



MANNKAL ECONOMIC EDUCATION FOUNDATION

A ROAD TO SOMEWHERE

DEPOLITICISING INFRASTRUCTURE DECISIONS
IN WESTERN AUSTRALIA

SEPTEMBER 2020 // DISCUSSION PAPER

First published 2020

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A ROAD TO SOMEWHERE:

Depoliticising Infrastructure Decisions in Western Australia

Discussion Paper

About Mannkal Economic Education Foundation

The Mannkal Economic Education Foundation is a private, not-for-profit organisation established in 1997. We promote free enterprise, limited government and individual initiative for the benefit of Australia. Our mission is to develop future free market leaders through our international award-winning Leadership Development Program.

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September 2020

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The “*Bridge to Nowhere*” was a proposed bridge in Alaska which would connect the small town of Ketchikan to the airport on nearby Gravina Island. The project secured \$223-million of taxpayer funding and would replace the ferry service between the island and the mainland. The ferry crossing takes between three and seven minutes, runs every half-hour, and at the time, cost users \$6. After stern opposition, the project was scrapped, but the “*Bridge to Nowhere*” has subsequently become a symbol of fiscal irresponsibility and large-scale pork-barrelling. Even after construction of the bridge was abandoned, more than \$25-million was spent building the “*Road to Nowhere*”; a 3-mile highway which would have connected Ketchikan with the proposed bridge.

Figure 1: The “*Road to Nowhere*” - Gravina Island Highway



A Road to Somewhere: Depoliticising Infrastructure Decisions in Western Australia

Executive Summary

This paper outlines options for Western Australia to re-set its infrastructure policy and avoid wasteful and inefficient investments in “bridges to nowhere”. It argues that the government should clarify the role of a truly independent infrastructure body to facilitate greater involvement of the private sector. By correctly defining the purpose of infrastructure; to enable economic activity, better decision making will improve the lives of Western Australians. It can limit what economists call transaction costs and what citizens understand as congested roads and slow broadband. We contend that temporary job creation and throwing money at so called “shovel ready” projects merely transfers wealth between different groups, increases debt, and leads to less money for future health and education services.

The Economics of Infrastructure

Defining Infrastructure

Infrastructure is a widely used term which requires definition. This paper is primarily concerned with physical structures that include the following features: common access; substantial direct inputs to productive processes; and historically large levels of government involvement. These are the “brick-and-mortar” assets which facilitate commerce and trade and form the physical networks essential to all modern, dynamic economies. They may include energy pipelines, communications systems, and transport links, among others; but not “social infrastructure” such as town halls or stadiums.

A Mechanism for Fiscal Stimulus?

Politicians, and economists, view infrastructure as distinct from other goods and services. The type of infrastructure discussed in this paper has predominately been provided publicly, motivated by the development aspirations of policymakers, as well as equity-based concerns, the promise of job creation, and the assumption of growing populations. The fundamental question explored within this paper relates to the ultimate purpose of infrastructure. Increasingly, public infrastructure spending is viewed favourably and often justified as a fiscal

stimulus mechanism by governments, rent-seeking private contractors, and more recently, central banks.²

In principle, effective infrastructure investment can enhance the productive potential of the economy by reducing transaction costs. It is important, however, to recognise that the political decision-making process often leads to malinvestments. The Western Australian Tier 3 rail system presents an example of how this typically occurs.³ Following the privatisation of the rail system in 2000, many of these inefficient rail lines were closed, but the legacy of the Tier 3 rail system, like many other public infrastructure outlays, will be remembered as a masked attempt to gain electoral favour which lacked appropriate commercial oversight. It illustrates that to accurately evaluate any purported long-term benefits of public infrastructure spending, it is important to measure impacts against forgone private sector projects, as well as consider the potential economic distortions which inevitably arise as a result of non-market decision-making.

The evidence of an underlying relationship between public infrastructure spending and long-term prosperity is at best ambiguous and based on a simplistic Keynesian framework of economic growth. From a Keynesian perspective, there should be a short and long-run connection between Gross Domestic Product (GDP) growth and investments in infrastructure. Short-term, public infrastructure spending should increase GDP where there is excess capacity in the economy by creating employment in the project itself, and benefit for the rest of the economy through a fiscal “multiplier” effect.⁴ Long-term, it is argued the economy benefits from increases in capital stock and productivity.⁵ Unfortunately, supposed present and future benefits of public infrastructure outlays are disputed by both classical economic theory and empirical evidence.

Proponents often claim that infrastructure spending has a “stimulatory” benefit within an economy. The fact of the matter, however, is that the only way for a government to pursue spending which may benefit one group is to punish another through taxation. As a result, infrastructure spending seldom creates *net* increases in jobs, income or wealth. In most cases, the redistributive actions undertaken harm growth because of the inefficiencies inherent within the public sector. Longer term, academic studies have found that many of the purported

² Janda, M., 2019. The reluctant cutter strikes again as the surplus fetish pins Morrison. [online] *ABC News*. Available at: <https://www.abc.net.au/news/2019-10-05/scott-morrison-rba-interest-rates-surplus-fetish/11574220>

³ During the 1930s, numerous Tier-3 railway lines were built within 30 miles of harvest locations throughout the wheatbelt, to facilitate ease of access to rail transport and generate construction jobs. Many of these lines were commercially unviable, given their infrequent use outside of harvest periods, yet remained funded by taxpayers for decades. As a result, the benefits of the taxpayer-subsidised Tier-3 railways accrued to a handful of farmers at the expense of the general public.

⁴ The multiplier effect is the response of gross domestic product to an exogenous change in government expenditure. Conventional economic macroeconomic models based on real business cycle theory have failed to provide results anywhere near estimates over the supposed multiplier effect. Rather, they deliver figures close to zero. That is, the standard model predicts that temporary increases in government expenditure will have essentially no aggregate economic effect. Minneapolis Fed, 2013. A Realistic Neoclassical Multiplier. [online] Available at: <https://www.minneapolisfed.org/article/2013/a-realistic-neoclassical-multiplier>

⁵ Stupak, J., 2019. Economic Impact of Infrastructure Investment. *Congressional Research Service*. <https://fas.org/sgp/crs/misc/R44896.pdf>

benefits of infrastructure investment are exaggerated.⁶ Instead, more rounded estimates of this measure are closer to zero.⁷

Infrastructure as a Natural Monopoly?

Some forms of infrastructure, although not all, have relatively high levels of what has been termed “natural monopoly”. The theory of natural monopoly has its origins in the works of influential classical economists⁸ and reflects a situation where the existence of a single firm within a sector achieves the most efficient market outcome. This typically arises when a good or service possesses large fixed and low marginal costs to operate.⁹ Private actors commonly seek to create and protect monopolies by lobbying governments to grant them exclusive rights which diminish competition and maximise their profits.

Infrastructure is commonly, but inconsistently, categorised as a natural monopoly and as such is treated uniquely from a policy perspective. As a consequence, infrastructure policy is heavily politicised. Governments often undertake projects, which present benefits for a concentrated group in targeted areas, with the costs of such projects dispersed across all taxpayers. Natural monopolies do unequivocally occur; however, such cases are specific to a particular time or geography. Initial regulations are commonly captured and exploited by the interests of institutions and firms who can gain politically or financially. Where natural monopolies are thought to exist, regulation should be clear and definite, as well as being time bound; but should never hinder competition. Doing so stifles the competitive market forces which have frequently proven natural monopolies false over time.

State-created barriers to innovation were observed within the United States’ telecommunication industry throughout the 20th century. Federal and state regulators were persuaded to adopt the American Telephone and Telegraph Company’s (AT&T) corporate slogan of “*One Policy, One System, Universal Service*”.¹⁰ The actions of government, with support from corporate players and lobbyists, limited the ability of new firms to enter the market. This occurred as a result of policies which mandated universal telephone entitlement and regulated rates on equity grounds, as well as concerted efforts by the state to prevent “wasteful duplication”. As a result, the US telecommunications firm AT&T became a “benevolent” monopoly for much of the 20th century and the gatekeeper for all innovations

⁶ Broad analysis of studies which have tried to estimate the effects on production from investing in infrastructure has found that much of the literature on the topic produced an unrepresentatively high amount of large and positive estimates regarding the output elasticity of infrastructure. Holmgren, J. and Merkel, A., 2017. Much ado about nothing? – A meta-analysis of the relationship between infrastructure and economic growth. *Research in Transport Economics*, 63(C), pp.13-26.

⁷ Holtz-Eakin, D. and Schwartz, A., 1995. Infrastructure in a Structural Model of Economic Growth. *Regional Science and Urban Economics*, 25(2), pp.131-151.

⁸ These figures include Adam Smith, T.R. Malthus, J.S Mill.

⁹ Mosca, M., 2008. On the origins of the concept of natural monopoly: Economies of scale and competition. *The European Journal of the History of Economic Thought*, 15(2), pp.317-353.

¹⁰ Mittelstaedt, R., 2012. Book Review: The Master Switch: The Rise and Fall of Information Empires. *Journal of Macromarketing*, 32(2), pp.228-229.

within the telecommunications industry. This continued until regulators forcibly broke-up the firm in 1984.¹¹

Prominent Nobel laureate Milton Friedman argues against public regulation and ownership of natural monopolies (referred to as *technical monopolies*) in *The Role of Government in a Free Society*:

“I reluctantly conclude that, if tolerable, private monopoly may be the less of the evils. If society were so static that the conditions that give rise to a technical monopoly were sure to remain, I would have little confidence in this solution. In a rapidly changing society however, the conditions making for a technical monopoly frequently change, and I suspect that both public regulation and public monopoly are likely to be less responsive to such changes in conditions, to be less readily capable of elimination, than private monopoly.”¹²

Another common argument for government regulation of natural monopolies, popularised by John Stuart Mill, is to prevent the wasteful duplication of infrastructure.¹³ This is at odds with basic economic logic, and should not be embraced by governments to hinder private participation in infrastructure. Investors risking their own resources are better positioned to identify profit opportunities than government, and all competition implicates some form of duplicative costs. Primarily, these costs are less than the costs of sanctioning government involvement within markets.

The wasteful duplication theory has commonly been misapplied to a range of public utilities. In many cases, protection creates complacency within firms for whom a rate of return on investment is guaranteed. This stifles competitive market processes which drive growth and innovation. There is a tendency for the regulatory structure of monopolies to become so entrenched that competition is treated as a threat rather than a potential solution. In Western Australia, this was one of the main sources of backlash over the proposed privatisation of electricity transmission and distribution utility Western Power during the 2017 state election campaign.¹⁴

Within Australia, insular policies, politics, and the categorisation of telecommunication networks as a natural monopoly have made the country a global laggard in the provision of

¹¹ Thierer, AD., 1994. Unnatural Monopoly: Critical Moments in the Development of the Bell System Monopoly, *Cato Journal*, 14(2), pp.267-285.

¹² Friedman, M., 2017. *Milton Friedman on Freedom: Selections from the Collected Works of Milton Friedman*. 1st ed. Stanford, California: Hoover Institute, p.42.

¹³ Mill argued that for utilities such as gas and water there is wasteful duplication if more than one firm exists. Should there be a monopoly of one firm, he continued, total costs would be reduced due to scale and lack of duplication. Mill's natural monopoly theory was influential in the 19th century with most state created monopolies in the United States of America during this era operating under the assumptions of his theory. Bamzai, A., 2004. The Wasteful Duplication Thesis in Natural Monopoly Regulation. *University of Chicago Law Review*, 71(4), pp.1525-1547.

¹⁴ This was the finding after analysis by independent consultants prior to the election on the need and requirement for state-owned electricity transmission. PWC, 2016. The Case for Change, [website], <https://www.pwc.com.au/publications/assets/power-case-for-change-oct16.pdf>.

broadband services. Like other countries, Australia embarked on a path of deregulation and privatisation of its telecommunications market in the late 1980s. The success of infrastructure competition in mobile communications, however, is heavily contrasted by the return of government ownership of telecoms infrastructure in the form of the National Broadband Network (NBN).¹⁵ Policymakers have erroneously agreed that fixed broadband is a natural monopoly, and that the only form of competition in the broadband market should be at the retail level. This has created an inefficient product and service model and lead to major distortions in the market. Australia's geography is often used to justify this natural monopoly; however, similar issues exist, and have been addressed more effectively in the United States, parts of Canada and Europe.¹⁶

The fallacy of natural monopoly in broadband infrastructure is highlighted by the willingness of private companies to invest in fixed broadband networks. The Federal Government, however, has used restrictive regulation to dissuade alternative private fixed broadband investment, to protect NBN's financial position and strengthen its monopoly, rather than let competition drive NBN Co. to improve its performance. As a result, private companies are turning to alternative 4G and 5G technologies to out-compete this politically created monopoly.¹⁷

There is a rich, but unfortunate, history of infrastructure being misclassified as permanent natural monopolies by public and private actors. While natural monopolies do arise, they are rarely complete.¹⁸ Regulators, in their attempt to rectify a perceived market failure, often create unintended barriers to innovation which would, if market forces were left to their own devices, make the natural monopolies redundant over time.

Infrastructure in Western Australia

Infrastructure policy in Western Australia was initially driven by the Governor under the guise of "Public Works". In the 20th and early 21st century this was administered out of a powerful and centralised Premier's office and, at times, a related development portfolio. This legacy has

¹⁵ McLaren, G., 2018. What Now for Australia's NBN?. *Journal of Telecommunications and the Digital Economy*, 6(4).

¹⁶ Australians are paying substantially higher prices for fixed broadband in cities in order to cross-subsidise rural consumers. With the right subsidy structures and incentives private enterprise can deliver broadband infrastructure more efficiently to remote areas. This would involve transfers directly from government budgets and would create more efficient market outcomes for all consumers. McLaren, G., 2017. Why is Australia's national broadband network so bad?. *Australian Financial Review*. [online] Available at: <https://www.afr.com/politics/federal/why-is-australias-national-broadband-network-so-bad-20171111-gzj92q>

¹⁷ Ibid.

¹⁸ Another, more contemporary, example of digital infrastructure being miscategorised as an apparent natural monopoly is the case of the US FAANG (Facebook, Amazon, Apple, Netflix, Google) companies. There have been calls to enforce antitrust regulation to curtail the market power of tech giants Facebook and Google, and retailer Amazon. The issue, however, is that US antitrust law, like other forms of monopoly regulation, takes a short-term approach to a long-term competitive process. Proposals to regulate these companies as if they were public utilities in order to combat monopoly power and prevent regulatory capture presents opportunities for these firms to engage in rent-seeking behaviour similar to that of AT&T throughout the 20th century. While these firms hold dominant market shares in 2020, their dominance is unlikely to last if competitive market forces are allowed to operate in the absence of (admittedly well-intentioned) regulation which grants inadvertent favours to FAANG companies. FAANG companies should be subject to the same forces of creative destruction which initiated the demise of the networks which preceded companies like Facebook, such as Myspace.

been based on a voter preference for so-called visionary leadership which produces an ad-hoc response to most forms of infrastructure with a mechanism for attracting resource investment and private capital. This results in the provision of infrastructure which delivers domestic services connected to aspirations for the export of bulk commodities. This is particularly evident in the case of energy. While this approach may have been helpful in attracting investment, a larger domestic population and legacies of cross subsidisation make it unsuitable for the 21st century.

As a result of Western Australia's institutional legacy, infrastructure projects have lacked clarity, direction, and planning, and have consistently been delivered over budget and late. Even worse is that infrastructure projects are usually poorly chosen, generating high opportunity costs. In response, the McGowan Government introduced the *Infrastructure WA Act 2019* (WA). The Act establishes Infrastructure Western Australia (IWA) as a statutory authority. Its stated purpose is to provide advice and assistance to the government on infrastructure related matters. The body will also assess and report on major government proposals and provide financing advice for major projects.¹⁹

The creation of IWA by the Labor Government has come following a long series of policy analysis and advocacy by industry which has a self-interest in understanding the pipeline of planned work.

In 2017, WA's peak business group, the Chamber of Commerce and Industry Western Australia (CCIWA) released *WA Infrastructure: the road ahead*.²⁰ The document was largely adopted by the then Opposition Labor Party, citing the paper as a template for the creation of Western Australia's own independent infrastructure body. Their election promise outlined the delivery of an independent regulatory body that would develop 5, 10, and 20-year state infrastructure plans. The body would also complete cost-benefit analyses for prospective infrastructure projects, offer transparency to the public, and include a mechanism evaluating for unsolicited infrastructure projects.²¹

Despite noble aspirations, the McGowan Government's initial election promise differs from the *Infrastructure WA Act* on a number of crucial points. The body operates as a sub-department within the Department of Premier and Cabinet, which reports directly to the Premier, and only delivers 20-year infrastructure strategies. Most significantly, there is no mechanism limiting the government from delivering infrastructure projects independently of

¹⁹ Department of the Premier and Cabinet, 2019. About Infrastructure Western Australia, [website], <https://www.dpc.wa.gov.au/ProjectsandSpecialEvents/infrastructurewa/Pages/default.aspx>

²⁰ CCI's paper evaluates the establishment of independent infrastructure bodies in other Australian states, and their purpose in removing the planning and delivery of infrastructure from the political cycle. Moreover, CCIWA identify the role infrastructure bodies can play in facilitating a mechanism for additional, privately proposed and financed infrastructure projects which the state may have not previously considered. CCI WA, 2017. *WA Infrastructure: The Road Ahead*, [website], <https://www.cciwa.com/getmedia/b65265bb-1cd9-49d4-8747-6b386363397f/Infrastructure-ebook>

²¹ Ibid.

IWA. This means that the state government will still have the ability to deliver infrastructure in a heavily politicised, non-transparent manner.

A similar state-level infrastructure body exists in the Canadian province of Ontario and provides an example of how IWA could have functioned to bring value to the state. Infrastructure Ontario was formed in 2016 to identify opportunities for the public sector to work in partnership with the private sector and create value for taxpayers.²² The body uses an “Alternative Financing Procurement” (AFP) model to leverage partnerships with the private sector, which drives innovation and transfers risks in order to protect the public interest. Valuations rely on inputs from a number of external sources, and the private sector designs, builds, finances and often maintains the infrastructure asset. According to a 2016 track record report that assessed 51 AFP projects, 96 percent were delivered on budget and 73 percent were delivered on time.²³

In its current form, IWA merely adds to the bureaucratic maze private developers must navigate in order to deliver the infrastructure Western Australia’s growing population will require. IWA’s primary focus is the creation of a long-term strategy to identify the state’s infrastructure priorities. However, these centralised, long-term strategies for urban development (and the lack of focus on ad-hoc advisory capacity to evaluate market-led proposals) constrain rather than facilitate the ability of the market to meet the changing infrastructure needs of a growing population. In addition to the traditional regulatory and environmental approvals processes which slow down the deployment of privately delivered infrastructure projects, developers now must also align with IWA’s arbitrarily determined long-term strategic plan.

Another concern is the IWA Board’s apparent misunderstanding of the purpose of infrastructure. In June 2020, the newly appointed IWA Board released the *State Infrastructure Strategy Discussion Paper*²⁴ and invited feedback on the principles and objectives which guide IWA’s infrastructure recommendations. The discussion paper explicitly describes IWA as a Keynesian-inspired consultative body, which appears to focus heavily on job creation as a strategic outcome of infrastructure construction.²⁵ The Board view historically high levels of private investment in Western Australia unfavourably, and incorrectly ascribe large-scale private projects as distortionary to the labour market.²⁶

²² Infrastructure Ontario, 2019. Purpose and Values, [website], <http://www.infrastructureontario.ca/Purpose-and-Values/>

²³ Turner and Townsend, 2016. Alternative Financing and Procurement Track Record 2016 – Infrastructure Ontario, Toronto, Ontario.

²⁴ Infrastructure Western Australia, 2020. *A Stronger Tomorrow: State Infrastructure Strategy Discussion Paper*. Perth, Western Australia: State Government of Western Australia, https://www.infrastructure.wa.gov.au/sites/default/files/2020-06/40681%20INFWA_InfrastructureWA_Discussion_Paper_FINAL.pdf.

²⁵ Infrastructure Western Australia, 2020. *A Stronger Tomorrow: State Infrastructure Strategy Discussion Paper*. Perth, Western Australia: State Government of Western Australia, https://www.infrastructure.wa.gov.au/sites/default/files/2020-06/40681%20INFWA_InfrastructureWA_Discussion_Paper_FINAL.pdf, pp. 4, 8-9, 32.

²⁶ While it is true that private sector malinvestment can lead to labour market distortions, it is wrong to assert that if the public sector assumed a larger planning or funding role in the resources boom that structural frictions in the labour market would have been avoided. Western Australia’s reliance on resources means there is an inherent exposure to global commodity prices which trigger

IWA's creation appears to be part of a larger coordinated effort by the McGowan Government to re-centre the state at the core of infrastructure planning and delivery. The Board is made up of a concentration of career bureaucrats who, while very accomplished, possess greater affiliation with the incumbent government than the opposition.²⁷ The tendency for the government of the day to assemble politically-aligned advisory boards is not unique to any of the state's major parties. Given there are no mechanisms ensuring bi-partisan appointments of current or future board members, the short and long-term independence of the IWA body is questionable.

Without significant reform to the operational and strategic mandate of IWA, it is likely infrastructure will continue to be held hostage by state bureaucrats and their arbitrary political decision-making. In doing so, politicians perpetuate a failed understanding of the true function of infrastructure as a connector of markets and facilitator of economic activity.

Major Public Infrastructure in Western Australia

Political influence over infrastructure does not end after investment decisions are made. Short-term political considerations continue to motivate politicians once infrastructure becomes operational. One channel through which this occurs is through deliberately opaque and overly complex user-charging mechanisms which hide the true cost of provision from taxpayers. Western Australian's possess notoriously hostile attitudes towards user-pays charging mechanisms on public infrastructure such as toll roads. Many are unaware, however, of the vital roll user charges played in financing the early road infrastructure of the state.

During the mid-19th century, pedestrians and vehicles crossing the Canning Bridge paid up to six pennies to use the infrastructure. These bridges were important in the early development of Western Australia, opening Perth to commerce between Guildford and Fremantle.²⁸ The establishment and operation of privately funded, common-use infrastructure in Western Australia however, has not continued as the state has developed. Today, the majority of infrastructure in Western Australia is provided, owned and operated publicly.

Historical and projected infrastructure funding is illustrated in Figure 2. The 2019-20 Western Australian budget projects \$8.79-billion in general government infrastructure²⁹ funding over the four years to 2022-23. This represents approximately 7.24 percent of general government

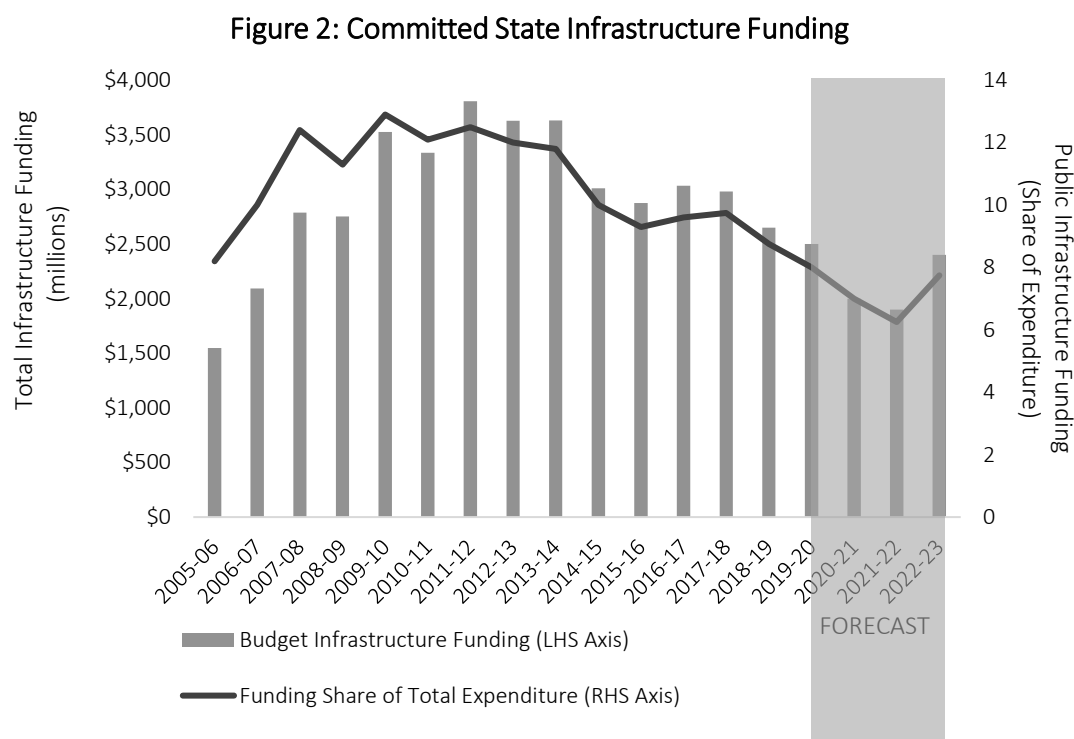
boom-and-bust cycles in investment, labour markets and the economy more broadly. Government intervention of this type, which would direct jobs away from the most productive areas of the economy at crucial times in an effort to smooth out labour demand, would ultimately disincentivise and reduce private investment in large resource projects, and transfer risk to state taxpayers.

²⁷ For example, Chairperson John Langoulant led the *"Special Inquiry into the Western Australian Government's Programs and Projects"* in 2018, a Labor-inspired inquiry into the financial management of the Liberal Government from 2008-2017. In addition, Vice-Chairperson Nicole Lockwood leads the Westport Taskforce, an advisory body borne out the Labor election promise to abolish the Roe 8 policy.

²⁸ Michael, K. 1984. *Bridging the Years: A Short Review of the Development of the Perth Metropolitan Road System*. Perth, Western Australia: The Institution of Engineers Australia, WA Division. pp.2-3.

²⁹ This figure does not include infrastructure spending by government trading enterprises such as Western Power or Main Roads.

expenditure, significantly less than the decade-average of 10.90 percent.³⁰ Prior to purported stimulus measures announced following the COVID-19 pandemic, the fiscal tightening of public finances in response to high levels of government debt would have likely seen this number remain low.



Despite the comparatively conservative fiscal stance of the McGowan Government prior to the COVID-19 response, Western Australia remains in possession of an expansive and dispersed infrastructure portfolio. This is due, at least in part, to a legacy of government involvement in the development of Western Australia’s infrastructure. State-owned assets include, among others, ports, electricity networks, water networks, and roads. A number of prominent state-owned infrastructure assets, with publicly estimated valuations, are summarised in Table 1.³¹

The majority of state-owned and operated infrastructure assets, however, have not been subject to valuations. There has been discussion around the prospect of privatising a number of the state’s infrastructure assets to pay down growing public debt and increase the relative efficiency of their operation. Given the magnitude of the State Government’s infrastructure portfolio, privatisation of infrastructure assets could significantly decrease the public debt burden which future Western Australians will face given the fiscal imprudence of the previous government, and the fallout of the COVID-19 response.

³⁰ Infrastructure Partnerships Australia, 2018. Australian Infrastructure Budget Monitor 2018-19. [online] Available at: <http://infrastructure.org.au/wp-content/uploads/2018/08/Australian-Infrastructure-Budget-Monitor-2018-19.pdf>

³¹ The estimated value of the assets tabled above have been obtained as a result of debates regarding privatisation and consideration of the underlying value by private sector analysts.

Table 1: State Infrastructure Assets Valuations

Infrastructure Asset	Estimated Value	Valuation Notes
Main Roads infrastructure	\$44.4-billion	Main Roads Western Australia Financial Statements and Notes. ³²
Western Power electricity grid	\$16-billion	Valued by PWC and CCI WA. ³³
Water Corporation	\$15-billion	Valued as a “asset base” by the Water Corporation. ³⁴
Fremantle Port	\$1.5-billion	As speculated by financial analysts. ³⁵
Utah Point Port	\$314-million	Valuation as per cost of construction, valuation expected to be up to double this figure in the event of privatisation. ³⁶
Department of Transport infrastructure	\$268-million	Department of Transport Financial Statements. ³⁷

Private Infrastructure in Western Australia

The private sector can deliver significant savings and efficiencies above those achievable by the public sector in the development, construction, and operation of infrastructure. Whilst private provision of infrastructure is not a new development, private enterprise has shown an increasing appetite for infrastructure investment in recent years. Between 1990 and 2000, developing nations received almost USD\$690-billion in infrastructure investment from the private sector.³⁸ Macquarie Infrastructure and Real Assets, the largest infrastructure fund in the world, manages a global portfolio valued at USD\$129-billion.³⁹ The world’s largest private equity fund is also raising USD\$40-billion to invest exclusively in infrastructure.⁴⁰

Western Australia has seen substantial private sector infrastructure investment in parts of the state driven primarily by the resources sector. The most prominent area has been in the development of major ports and railways. More than half of Western Australia’s seventeen ports, which facilitate a major portion of the state’s import and export activity, are privately operated.⁴¹ Over the past 50 years, mining company Rio Tinto has invested over \$37-billion in ports and railways,⁴² and separate infrastructure has been constructed by mining companies Roy Hill⁴³ and Fortescue Metals Group.⁴⁴

³² Main Roads Western Australia, 2019. Financial Statements and Notes, [website], <https://annualreports.mainroads.wa.gov.au/AR-2019/assets/Uploads/pdfs/financial-statements.pdf>

³³ PWC, 2016. The Case for Change, [website], <https://www.pwc.com.au/publications/assets/power-case-for-change-oct16.pdf>.

³⁴ Water Corporation, 2018. The Way We Work, [website], <https://www.watercorporation.com.au/about-us/the-way-we-work>

³⁵ Wiggins J., Sprague J., Macdonald A., 2015. Port of Fremantle to Hit the Market as Privatisation for \$1.5 Billion as Privatisation Wave Continues, [website], <https://www.smh.com.au/business/port-of-fremantle-to-hit-the-market-for-15-billion-as-privatisation-wave-continues-20150515-gh2hy5.html>

³⁶ Bennison, S., 2016. Not too late to fix Utah Point Privatisation Bill, [website], <https://thewest.com.au/business/finance/not-too-late-to-fix-utah-point-port-privatisation-bill-ng-ya-186777>

³⁷ Department of Infrastructure, 2019. Annual Report 2018-19, [website], https://www.transport.wa.gov.au/mediaFiles/about-us/AR_P_Annual_Report_2018_2019_Full_report.pdf

³⁸ World Bank, 2002. Private Infrastructure, [website], <https://openknowledge.worldbank.org/handle/10986/11346>

³⁹ This figure also includes investments in agriculture. MIRA, 2018. About Mira, [website], <http://www.mirafunds.com/>

⁴⁰ Institutional Investor, 2017. The Rise of Infrastructure Mega Funds, [website], <https://www.institutionalinvestor.com/article/b1505pydwnhf3k/the-rise-of-infrastructure-mega-funds>

⁴¹ Government of Western Australia, 2013. Ports, [website], <http://www.jtsi.wa.gov.au/about-the-state/export-capacity/ports>

⁴² Wright, S., 2017. Adani Rail Costs a Line to Far, [website], <https://thewest.com.au/news/wa/adani-rail-costs-a-line-too-far-ng-b88445500z>

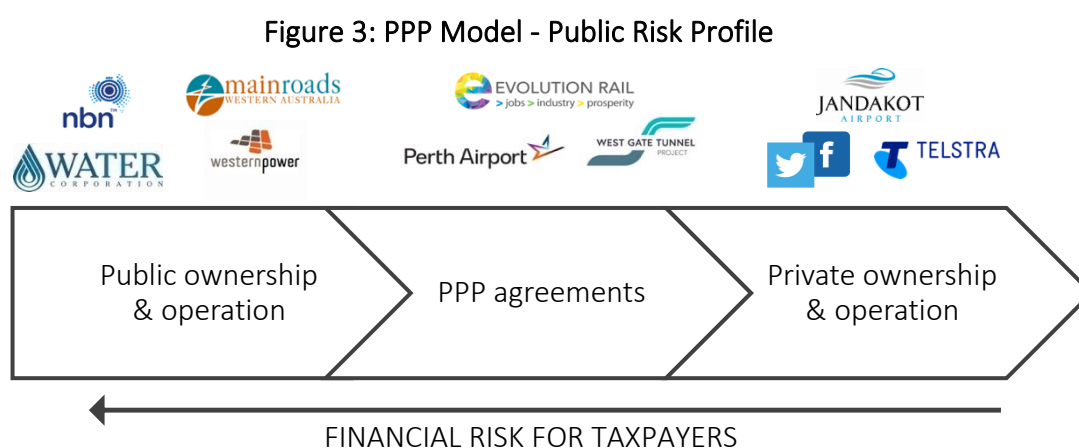
⁴³ Roy Hill, 2018. Rail, [website], <https://www.royhill.com.au/overview/rail/>

⁴⁴ Wright, S., 2017. Adani Rail Costs a Line to Far, [website], <https://thewest.com.au/news/wa/adani-rail-costs-a-line-too-far-ng-b88445500z>

There are numerous benefits of private provision of mega-project infrastructure ventures. The private sector typically delivers projects with greater efficiency, cost-effectiveness and entrepreneurship. Moreover, the systematic risk of the investment, as well as the ongoing operational costs in relation to the provision of the infrastructure, is borne by the investor rather than the taxpayer.

Public-Private Partnerships

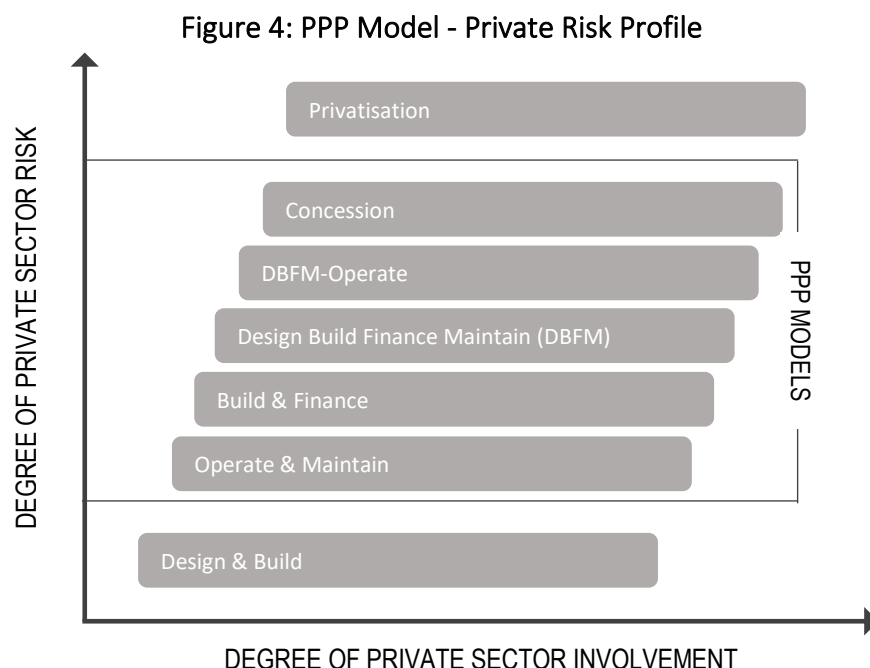
Despite their significant appetite for infrastructure investment, private sector involvement in Western Australian infrastructure remains lacklustre. Figure 3 details the spectrum of policy arrangements under which infrastructure can be planned, financed, constructed and managed by state and federal level governments.



Under wholly public control, the planning, financing, building and maintenance is managed by the state. As a result, taxpayers bear the project's risk, rents are secured by operators, and wealth is redistributed from taxpayers to infrastructure users. Public-Private Partnerships (PPPs) are arrangements between the private and public sectors which are commonly used in the provision of infrastructure. Finally, privately owned and operated infrastructure originates from either an initial investment by private enterprise or full divestiture of publicly owned assets. Of all policy arrangements, privately provided infrastructure is the most subject to market forces and commonly recuperates costs via a user-pays system.

While privately owned and operated infrastructure may deliver the most efficient economic outcomes, the presence of perceived natural monopoly often makes wholly private infrastructure politically unpopular. In these cases, PPP agreements can be employed to maximise efficiency and innovation, and minimise costs and risks to taxpayers. PPP arrangements vary widely, as illustrated in Figure 4, on key factors including the allocation of risk, financing and ongoing responsibilities. As such, the outcomes of PPP arrangements also

vary. Two key factors in achieving optimal PPP arrangements are the outline of the responsibilities of each party and clear, appropriate allocation of risk.



For many years, the 2002 *Partnerships for Growth* policy set out the State Government's strategy for, and guidelines on, the development of PPP projects. The document states, "it is the policy of the Western Australian Government not to privatise public assets", and further, that State Government level PPPs are generally for new, rather than existing infrastructure.⁴⁵ In addition to the *Partnerships for Growth* policy, the State ascribed to the National PPP Policy and Guidelines in 2008, which comprised Western Australia-specific recommendations.⁴⁶ This document does not make explicit the government's PPP policies, particularly in relation to the provision of core and ancillary services.⁴⁷ Under the National Guidelines, only projects with a capital value in excess of \$50-million are said to have the potential to provide value for money using PPP delivery methods. As such, in order for projects to be considered for delivery as a PPP in Western Australia, they must typically either have a value of over the arbitrary \$50-million threshold or be part of a bundle of projects with a combined value in excess of \$50-million.⁴⁸

Neither the *Partnerships for Growth* nor the National PPP Policy and Guidelines, are conducive to private sector engagement and have contributed to a legacy of relatively low PPP utilisation

⁴⁵ Public Accounts Committee, 2010. INQUIRY INTO PROJECT PLANNING AND FUNDING APPLICATIONS FOR MAJOR WESTERN AUSTRALIAN INFRASTRUCTURE PROJECTS. Perth, Western Australia: Government of Western Australia, pp.115-139.

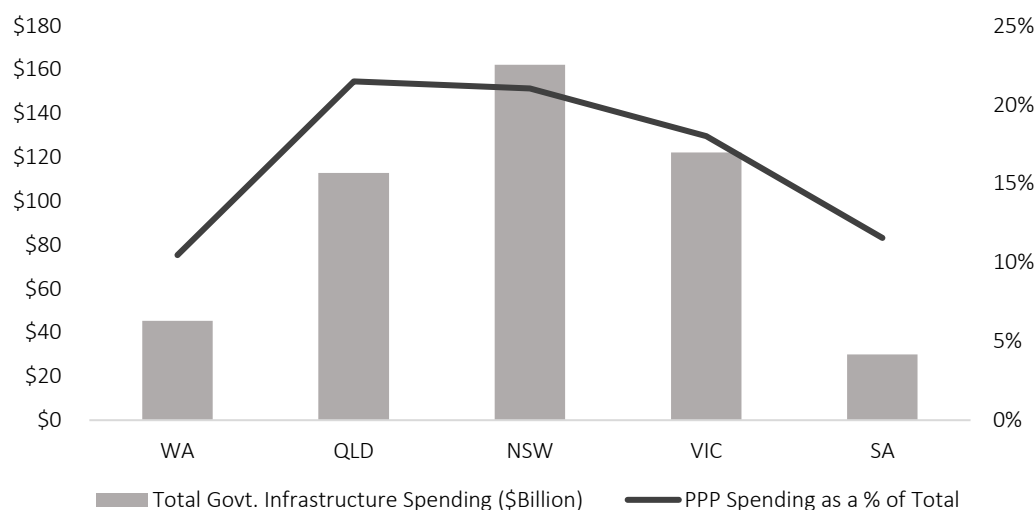
⁴⁶ Department of Treasury Western Australia. n.d.. Public Private Partnerships. [online] Available at: https://www.treasury.wa.gov.au/Treasury/Public_Private_Partnerships/Public_Private_Partnerships/

⁴⁷ Public Accounts Committee, 2010. INQUIRY INTO PROJECT PLANNING AND FUNDING APPLICATIONS FOR MAJOR WESTERN AUSTRALIAN INFRASTRUCTURE PROJECTS. Perth, Western Australia: Government of Western Australia, pp.133.

⁴⁸ Ibid.

in Western Australia. This is exemplified by the comparatively low value and number of PPP agreements within the state, illustrated in Figure 5.

**Figure 5: Public Private Partnerships: 2006-present
By State**



Another factor which restricts PPP agreements is the financial burden associated with procurement mechanisms. Tendering costs within Australia represent between 0.5-1.2 percent of a project's capital value.⁴⁹ While this may be seemingly low, in the context of sizeable projects with multiple bidders and hundreds of millions of dollars in capital value, costs can become significant. This can create disincentives for the private sector to engage in PPP processes as unsuccessful bids yield high financial costs. Unless tendering processes are well run, it is likely the benefits of bidding on a PPP for private developers will be outweighed by the tendering costs.

A government that fails to act as a model client in its procurement practices is doing a major disservice to the public by supporting systemic issues associated with poor risk management and inefficient contracting. Concerns about the effectiveness of PPP's as a mechanism to deliver infrastructure projects are warranted, however past failures have come about primarily because of poorly designed contracts which ineffectively allocate risks between the public and private sector. The challenge for the government is to facilitate efficient provision at the lowest cost and least financial risk to the state.






⁴⁹ PricewaterhouseCoopers, 2017. Improving the Outcomes of Public Private Partnerships. [online] Available at: <https://www.pwc.com.au/legal/assets/reimagining-ppps-oct17.pdf>

User-Pays Systems

A large reason for the lack of private sector appetite for infrastructure in Western Australia is that many of the state's assets currently operate at significant losses as a result of their charging mechanisms. Despite being common in other states, consumers of Western Australia's road, public transport, electricity and water networks are not charged directly for their use. Instead, these payments are made through inefficient, in-kind transfers which create considerable hidden cross-subsidies, and often, a transfer of wealth from poor to rich.

The most familiar example is perhaps road networks. Existing charges are complex, do not provide incentives for efficient use of the transport network, and are inconsistent across transport modes. Drivers do not pay a direct user price for driving but instead pay a set of network and implicit user charges, an Australia-wide estimation of which is illustrated in Table 2.

Table 2: Average Australian Annual Road Bill (per vehicle)

Fuel Excise 	\$592 46%
Vehicle Registration Fees 	\$263 20%
License Fees 	\$21 2%
Stamp Duty 	\$136 10%
Sub-total	\$1,012
Top-up through other taxes 	\$289 22%
Total	\$1,301

All Western Australians pay for road networks, regardless of whether they use the infrastructure, through general government revenue measures such as Payroll Tax or the Goods and Services tax (GST). Additionally, road infrastructure is funded by vehicle registration fees, fuel excises, and private costs (such as car insurance). The issue is that payments within the current charging system are not directly linked to the amount of transport infrastructure consumed, are inconsistent across different types of transport and users, and do not reflect

the true cost of provision during different periods (peak vs. non-peak times). Additionally, the adoption of electric vehicles in the future will cause further distortions to existing charging mechanisms, given their exemptions from fuel excises which make up the bulk of road bills.

Continuing to build more infrastructure to manage congestion without managing demand delivers only temporary solutions. The benefits of new roads are eventually eroded away and congestion returns. This 'predict and provide' model becomes a vicious cycle of estimating demand, providing more infrastructure, and demand increasing further. In the domain of transport, this has further reinforced the community's over-reliance on cars with preferences for personal mobility exacerbating congestion and urban sprawl.⁵⁰ Modelling by Infrastructure Victoria found that implementing road pricing in Melbourne would have a greater impact on reducing congestion than \$40-billion in new transport infrastructure, supporting the use of demand, rather than supply management to address congestion.⁵¹

Implementing user-pays mechanisms would align prices more directly with those who use and benefit. This enables infrastructure owners to manage demand for the infrastructure by allocating it to the users who value it most. Such benefits apply not only in the case of road networks, but across all economic infrastructure. Cost-reflective, time-of-use charges result in more accurate price signals regarding the true cost of using infrastructure networks at different times. Thus, user-pays charging mechanisms can incentivise more efficient usage of infrastructure by managing or shifting demand from peak to off-peak periods.

In addition to more efficient provision and usage of infrastructure assets, user charging mechanisms are the first step to facilitating greater private sector involvement on both new and existing infrastructure projects. State-owned and operated infrastructure currently runs at significant operating deficits and some require subsidies to effectively operate, as the cost of provision exceeds the government-regulated prices. For example, the state's Public Transport Authority received a \$831-million subsidy in 2018-19, indicating that taxpayers paid more than three-quarters of the ticket price for an average user on the network.⁵² Additionally, the Water Corporation received \$420-million in operating subsidies, with \$255-million devoted to country water, sewerage, and drainage, and \$166-million dedicated to concession payments for pensioners and seniors.⁵³

Private investors will not engage in the privatisation of state-owned infrastructure if they are

⁵⁰ Duranton, G. and Turner, M., 2011. The Fundamental Law of Road Congestion: Evidence from US Cities. *American Economic Review*, 101(6), pp.2616-2652.

⁵¹ Infrastructure Victoria, 2019. The Road Ahead. [online] Melbourne, Victoria: Infrastructure Victoria. Available at: <https://www.infrastructurevictoria.com.au/wp-content/uploads/2019/04/The-road-ahead-final-web.pdf> [Accessed 19 Nov. 2019].

⁵² McKenzie, M., 2019. Ports, utilities add \$1.2bn to coffers. *Business News*, <https://www.businessnews.com.au/article/Ports-utilities-add-12bn-to-coffers>

⁵³ Ibid.

mandated to provide services at less than the cost of supply. In order to incentivise greater private sector involvement within infrastructure markets, prices must be allowed to naturally fluctuate to meet efficient, market-determined levels of demand and supply.

As with all policies, a shift towards user-pays mechanisms on economic infrastructure will involve winners and losers. In particular cases, low-income households may be made worse-off by such a policy, however, these inequities can be readily addressed through lump-sum cash transfers delivered directly to individuals. These transfers should be taken from consolidated revenue and untied to infrastructure use. This presents significantly greater outcomes for efficiency than the current in-kind transfer systems which exist across Western Australia.

The Dangers of “Shovel Ready” Projects

Even before the economic downturn borne out of the COVID-19 virus, there had been extensive calls for “shovel ready” infrastructure projects to be expedited in the name of stimulating economic growth. Talks of infrastructure led economic recoveries at the state or federal level, however, should be heavily cautioned. In 2020 and beyond, states will launch campaigns exaggerating the purported benefits of infrastructure projects within their respective economies, to maximise their allocation of the federal government’s \$100-billion infrastructure fund.⁵⁴ State politicians have a direct interest in securing these funds in order to gain electoral support. It is easy for uninformed voters to understand a short-term boost to employment and the tangible benefit provided by a taxpayer-funded infrastructure project. It is much harder, however, for average constituents to understand the opportunity cost of more considered investments, and more importantly, the distortionary impact short-sighted spending decisions have on the economy over the long term.

Inefficient and unproductive infrastructure stimulus spending has been well-documented throughout this paper. Australians are still dealing with the implications of infrastructure spending following the GFC, and as such, any Rudd-esque infrastructure “rescue packages” must be avoided. Worryingly, the Western Australian government has already implemented several policies which increase the discretionary power of the government of the day and reduce parliamentary and expert oversight over infrastructure in the name of short-term stimulus.

⁵⁴ The Federal Government has pledged \$100 billion in infrastructure investment, primarily in road and rail projects, over the next decade in its 2019-20 Budget. Ludlow, M., 2019. Federal budget 2019: \$100b infrastructure package to woo voters. *Australian Financial Review*, [online] Available at: <https://www.afr.com/policy/economy/federal-budget-2019-100b-infrastructure-package-to-woo-voters-20190402-1o24x8>

Recent changes to the Western Australian government's Market-Led Proposals (MLP)⁵⁵ process in order to accelerate infrastructure investment are welcomed, but only where these proposals are wholly privately funded. Successful MLP bids must align with the government's priorities, however, it is alarming that under the recent changes, the state government's MLP submissions will be assessed against projects' ability, "*to stimulate the economy and create jobs*".⁵⁶ Fast-tracking tendering processes for PPP arrangements in the name of job creation exposes future taxpayers to significant risks far greater than any supposed benefit from short-run infrastructure stimulus. Such a policy invites corporatist, rent-seeking behaviour by private firms looking to capitalise on the political angst of the government.

In addition to opening the door to cronyism, rushing public infrastructure spending decisions completely disregards the role the state's IWA body could, and should, fulfil. The fact that the government has chosen not to draw on expert and independent IWA advice in project selection and financing decisions, is indicative of a government who wishes to continue to deliver infrastructure in a deeply politicised manner. Critics may argue that the IWA body had not yet completed its 20-year infrastructure plan. It must be questioned, however, how the state government can bring forward \$2.37-billion of large-scale road infrastructure,⁵⁷ but not the advisory capacity of IWA.

Spending hundreds of millions of dollars to create employment today for uneconomic and unessential infrastructure projects does not create wealth, it merely moves it from one productive area of the economy to another unproductive area at the expense of future generations. It is critical that investments at this time are afforded appropriate independent oversight, so as to avoid imposing excessive public debt burdens, prevent distortionary public investments and mitigate immediate political considerations.

Policy Recommendations

The legacy of government involvement in infrastructure within Western Australia has resulted in ill-conceived, over-budget and delayed public infrastructure projects. As a result, a rigorous program of reform is required to drive greater value and efficiency in the financing, construction and operation of infrastructure.

Increasing the prevalence of user-charging mechanisms can reduce the burden on government to fund infrastructure and ensure that the primary beneficiaries are those who pay for it. User

⁵⁵ The MLP process is a framework for unsolicited private sector proposals to government to build and/or finance infrastructure, provide goods or services or purchase a government-owned asset. State Government of Western Australia, 2020. Market-Led Proposals. [online]. Available at: <https://www.wa.gov.au/organisation/departments/departments-of-finance/market-led-proposals>

⁵⁶ Ibid.

⁵⁷ Government of Western Australia, 2020. *Major Projects Fast-Tracked To Support Jobs During COVID-19*. [online] Available at: <https://www.mediastatements.wa.gov.au/Pages/McGowan/2020/04/Major-projects-fast-tracked-to-support-jobs-during-COVID-19.aspx>

charges also increase the degree of accountability on the provider of infrastructure, as individual users are afforded a clearer signal about its cost. Users will only pay for what they consider that individual use is worth. The ability to implement user charges opens up the possibility that a private-sector firm could fund, finance and maintain the asset while assuming any demand-related risk for the project.

Road charging may be the simplest user-pays system to implement in the short-term, and there is a successful precedent of toll-roads within Australia's eastern states.⁵⁸ Over time (and in coordination with wider reforms within respective sectors), the government should consider adoption of a wider range of user-pays models across all economic infrastructure within the state, including electricity and public transport networks.

Wholly privately financed infrastructure is preferable in the majority of cases, however we recognise that such an outcome remains both politically and commercially unviable, given the current regulatory climate. Under these circumstances, PPP agreements can deliver greater value and performance when compared to solely publicly financed projects. PPP models, as they currently exist in Western Australia however, are complex and expensive to tender relative to other procurement methods.

Historically, the poor design of state PPP's, such as the West Australian freight network mishap,⁵⁹ have resulted in taxpayers bearing significant risk. Issues arise primarily because of the fixed contract financing successive governments have adopted in the tender process. One such method to address this is to use an alternative funding mechanism for PPP contracts, among others, which could include a least present value of revenue (LPVR) auction.⁶⁰

In order to greater engage the private sector in infrastructure projects, the government should at least release its PPP policies and processes to ensure their transparent, and consistent application and to improve value for money outcomes.⁶¹ Additionally, the government should remove the \$50-million PPP consideration threshold in order to engage small-to-medium

⁵⁸ The economic benefit of toll roads in New South Wales has been estimated at almost \$2-billion, with reductions in traffic congestion and vehicle operating costs.

⁵⁹ In 2000, the government began the process of leasing rail infrastructure to the private sector. While the policy was well intentioned, the lease agreements, regulatory regime and the Public Transport Authority's management of the lease was extremely poor. There was a significant lack of transparency around the terms and obligations of the private and public sector in the lease. This resulted in \$400-million of "agreed" private investment in rail infrastructure not being written into lease agreements, causing the deterioration of rural rail infrastructure. The inadequacy of the lease agreement failed to effectively protect the state's interests and triggered the closure of rural "Tier 3" lines. Economics and Industry Standing Committee, 2014. Management of Western Australia's Freight Rail Network, Parliament of Western Australia, Perth.

⁶⁰ The LPRV tender process allocates the contract to the bidder with the lowest present value of expected revenue; the concession contract will remain in place until the firm recovers its bid. Unlike fixed term contracts, the LPVR mechanism results in an optimal allocation of risk. Irwin T., Klein M., Perry G. E., and Thobani M., 1997. Dealing with Public Risk in Private Infrastructure, The World Bank, Washington D.C., <http://documents.worldbank.org/curated/en/228881468765892347/pdf/multi-page.pdf>

⁶¹ Public Accounts Committee, 2010. INQUIRY INTO PROJECT PLANNING AND FUNDING APPLICATIONS FOR MAJOR WESTERN AUSTRALIAN INFRASTRUCTURE PROJECTS. Perth, Western Australia: Government of Western Australia, pp.133, [https://www.parliament.wa.gov.au/Parliament/commit.nsf/\(Report+Lookup+by+Com+ID\)/57E4B8B2F223A01A482578310040D2B3/\\$file/20101115%20FINAL.PDF.pdf](https://www.parliament.wa.gov.au/Parliament/commit.nsf/(Report+Lookup+by+Com+ID)/57E4B8B2F223A01A482578310040D2B3/$file/20101115%20FINAL.PDF.pdf)

enterprises (SME's) in conjunction with the newly established Market-led Proposals (MLP) process.⁶²

The cost of bidding on infrastructure projects will continue to impact the efficiency of infrastructure procurement mechanisms, unless reform is implemented to streamline the process. Simplifying and shortening the procurement model will allow certain classes of infrastructure to be delivered more frequently, and facilitate greater SME involvement in procurement, particularly around design elements.⁶³ In relation to the design process, the building information modelling (BIM) standard of works must replace the concept designs which are currently used in order to reduce risk and costs. Infrastructure projects that have used BIM have seen substantial benefits, including cost and efficiency savings, as well as improved asset management.⁶⁴ Whilst the benefits of such models have been recognised for almost a decade, the majority of public infrastructure projects within Western Australia are not subject to this more rigorous modelling framework.

Finally, arbitrary development of infrastructure will continue if IWA is delivered as currently proposed. It is vital that the structure of IWA is reviewed in order to increase the accountability of both the IWA body and the politicians it works with. In particular, IWA should report to Parliament as opposed to the Premier, to increase transparency around the decision-making processes and reduce the likelihood of infrastructure policy being captured by the government of the day for short-term gain. Additionally, IWA should be able to initiate its own enquiries and be required to publish findings of all analyses within two months of presenting them to the government. If the state's infrastructure advisory body is not engaged on major spending decisions, such as those the McGowan Government is currently expediting for political gain, then its continued funding and existence must surely be brought into question.

Conclusion

Public spending on infrastructure is often justified by politicians and economists as a means to stimulate economies or address alleged market failures which only the state can rectify. Deeper analysis of the government's involvement in infrastructure, however, uncovers a legacy of wasteful expenditures on projects guided by political motivations, and the facilitation of rent-seeking behaviour by private actors. Such wastage of taxpayer funds results in an

⁶² The MLP policy establishes a process to assess unsolicited bids from the private sector for new infrastructure projects. Government of Western Australia, 2019. Market-led Proposals Policy Consultation. Perth, Western Australia: Government of Western Australia, <https://www.wa.gov.au/sites/default/files/2019-08/Market-led%20Proposals%20Policy%20Consultation%20Report.pdf>

⁶³ Victorian Department of Treasury and Finance, 2012. Future direction for Victorian public private partnerships - Request for public comment. Melbourne, Victoria: State Government of Victoria.

⁶⁴ The UK Cabinet Office BIM Strategy Paper (2011) sets out some of the main benefits of using BIM in the procurement of infrastructure, including; 20% reduction in build costs; 33% reduction in costs over the lifetime of the asset; 44% to 59% increase in overall project quality; 35% to 43% reduction in risk. UK Cabinet Office, 2011. Industrial strategy: government and industry in partnership. London, United Kingdom: HM Government, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/34710/12-1327-building-information-modelling.pdf

inefficient allocation of resources, as uneconomical infrastructure projects are delivered to the wrong markets, in the wrong places or at the wrong times.

Infrastructure remains fundamental in enabling the efficient functioning of markets. When delivered and operated correctly, infrastructure removes barriers to transactions and results in higher living standards. While policymakers on all sides of the political spectrum will likely acknowledge this important role infrastructure plays in the market economy, many lack the economic understanding to design appropriate policies to ensure its efficient provision. The proposed IWA body is an example of a good concept being watered down due to immediate political considerations.

The private sector already plays a major role the financing, construction and operation of infrastructure in Western Australia's resource-based economy, but there is room for greater involvement. Prior policy analysis reveals the favourable outcomes borne by producers, consumers and taxpayers which can be achieved without burdensome government interventions and regulations. The IWA body can provide a mechanism to achieve this, yet given its current structure, it is unlikely to deliver any long-term benefits to the state. While reform of the structure of IWA is unlikely given the late stage of its formation, significant overhauls are required. These include mechanisms to remove infrastructure decision making from the political cycle and the engagement of rigorous and innovative funding mechanisms.

Figures and Tables

Figure 1

Anchorage Daily News, 2016. *How a 'bridge to nowhere' became a road from nowhere to nowhere*. [online] Available at: <https://www.adn.com/alaska-news/article/how-bridge-nowhere-became-road-nowhere/2015/11/17/>

Figure 2

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Figure 4

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Figure 5

Infrastructure Partnerships Australia, 2020. *Public Private Partnerships by Jurisdiction*. [online] Available at: <https://infrastructure.org.au/chart-group/public-private-partnerships-by-jurisdiction/>

Table 2

Infrastructure Australia, 2014. *Average Australian Annual Road Bill (per vehicle)*. [image] Available at: [https://www.infrastructureaustralia.gov.au/sites/default/files/2019-06/Australian Infrastructure Plan.pdf](https://www.infrastructureaustralia.gov.au/sites/default/files/2019-06/Australian%20Infrastructure%20Plan.pdf)



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