



# **INTERNATIONAL BEST PRACTICE IN MEGA PROJECT DELIVERY: LESSONS FROM AUSTRALIA AND THE UK** MARCH 2015

# Executive Summary

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Mega-projects are more than just big roads, railways and housing developments. They transform the activities of residents, communities and businesses impacting social, economic, cultural and environmental well-being – on a grand scale. For this reason, they require the commitment and input of all of society, bringing together all levels of government and the private sector. They demand a different approach to planning, funding, procurement and delivery, one that we in New Zealand must embrace as we deliver the next generation of mega-projects.

New Zealand institutions and authorities have made major advances over the past decade to improve the capacity and performance of critical infrastructure.

Initiatives such as the creation of a National Infrastructure Unit have resulted in improved understanding of national infrastructure needs and strengthened central monitoring and oversight. Reforms to the Resource Management Act have accelerated approvals for projects of national significance. A united council in Auckland has brought focus to the future development of New Zealand's largest city.

The impact of these actions is evident in international comparisons of infrastructure performance – New Zealand continues to improve across major indices.

One of the most prominent characteristics of New Zealand's renewed focus on infrastructure has been the return of very large capital projects. Projects over \$1 billion in value – 'mega-projects' – are again under delivery after a two decade hiatus.



Roads of National Significance, the Auckland City Rail Link, Ultra-fast Broadband and the Christchurch CBD rebuild are all pushing the boundaries of New Zealand infrastructure capability. But in this transition to mega-project delivery, how do we ensure these projects achieve their objectives? Are we maximising the opportunity intergenerational investments provide whilst minimising the risk of underperformance?

Australia and the United Kingdom have extensive experience planning, funding and delivering mega-projects. They have had successes and they have had failures. Their knowledge, understanding and evolving approach to mega-project delivery is an accessible and invaluable resource for New Zealand infrastructure practitioners aspiring to make the most out of our biggest and most ambitious projects.

Where global infrastructure leaders like the UK and Australia are heading, however, goes far beyond where New Zealand has progressed to date. Investment in public infrastructure is now tied to private property development and the integrated package progressed at scale to deliver sustainable growth.

In the UK, the strategic imperatives of jobs and growth set against a presumption in favour of sustainable development is tangible and crosses the political divide, ensuring complex long-term projects survive short-term political cycles.

The package approach demands alignment between central and local government and across the public and private sectors.

The result is more collaborative and integrated investment delivering more ambitious and effective outcomes. Globally significant transport projects like Crossrail and HS2 and major urban regeneration initiatives like Nine Elms in London and Salford Quays in Manchester are exemplars of integrated place making.

Places – from communities to mixed use residential and commercial projects to internationally significant business centres – are master-planned, funded and delivered at scale as combined infrastructure and development partnerships.

Scale achieves transformation of economic and social systems around investment. It acts as a magnet for global skills and capital and drives integrated and collaborative decision making.

The imperative to integrate transport and urban development and attract private investment forces cooperation across service providers, consenting authorities, property investors and local businesses and residents. The private sector, as the predominant investor in residential and commercial property, is a partner in planning and funding. Major public transport infrastructure receives heavy subsidies from land developers who benefit from improved accessibility.

In Sydney and Melbourne a combination of bold vision, ambition and extensive use of development rights and toll concessions has enabled mega urban development and transport projects to proceed.

Where public money is used initially to de-risk private investment, public equity is on-sold to the private sector at the earliest opportunity to allow public capital to be recycled into new initiatives.

In the UK, local enterprise partnerships between local government and business are focused on economic growth in the regions, working in partnership with government. The planning framework requires alignment between central and local government.

Financial and economic business cases are underwritten by job creation, value uplift through regeneration and improved connectivity. The promotion of outcomes above processes ensures funding follows strategy, innovation is incentivised and investment opportunities are attractive to global capital. Authorities proactively seek capital from the Middle East, Europe, Asia, super funds, public funds and anywhere they can get it.



While New Zealand has made commendable progress on infrastructure issues over the past decade, we have a tremendous opportunity to 'up our game' on major infrastructure and development and compete successfully with the rest of the world for skills, talent and investment to deliver mega-projects that are truly transformational.

Firstly, and most importantly, we must lift our vision and focus on outcomes, not inputs.

Successful mega-projects must be driven, sustained and at all times committed to achieving broad societal outcomes. We must not allow project conceptualisation to be hobbled by planning and funding constraints or traditional project appraisal methods which fail to adequately quantify wider economic, social and environmental benefits. Employment, housing, economic growth and sustainable development are the purpose of mega-investment. An outcomes approach keeps authorities focused on the end result and requires pragmatic solutions to overcoming planning, funding and resource constraints.

Second, mega-projects must be integrated. Development and the infrastructure which supports it must be planned, funded and delivered as a package. Development should be used to fund infrastructure and infrastructure used to catalyse development. This will make investment more attractive to private capital, reduce the long term funding commitments of public authorities and facilitate closer alignment of services with demand.

Third, mega-projects must be developed collaboratively. Because mega-projects affect everyone, central and local government need to combine with the private sector to deliver solutions which satisfy public objectives and meet customer needs. Success is dependent upon all parties supporting projects with associated investment, incentives and regulatory flexibility.

Fourth, mega-projects should be managed independently. Public agencies reporting directly to public officials should be the exception, not the rule, when it comes to managing major projects. Standard practice internationally is to establish either an independent delivery arm of government, a special purpose project delivery agency or contract directly to the private sector to deliver major projects. In each case, operational decisions are made by a CEO responsible to an independent expert board.

Fifth, the default setting for financing and funding mega-projects should be private capital. The role of public capital should be limited to attracting private investment, acting as a funder of last resort and, if required, guaranteeing debt to lower repayment costs. Private capital reduces dependency upon public resources, enables public capital to be redeployed or recycled into other priorities, lowers the risk to taxpayers and serves as a magnet for further private investment in associated activities.

Finally, the size of any project should be a reflection of the preceding attributes, and sufficient to deliver the desired outcome. Small projects may be bundled to achieve scale efficiencies or attract private investment. Large projects may be procured separately to reduce risk or sequence for demand. But all mega-projects must be planned and delivered at the scale necessary to realise the opportunity to achieve regional and national benefits.

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# Introduction: Towards international best practice in infrastructure delivery

New Zealand has made commendable progress over the past decade to redress an infrastructure backlog that had built up over a generation of underinvestment. In addition to lifting the absolute quantum of public funding directed towards improving roads, rail, electricity and broadband, national oversight of infrastructure has been enhanced through the establishment of a National Infrastructure Unit, National Infrastructure Advisory Board and delivery of a National Infrastructure Plan. Changes to the Resource Management Act 1991 have reduced red tape impeding the consenting of major projects and less restrictive procurement policy has seen the introduction of public private partnerships.

Further measures implemented at the sub-national level have complemented national infrastructure policy. The amalgamation of the eight Auckland councils created a single, strengthened body with the capability to plan and fund infrastructure at a regional scale. The establishment of the special purpose infrastructure agencies Watercare and Auckland Transport and the requirement to develop a spatial plan reinforced the Auckland Council's delivery function. The purpose of local government has been clarified emphasising the importance of infrastructure and regulation and newer changes will see improvements to local asset management through the prescription to develop 30 year infrastructure strategies.

One of the most significant changes is the return of very large city and nation building projects. For over two decades, the spectre of 'Think Big' and changing perceptions of the state's role in national development prevented delivery of a single 'mega'-project. Subsequent investment policy predicated on incremental reproduction of existing economic and social activities resulted in major infrastructure issues, including blackouts, heavy congestion, deficient public transport and broadband speeds which put New Zealand at the very bottom of the developed world.

In all, some \$35 billion is being committed to major transformational capital works with a value of \$1 billion or more over the next two decades. These "mega-projects" are:

- Auckland-Manukau Eastern Transport Initiative (AMETI) – Auckland Transport – \$1.5 billion
- East-West Link – NZTA and Auckland Transport – \$1 billion
- Kiwirail Turnaround Plan – Kiwirail – \$1 billion
- Christchurch central city rebuild – local and central government – \$5 billion
- Tamaki redevelopment – local and central government – \$1 billion
- Wynyard Quarter and waterfront redevelopment – Waterfront Auckland – \$2 billion
- Ultra-fast Broadband – local fibre companies – \$5 billion
- Transmission upgrade – Transpower – \$2.3 billion
- Auckland Central interceptor – Watercare – \$950 million
- Western Ring Route Road of National Significance (RoNS) – NZTA – \$2 billion
- Wellington Northern Corridor RoNS – NZTA – \$2.5 billion
- Puhoi to Wellsford RoNS – NZTA – \$2 billion
- Waikato Expressway RoNS – NZTA – \$2 billion
- Auckland City Rail Link (CRL) – local and central government – \$2.5 billion
- Additional Waitemata Harbour Crossing – NZTA – \$4 billion

These projects and initiatives have renewed confidence in public capital investment policy. Perceptions of the nation's infrastructure quality have risen in recent years, as evidenced by the World Economic Forum's annual comparative assessment moving New Zealand's infrastructure performance up from 34th in the world in 2011 to 29th in 2014. Broadband speeds, which for many years languished at the bottom of the OECD, are now consistent with, if not better than, other countries with our income levels. Auckland's congestion levels are expected to remain at or below 2006 levels until the 2020s. Electricity reliability has improved and tentative steps have been taken to reduce the impact of drought on agricultural production.

But how can we, as a nation, be sure that our planning and delivery of mega-projects is as efficient and effective as it must be to sustain the benefits of transformational investment? How do we avoid repeating mistakes which led to public backlash following 'Think Big'? Can we use this new series of investments to return New Zealand to the top tier of OECD nations and reduce the income gap with Australia which has led to the emigration of around 500,000 New Zealanders since the 1970s?

In 2014, the New Zealand Council for Infrastructure Development (NZCID) initiated a programme to investigate international best practice in mega-project planning, funding and delivery.

The objective of this programme is to investigate how other developed countries with long and unbroken experience in major projects have evolved their thinking and approach to maximise the value of public investment and minimise risk of failure.

This paper looks at one aspect of NZCID's international best practice programme: two senior delegations co-hosted by the Australian Trade Commission (Austrade) and UK Trade and Investment, to Australia and the UK. Australia and the UK comprise the two closest nations to New Zealand in terms of legal, planning and institutional arrangements – each of critical importance to the delivery of infrastructure. Common language, historical experience and established relationships help facilitate and transmit learnings which can be used to inform New Zealand policy. Both Australia and the UK are international leaders in infrastructure procurement, funding and delivery and have extensive, ongoing experience in the implementation of mega-project policy.

### A focus on urban growth

The object of the delegations was to understand how Australia and the UK have successfully delivered mega-projects. Particular emphasis was placed on urban growth initiatives, defined here as those public investments targeting city development, either through improved transport connectivity or new residential development (or both). It comes in the wake of large pressures on New Zealand cities – particularly Auckland and Christchurch. Failure to manage growth pressures were highlighted as the single overriding reason to restructure local government by the Royal Commission on Auckland Governance and, since the earthquakes, pressure on Greater Christchurch's functioning built environment has expedited the need for new, effective urban growth solutions.



Waterview Connection (Image: NZTA)

# Mega-projects in Australia

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As New Zealand's closest neighbour and economically, legally and culturally most similar nation, Australia provides the most directly comparable experience to New Zealand across many policy issues. Infrastructure and development is no exception. The basic activities of planning, funding, procuring and delivering mega-projects remains fundamentally the same across both nations. The advantage in Australia is that, due to the country's larger size (its population is approximately five times and its economy around seven times that of New Zealand's) and more consistent growth over the past 50 years, it has a significantly greater depth of experience in mega-project planning, funding and delivery.

The delegation to Australia took place over the course of three days in late July 2014. Sites in Sydney and Melbourne were visited and briefings received from representatives of around a dozen different state and federal government agencies and the private sector. The focus of the delegation was project oriented, with emphasis placed on large, successful urban investments either underway or completed within the past decade. These mega-projects – mainly large government-led transport and property development investments – have been a priority in Australia for some time. Consequently a number of projects were available for delegation scrutiny, with some of the most successful being visited.

Of the eight projects investigated in depth, two were transport only – the Northwest Rail Link and Westlink M7 motorway in Sydney – and did not include as part of the project a significant element of property redevelopment. Three of the projects – Docklands in Melbourne and Barangaroo and Central Park in Sydney – were urban redevelopments only and were not attached to any major infrastructure project. Two included redevelopment attached to convention centre construction and another to a hospital rebuild.

## Qualities of successful Australian mega-projects

### Scale

The most immediately distinctive feature of the projects investigated is their size. Australian major projects are large. The Docklands redevelopment will eventually cost around A\$20 billion. Although this remains something of a standout due to the number of partners involved and the 20 year-plus timeframe, Barangaroo is still valued at A\$6 billion and is under the singular management of private property and infrastructure provider Lend Lease. The A\$2 billion Westlink is more expensive than any New Zealand roading project undertaken to date and at over A\$8 billion the Northwest Rail Link is orders of magnitude bigger than the proposed Auckland City Rail Link.

### Ambition

The driver of such high cost solutions is not only Australia's larger size and economy, but a second characteristic of Australian major projects, namely that they are highly ambitious. Many projects break new ground technologically, are designed and configured to lead the market, target delivery within relatively short timeframes or in some cases are specifically conceived to elevate the stature of their host cities.

The \$2 billion 40 km Westlink motorway, for example, is in fact just one section of a much more significant project, the 110km Sydney ring-route. The system was planned as a single network, delivered as a series of discrete projects to facilitate implementation and completed largely within two decades. The North-West Rail Link is a 37km rail corridor with 8 new stations and 4,000 car parks. Undaunted by the very large \$8 billion price tag, authorities have proceeded with a single programme approach to the entire corridor as a means to achieve wider uptake of public transport in Sydney's north and north-west.



### Westlink M7 motorway

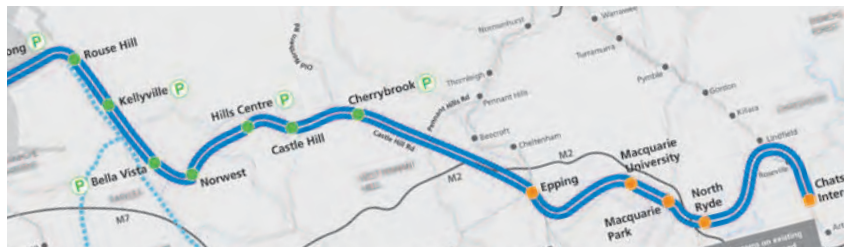
A 40km four-lane section of Sydney's 110km orbital motorway network. Delivered through a PPP, the project was completely funded using private finance paid for using tolls. Total project value around \$2 billion (opened December 2005).



### North West Rail Link

A 37km upgrade and expansion of Sydney's metropolitan rail line, including 8 new stations and twin 15km tunnels. The project has been separated into three phases to aid procurement, with a PPP used for operations and two design

and construct contracts let for civil construction work. The largest public transport initiative in Australia, valued at \$8.3 billion (under construction).



Ambition of a different kind characterises Australia's intensely competitive convention centre industry. Implicit in the design and delivery of both the Melbourne and Sydney convention centres is that each assumes the mantle of Australia's leading convention and exhibition space. The now retired Sydney convention centre (completed in 1988) was struggling to compete with the newer Melbourne facility so New South Wales authorities have committed up to \$1 billion in a replacement. The new Sydney International Convention Centre is three times the cost of Auckland's proposed Sky City convention centre and will accommodate up to four times as many visitors. Undeterred, the state of Victoria has since provided indications that Melbourne will expand its existing facility to reclaim the status of Australia's largest convention centre.

### Sydney International Convention Centre

A major renewal of the city's exhibition and convention centre in Darling Harbour, including creation of an entertainment precinct, residential complex and a new hotel. Delivered through a PPP, on completion the facility will become Australia's largest, valued at around \$1 billion (under construction).



### Outcome Focused

Ambition, importantly, is not limited to the projects themselves. A third, closely related characteristic of Australian major projects is that they are accompanied by a bigger picture objective. The Australian “outcome-based” approach shifts the focus of a major infrastructure improvement away from addressing generic capacity in the system and reorients it towards supporting a desired economic, social and/or environmental goal. Investments may have as their genesis the need to address an existing problem, but the final solutions also target future growth, economic uplift or a material improvement in quality of life.

At Barangaroo, for example, the ultimate goal is for Sydney to rival Hong Kong and Singapore as the international financial services centre for South-East Asia. Barangaroo is in this sense a tool for the city of Sydney to become a high-value, high-wage society. This vision had been promoted at the state and local level, so was picked up by the Barangaroo delivery partner as a benefit of its tender for development rights. Lend Lease has since borrowed heavily from office space design in other successful international financial centres, principally London, using innovations like larger floor plates to increase the attractiveness of the development to the financial services industry.

Outcomes are not just economic. The Royal Children’s Hospital in Melbourne includes a two-storey coral reef aquarium, a meerkat enclosure and features large open areas with bright colours, sculptures and other improvements for children. The objective is to enhance the hospital experience for its young public users, making visits there less onerous.

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#### Royal Children’s Hospital

A 334-bed paediatric hospital in Melbourne. Delivered using a PPP, the winning design featured innovations including a meerkat enclosure and aquarium to improve the hospital experience. Valued at around \$1 billion (opened in 2011).



“The objective is to enhance the hospital experience for its young public users, making visits there less onerous.”

At Docklands, the state government's outcome-focus carries a strong cultural element. One per cent of the value of each individual development must be committed to public art. The Victorian government hopes to deliver not just new commercial and residential land, but a desirable place providing high public amenity. Similarly at Central Park, the New South Wales government has leveraged residential land development to restore state heritage. Developers Frasers have restored the old Carlton Brewery and a number of other heritage sites on or adjacent to the area and now use these sites as marketing tools to increase the attractiveness of their development.

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At Docklands, the state government's outcome-focus carries a strong cultural element.  
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### Docklands

A redevelopment of 190 hectares of previously disused port land adjacent to Melbourne CBD. A government development agency is managing the project targeting 98 per cent private investment. Total redevelopment is valued at around \$20 billion (under construction). (Image: Places Victoria)



### Central Park

A six hectare urban redevelopment on Sydney's CBD fringe, including new residential apartments and a retail precinct. Private development is underwriting heritage restoration on the site, valued around A\$2 billion (under construction). (Image: Murray Fredericks, courtesy of Frasers Property and Sekisui House)





### Partnering

A fourth characteristic, exemplified by the Barangaroo and Docklands initiatives, relates to the advanced level of partnering between the public and private sectors. Australian government departments have largely relinquished responsibility for delivering large infrastructure and development. They instead focus on setting project outcomes and minimum standards (including, for example, the number of affordable homes). The private sector instead carries overwhelming responsibility for delivering a solution which meets the dual objectives of specified public outcomes and commercial feasibility.

The Royal Children's Hospital, for example, was delivered using a standard public-private partnership (PPP). The hospital is publicly owned and clinical services are performed by the state government, but the structure itself was designed, constructed and is to be maintained by the private partner for a period long enough to pay off private debt (25 years). The successful bidding consortium worked closely with public authorities to, in the first instance, submit a bid which outperformed competitors in delivering on public requirements and, in the second instance, refined that proposal with authorities to best meet public outcomes.

Also delivered through a largely conventional PPP was the Melbourne Convention Centre. Like the hospital, a private party has been contracted to design, build, maintain and finance the convention centre for a fixed term, but a shrewd addition to this arrangement was the attachment of development rights on adjacent land. The successful Plenary-led consortium bet it could use the convention centre to leverage additional value from the associated development, allowing them to undercut competitors. Interestingly, rather than bid down the price of the convention centre, the consortium chose to tender a proposal which exceeded public specifications in a targeted move to attract a greater number of visitors (in their view, potential customers) to the site. The city of Melbourne therefore received a superior convention centre and the private partner has since achieved its aim to attract more visitors.

A different type of partnership between the public and private sectors was used to deliver the Westlink motorway. Although also a PPP (one of several used to complete the orbital), no public money was committed to project construction. Instead, competing private contractors bid based on expectations of future toll revenue. This approach carried the additional benefit of incentivising the private delivery partner to provide the best user experience to encourage ongoing patronage.

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#### Melbourne Convention Centre

A new convention centre and associated commercial redevelopment including hotel along Melbourne's Yarra River. Delivered through a PPP, the private partner chose to exceed project requirements as a means to attract more visitors to the site. Valued at \$1.5 billion (complete 2009). (Image: Plenary)





### Value Capture

The Barangaroo and Docklands redevelopments arguably take partnering with the private sector to an altogether new level. In both cases, the objective of the public clients is to regenerate inherently valuable public space without committing large amounts of public money. Development rights are thus tied to delivering public objectives on behalf of the state governments.

Docklands remains the more conventional of the two approaches. There, the Victorian government's specialist development agency Places Victoria has master-planned and is managing the 25 year programme to rejuvenate 190 ha of prime central city land. What is particularly notable about this initiative is the focus on attracting private sector investment and the extremely low ceiling placed on public spending. Over 98 per cent of investment in the renewal will be privately funded. As of July 2013, the 13 year old Docklands redevelopment had attracted A\$8.8 billion of private investment for a total public outlay of just A\$160 million. By project completion in 2025, private investment will total around A\$17.5 billion, despite requirements to deliver public space, public art, public libraries and other amenities alongside commercial and residential property.<sup>1</sup>

At Barangaroo, the public sector has transferred even greater responsibility to the private partner. Site manager Lend Lease won a competitive tender to redevelop the disused port land based on attributes which deliver, among other things, high public amenity. Lend Lease has taken on development and financial risk for delivering a new commercial centre on one-third of the site, the proceeds from which it is using to fund reconstruction of the old headland on the other two-thirds. The public's objectives are included in the original contract, necessitating comparatively less involvement as the project has progressed.

### Barangaroo

An inner Sydney waterfront commercial and residential redevelopment on reclaimed port land. The project is being privately delivered under contract to the Barangaroo Delivery Authority, a special purpose public agency. Commercial property development is being used to fund environmental restoration and the overall project value is around \$6 billion (under construction). (Image: Lend Lease)



<sup>1</sup> Government of Victoria, [http://www.places.vic.gov.au/\\_\\_data/assets/file/0006/9177/34\\_707\\_PlacesVictoriaMyDocklands.pdf](http://www.places.vic.gov.au/__data/assets/file/0006/9177/34_707_PlacesVictoriaMyDocklands.pdf)



A notable feature of the Australian approach to partnering is that, even when projects appear unsuitable to partnering, authorities are so committed to private sector involvement that they reformulate the project. The huge North West Rail Link, for example, is being procured in three stages, two of which are more conventional design and construct civil contracts and the third a PPP for operations, trains and systems.

The latest addition to the Sydney motorway network, in contrast, the greenfield toll road Westconnex, has been separated into three timing phases. Its high risk demand profile has prevented procurement as a fully

funded PPP (similar to Westlink), so authorities are financing the first phase with public debt and intend to sell tolling rights on to the private sector once demand is ascertained to fund phase two.

### Dedicated Delivery Agencies

Fifth, a consistent theme running through not only Australian projects but extending into infrastructure institutions as well is a movement towards independent advice and decision making and use of dedicated delivery agencies. Direct departmental, agency or ministry delivery of major projects is the exception not the rule in contemporary Australia.

Infrastructure Australia, the national advisor on infrastructure policy, is itself the symbol of this evolution. The Infrastructure Australia Amendment Act 2014 establishes Infrastructure Australia as an independent statutory body with its own board and board-appointed CEO. The reformed Infrastructure Australia will conduct national infrastructure audits, develop a 15 year infrastructure plan and review all projects receiving over \$100 million in national funds. The changes reflect a growing desire to strengthen the separation between technical infrastructure decisions and political processes.

State development entities, including Urban Growth NSW and Places Victoria, as well as Melbourne's Metropolitan Planning Authority and Major Projects Victoria all enjoy operational independence from state governance. While remaining public agencies, each entity is separated from political management by an independent board and, in some cases, have their own legislation. Independence from direct political control was explicitly acknowledged by Australian practitioners as critical to remaining an effective public delivery agency.

Independence for other programmes is achieved principally by contracting to the private sector. In Barangaroo, an independent special purpose public body, the Barangaroo Delivery Authority, was established to oversee the relationship with the delivery partner. Providing it achieves contracted objectives and meets agreed timeframes, service outcomes and other benchmarks, Lend Lease has a degree of flexibility to implement the most efficient delivery of the Barangaroo vision.

### Private Capital

A sixth and final characteristic of Australian mega-projects is extensive use of private sector capital to fund and/or finance capital investment. Projects are not primarily paid for using pay-as-you-go public funding or capital grants. Instead, private debt or equity is utilised to cover the large upfront costs of infrastructure and then paid back over time either by the public or private partner.

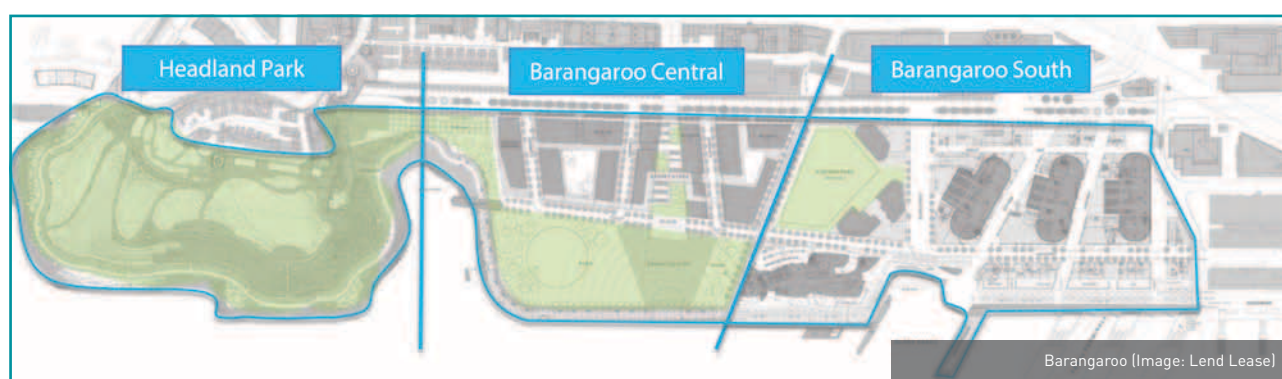
For projects procured using more or less standard PPP arrangements, such as the Royal Children's Hospital and Melbourne Convention Centre, private debt is repaid by the public sector. Under this model, the private delivery partner is required to finance construction and, once the facility meets the contracted level of service, receives regular 'availability' payments for the term of the agreement (conditional upon the level of service being sustained). This approach is useful for providing public services for which there is no significant revenue stream that the private sector can leverage to offset capital investment. It is popular in Australia not just in hospital and conference centre procurement, but also prisons, schools and defence.

Sydney's Westlink offers a slight variation on this model. Rather than a public agency repaying the privately financed construction of the motorway, tolling rights were given to the private partner allowing them to set an agreed price for cars, trucks and other users to access the road. These tolls have been sufficient to cover the costs of the motorway's construction and maintenance, as well as provide a return on capital. Consequently, the public sector has not had to fund any of the road.

The factors in place to 100 per cent fund public roads with tolls are not always present, but the Westconnex project currently underway provides a good example of public innovation to ensure investment is achieved. Following overestimation of traffic volumes on several road PPPs, attracting private sector capital for new projects became more difficult through the international financial crisis. In response, transport authorities in Sydney have divided Westconnex into three phases and will publicly debt fund the first phase until such time as patronage numbers are known. The public sector will then sell that section of motorway, and the tolling revenue with it on the market and use the proceeds to fund phase two. Phase three will in time be funded using the same process.

### Development Rights

Public efforts to attract private capital into development programmes have taken a quite different route. The tendency for land values to increase (often very significantly) on a redeveloped site provides a future revenue stream which can be used to debt fund infrastructure investment in the short term. In the case of Barangaroo, this has enabled the public owner of the former port land to transfer development rights for 99 years to a development partner. The private partner will fund public infrastructure and services using debt sourced on capital markets and use future rental income to repay debt.



In Docklands, a greater degree of control has been retained by the public sector. There, the specialist state government redevelopment agency Places Victoria is managing the project. However, rather than engaging in capital intensive activities like construction, Places Victoria's role is largely limited to managing sub-division on the site and attracting private sector development in accordance with the master plan.

### Capital Recycling

In instances where a public service is needed but where the opportunity to pass costs on to users to fund debt is limited, Australians are using 'asset' or 'capital recycling' – an expressed policy of selling down public holdings

in assets as a means to funding new infrastructure and development. The state of New South Wales recently leased the Port of Newcastle on a 98 year term for \$1.75 billion on the condition that proceeds would go towards a \$500 million renewal of Newcastle city centre. By attaching new investment directly to the proceeds from an old investment, the New South Wales state government allayed public concerns over asset sales and indirectly injected private capital into public assets.

However, a similar approach in Queensland failed to receive public support. The centre-right Liberal National Party (LNP), which had been promoting an asset sale / infrastructure investment strategy,

lost the February 2015 election to the centre-left Australian Labor Party who ran an anti-privatisation campaign. The incoming Labor government, having opposed asset sales and faced with significant state debt, now faces a serious challenge in finding an alternative means to fund much needed infrastructure investment. In recent announcements the ALP have signalled their intention to use public private partnerships to access private capital, although it is unclear how repayments will be funded.





Barangaroo (Image: Lend Lease)

### A Tour of Barangaroo<sup>2</sup>

1. Hickson Square. Wynyard Walk, the pedestrian walkway from the CBD, arrives here. About 100 retail spaces will open, including dozens of eateries and bars.
2. One of three commercial towers making up International Towers Sydney, expected to become Australia's No.1 business address. Due to open late next year.
3. 180m tower to open late next year. New HQ for Westpac & Gilbert & Tobin lawyers.
4. The tallest of the three towers at 209m. PricewaterhouseCoopers and HSBC offices here. Due to be completed in 2016.
5. The Cove waterfront inlet to be created here.
6. James Packer's 270m tall high-rollers' casino resort, with 350 luxury rooms, private apartments and restaurants. Expected to cost \$2 billion. Opens 2019.
7. Three high-rise residential towers, with 800 apartments.
8. New 9000sq m north-facing park. Links Hickson Road to the waterfront.
9. Central Barangaroo area featuring civic and cultural attractions and gardens, totalling 5.2ha.
10. Northern Cove.
11. Headland Park spans 6ha. 6800 sandstone blocks are being used to restore the land to its natural shape of the 1800s when well-known Goat Island Aboriginal inhabitants Bennelong and Barangaroo moored their canoes here.

<sup>2</sup> <http://www.dailytelegraph.com.au/news/nsw/the-face-of-future-sydney-forms-the-worlds-greatest-waterfront-is-taking-shape-as-barangaroo-rises/story-fni0cx12-1227005013213>

# Mega projects in the UK

With a population 14 times and an economy 15 times that of New Zealand's, the UK is in some ways a more challenging country to borrow learnings from. The depth of experience, skills, markets and procurement expertise in the UK cannot easily be replicated in New Zealand. Nevertheless, Britain remains an excellent comparator because corresponding laws, institutions and governing arrangements between the two countries are so similar. Especially worth noting is the two-level governance structure of the UK, which, like New Zealand, consists of a very strong central administration supported by less influential local authorities.

The delegation to the United Kingdom took place over four days and included site visits in London and Manchester. In slight contrast to the Australian delegation, the focus in the UK was more oriented towards integrated transport and urban development: all except one of the projects delegates received briefings on were combined transport-development initiatives. Two were transport-led with development attached to leverage opportunity (Crossrail and an upgrade of Kings Cross rail station). Three were predominantly urban redevelopment but with transport co-delivered to support development objectives (Nine Elms and the Royal Docks in London and Salford Quays in Manchester).

The exception was the High Speed 2 project. As a national high speed rail network serving 'inter' rather than 'intra' urban growth, HS2 has more in common with the New Zealand Government's Roads of National Significance programme than any specific project. Nevertheless, while development has not been formally tied to the delivery of new national rail services, local authorities are pursuing their own land use initiatives to ensure they maximise the opportunity presented by HS2.

## High Speed 2

A new national high speed rail network connecting 8 of Britain's 10 largest cities. Phase 1 will connect London to Birmingham by 2026. Phase 2 will connect Birmingham to Manchester and Leeds from the mid-2030s. Its enormous size and equivalently significant project risks have resulted in a conventional delivery model with comparatively little local government or private sector involvement. Total project cost is £50 billion. (Image HS2 Ltd)



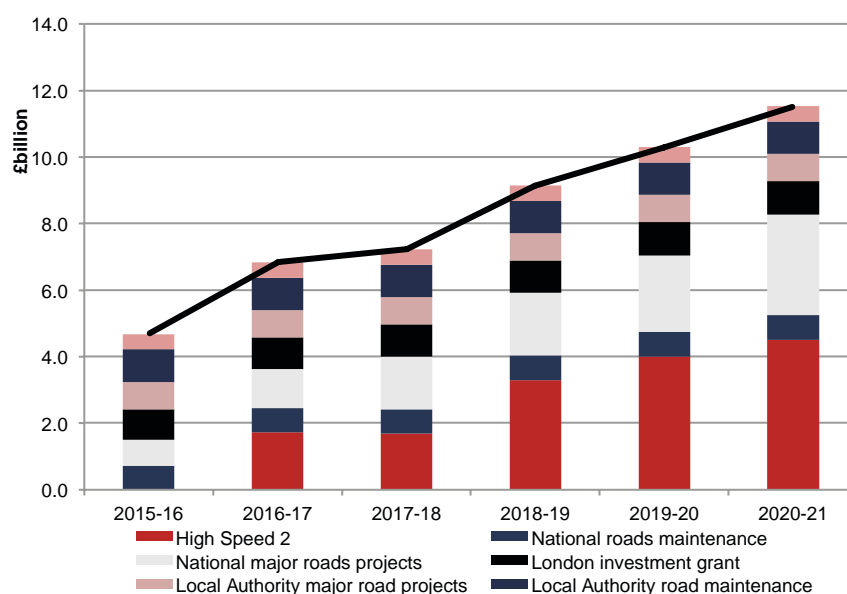
## Qualities of successful British mega-projects

### Scale

Consistent with findings in Australia, the first attribute of British projects likely to strike a New Zealander is size. Major infrastructure and urban development projects in Britain are by our standards staggeringly large. HS2 is a £50 billion national high speed rail network linking 8 of Britain's 10 largest cities. Crossrail is a £15 billion 100km combined surface and subway rail line which completely dissects Greater London. Redevelopment at Nine Elms is made up of 13 individual schemes and will see the construction of two new town centres, two new subway stations and 20,000 new homes.

Significantly, even after accounting for the UK's much larger population and economic base, these projects remain vast. Through its major construction years, HS2 will consume over one-third of Britain's total annual investment in transport (Figure 1). Crossrail is projected to cost over ten times Auckland's City Rail Link but, at approximately 8.5 million, London's population is only five times that of Auckland's. The 8 year makeover of Kings Cross Station shares many similarities with Auckland's recent upgrade of Newmarket station, but at £560 million, costs almost 15 times as much.

Figure 1: UK Transport Expenditure 2015-2021<sup>3</sup>



### Integration

A driver of project size and second outstanding attribute relates to integration. British projects combine into one package transport, development, recreation, heritage and any other activity which is essential to achieving a successful outcome. Integration is not limited just to aligning different sector activities, but extends into all phases of project development, including planning, funding, procurement and delivery.

This feature is most notable in relation to transport and property development. New transport infrastructure is committed on the basis of new development and new development

is catalysed by planned transport investment. Funding for transport is linked to development rights and the size of the development is determined by transport availability. There is no material distinction either in planning or in practice between the two activities.

Nine Elms, for example, is driven by a long term public desire to rejuvenate a formerly vibrant part of London, including the iconic Battersea Powerstation. That is, it is in essence an urban redevelopment project. However, as part of pre-investigation into redeveloping the site, authorities commissioned an infrastructure assessment which analysed what infrastructure would

<sup>3</sup> HM Treasury.

be required to deliver on development objectives. That study, the Vauxhall Nine Elms Battersea Development Infrastructure Funding Study<sup>4</sup>, found that in order to sustain the levels of growth planned, high capacity public transport service would be required. This led from an early planning stage to the inclusion of a rail line extension in area development plans (in addition to other road and bus service improvements).

### Value Capture

Especially notable about the integrated UK approach is that transport, development and other activities are not only planned seamlessly, they are funded seamlessly as well. The Nine Elms study did not just look at what services were required to meet growth, it looked at how those services could be paid for and by whom before development occurred so that all options for covering the high costs of new services remained on the table. The exhaustive investigation included development levies, PPPs, tax increment financing and a local tariff, among others designed to capture the future value of development. Importantly, it assumed from the outset that little or no direct public funding would be available, necessitating that all avenues were explored to obtain capital. This approach enabled the wider Nine Elms project to progress from

### Nine Elms-Battersea

A combined transport, residential and commercial redevelopment of underutilised land close to central London. The project includes restoration of the iconic Battersea Powerstation, extension of the Northern subway line, 18,000 new homes and 6.5 million square feet of commercial space. The total value of the development will eventually exceed £15 billion. (Image: Helen Fisher)



conception onwards as a combined planned and funded infrastructure and development initiative.

Planning for the next phase of redevelopment at the Royal Docks underwent a similar process designed to bring together land use and infrastructure, funding and delivery. The Royal Docks vision, developed in 2010, set out the aspiration for a world class business destination where inward investment would be encouraged, connections improved and the waterfront revitalised.<sup>5</sup>

This was followed by a 'Parameters for Development' document which identified the scale of the opportunity in the area and funding options, including identified land optimisation, tax increment financing, development levies and access to various national and European funds.<sup>6</sup> Finally, a Spatial Principles document established how the public and private sectors would work together to deliver the vision.<sup>7</sup>

The entire process has been managed as a single, integrated whole identifying what is to be done, how and with what resources.

<sup>4</sup> Roger Tym & Partners, Peter Brett Associates and GVA Grimley, Vauxhall Nine Elms Battersea Development Infrastructure Study, 2010, <http://lambeth.gov.uk/sites/default/files/15VNEBDIFSOctober2010.pdf>

<sup>5</sup> <http://www.royaldocks.london/#about/development-framework/vision/info>

<sup>6</sup> [http://www.london.gov.uk/sites/default/files/130422%20Royal\\_Docks\\_Parameters\\_Low\\_Res.pdf](http://www.london.gov.uk/sites/default/files/130422%20Royal_Docks_Parameters_Low_Res.pdf)

<sup>7</sup> <http://www.royaldocks.london/#about/development-framework/spatial-principles/info>



Nine Elms and Royal Docks are redevelopments with transport integrated into the overall programme to provide access and catalyse investment. Crossrail on the other hand is a transport project with development integrated around key stations to leverage off new connectivity.

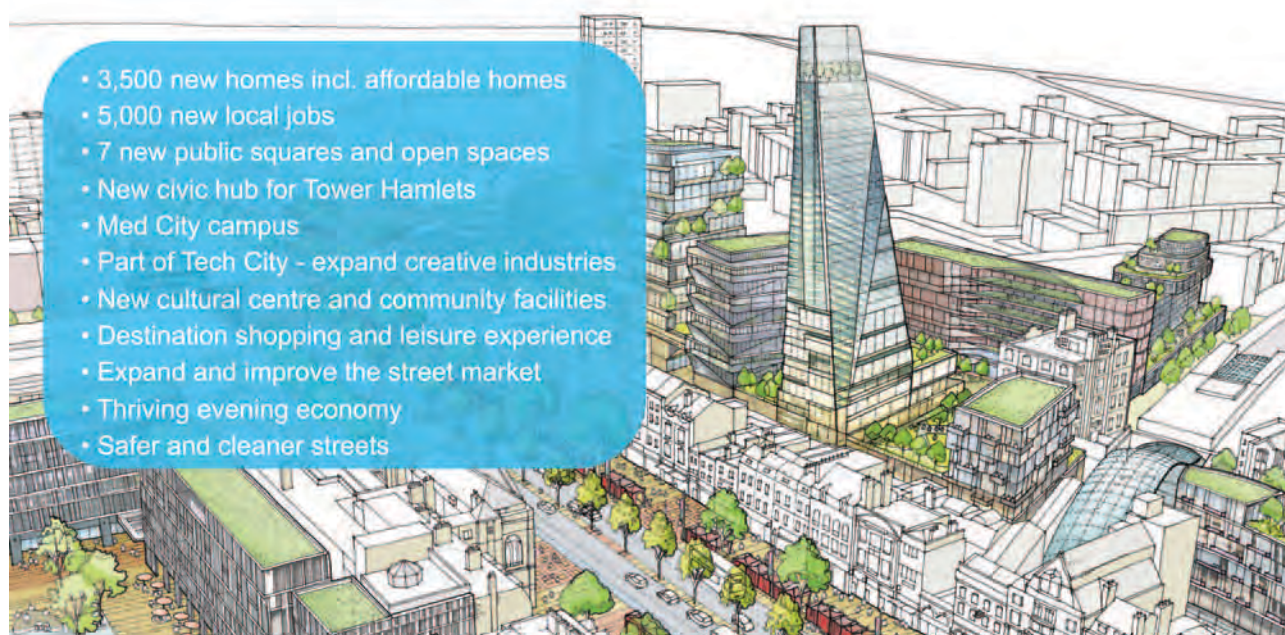
It is the materialisation of a long-held intention to provide a cross-city rail connection but which has received heavy additional impetus following the enormous success of the Canary Wharf development. In order for Canary Wharf, the nearby Royal Docks and the identified growth corridor heading east across the city to grow, Crossrail is required.

Consequently, each of the major Crossrail stations has undergone extensive pre-investigation of development opportunities and these have formed an essential part of the business case behind the entire corridor investment. Stations have been master-planned and evaluated in terms of the number of jobs, homes and other benefits that could be derived from a well-planned and integrated land use transport solution. At Whitechapel, for example, the new station is being used as a catalyst for renewing the entire area and has been assessed as capable of delivering 3500 new homes and 5000 new jobs.

The only project not exhibiting a seamless relationship between land use and transport is HS2. This is principally because it serves growth between cities not within them. Its objectives are thus weighted towards national economic efficiency as opposed to catalysing residential and commercial floorspace.

Interestingly, however, local authorities like the Manchester and Birmingham city councils are still undertaking their own redevelopment planning around proposed stations independent of the wider HS2 initiative in anticipation of future benefits. Perhaps more than any other project, this demonstrates the embedded nature of integrating land use and transport inside British institutions.

### Whitechapel rejuvenation<sup>8</sup>



### Birmingham's HS2 Masterplan

HS2 will deliver a major station right into the heart of Birmingham. The station location was determined more by rail network requirements than integrated land use and will be fully funded by the Department for Transport. Yet despite limited control over the project or exposure to its costs, Birmingham City Council has of its own volition developed a masterplan for the terminal area in anticipation of services from 2026. The masterplan covers 141 hectares and provides for 14,000 jobs, 2000 homes and will boost the city's economy by £1.3 billion per annum. A special purpose body, the Birmingham Curzon Urban Regeneration Company, has been established to deliver the masterplan and has received £130 million from the Local Growth Fund to begin implementation.

### Royal Docks

Predominantly commercial redevelopment of three disused docks close to central London: the Royal Albert, Royal Victoria and King George V dock. Part of the wider Docklands renewal including Canary Wharf which has been underway since the early 1980s. The area has been designated an Enterprise Zone, opening it up for tax breaks and streamlined consents. Development of the Royal Albert Dock alone is valued at over 1 billion. (Image: GLA)



### Outcomes

A third attribute of British mega-projects is a single-minded commitment to delivering very high-level generic societal outcomes. For urban development, success is ultimately measured in terms of how many jobs and/or homes will be generated by a given quantum of public money. For transport, it is a question of how much activity will be generated across the economy.

Commercial developments at Spinningfields, First Street and NOMA in

Manchester will create 8000, 10,000 and 15,000 jobs respectively. Salford Quays has delivered 20,000 jobs, many times the 3000 jobs that the development was conceived to replace. London's Nine Elms is targeting 20,000 new homes, including 3000 affordable units, and up to 25,000 new jobs. Redevelopment of the Royal Albert Dock alone will result in 20,000 new jobs and contribute £6 billion to the economy.

Crossrail, on the other hand, which includes a station within the Royal Docks redevelopment, will employ 14,000 people at its peak and support

employment of a further 40,000 more. However, its principal objective is to create £42 billion of economic activity by extending by 10 per cent the capacity of London's metro rail network and enabling an additional 200 million rail trips per annum. HS2 will create 25,000 construction jobs and support 100,000 across the country, but its real driver is a £15 billion boost to national productivity by reducing journey times to and from London from other major centres by up to half.

In each and every case, rigorous evaluation of jobs, homes and growth

<sup>8</sup> Andrew Tindsley, BDP.

underpin the business case for public investment. These outputs feature prominently in communications and drive every aspect of project development and delivery.

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### Crossrail

A 100km combined surface and new subway rail line dissecting Greater London with urban renewal tied to the delivery of key stations. Jointly delivered by central and local government, the project is notable for its large number of funding options including privately financed debt borrowed against future farebox revenue. At £15 billion it is Europe's largest current infrastructure project (under construction). (Image: Peter Chamley)



There are two especially striking features of the British approach. The first is that by focusing on outcomes, project input concerns are subordinated to the end goal. This helps progress projects delivering a 'bigger picture' objective past narrower issues which arise in consenting, funding and other areas of project development.

The second feature is that even though project goals are promoted by the public sector and determine public expenditure, they are

motivated by economy wide and society wide objectives; they are not confined to public sector outcomes. This is particularly important because it recognises, for example, that a job is a job, regardless of whether it is provided by the public sector or a private company, by public investment or private. Consequently, a project which is assessed as likely to attract additional private sector investment is prioritised over a similar project which does not. What matters is the end result, not who delivers that result or by what means.

### Collaboration

A fourth attribute flows directly from the outcomes approach. British projects exhibit a strong emphasis on collaboration. Major public projects are not delivered by a single public agency but are instead heavily cooperative undertakings involving both local and central government as well as the private sector. Public interests are represented through special purpose project delivery entities at arms-length from decision makers.

At Salford Quays, dock land was purchased by the Salford City Council using a derelict land grant from central government following closure of the port. Council authorities took on responsibility for rehabilitating the area and transforming it into an attractive and investment-ready redevelopment. The designation of the area as an Enterprise Zone made available various central government incentives, removed some taxes, including

council rates, and simplified planning procedures. The council has since gone into partnerships with developers to rebuild the area in stages aligned with an evolving development plan. The project received its largest development boost with the decision to shift a large component of the government-owned BBC's media operations there in the 2000s.

The purchase of the Salford Quays by the local authority permitted a relatively straight forward approach to be taken between the public and private sectors. At Nine Elms, the arrangement has been significantly more complex owing to the large number of property owners and presence of two borough councils. In response, the Nine Elms Vauxhall Partnership was created in 2010 to coordinate and drive forward the transformation. Co-chaired by the leaders of Wandsworth and Lambeth Council, it includes the area's main developers and landowners, the Mayor of London, Transport for London and the Greater London Authority. It is responsible for setting and delivering the strategic vision for the area, including the £1 billion infrastructure investment package.

Crossrail is interesting principally because it is a genuine partnership between local and central government. From its modern conception in the 1989 Central Rail Study, Crossrail has been the product of the Department of Transport and Transport for London (and its predecessor) working together. It

### Salford Quays

a 30 year rehabilitation and redevelopment of contaminated and disused port land in Manchester. Private developers have funded the majority of the programme which includes environmental, economic and social outcomes. Total redevelopment is set to cost around £1.6 billion by completion in 2020.

(Image: Peel Group)



“Public bodies, such as council organisations and government departments, are no longer the prevailing delivery entity.”

has been jointly planned, jointly funded and is now under joint delivery through an independent project company, Crossrail Ltd. Representatives of the two lead agencies comprise the Sponsor Board, which sits between the Crossrail Ltd Board and the client organisations themselves.

Something of an exception to the collaborative model is represented by HS2. Being almost exclusively the product of the Department for Transport, HS2 has been planned and will be funded by central government. There is comparatively less local authority involvement, and private participation has to date been limited. However, local authorities with access

to HS2 stations are preparing to leverage off the investment. Greater Manchester is already planning for the arrival of high speed rail with a 4,500 new home and 30,000 new job development around the proposed station at Piccadilly and Mayfield.

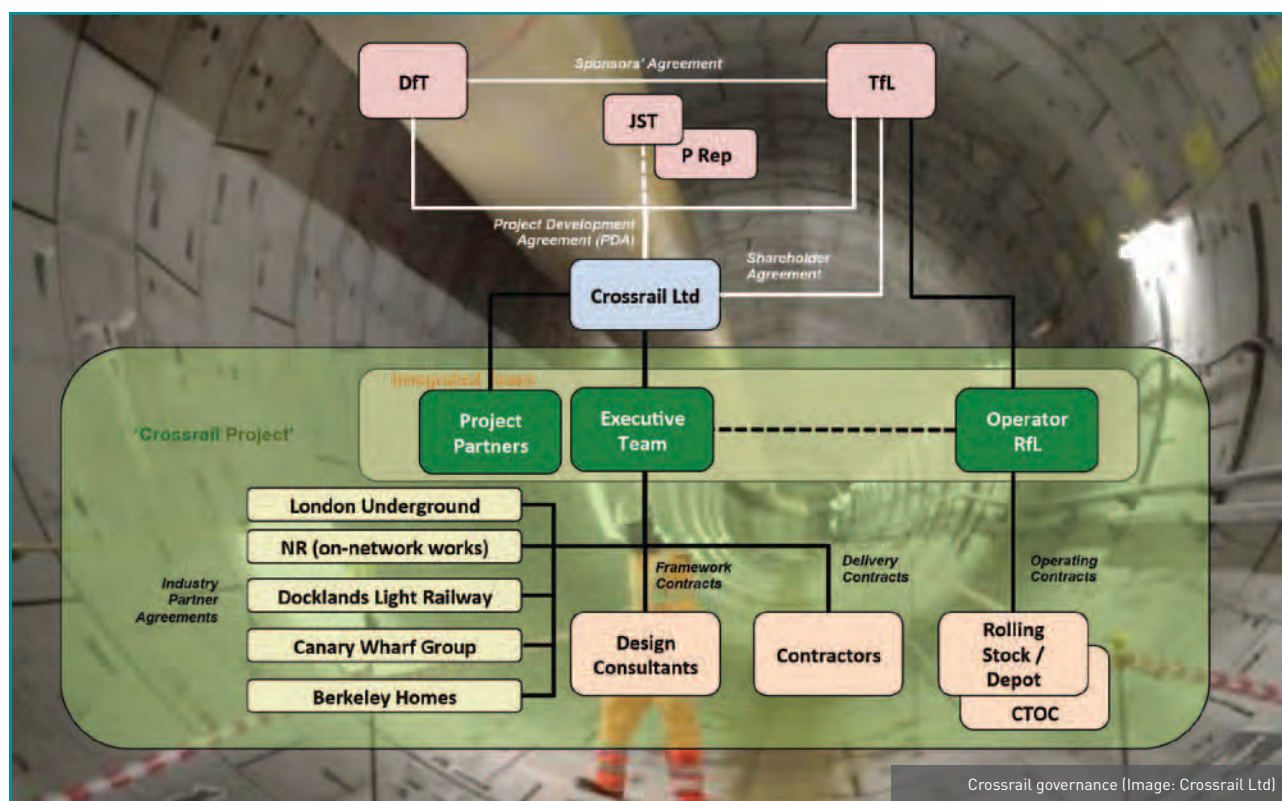
### Independent Delivery Boards

Fifth, UK mega-projects are characterised by independent delivery boards. Public bodies, such as council organisations and government departments, are no longer the prevailing delivery entity. Instead, client organisations, which often include more than one local authority and central government department, together appoint an

expert group and empower it with operational decision making powers, thus creating a separation between political and project decision making and enhancing accountability.

All projects investigated employed this type of model, but with varying degrees of independence afforded to delivery bodies. More recent public-owned projects such as Crossrail and HS2 tend to be delivered by companies with statutory independence. HS2 Ltd and Crossrail Ltd are both empowered by legislation and project contracts defining funding rules and the roles of the sponsor organisations and the delivery company.



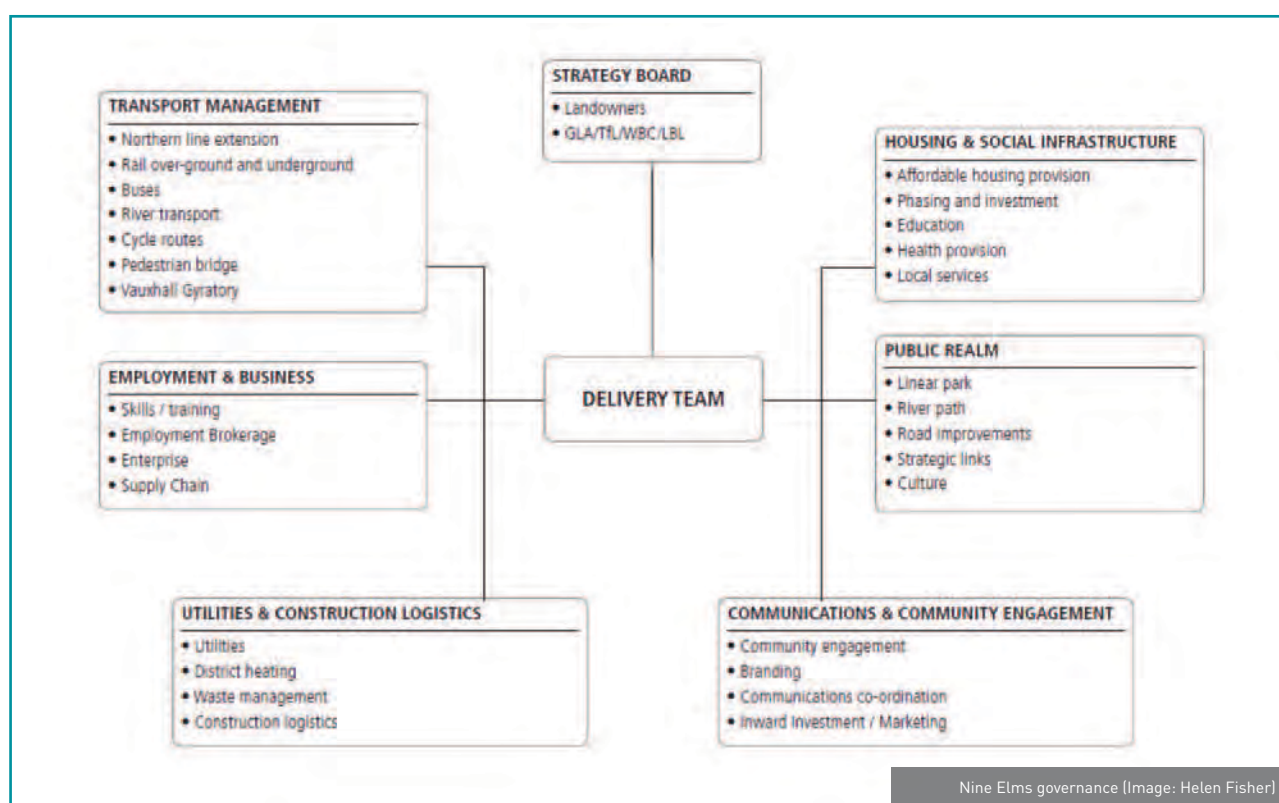


The Royal Docks development was originally led by the London Docklands Development Corporation. In slight contrast Crossrail and HS2, it was not guided by an Act of parliament until 1994, having been established under order in 1981. A 'quango' (quasi-autonomous non-governmental organisation'), the LDDC was funded by central government and charged with bringing together the large number of land owners, five borough councils and the Greater London Authority in redeveloping the wider docklands area (including the Royal Docks and Canary Wharf).

The LDDC was disbanded in 1998 and redevelopment of the Royal Docks is now managed by the Royal Docks Management Authority. Majority owned by the Greater London Authority, it oversees a 225 year lease of the docks and water assets and has developed the area's master-plan.

Although established slightly later than the LDDC, the Salford Quays Project Team possessed a degree less independence. Established in 1985 it comprised representatives from Salford City Council, the Department of the Environment and private sector partners. Reporting to the two public sponsor organisations, the project team was charged with delivering on the development plan. While it remained under the direction of its two public sponsors, it was also located on site, away from either client organisation, and had access to finance through several central government and European grants and funds.

In contrast to the general trend of strengthening and extending operational independence over time, the much more recent Nine Elms has employed a moderately different approach. A strategy Board has been established with representatives from the two local borough councils, the Greater London Authority and Transport for London as well as major landowners in the area. The Strategy Board provides leadership to a delivery team which will lead implementation. The emphasis at Nine Elms, however, is less on independence and empowerment as collaboration across the very large number of interested parties.



### Private Funding

A sixth and final attribute common to British mega-projects is the presence of a private development revenue stream. Captured either through a local levy, land value uplift or direct charges to future beneficiaries, British projects are overwhelmingly characterised by improvised, flexible

and innovative funding and financing arrangements designed to allocate the costs of infrastructure to those parties benefitting from investment.

Crossrail is underwritten by its sponsor organisations, the Department for Transport and Transport for London. However, its actual funding will eventually

be spread across other public departments, users, businesses and property owners that benefit from the project. The latter three, in particular, have been leveraged as far as possible to limit cost exposure to taxpayers who benefit less from Crossrail's delivery. Transport for London, for example, has borrowed £2 billion against future fare box

revenue and users will eventually finance over £4 billion of public debt or around one-fifth of the total project cost with this future resource. In addition, a business rate has been levied which will raise a further £4 billion and development contributions and property revenue £1 billion more.

Nine Elms has taken a step further and completely funded the major transport improvement associated with the project. The Northern Line extension including two new stations was estimated to cost £560 million in 2010 and the government has since underwritten a £1 billion loan by the Greater London Authority to construct it. The loan will be paid for by development levies and a future business rate.

Also funded privately at Nine Elms is a major redevelopment of the Battersea Power Station. The heritage site which had sat idle and in deteriorating condition since 1983 was sold to a Malaysian property consortium on condition that the building's façade would be restored and retained. Development on the 16 hectare site will fund the restoration without public expenditure.

### Nine Elms funding mechanisms

In order to service new development in the Nine Elms-Battersea Vauxhall area, transport services, including an extension of the Northern line subway, are required. Valued at up to £1 billion, improvements will be public debt financed using a guarantee by central government to lower the cost of borrowing. The government will designate the area an Enterprise Zone, which normally provides a rates holiday to attract business to a new development but in this case the subsidy is committed to repaying the government loan for a term of 25 years.

As projects with their genesis in the 1980s, both the Salford Quays and Royal Docks redevelopments are characterised by more traditional funding and financial approaches. The public party, Salford City Council in one instance and the Greater London Authority in the other, leveraged latent value within their respective sites with moderate public capital injections in decontamination, reclamation and core services. The Royal Docks have been slow to develop due to the prioritisation of development at the adjacent Canary Wharf, but close partnerships with private developers at Salford over the term of the project has resulted in each dollar of public investment attracting approximately ten private dollars.

**Table 1: Share of public and private investment in Salford Quays 1985-2020<sup>9</sup>**

Investment estimates (approximate)		Public	Private	Total
Salford Quays Development Plan	1985-96	40	300	340
Salford Quays and The Lowry	1996-05	105	345	450
MediaCityUK (projected) 2005-20		40	760	800
Total investment		£185m	£1405m	£1590m

<sup>9</sup> Salford City Council, [http://www.salford.gov.uk/d/milestones\\_v2.pdf](http://www.salford.gov.uk/d/milestones_v2.pdf)

# Contrasting Project Approaches

**A**nalysis of Australian and UK mega-projects reveals that key attributes are closely aligned. Large projects in both countries tend to be driven by explicit outcomes and delivered in partnership with the private sector, principally as a means to attracting private investment. Several subtle differences remain however, which largely reflect the different national environments. These differences are useful in understanding how learnings from the two countries can be adapted to the New Zealand context.

## Scale

As the object of the delegations was to investigate mega-projects, scale was always going to represent a point of commonality across all countries. As would be expected for nations of variable size, British projects tend to be proportionately larger in value than Australian projects just as Australian projects tend to be proportionately more expensive than those in New Zealand.

A difference emerges, however, when comparison of scale is not limited to cost. Transport projects like Crossrail, HS2, the Sydney orbital and Northwest Rail Link are designed to the specifications necessary to achieve identified outcomes. In practice, this means improvements are planned, funded and delivered as complete corridors and networks. They are often completed in segments and may even be procured individually, but from conception they are designed as complete standalone improvements and their size reflects the requirements of a new corridor or network.



New Zealand transport projects tend not to be delivered this way. Auckland's Western Ring Route, for example, was planned as a corridor, but only at a strategic level. Segments have been delivered as funding has become available and necessary criteria such as individual project benefit-cost ratio benchmarks have been satisfied. Recognition of the network, competition, efficiency and other economic benefits from network scale transport improvements has expanded markedly under the Government's Roads of National Significance (RoNS) programme. However, the motorway corridors north of Auckland and east of Tauranga, as well as the Christchurch network will remain incomplete even after completion of Puhoi to Wellsford, the Tauranga Eastern Link and Christchurch Motorways RoNS.



Equally, in the development sector British and Australian initiatives tend to be large, complete redevelopments of an available land parcel. If the parcel is large, development is staged and delivered by different entities over a long period, as is the case in Docklands, Salford Quays and Nine Elms, but a strong, common vision supported by an agreed master plan guides development progress and scale is used to attract investment to meet objectives to the timeframe required. But in each case, maximum utilisation of an opportunity is the priority objective with the size of the project reflecting the opportunity.

As a young, sparsely populated country with comparatively small cities, New Zealand has little experience in urban redevelopment. Auckland plans, however, a significant shift in the way it develops in the future which requires brownfields land to be much more intensely utilised. Progress to date has been limited, with generally conservative housing redevelopments on small portions of public land preferred over more ambitious long term urban renewals. It is too soon to say whether New Zealand is out of step with best practice urban development, but it is clear that the scale of any given development should seek to maximise the value of the land opportunity.

### Ambition and integration

Australian and British projects differed marginally on what emerged as the second common attribute from the respective delegations. Australian initiatives projected an explicit boldness and level of aspiration which was less evident in the UK, while British projects exhibited a more integrated approach to infrastructure and development.

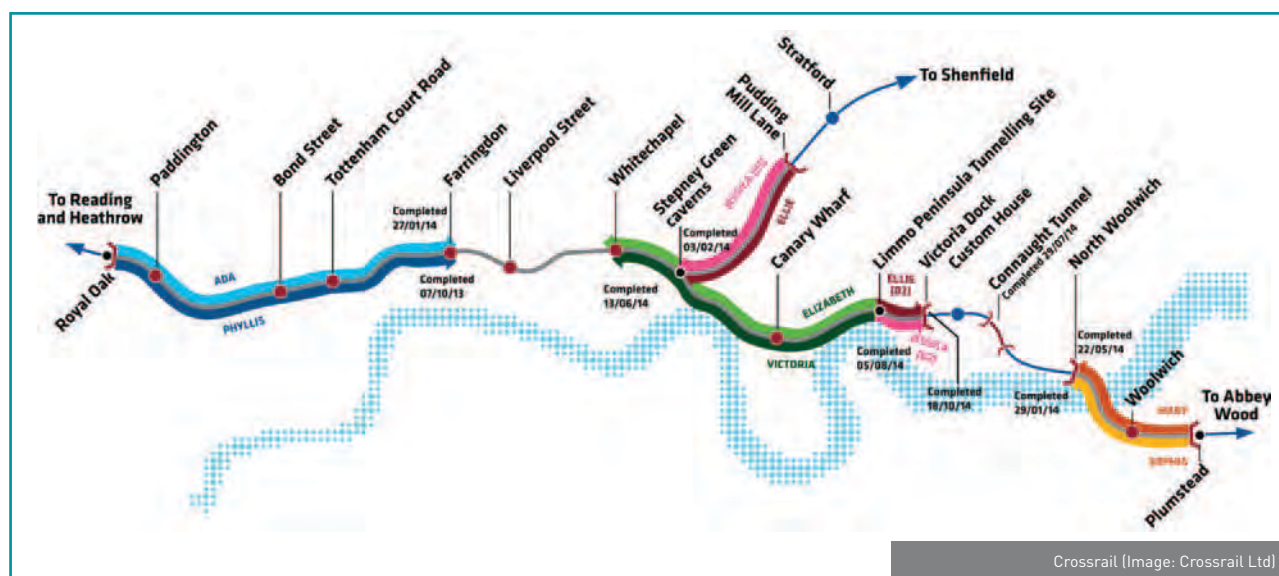
With respect to ambition, the difference may have been largely cultural, but may also have reflected the different political arrangements of the two countries. Projects investigated in Australia were state-sponsored and it was apparent that the two states visited (New South Wales and Victoria) were engaged in a fiercely competitive struggle for status, investment and growth. The two principal cities, Sydney and Melbourne benchmarked themselves against the other and, as evidenced by 'one-upmanship' over their convention centre developments, invested with the actions of the other in mind.

It was not clear that Britain felt the same way about Europe and was very clear London and the UK's second largest city, Manchester, maintained no such relationship. Rather, London's ambition seemed more reflective of an implicit expectation that it, as the international urban leader, must constantly innovate and push the boundaries of what is possible. Manchester, on the other

hand, was much more focused on some very significant social challenges, including long term unemployment, and a desire to no longer represent a drain on national finances (the tax take in Manchester is currently £17 billion, but the city-region requires £22 billion to fund core public services).

“Australian projects projected an explicit boldness and level of aspiration which was less evident in the UK, while British projects exhibited a more integrated approach to infrastructure and development.”

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The tenor of emphasis among officials in both British cities was, rather, much more heavily oriented towards methods of integrating land use into infrastructure proposals to achieve better outcomes and lower public funding commitments. This partly reflects the different type of projects visited in the two countries, with a broader range investigated in Australia which included conference centres and a hospital. Nevertheless, even with specific regard to Australian urban development projects, the degree to which transport and other infrastructure was integrated into the full planning, funding and delivery lifecycle of major urban redevelopments was less evident.

Indicative of generally less emphasis on integrated transport and urban development are the North West Rail and Crossrail projects. Sydney's North West Rail Link is, like London's

Crossrail, a combination brown and green field metropolitan rail corridor. Both will open up new areas to development and improve access to the CBD (although the North West Rail Link does not include new CBD stations). However, central to Crossrail are development plans to maximise renewal opportunities around key stations and innovative methods to charge land owners and businesses who benefit from new accessibility. This level of integration receives less emphasis in Sydney.

Not only transport-led projects, but development-predominant initiatives like Nine Elms appeared more strongly integrated from conception with transport. The Northern Line extension, for example, is co-located in the Nine Elms development, and is the driver of new investment. Barangaroo, by contrast, is driven principally by its exclusive location and ability

to leverage off existing transport investment. Given similarities between older UK developments in Salford and the Royal Docks and more recent Australian developments in Docklands and Central Park, it is possible to conclude that Australia is evolving in the direction of the UK, but is not yet quite as advanced.

New Zealand projects, and policy in general, can be characterised as less ambitious. Consenting, financial and political factors have reined in ambitious projects since the 1980s, overriding the transformational potential of larger investments. Although 'Think Big' clearly played a role in increasing public sensitivity to big government spending programmes, the British and Australian examples indicate lack of competition may also be a constraint on aspiration.

However, the trend over the past decade has been to move more into line with overseas. A highly ambitious quality characterises the Auckland City Rail Link, reflecting the city's self-imposed desire to become the world's most liveable (therefore effectively creating its own competition), and elements of the RoNS programme have enhanced public expectations of what infrastructure should deliver. Recent Government announcements on social housing policy and the establishment of a development council organisation in Auckland also reinforce a broad movement towards ambitious urban investment.

Integration of urban development and transport remains a much larger challenge. New Zealand's traditional approach to urban growth has been less 'hands on', reflecting reduced population and land pressures and a permissive planning environment. Consequently, growth has tended to follow a combination of land availability and transport access, rather than an integrated approach to planning.

Lack of experience and weak statute is now resulting in misaligned land use and transport in Auckland, where growth and land pressures are greatest. Wynyard Quarter has weak public transport access, a feature at least partly responsible for slow commercial property uptake in the area and a consequent need for incentives to attract investment, despite the prime location proximate to the CBD and waterfront. The CRL,



meanwhile, skirts Wynyard Quarter and instead follows an alignment where development is either established or less attractive over the medium-long term.

The region's second public transport priority, the Auckland-Manukau Eastern Transport Initiative (AMETII), suffers a different problem. Very limited land use change is permitted in the Proposed Unitary Plan along its route. Growth is instead proposed in coastal and peripheral areas unserved by public transport which available modelling shows will result in dramatically worsening transport accessibility. Auckland's approach to integrating connected projects, particularly infrastructure and urban development, shares many more similarities with Salford's initial and since revised 1985 Development Plan than modern programmes, suggesting the region maybe some three decades behind international best practice.

“Mega projects in both countries are conceived, planned, funded and delivered on the basis that they will significantly contribute to local, regional and national social and economic outcomes.”

### Outcomes

Australian and UK projects exhibited strong commonality in terms of what projects were designed to achieve. Mega projects in both countries are conceived, planned, funded and delivered on the basis that they will significantly contribute to local, regional and national social and economic outcomes. They may have, as their genesis, an issue such as poor public transport accessibility or lack of housing choice, but issues are subsequently turned around into major urban opportunities for societal improvement. Outcomes pervade all aspects of project development, ensuring input challenges do not impede progress towards a bigger goal.

There are, however, slight differences in the outcomes which determine investment. Australia's competitive city and state environment seems to have resulted in sometimes quite bold outcome objectives. Barangaroo, for example, is designed to establish Australia as an international financial hub. The Sydney and Melbourne conference centres, on the other hand, were both simply required to be the most illustrious facility in the country.

In the UK, in contrast, project outcomes are essentially determined at the national level. The prioritisation of jobs, homes and growth is identified through the British government's National Planning Policy Framework.<sup>10</sup> Spatial plans, like the London Plan, and

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#### UK National Policy Planning Framework

The National Planning Policy Framework sets national planning policies for England (specifically) and states how these are expected to be applied by plan makers. It defines the purpose of planning as the achievement of sustainable development, where sustainable means ensuring that better lives for people today do not mean worse lives for people in the future, and development means growth. It requires local authorities to make a 'presumption in favour of sustainable development', meaning that local authorities should positively seek opportunities to meet the growth needs of their area. These needs are to be guided by strategic priorities, led by the homes and jobs required in each area.

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implementation plans, including local and neighbourhood plans, must all take into account the framework.

In both countries, contributing to economic growth is a strong motivation for mega investment in transport and to community renewal in urban development. Other outcome factors were also consistent, such as the requirement to restore heritage at both Central Park and Nine Elms. However, it is the simplicity of the UK approach which redacts down the many social and economic benefits of urban investment to three key outcomes – jobs, homes and economic growth – which appears to be the most evolved and effective. Like the integrated approach to development, it is likely that Australia will migrate to the UK outcome parameters in the future.

New Zealand appears to be somewhat further behind. Inputs, such as cost, timeframes and consentability, together with project

outputs including travel time savings and benefit cost ratios play a more significant role in determining project priorities than general societal outcomes. Auckland Transport has recently deferred a major roading improvement and component of the AMETI project on the basis that receiving planning consent could be challenging. The Waterview component of the Western Ring Route was deferred for several years because its high cost could not easily be managed within the constraints of the pay-as-you-go National Land transport Fund. New housing redevelopment in Auckland continues to be held up by resource management issues and infrastructure constraints, despite a burgeoning affordability crisis, and a priority national roading initiative in the Wellington region has been undermined by concerns about local impacts along one small section.

The impact of prioritising inputs over outcomes results in lost opportunity.

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<sup>10</sup> Department for Communities and Local Government, National Planning Policy Framework, March 2012.



Deferring the economically beneficial Waterview solution has cost the New Zealand economy hundreds of millions of dollars in missed economic uplift, something which ultimately materialises as fewer jobs and less competitive industries in the short term and lost investor confidence over the medium term. Outcome prioritisation would, in this example, have led to alternative financing as a means to delivering the project faster and enjoying the benefits sooner. Both the UK and Australia have largely succeeded in removing the impediments of an input approach, leaving New Zealand well behind international best practice.

“A significant gulf exists between the partnering approach public authorities in the UK and Australia employ to deliver major projects and general New Zealand procurement.”

### Partnering/collaboration

A significant gulf exists between the partnering approach public authorities in the UK and Australia employ to deliver major projects and general New Zealand procurement. In Australia and the UK, the default option is joint public-private project delivery with sole public agency project management the exception, not the rule. In New Zealand, it is the reverse. The UK supplements private sector partnering with strong alignment of central and local government objectives and cooperation, helping to distinguish its wider collaborative approach from Australia's partnership models.

Of all projects investigated in Australia and the UK, only HS2 is being delivered through a largely conventional public sector controlled model. This is the result less of choice than of necessity owing to several unique project characteristics. First, the project's immense size is probably too large for any single organisation other than the UK government to manage alone. Second, even if there is a company with the resources and expertise to finance or manage a project of this scale, planning and consenting needs across so many different territories and public and private land holdings will still require extensive public involvement. Third, because it serves demand between cities, not within them, development associated opportunities are less clear. Fourth, high speed rail only currently exists

between London and the European mainland. It is therefore untested as a domestic UK transport solution, giving it a higher 'greenfield' risk profile in terms of both construction and demand risk. Finally, political risk on the project is extremely high.

HS2 aside, all British and Australian projects involve intimate public-private cooperation from an early phase. For development initiatives, the private sector effectively operates as the public sector's delivery arm. Master-planning is normally performed by the public partner (usually by an expert or special purpose agency, such as Places Victoria), but either includes flexibility or is executed in close cooperation with developers to ensure what is being planned is investment ready. In return for accessing public land or receiving planning or other concessions, the private sector agrees to deliver non-commercial public outcomes, such as social and affordable housing or restoring heritage.

For public infrastructure initiatives, PPPs are used in both countries where risk can be appropriately transferred to a private delivery partner. When risks are too high, joint, independent bodies are established with public and private representation to manage engagement with the private sector on behalf of the public. They may then divide the project up into different parts or phases, isolating project elements that can be procured in

partnership, as is the case with Crossrail, the North-west Rail Link and Westconnex.

UK institutional frameworks appeared to be more evolved with respect to coordinating activities across different levels of government. In addition to use of directive “stick” measures, such as the National Policy Planning Framework, the UK also makes extensive use of incentivising “carrots”. Tax breaks, access to government funds and innovations such as the Greater Manchester Earn Back scheme all strengthen collaboration between central and local authorities. Such programmes were less necessary in Australia where state governments are overwhelmingly responsible for planning, funding and delivering urban services.

New Zealand’s approach to infrastructure and development delivery contrasts with the Australian and British policy of partnering with the private sector. Outside of national transport, where alliancing has been used for over a decade, there is very little private sector involvement in major project delivery other than traditional contracting. What experience there is, moreover, is very recent and still evolving. Of the mega-projects listed in the introduction, only the New Zealand Transport Agency’s alliance-procured Waterview Connection and PPP for Transmission Gully, as well as Waterfront Auckland’s Wynyard Quarter development have so far

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### The Greater Manchester Earn Back scheme

The Earn Back Model uses a formula, linked to changes in rateable values over time at the Greater Manchester level, to provide a revenue stream to the region over 30 years if additional economic growth (measured in gross value added) is created relative to a baseline. Earn Back provides an additional incentive for Greater Manchester to prioritise local government spending to maximise GVA growth. If successful in driving economic growth, under Earn Back Manchester will receive a larger proportion of resultant tax take generated from this growth than would otherwise be the case. The ‘earned back’ resources would be used for further investment, similarly prioritised on net GVA impact at the regional level. This will create a genuinely revolving Fund which rewards Greater Manchester for delivering growth.

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demonstrated a strong element of partnering (although Puhoi to Wellsford has to date been planned using an alliance arrangement and may be procured as a PPP).

New Zealand’s collaborative processes to engender close central and local alignment on projects is even more under-developed. In fact, not only is there often poor alignment of central and local government policy and planning on mega-projects requiring close cooperation and coordination, there is at times overt disagreement. Auckland Council’s City Rail Link has struggled to gain central government confidence, while the Government’s Puhoi to Wellsford project received vocal opposition from the now defunct Auckland Regional Council. Christchurch City Council’s vision for metropolitan rail was quickly nullified by central authorities, and frictions between the Christchurch City Council and Canterbury Earthquake Recovery Authority have at times boiled over into the public domain.

A peculiarly New Zealand problem which was not observed overseas is that even when there is alignment of central and local government, there is still no certainty that a project will proceed. The recent Environmental Protection Authority decision to cancel the consent for the Basin Reserve Flyover which was part of central government’s priority RoNS initiative and had Wellington City and Greater Wellington Regional councils’ support, exemplifies the disconnected and uncoordinated state of the wider infrastructure sector.

### Independent governance

Major Australian and UK public capital investment is now almost always managed by specialist delivery agencies with operational separation from public decision making. In some cases, special purpose vehicles are established specifically to oversee an individual project (HS2 Ltd, Crossrail Ltd, Barangaroo Delivery Authority, Westconnex Delivery Authority, or

the PPP SPV Darling Harbour Live responsible for delivering the Sydney International Convention Centre), while in others a more general development agency (Places Victoria, Urban Growth NSW) manages the public sponsor's role. Despite its ubiquity overseas, this model remains relatively uncommon in New Zealand where tight public control is maintained over project delivery.

Only one project investigated by either delegation is being managed by a government department, the North West Rail Link. Transport for NSW has retained overall control of the project, which may reflect its desire to let project elements separately according to individual project phase needs. It has elected to retain risk on civils work, letting two design and construct contracts for tunnels and surface work respectively, while using a risk transfer PPP model for operations, trains and stations.

One further initiative, Nine Elms, employs a collaborative structure with a delivery team made up of public sector representatives but responsible to a strategy board comprising representatives from each of the client organisations (Greater London Authority, Transport for London, Wandsworth and Lambeth councils) and property owners.

New Zealand contracts differently. Of the mega-projects listed in the introductory chapter, independent delivery agencies have only been established to deliver the Ultra-fast Broadband and Wynyard Quarter projects – Crown Fibre Holdings has been established by the Government to oversee the roll out of fibre and the Auckland Council CCO (council controlled organisation) Waterfront Auckland is managing progress at Wynyard.

The majority of projects are instead managed by public agencies. Political imperatives therefore inform delivery models, funding, financing and timing decisions, rather than just project needs. Consequently, there is a greatly increased risk under such conditions that project decisions are driven by short term political imperatives which may not be in the long term interests of the public or the project. Auckland Council's decision to initiate preparatory works on the CRL before Government funding is committed and a string of project announcements in Christchurch leading up to the 2014 general election both suggest factors beyond the projects themselves continue to influence mega-project decision making.

Perhaps the only commonality across the three nations is that the overall trend is for more independent project management. There are exceptions, which should be expected across different projects with different objectives, but even in New Zealand expanding use of independent decision making is a feature of more recent projects.

“...the UK is more advanced in the practice of tying the costs of public service improvements to future beneficiaries of those improvements in order to fund investment.”

### Capital/revenue

The final attribute revealed what is perhaps the widest difference between observed UK and Australian approaches to mega-project delivery. Although both nations extensively seek out and leverage private sector capital as a means to finance public investment, the UK is more advanced in the practice of tying the costs of public service improvements to future beneficiaries of those improvements in order to fund investment. New Zealand, by comparison, is much more hesitant in obtaining private capital and does not actively pursue contribution from private beneficiaries of public investment.

Both Australian and UK public agencies partner extensively with the private sector to leverage private resources in pursuit of public objectives. Although no formal PPPs (i.e. PFI) were investigated by the UK delegation, that form of procurement has been widely used by British authorities for over two decades. As in Australia, the principal objective of PPP is to access vast private capital markets, thereby removing a common barrier to infrastructure delivery, overcoming initially high construction costs, while at the same time transferring project risk to delivery agents.

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### Tax increment financing

Tax Increment Financing (TIF) works on the premise that investment in infrastructure has a positive effect on property values in an area, and consequentially results in a greater tax revenue (a “tax increment”). Once a particular redevelopment area is identified, the level of property taxes taken is frozen for a period of time. Additional tax revenue above the frozen level is then ring-fenced for local redevelopment. Authorities can then borrow against that anticipated future tax revenue to fund the necessary infrastructure investment. In effect, under a TIF an authority borrows against future tax revenue, allowing projects to be carried out that would otherwise be unaffordable. In particular TIF has been used in under-developed areas where development might not otherwise occur.

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Australia and the UK are also similar in the way they actively target private property capital to substitute for public funding. Redevelopment of Central Park and the Battersea quarter of Nine Elms, for example, has been encouraged by authorities on the condition that heritage is protected. Private developers have subsequently spent millions of dollars restoring the Fosters Brewery and Battersea Powerstation. Had the public sector committed these funds, as was the case for Auckland’s Shed 10, for example, money would have been diverted from transport, parks or other community projects. Alternatively, as had been the case for decades previously, money may not have been committed at all, leaving potentially valuable public assets decommissioned, deteriorating and providing little community benefit at all.

At Barangaroo, Docklands, Salford Quays and Royal Docks, meanwhile, authorities have recognised and placed a value on private development as a public good. The inherent value of a redeveloped area, consistent with good urban design providing homes and employment, is facilitated through catalytic public investment in core services, tax breaks, consent streamlining and other policy measures. Relatively little direct public investment has in each case resulted in vastly greater sums of private investment and a positive public outcome.

Despite these and other similarities of outcome, Australian and British approaches differ in terms of the approach they use to leverage private investment. In Australia, state governments have established their own specialist development agencies, such as Places Victoria, and required them to operate commercially. This has resulted in concerted efforts by agencies to maximise the value of public land holdings and attract private investors consistent with their terms of reference.



In the UK, similar agencies – quangos – have also been employed, but attracting private investment is now a wider objective affecting all national public capital expenditure. The UK National Infrastructure Plan 2014 prioritises projects according to three factors – contribution to economic growth, national significance and ‘projects that attract or unlock significant private investment’. The government has also established a Guarantees Scheme, whereby Treasury will underwrite infrastructure debt repayments in exchange for a fee, effectively transferring funding risk to the taxpayer. The scheme is designed to facilitate investment in infrastructure by guaranteeing that debt will be repaid.

New Zealand, conversely, has no policy or guidance encouraging the value of attracting private investment. The delivery agency for the Christchurch rebuild is a government department and Wynyard Quarter delivery agent Waterfront Auckland is a council owned organisation. While Waterfront Auckland is at least committed under its charter to develop and manage property commercially, both have as their primary funding facility access to public accounts. In the absence of directives, the agencies are under weak incentive to seek private capital to offset costs to tax payers and broad project outcomes reduce accountability for delivering projects which add value consistent with their cost.

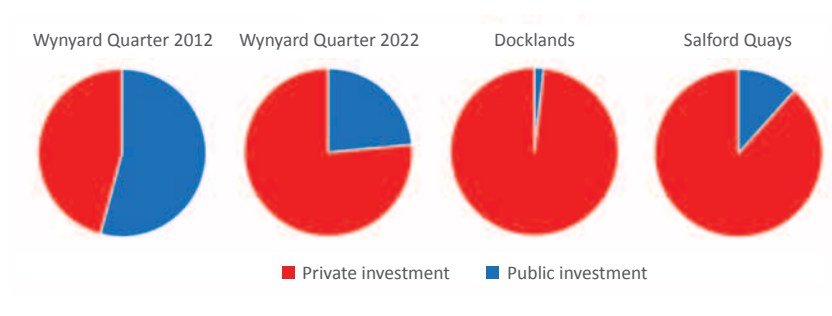
More substantial differences characterise the way the two countries obtain private capital for predominantly public projects. The UK has a much more advanced approach to charging developers and other businesses who benefit from infrastructure investment. For all major urban public transport projects, land value capture, area levies, business taxes, as well as more conventional mechanisms like development contributions, are investigated through the early phases of project planning. Authorities take a broad and open approach to which mechanisms they consider or employ and have become innovative in the way they attribute the costs of infrastructure to the beneficiaries of infrastructure. Future beneficiaries are now a primary source of revenue used to pay off public or private debt and how the project is funded is now as much a part of its design as where it goes and what its form is.

New Zealand’s experience with

attracting private investment to major urban development is limited and, what there is, is mixed. Public investment in extending rail to Britomart has very successfully catalysed private development in the area, delivering what is now a vibrant commercial area. Wynyard, conversely, is a mixed use development with a strong focus on public amenity. It, however, has consumed a comparatively high proportion of public investment to private, necessitating expenditure that is not available for other uses.

Figure 2 illustrates how much investment has been attracted to the Wynyard, Docklands and Salford developments and shows the level of effective subsidy at Wynyard is out of step with comparators, even after accounting for Wynyard’s community objectives. Moreover, transport is yet to be funded to and through the area, suggesting public investment overseas has attracted private capital more successfully.

**Figure 2: Proportion of public to private investment in three developments<sup>11</sup>**



<sup>11</sup> NZCID, using data from: [http://www.waterfrontauckland.co.nz/getmedia/ef8f070c-2f85-43c0-bc01-5b405e2fb07b/NZCID-presentation-20-August\\_1.pdf?ext=.pdf](http://www.waterfrontauckland.co.nz/getmedia/ef8f070c-2f85-43c0-bc01-5b405e2fb07b/NZCID-presentation-20-August_1.pdf?ext=.pdf); [http://www.places.vic.gov.au/\\_data/assets/file/0006/9177/34\\_707\\_PlacesVictoriaMyDocklands.pdf](http://www.places.vic.gov.au/_data/assets/file/0006/9177/34_707_PlacesVictoriaMyDocklands.pdf); [http://www.salford.gov.uk/d/milestones\\_v2.pdf](http://www.salford.gov.uk/d/milestones_v2.pdf)



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The UK National Infrastructure Plan 2014 prioritises projects according to three factors – contribution to economic growth, national significance and ‘projects that attract or unlock significant private investment’.”

New Zealand’s experience attracting and catalysing private investment on the back of public infrastructure is equally limited. New methods of funding infrastructure have been actively discouraged by central authorities and even prohibited by legislation. Road tolling options on existing roads are currently illegal and there is no declared appetite from any major political party to investigate law change, despite evidence in Auckland showing the impact of road pricing is vastly superior to traditional, less targeted taxation options.

Major public transport initiatives, meanwhile, such as the CRL and AMETI, are proposed to be completely funded out of general taxation (including rates). Even though the benefits of improved services flow disproportionately to residents and businesses located near stations, there are no substantive plans for urban redevelopment on adjacent land, nor plans to capture the value conferred on property owners by enhanced transport accessibility and more flexible planning rules. This represents not just a lost opportunity to promote the Auckland Council’s intensification objectives, it will result in windfall gains to a small number of existing property owners while mobilising regional opposition to projects perceived by many to have less than regional benefits.

# International Best Practice Project Delivery

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After considering mega-projects across Australia, the UK and New Zealand, several key qualities stand out as those which constitute international best practice:

## 1. Outcome focused

Although scale is the most immediately evident attribute of any mega-project, it is not the first consideration and nor is it the most important to success. International best practice, rather, is to initiate mega-project investigation on the back of identified generic public outcomes. Measured at a macro scale, these outcomes guide all subsequent project decisions. The practice of integrating related activities into a single project, collaborating across government and with the private sector, appointing independent delivery bodies, leveraging private capital and building to scale is ultimately a product of single minded focus on outcomes which benefit all of society.

For transport and development initiatives, outcomes may ultimately be refined down to jobs, homes and economic growth. In all cases, robust underlying economic evaluation demonstrates the comparative merit of the investment proposal, but for communications and strategic purposes, jobs, homes and economic growth drive projects from conception to completion.

The outcomes approach contrasts with more conventional approaches in two ways. First, conventional models tend to reflect linear governance and budgeting structures which are based on inputs. Faster travel times, increased floor space or replacement of an aging asset are often primary project objectives, rather than more and higher paying employment, affordable housing or increased economic competitiveness. This can result in investment which is misaligned with, unrelated to, or, at worst, in conflict with, the actual outcomes public agencies seek to promote.

In the second instance, conventional approaches are frequently confined to preconceived notions of resource availability, public acceptability or timeliness. Solutions may be limited to annual budget allocations, subject to political influence or conditioned by anticipated resource consent challenges. In each case, the tendency is for projects to prioritise inputs above outcomes, in spite of often genuine efforts to avoid doing so.

Under a true outcomes approach, structural constraints are removed not only from project conceptualisation, but are successfully subordinated to broad public outcomes throughout the planning, funding and delivery process. Pragmatism prevails over input challenges as understanding of the final goal helps sustain momentum when issues arise.

Projects may have their origins in an identified problem or deficiency, but the outcomes approach, particularly for mega-projects, turns the issue around and transforms it into an opportunity for regional or national development and progress.

“The practice of integrating related activities into a single project, collaborating across government and with the private sector, appointing independent delivery bodies, leveraging private capital and building to scale is ultimately a product of single minded focus on outcomes which benefit all of society.”

## 2. Integration

International best practice is to integrate traditionally different but interdependent urban initiatives into a single project. This approach is led by combined planning, funding and delivery of transport and urban development, but is not limited to this relationship. Success has been achieved in tying together conference centres with commercial property development, heritage restoration with residential development and open space delivery with both.

Integrating development with otherwise public capital improvements promotes two interconnected policy objectives. The first is to reduce cost to the public. When new public services providing spatially oriented benefits are delivered there is an increase in land value proximate to the service. Combining development with new public services assists authorities in capturing some of that value to offset public expenditure.

The second reason to integrate is to sharpen policy impact. It is possible to advance public objectives further by coordinating delivery of associated initiatives. If transport improvement is the primary objective, integrating development can catalyse demand, shortening the period new transport services sit underutilised. Faster uptake of transport capacity enhances the project business case and reduces uncertainty over long term demand.

If housing is the primary objective, integrating transport or some other major public service increases the attractiveness to investment of all areas benefitting from improved accessibility, connectivity or amenity. Adjacent, but otherwise unrelated, private property investors are incentivised to capitalise on new value, increasing the likelihood of new development and services.

Integrating also makes it possible to improve more generally public objectives. A necessary activity in the delivery of large, combined initiatives with a strong development component is master-planning. The purpose of master-planning is to match services to demand, providing the 'right amount' of transport to jobs to homes and amenities.

## 3. Collaboration

International best practice is for mega-projects to be jointly planned, funded and delivered. Central, local and private parties pool their resources and expertise on successful mega-projects through all phases to ensure efficient and effective delivery which meets public and private expectations.

The portfolio structure of government agencies, limited scope of local government interests and commercial focus of the private sector does not support sole agency delivery of mega projects. Collaboration is necessary to advancing societal outcomes which, by their very nature, incorporate many different parties. Final project solutions benefit from the bigger picture social, economic, cultural and environmental national perspective of government, the spatial and community expertise of local government and the customer focus, market facing knowledge of the private sector.



Collaboration is only possible when major project sponsors (likely a central government body) surrender a degree of operational decision making. By focusing on a strategic and a monitoring role, the major sponsors assume responsibility for outcomes, but transfer responsibility for individual project inputs. In order for sponsors to have the confidence that public delivery partners will achieve project objectives, there must be a robust legislative framework ensuring alignment across all of government. A clear contract, specifying outcomes rather than inputs thus providing room for innovation, and a well-balanced incentive structure is necessary to ensure private delivery partners achieve objectives.

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Collaboration is only possible when major project sponsors (likely a central government body) surrender a degree of operational decision making.”

#### 4. Independent governance

International best practice is to establish a special purpose body to manage delivery of mega-projects. The body remains responsible to the public client (or clients) but governed by an independent board. A CEO reporting to the board is responsible for operational decisions.

Independent governance balances the needs of the client with the expertise of the delivery partner. It helps reconcile project objectives when there is more than one client or if multiple project outcomes are required. It distinguishes between strategic imperatives, important to the client, and commercial and operational activities, which require in depth understanding of the project's day-to-day needs. The risk of politicisation is reduced while the public ultimately retains control.

Enacting legislation which establishes the independent body and its governance structure together with the parameters of its relationship with government is standard. Legislation also clarifies funding relationships which are essential to distinguishing genuinely independent decision making from nominally independent decision making. Processes for passing legislation also require debate in parliament, an activity which engages the opposition in discussion of what are frequently multi-term initiatives.

#### 5. Capital

International best practice is to actively seek private capital to finance and fund public infrastructure before accessing public accounts. Private finance alone can be effective as a means to injecting private sector expertise into project delivery and incentivising better project outcomes. Private finance combined with revenue tools which target the additional value created by public infrastructure investment offsets the need for public expenditure.

Private capital can substitute for public resources when sector or agency cash flow is constrained. It is an option when confronted with pay-as-you go funding limitations. The higher cost of private debt is factored into financial decision making, as is the value of transferring financial and other risks away from the public. An empirical decision determines whether public or private debt provides a better value option on a case by case basis. Financial options represent different tools for different jobs and there is no standard approach which exists independent of specific project requirements.

Before taking on public or private debt, options are investigated to avoid the need for any public spending at all. Integrating development and public infrastructure acknowledges the relationship between growth and services and is used successfully internationally as a means to pay for infrastructure. Development rights can either be tied to delivery of public infrastructure itself or private debt sourced and tied to future user charges, rates income or value uplift.

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Before taking on public or private debt, options are investigated to avoid the need for any public spending at all.”

## 6. Scale

International best practice is for the size of an investment to as far as possible reflect the desired outcome of a fully integrated, combined public and private infrastructure and development initiative. Outcomes are broadly defined so that scale may reflect a desire not only to achieve a primary transport, development or other objective, but also attract private capital, international expertise or new market entrants, influence market or consumer demand, or define the city.

Small projects are bundled to achieve scale where there are efficiency and transformational benefits from doing so. Large projects which exceed existing and projected short term demand are phased over time to match need, but master-planned as single initiatives to achieve network, corridor and spatial benefits. Financial or physical limitations are not inconsequential, but are subordinate to the wider public objective targeted by the project:

- Development projects are of the size necessary to generate community transformation and maximise the value of a land holding, including the cost of infrastructure (particularly transport), affordable housing and other community service obligations.
- Transport projects are the size necessary to complete a connection. Planning is conducted at a corridor or network scale sufficient to progress an identified economic and social opportunity. Delivery is effected as a single initiative, though may be constructed in segments. Development considerations heavily inform the appropriate size and form of the project.

# Changes Required to Achieve International Best Practice in New Zealand

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In order for New Zealand to ensure successful delivery of its mega-project pipeline and maximise value for money for

all New Zealanders, our project approach must modernise. After identifying a significant issue, gap or deficiency which requires capital improvement, we must:

1. Become more adept at turning that problem into an opportunity for sustained societal improvement. A single-minded commitment to achieving generic outcomes which improves the well-being of all society is essential to overcoming project challenges.
2. Integrate relevant activities so that related services are coordinated and mutually supportive.
3. Collaborate across all affected authorities and private parties to leverage the experience and expertise of all society and engender buy-in.
4. Establish independent project management structures to manage relationships and provide separation from political decision making.
5. Use whatever resources are available according to best value for the economy and country to ensure beneficial projects are not held back by funding, financing or other resource issues.

6. Plan, fund and deliver at scale whenever network, corridor and community renewal opportunities are present.

For New Zealand to successfully transition to a best practice project delivery environment a number of institutional and legislative changes are required. NZCID identifies the following barriers to International Best Practice project delivery:

## Barriers to international best practice

### The planning framework

New Zealand's planning framework is incompatible with an outcomes approach to public policy. The RMA 'effects-based' regime lacks strategy and fails to ensure alignment between land use planning and funding and delivery of development and infrastructure.

The land use and infrastructure planning framework established by the RMA was intended to be permissive. This reflects its design in the late 1980s when the prevailing practice opposed planning/ regulation and promoted market based solutions. Thus section five "enables people and communities to provide for their social, economic, and cultural well-being... while avoiding, remedying, or mitigating any adverse effects of activities on the environment."

The Act sets out processes for development of national standards, regional policies and district plans. However the balance of the RMA is primarily concerned with the adverse impacts of development, evaluated almost entirely through an environmental lens. Apart from potential amendments which are likely to be contested, almost no recognition is given to the positive outcomes derived from good urban planning and development or investment in infrastructure. Objectives designed to balance social, economic, environmental and cultural consequences of infrastructure and land use development create significant conflicts for those developing plans.

The Local Government Act and the Land Transport Management Act conversely, remain oriented towards future action. Consequently, consenting and other regulatory issues may only arise through the implementation phase of activity planning, rather than through the development of land use plans.

In combination, the RMA, LGA and LTMA result in separate plans without strong linkages between them. Where linkages do exist, these have different weightings and are often inconsistent between the statutes. For example, a Regional Land Transport Plan (RLTP) is required to be 'consistent with' the Government Policy Statement on Land Transport (GPS), but only has to have 'taken account' any relevant national policy statements and any

relevant regional policy statements or plans under the RMA. A nationally significant project may be a priority in the Auckland Spatial Plan but have no recognition under the RMA or the GPS on land transport. Similarly, a regionally significant project may have priority in a RLTP but not be funded in the local councils Long Term Plan (LTP).

There is a lack of common purposes and goals across the planning framework and the hierarchy between the RMA, LTMA and LGA plans is unclear. This increases uncertainty, adds significant cost and slows the delivery of essential services. Moreover, the RMA's focus on local effects frequently means a long-term perspective is under-emphasised, despite this being a feature of sustainable management. While the political climate has gradually changed, the 1980s legacy of market led planning continues, often contributing to poor land use and infrastructure planning outcomes.

Collaboration is also impeded by the planning framework. Rigid, overlapping and time consuming statutory processes and litigious planning and hearing processes determine engagement. This is hardly conducive to collaboration, cooperation and a joint sense of common objectives. Despite exhaustive, yet limited proactive engagement processes, formal public consultation under the RMA, LGA and LTMA is intimidating for respondents, replicated across multiple plans,

strategies and discussion documents and frequently not implemented. Consequently, consultation rarely succeeds in capturing the interest and input of stakeholders, until the implementation phase when affected communities begin to understand the impacts of decisions.

As the UK and Australian experience demonstrates, quality mega-project delivery requires effective decision-making across local and central government agencies, infrastructure providers and the private sector. It also requires effective interaction and engagement with key participants affected by development, including iwi/Maori, communities and non-government organisations. The length of time projects take to go through the planning and consenting processes, the complexity of the processes, the range of legislative criteria involved, and the costs of consequent delays is therefore a major concern for New Zealand.

### National planning leadership

A feature and a consequence of New Zealand's flawed planning system is a near total absence of government planning direction. It is not clear what the Government's planning priorities are or what the expectation is of local government to promote national direction. Lack of central leadership has impeded integration and collaboration and resulted in an overall implementation process which is governed by inputs to the detriment of local, regional and national outcomes.

New Zealand is something of an international outlier with respect to national planning. The New Zealand Government does not formally identify growth priorities or provide funding or other resources to accommodate growth over the long term. It does produce a National Infrastructure Plan, which outlines at a strategic level the Government's 20 year infrastructure intentions, and issues a statement on 10 year transport priorities, but otherwise does not engage in long term planning.

Planning is instead delegated to local authorities. Local government as a whole, however, manages barely 10 per cent of overall taxation, with the other 9 cents in every tax dollar allocated by central government. Importantly, central government agencies retain responsibility for several activities with significant spatial impacts, including the location and size of schools, hospitals, public housing estates and transport linkages. In the absence of defined national direction setting priorities for decision making, central government agencies and local government are left to agree on major growth decisions without a clear sense of priority.

Rather than direct local authorities to implement national direction, as is the case in the UK for example, successive New Zealand governments have chosen instead to define and redefine the purpose and responsibilities of local government. The purpose of local government has now changed three times in 25



years, a period considerably shorter than many of the assets managed by councils. This approach seeks to change the parameters of local government activity, as opposed to influencing how councils perform their functions. It leaves the core issue of local interests pushing against a national interest vacuum untouched, leading to political friction between local and central government which could instead be mitigated through planning processes.

The RMA does provide for National Policy Statements, but in the 24 years the RMA has been in operation, only 4 have been produced. Developing statements which apply to New Zealand's many and varied regions has proven so difficult and time consuming that successive governments have reserved this action for comparatively narrow issues.

Only the Government Policy Statement prepared under the Land Transport Management Act 2003 sets national objectives in a planning-related activity. The assessment of transport priorities, however, is generally more influenced by objective economic efficiency evaluation than coordinated land use integration. The GPS 2015 identifies economic growth and productivity, road safety and value for money as the national strategic priorities and no reference is given to land use.

By becoming more engaged in national planning, the Government can shape the priorities and

expectations of local government before issues become politicised. Priorities of local government can be aligned with national outcomes and direction given to national agencies to coordinate with local government. Requiring ministerial sign-off on all regional plans would commit the government to co-founding agreed plans and stymie 'investment creep' in growth areas with high demand for new services.

### Transport funding

New Zealand's transport funding system is one of the most evolved and efficient in the world. Fuels taxes, road user charges and vehicle licensing fees are fully hypothecated to transport spending and managed by a semi-independent national authority, NZTA. Hypothecation carries the benefit of tying transport needs to transport funding, with the Government retaining the ability to raise or lower different charges according to investment needs. The strength of the New Zealand approach is that transport funding remains by and large a user pays system with direct charges supplemented by property taxes, which in turn reflect levels of access.

However, the strength of the funding system is also its weakness. The integrity of user pays depends upon a robust relationship between those who pay and those who benefit from investment. For this reason, investment prioritisation has traditionally employed

sophisticated cost-benefit appraisal, which values benefits to transport users to independently ascertain where investment is best directed. While successful at depoliticising many difficult transport decisions, the approach elevates transport inputs, including travel time savings and safety benefits, above public outcomes, such as national productivity and economic growth.

Consequently, the benefits of transport as an economic and social development tool have historically been underrepresented in project evaluation. Prioritisation has changed in recent years with the introduction of "strategic" merit and the Government override via the Roads of National Significance programme, but this has also served to weaken the relationship between users and funders and has undermined the objectivity and credibility of cost-benefit appraisal.

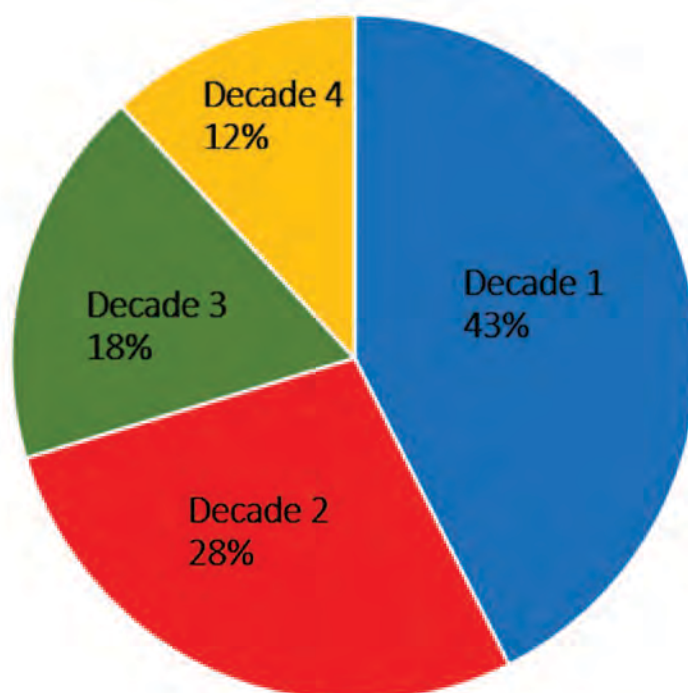
Mega-project assessment is especially impacted by the evaluation process. Being by definition high cost, major transport projects are also characterised by long construction timeframes as well as 'slow-burn' effects which evolve over time as users respond to new transport opportunity. Each of these characteristics is interpreted by conventional transport evaluation as a deficiency. High costs and long construction timeframes result in low measures of economic efficiency as New Zealand's comparatively high discount rates consume a

disproportionate value of benefits while increasing the relative value of costs. This feature is compounded by the large but gradual effectiveness of mega-projects which see benefits realised in later decades when their value is less (Figure 3).

Exacerbating the bias in New Zealand's transport funding and prioritisation system towards small, low-cost immediate impact projects is the "pay as you go" approach to investment. Annual funding availability severely constrains the amount of capital that can be committed to any single project. Expensive projects with significant long term or strategic benefits are deferred for want of capital, or conversely, and as has been the case with the RoNS, result in maintenance, operations and small capital project budgets being starved for cash.

The overall result is that New Zealand's transport funding system undervalues strategic investment and makes payment for large projects difficult. Valuing transport-only benefits above other factors may assist transport prioritisation, but it does not necessarily facilitate good public policy. When transport investment generates wider social and economic benefits then the funding mix should reflect that reality. The practice of valuing and capturing non-transport benefits raises opportunities to fund nation building or city shaping transport investment.

**Figure 3: Proportion of benefits per decade at a discount rate of 6 per cent<sup>12</sup>**



By allowing mega-projects with significant intergenerational economic and social development benefits to be debt funded, New Zealand could avoid the artificial barrier created by existing transport revenue streams. Where mega-projects deliver economic and social benefits beyond transport users, funding should be committed through the consolidated account in proportion to this benefit.

### Value capture

New Zealand does not have an established approach to capturing the value associated with new investment or development rights. Targeted rates are permitted under the Local Government (Rating) Act 2002, but their application has been limited and relatively unsophisticated. General rates and direct capital injections from the consolidated account remain much more common funding sources even when investment benefits flow disproportionately to a small number of defined property owners. Use of general taxation in this way is both regressive and a barrier to investment.

<sup>12</sup> NZIER

Urban investment, particularly in transport, results in property value change proportionate to the level of amenity conferred upon an affected parcel of land. The potential for land value increase is significant, as much as doubling the value of land proximate to quality public services. As land value in a market environment reflects demand, increasing values also create opportunities for redevelopment. Subsequent rezoning of land to make allowance for new demand creates a further value improvement.

There is a compelling moral case for capturing the value created by public capital investment and rezoning. The objective of public capital investment is to provide open access services rather than deliver land value increase to local property owners. Significant equity issues are present each time public investment sourced from the general population is invested in an asset which confers immediate property value improvement to a comparatively small, spatially defined group. Equally, rezoning land to allow for different or more intensified use places pressure on existing services, potentially reducing the amenity enjoyed by existing residents and businesses. By taxing the capital gain on land which results from public investment or rezoning, authorities tax an income stream which is otherwise transferred wholly to property owners.

A decision to target value improvement is not limited to equity considerations. It is also pragmatic and stands alone as a business decision. The potential to generate future private wealth through public investment or rezoning provides an opportunity to capture or 'ring-fence' a part of that wealth improvement in advance. Debt can be obtained to finance public investment with the land value gain subsequently used to pay down that debt as values increase. By this method, funding for needed public services can be obtained when required and the cost of those services tied to those who benefit.

Several options are available to capture land value. An area levy or charge on all properties benefitting from new services can be applied. Alternately, the additional rates generated by higher capital values can be ring-fenced to fund that specific improvement (tax increment financing). Public or private debt can be used to finance capital improvements, depending on the risk appetite of authorities. Private investors may, where they have sufficient control over a development, accept the risk of land value increase and repayment for public assets.

Current New Zealand law allows for targeted rates. As written, these could be applied in a similar manner to an area levy. Likewise, there does not appear to be any barrier to local authorities ring fencing future rates revenue to fund services to support new development. Yet application of either measure has been comparatively limited.

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# Conclusion

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In an environment like Auckland, for example, where property values have risen dramatically around rail stations in reaction to improved levels of accessibility, there has been very little use of targeted rates, despite close alignment of charges and benefits. At the same time, the Auckland Council finds itself challenged to provide expensive new services to enable land development in areas like Hobsonville. A weak relationship between those who pay for a service and those who benefit is economically inefficient and slow delivery of housing exacerbates social and economic issues. These are both areas of principal interest to central government.

Consideration needs to be given to greater government direction on value capture and how that can be used to facilitate local authority investment in essential services. The Government currently requires all projects seeking government investment above \$25 million to consider alternate procurement. A similar directive could be placed on all new developments seeking, for example, streamlined consents or government subsidy. Alternatively, the Government could underwrite a debt facility providing access to funds for local authorities to deliver new essential services, with the Government taking risk on future value improvements or rates revenue.

New Zealand has made commendable progress on infrastructure issues over the past decade. However, two decades of lost expertise across planning, funding, procurement and delivery of mega-projects is yet to be recovered. We are approaching expensive, transformational and inherently risky initiatives in much the same way we approach standard delivery. This is out of step with international best practice.

Mega-projects are more than just big roads, railways and housing developments. They transform the activities of residents, communities and businesses impacting social, economic and cultural well-being – on a grand scale. For this reason, they require the commitment and input of all of society, bringing together all levels of government and the private sector. They demand a different approach to planning, funding, procurement and delivery, one that we in New Zealand must seek to understand as we move forward.

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