructure provision because it also provides the space for other forms of infrastructure networks. Telecommunications, electricity, clean and waste water, and gas infrastructure is usually channelled under the road reserve. Construction of roadways in more durable materials would force more long term planning on other infrastructure industries which currently open and close roads regardless of the cost imposed on the rest of the community. Innovations such as shared service conduits would be encouraged reducing the currently unallocated cost of time from road works.

Value of travel time

The value of travel time used to allocate resources by the NZTA has been averaged across all locations and all modes. This under-states the value lost from delay from modes with higher travel time values in places where time constraints are greatest. Long term this effectively imposes an economic time-value cost on our most valuable travellers. This is both an opportunity cost and a real cost in the event of delays.

8.

ACTION OUTCOMES

The Treasury should quantify the costs of administrative overheads on New Zealand based business as part of a general quest for greater national efficiency. Forecasting should identify easily removed administrative bottlenecks (such as funding for environment courts) before they occur.

The Treasury has recently (2008) reviewed the Government discount rate and reduced it slightly to eight percent. The assumptions used in this review are however questionable in respect of transport and this should be re-examined. This should not simply involve returning to the same consultants to revisit the same arguments from the same perspective.

The value of travel time used in the NZTA Economic Evaluation Manual should be disaggregated and mechanisms for imposing the cost of delays on firms opening and closing roads implemented.

9. Safety

Road trauma imposes a deadweight cost on the economy of roughly \$1 billion a year. An increasing proportion of road trauma is occurring on roads owned and operated by local Government. This is particularly so in areas where economic development is strong and infrastructure needs trail behind demand. There is no doubt that new approaches to road funding and management are needed if road trauma is to be reduced.

The statistical value of life is a key input into cost-benefit equations. The value used is derived from stated preference surveys indicating the values respondents are prepared to pay to avoid injury.

There is a growing disparity between the economic value of life (averaged across ACC death benefits) and the statistical value of life. It is also notable that the growing cost of permanent injury is nowhere near the statistical value of “serious injury”.

9.

ACTION OUTCOMES

The Treasury and ACC should conduct a re-evaluation of the Statistical Value of Life providing for a category of Permanent Injury (to cover blindness, head injury and loss of limb function) These values should also be used elsewhere in Government for evaluation of cost benefits.

10. Market Size

Competition

The size of New Zealand’s market is a considerable constraint on the construction of large-scale infrastructure. A comparison of the cost of roading projects conducted by the AA (“*Transporting Ourselves*” p11) found the cost per kilometre of construction in New Zealand to be more than double that of other nations. The Independent Ministerial Enquiry into Roading Costs said that some of this was due to limited scope for competition, although the primary cause was specification changes to meet the requirements of potential environmental objectors.

Contracts

It would be nice to think that New Zealand was spending more on constructing roads so that it could spend less on maintaining them. Unfortunately New Zealand spends more on constructing roads AND spends more on maintaining them per kilometre than comparator nations. While the discount rate (discussed earlier in the Value of Time section) has some bearing on this, the main reason is the way road corridor contracts are managed.

Currently roads are tendered for construction and tendered for maintenance and in both cases the lowest conforming bid is selected. Unfortunately this means that in both cases the tendency is for the least lasting solution to be chosen. By contrast PPP projects internationally tend to be built quickest (to reduce debt costs) of the most durable materials (to reduce operational costs over the life of the concession). This provides the lowest on-going cost for the roads owner operators.

It would therefore seem sensible if road construction/renewal and maintenance contracts were bundled into long-term franchises. These could be based on a cost plus CPI increment or a shadow toll arrangement. This would incentivise the road operator to meet the specifications in the most cost effective manner.

Behaviour

The scope for competition in markets can also be deliberately reduced by the behaviour of market participants. In telecommunications it has been notable that there has been a race by market-players to lay bandwidth capacity to claim dominance in local markets. This is due to the way the market is structured and the monopoly rights accorded by resource management legislation, and the supine role of local government in the process.

Road access

Ultimately access to almost all network customers is provided via the roading corridor which is owned and operated by local government. Central Government has legislated that this corridor has no value at all by legislating a right of access to network companies. The problem with this is that it favours large network operators who can construct their own service conduits rather than smaller network operators who might otherwise share service conduits. For example if local Government owned and operated the services corridor and charged a rental to other network operators then the costs of access to the corridor would be significantly reduced especially for readily injected infrastructure such as telecoms fibre. This would also have benefits in terms of travel-time delay.

While Government has an averaged travel-time value for roading projects, travel time values are not applied to other network operators when they want to access the roads. Thus the value of delays becomes an externality borne largely by motorists and transport operators. Some form of proxy pricing should apply but cannot do so while network operators have access to the roading corridor as of right.

10.**ACTION OUTCOMES**

The Treasury, the Ministry of Economic Development and the Local Government Commission should explore:

- a. Options for long term road management franchises as a form of strategic service deliver partnership (SSP).
- b. The market effects and externality costs of network operator access rights to the road corridor

11. Local Government

Local Government has a vital role to play in the provision of infrastructure throughout New Zealand. Not only is local Government an infrastructure investor and operator but local government also has an important regulatory role for the consenting and monitoring of many infrastructure assets.

Rates

Local Government is funded through two main revenue streams: taxation on capital values of land and improvements (rates) and fees and charges. Both are a

source of considerable dissatisfaction from the public. In most cases by far the largest share of ratings income is spent on roading, and yet many local governments struggle to maintain roading in a manner that is safe and to a reasonable standard. Indeed there are no national standards for roading which local Government is *obliged* to meet.

Structure

Dissatisfaction with the organisation of local Government has reached crisis levels in Auckland leading to the unification of territorial and regional authorities. There appears to be considerable interest in this model in other large urban regions. One of the benefits of regional centralisation are more consistent planning processes and economies of scale – particularly should New Zealand follow Britain down the path of strategic service-delivery partnerships. However it must be noted that much of the current local government legislation is framed in terms of current structures.

SSP/PPPs

According to the British Audit Commission report “*For better, for worse*” SSPs have had mixed results in the UK. While Councils have achieved up to 15% reduction in costs, in many cases the partnerships have dissolved. This is due to poor contract management on the part of Council’s whose staff were inadequate to the task. It is unlikely that New Zealand local Government would perform any better. In general the state of human resources in local government needs due consideration between novel approaches to infrastructure development conceived in Wellington are promulgated throughout the country.

Opportunities

That said there remain significant opportunities for infrastructure joint venture companies within New Zealand so long as local government is empowered to allow forms of limited monopoly.

The most valuable monopoly operated by local government is its largest asset and it’s most expensive operational cost: the road network. Its ability to generate a return on this asset is limited by statute to its ability to increase the value of land surrounding the asset. While local government struggles with limited income network operators such as electricity gentailers and telecommunications firms report large profits. This is largely because they only pay for the direct costs of accessing their customers not the costs of provision of the corridor, nor the costs of travel time delay when their activities impinge on the other operation of the corridor.

This could take the form of development zones, facilities development and management firms (such as broadband cable conduit ventures) or joint ventures with Crown agencies. The issue will be to manage pricing, competitive entry and operations in ways that are financially sound and politically responsible.

11.**ACTION OUTCOMES**

The Treasury together with the Local Government Commission should review the legislative implications of local government centralisation. Consideration for assisting the uptake of SSPs and PPPs should also be undertaken.

The Treasury, the Ministry of Economic Development and the Local Government Commission should explore the potential economic benefit of allowing local government to charge a corridor levy for access to local roads.

12. Pricing

Pricing infrastructure depends very much on the transactions costs of managing that pricing regime. In most parts of the world long-run averaged pricing is preferred over long-run marginal pricing because the transaction costs of the latter are prohibitive.

Road Pricing

Economists have long argued in favour of marginal pricing of road capacity but the transaction costs of managing such a regime are prohibitive and are likely to remain so for at least two decades. The AA's proposal for a transition path toward electronic Road User Charging for heavy vehicles, which was endorsed by the Independent Ministerial Inquiry into Road User Charges, has offered the only feasible pathway toward this form of charging.

This pathway proposed privatising RUC billing to fleet monitoring companies who currently provide fleet managers with RUC rebate data. The transaction costs would therefore be embedded in other services which firms purchase. The benefit of this is that it would diversify risk and ameliorate privacy concerns. It would also serve as a platform for technological development. Over time and as technology reduced fuel excise duty income and transaction costs it would be feasible to move more of the private fleet to these services. Government has begun a project examining the scope for this with the heavy fleet which is already shouldering the high transaction costs of such a system to gain other business benefits. It will take some considerable time before these costs reach such a level as to be comparable with the administrative costs of fuel excise or similar proxy pricing systems.

Tolls

The AA endorses the use of tolling where a free alternative route also exists. This means that the marginal price for a toll route cannot become extortionate but must accurately reflect the perceived service level improvement over the free alternative. This is intended as an incentive for operators to reduce their operating costs. In cases where there is no free alternative the AA endorses tolling if there is no other way the road would be constructed in a timely fashion. In New Zealand many roads could be funded by tolling if the consenting costs were reduced to an economic level.

Electricity for cars

Marginal retail electricity pricing would also be required to make electric vehicles more cost effective. Currently retail pricing is highly averaged. The main peaks for residential electricity demand are the morning and evening surges. During the night the wholesale electricity price is only slightly more than the production price.

In an electric car fleet environment the electricity market changes dramatically. Demand increases during the night as cars re-charge. There is some discharge use of power for transport during the day but for many vehicles most of the day they would remain potentially a network linked storage source for load management. A million vehicles would become a not inconsiderable resource for electricity load balancing. These could trade stored power with the grid and still retain sufficient charge for the return trip home. This would, however, require a completely different (non-averaged) approach to consumer electricity pricing.

12.**ACTION OUTCOMES**

The Treasury and MOT should jointly develop a monitoring process for evaluating the efficiency and welfare cost of road pricing against averaged charging regimes and schedule reviews against indicative measure values.

The Treasury and the Electricity Commission should jointly develop a monitoring process for evaluating indicators for the need for new consumer charging regimes in light of the advent of electric car technology.

Conclusion

We hope we have demonstrated that there is still a great deal of investigation and work required to develop an infrastructure development plan with scope beyond the immediate term. There are many short-comings in New Zealand's infrastructure management and development systems and for special projects to make the contribution expected of them these systems need to be addressed. The alternative is that the extra costs of special projects will eventually be drained by systems that are not as efficient nor as effective as they might be.

Further Information

For further information contact the Wellington AA Office.

PO Box 1
Wellington

Tel 931 9999

The primary author of this submission: Peter King (peter.king@aa.co.nz)