Engineers New Zealand

IPENZ Informatory Note Ten

Economic Growth and National Infrastructure

The case (or otherwise) for public-private partnerships (PPPs)

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How are economic growth and infrastructure linked?

The key to prosperity is productivity – the product of value generation and efficiency. During the 1980s Government set about creating an economic framework for driving up efficiency, proposing among other measures that many areas in which the State was a monopoly provider would be more efficiently served by the private sector at lower cost to the taxpayer; or at the very least State-owned enterprises should be run in a quasi-commercial manner to ensure transparency and create incentives to improve performance.

During the late 1990s it became obvious that attention to efficiency alone was not enough as we slid down the OECD ratings. For some years New Zealand's annual productivity growth has been low by international standards – only about 1 per cent, whereas we needed more like 3 per cent. While we were concentrating on efficiency in the 1980s and 1990s we had failed to generate enough value. It was argued that our research and development, growth and innovation policies were deficient, and of recent times Government has moved to address this.

In Informatory Note 5 issued in October 2001 IPENZ estimated the extent of the change needed. *"A return to top-ten status in the OECD right now would require our GDP per capita to rise from the 2000 figure of $US19,400 to more than $US26,000 – a rise of one-third in our GDP, or an astonishing $US25 billion in total … We would need at least another $NZ10 billion, and probably more like $NZ15 billion in exports – the equivalent of at least three dairy industries – over and above current production. If we translated this into a ten-year plan, we would need to create an additional $NZ2000m in new exports and about $NZ10,000m in new GDP each year. Knowledge-based industries have high turnover per employee, often approaching $NZ1m per person. Every year we would need to create 10,000 such jobs in new industries!"*

The number of new jobs needed raises a question of capacity – we need more skilled people, and Government has addressed this with a targeted migration plan and education and training policies. Greater economic activity also requires faster circulation of people, materials, energy, information and products, and thus depends on proportionate growth in national infrastructure. Over-loaded infrastructure soon loses efficiency, and impacts negatively on productivity. Auckland is the poorest-performing area – while people are sitting in their cars they cannot be productive. Thus the keys to productivity are not just efficiency and value creation, but also well-planned human and infrastructure capacity to support growth. In short, relieving infrastructure gridlock through smart engineering solutions and innovative ways of financing them is a vitally important step in lifting the productivity of a nation.

National infrastructure planning

National infrastructure was historically planned through central Government agencies such as the Ministry of Works, while local infrastructure was planned at territorial authority level. In the 21st century new models are needed to recognise the diverse ownership of the various infrastructural elements (electricity, telecommunications, air transport, rail and road transport and so on), and to overcome the inhibiting effect of boundaries between local authorities on far-sighted planning, which might use economies of scale to reduce costs. The planner must also appreciate the linkages to social, environmental and economic policy.

There is a need for a Government-sponsored expert planning advisory group to provide high-level strategic leadership and co-ordination. Such a group would identify issues and needs for public policy actions, so that all aspects of infrastructure could be developed cohesively through their existing individualised mechanisms. Such groups exist in other countries, where they are often called the Infrastructure Advisory Council or similar. Such a council would play a complementary role to the Government's Growth and Innovation Advisory Board, which was created in recognition of the need for pan-sector foresight on growth and innovation policy.

Financing of infrastructure development projects

Historically, capital for infrastructure development was provided through taxation or borrowing by central or local Government. Because of the poor return on Think Big projects and changing views of what constitutes prudent governance, borrowing by Government for such projects is now much less acceptable than it was 20 years ago. Government does not operate separate capital and expenditure accounts. Rather it relies on its size and diversity of activities to fund a reasonably-sized capital works programme out of the current account. This can work well except where major boosts or catch-ups are needed – as they are at present.

It can be questioned whether a Government that has progressively out-sourced infrastructure development and operation is now as well-suited to management of capital investment projects as the private sector. If the private sector can provide capital for a project that delivers the desired service at a cost that is lower than or at worst the same as Government would, and there may also be a lower risk to Government, why should Government carry the risk of borrowing? In other circumstances Government can divert its capital into other projects so the public receives new services earlier than they would otherwise.

Public-private sector partnerships (PPPs) result from the development of a public-policy operating environment in which private capital can be employed. PPPs are not new to New Zealand – Think Big, the national airline, energy projects and a number of local projects (such as waste water treatment in the Hutt Valley

and Wellington) are examples. The public perception is that some but not all of these projects have succeeded. PPPs have not been permitted in road infrastructure, perhaps the most contentious and important area needing an urgent capital injection.

Australia and the UK have found that there is public benefit in establishing a coherent public-policy and legislative framework to allow the PPP mechanism to operate, thereby reducing pressure on public sector capital outlay. Is there any reason for New Zealand to arbitrarily limit application of the mechanism?

PPP mechanisms

There are a number of PPP mechanisms by which Government can offer the chance to potential private sector partners to realise an opportunity. The differences lie in the conditions that Government applies. Common mechanisms have acronyms such as Build, Own, Operate (BOO). Another is Build, Own Operate, Transfer (BOOT) in which both the asset created and the access to the opportunity are handed back after a prescribed period of time. Build, Operate, Transfer (BOT) is another variant. Some commentators differentiate between projects in which the Government controls the design (typically placed as BOOT projects) from those in which the private sector controls the design (Design, Build, Fund, Operate or DBFO). The argument for the latter is that it allows cost reduction by private sector innovation, the counter-argument that it represents a loss of control and may not ensure that the wider implications of a project (such as social and environmental consequences) are sufficiently addressed. Design and operate is sometimes touted as desirable because the involvement of the operator in design leads to a better system and lower overall costs. PPPs do not need to be all or nothing – Government can partly fund a project with the private sector topping up.

Public policy issues for PPP funding

New Zealand needs to learn from the extensive and successful Australian, UK and other experiences. Good public policy is needed to create a well-defined and ethical playing field for companies to compete for PPP opportunities, but there also needs to be sufficient incentive for them to bid. Because privately-funded projects must be user-pays in some way or another Governments need to be very careful about creation of monopoly rights. In some cases (for example the treatment of Hutt Valley waste water) a monopoly is inevitable, and the issues are whether the costs borne by the tax (or rate) payer are lower than would be incurred by a public-sector project. In other cases (such as transport systems) a monopoly is not acceptable – if potential users do not have realistic alternatives to a tolled facility when they cannot afford to pay there are issues of social equity.

Both these examples illustrate the four key policy issues – who carries the risk, whether the PPP represents good value, whether the opportunity is framed so as to protect both the community collectively and individual citizens affected, and whether the private sector will turn up to play.

Risk apportionment

A useful guide in commerce is that he or she who carries the risk should take the profit or loss. This principle needs to be recognised in public policy regarding PPPs. If the private sector is asked to carry risk – uncertain demand for services, uncertain revenue, uncertain project lifetime, the possibility of competing services commencing during a project's lifetime – then they must foresee some profit. If Government is to carry risk, then profit targets can be set at low levels with Government responsible for any cost and operational overruns. The emphasis must be on partnership, backed up by legal contracts. The 1980s energy projects suggest that getting the partnership rules wrong can be very expensive, and we must learn from this.

Determining value for the tax or rate payer

A mechanism called the *public sector comparator* is used. This establishes the cost of the Government undertaking the same project. The private sector must be able to do better for a PPP to be justified. There needs to be a robust set of rules by which the public sector comparative cost is determined so that apples are compared with apples. The rules must be acceptable to both Government and the private sector. This is a complex technical area, involving tax, depreciation and so on, and it requires Governments to take account of private-sector perspectives as well as its own to get the policy right. There are examples of recently developed policy in other countries that we can learn from.

Protection of the community

There are two elements here. The first is that the private sector may pressure for fast-tracking through consent processes. Rather than fast-track, Government could respond by adding capacity to existing processes such as the Resource Management Act to minimise delays (as it has done with the Environment Court). The requirements of the Act that activities should fit our societal and environmental expectations should not be by-passed.

The second element is social equity – ensuring that where participation in a PPP scheme is obligatory public good is achieved and no particular participant is unreasonably disadvantaged, and where participation by individuals is not obligatory that there are realistic alternatives.

Uptake by the private sector

When developing policy it is vital that our lawmakers ensure that while protecting the public interest the rules for PPPs are not made so public-risk-averse that PPP projects are unattractive to the private sector. That would waste everyone's time. There is also a need for flexibility so that private-sector innovators can engineer and apply cost-reducing solutions.

Potential application of PPP in New Zealand

Because of New Zealand's small population and relatively low population density, fully private-sector-funded PPP projects are not likely to be as economically attractive as they are in some other countries. There may be opportunities for some roading projects, but application of the concept may prove more attractive in other areas, as the lower North Island waste-water projects illustrate. Partial public funding (where private-sector operators compete by tendering for the lowest Government subsidy or capital injection) may widen the scope.

The range of potential projects should be seen as considerable – provision of Government-occupied buildings and of core services (such as maintenance of schools) are possibilities, without venturing into more contentious areas such as hospitals and prisons.

Closing remarks

National infrastructure planning is vital to our future prosperity. Used in combination with other mechanisms PPPs are an internationally proven tool. Their success or otherwise depends on ensuring that the operating rules are well-defined, suitable for the NZ environment, transparent and ethical. The rules must ensure that all people in NZ are provided with basic services at reasonable cost. Nevertheless, it is hard to see how our economic goals can be achieved if we choose to unnecessarily forgo tools that have helped other countries to move ahead faster than they could by relying on Government capital alone for infrastructure development.

Other Informatory Notes

Note One:	The Role of Engineers in Developing National Wealth
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Note Three:	The Role of Technology Education in New Zealand's Future Prosperity
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