Innovative Funding Models for Public Transport in Australia

Final Report

Rail, Tram and Bus Union Australia (RTBU Australia)
September 2015

SGS Economics & Planning

Independent insight.

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EXECUTIVE SUMMARY

This report provides a model for how innovative funding models can contribute to funding the capital cost of new public transport infrastructure in Australian cities. It draws on a wide range of case studies globally and in Australia.

The key barriers to improving public transport infrastructure in Australia's cities are the high upfront cost of construction combined with farebox revenue which does not cover operating costs. This places enormous budgetary pressure on government when investment in public transport infrastructure is considered. Instead of a debate about how to create the best public transport system for our cities, it becomes a debate about the next individual piece of public transport infrastructure we can afford. Alternatively, toll roads have become more prominent in our cities simply because they create limited budget obligations on government because they are a user pays structure financed, built and operated by the private sector with risks defined and limited.

This mismatch in transport infrastructure investment in Australia has distorted the shape and pattern of our cities. Integrated toll road networks are being created while public transport infrastructure remains slow and cannot achieve a critical mass of network integration and patronage to justify the large scale capital investment required to deliver high service levels and cost efficiencies.

This situation must change as Australian cities – like the rest of the developed world - evolve towards a more compact urban form with jobs in the knowledge economy. Australia's major capital cities are the economic powerhouses of the nation and our gateway to the global economy. They are home to key economic infrastructure which is critical to the prosperity of industries and sectors across Australia. They will become more important over the twenty-first century.

Public transport infrastructure provides vital economic, social and sustainability benefits which are well understood by the Australian people. The evidence is clear that continuously increasing the scale and capacity of our road networks alone will not enable our cities to cope with forecast urban densification. It is critical that comprehensive mass transit public transport systems are planned, funded, built and successfully operated in all major Australian cities.

Innovative funding models need to be introduced to fund new public transport infrastructure. Fortunately, there are proven global models that can be amended to suit Australian conditions. They are generally gathered under the title of value capture.

Value capture is based on the premise that government has a right to capture a reasonable portion of the additional economic and property value generated from new public transport infrastructure to fund these enhancements. The concept of value capture is not new, with countries such as the United Kingdom and Canada having used various value capture mechanisms to finance public transport infrastructure for more than a century.

A clear prerequisite for a value capture strategy is that there must be value to be captured. Uplift in property values from new public transport infrastructure is the core principle behind value capture. There is clear evidence that new public transport infrastructure does, under the right circumstances, create high uplifts in property values as the examples in Section 4 of this report demonstrate. Value capture is likely to be most successful in key capital cities such as Sydney, Melbourne, Brisbane and Perth where demographics trends and economic growth outlook are strongest to support long term property value appreciation.

There is a wide range of land value capture mechanisms which can be employed to generate funds to help fund new public transport infrastructure. The best value capture strategies put in place a complementary range of mechanisms. This distributes the impact of value capture equitably.

It is the prohibitive upfront capital cost of building new public transport infrastructure in Australia which is the most critical problem that can be improved by value capture.

Two principal forms of value capture which could be considered for Australian conditions are:

- Tax Increment Financing (TIF) combined with bond issuances
- Business Rates Supplement (BRS).

TIF enables governments to raise bond finance against the future additional tax revenue generated in a designated zone. It is a way of pulling forward funds to the construction stage with a bond issuance and then repaying bond finance with additional tax revenue that flows from the developed area. TIF has been used successfully in the US for over 50 years and has now been introduced in Canada and the UK. The report uses examples from Chicago and New York (Hudson Yards) to show how TIF works in practice.

BRS is a targeted levy on larger non-domestic properties that will benefit from the construction of London's Crossrail project. It will fund approximately 25-30% of the UKP14.8 billion project.

Value capture does not usually cover 100% of project development costs in most countries. There are exceptions such as Hong Kong and Japan. Hong King's MRT is a highly profitable business that has expanded globally including to Melbourne and Sydney in Australia. Its vertically-integrated business model, known as "Rail + Property," is seen as global best practice. Its farebox revenue is approximately 85% above system costs and it generates high profits from property ownership, leasing and development.

The specific urban attributes and histories of densely populated cities in Asia like Hong Kong are transferrable to major Australian cities. It could be argued that Government should be capturing a high percentage of the uplift from the value of their infrastructure investments, as this value would not be happening without them. In fact, these could be permanent fees as the network availability and amenity is permanent. There is no reason to discard them once debt is paid. They could then be used for ongoing improvements to service levels and further network enhancements. This, in turn, would generate new value capture opportunities as the network expanded – similar to Hong Kong and Singapore. Other relevant value capture models can be found in major cities such as London, New York and Chicago. These cities are all undertaking large scale transit oriented development in urban renewal areas to respond to changing economic and job patterns. They are all utilising value capture to fund public transport infrastructure improvements.

Value capture should become a normal part of public transport project funding in Australia. A value capture framework could be incorporated into the business case for all public transport infrastructure proposals. The framework would assess value capture opportunities, select the best mix of appropriate value capture mechanisms, quantify the amount of funds to be generated and put in place a governance structure to deliver funding.

Public infrastructure investment should not create windfall profits for landholders who are fortunate enough to be in control of strategic real estate holdings. Value capture is highly desirable from a social equity perspective, in that taxpayers who are funding the cost of development of transformative infrastructure projects, get to share proportionally in the economic benefits that are created. Government development policy and individual business case analysis should include project and network corridor preservation as well as property acquisition strategies that maximize value capture outcomes.

There is clear evidence that the weight of capital seeking to invest in Australia would respond positively to innovative funding models that support public transport infrastructure. This applies to domestic superannuation funds, broader managed funds and overseas investors. Australia is a developed country with a Triple AAA credit rating. It has low levels of risk. Value capture mechanisms such as TIF-related

bonds could become an integral part of the Australian investment market generating high levels of funding for new public transport infrastructure to be constructed in major urban centres across Australia.

In conclusion, Australian governments should:

- Maximize returns by not only advocating a broad based use of value capture mechanisms, but they should also take a substantial proportion of the uplift in valuation that occurs in closely proximate areas to the infrastructure development (on a sliding scale in terms of distance from the new station box)
- Focus on preserving development corridors and land assembly activities on a strategic level that will maximize value capture outcomes
- Use infrastructure development and service improvement to have a discussion with the public about creating a more sustainable level of operating cost recovery for transit systems.
- Expanding public transport networks when each expansion increases the levels of total network operating losses is a big impediment to network investment. Cities such as Sydney, Melbourne and Brisbane should use this strategy to develop a list of projects where value capture could be employed and demonstrate how PPP and value capture could intersect. These projects would include Sydney Metro, Melbourne Metro, Bays Precinct, Central to Eveleigh, Brisbane Cross River Rail.

1 INTRODUCTION

1.1 Project objectives

SGS Economics & Planning has been commissioned to prepare a report on innovative funding models for public transport in Australia for the Rail, Tram and Bus Union of Australia (RTBU Australia). These models have been gathered under the title of "value capture."

The parameters for the report are as follows:

- Outline value capture models that could generate funding for new public transport infrastructure in Australia with a specific focus on generating upfront capital funding
- Demonstrate the uplift in property values from public transport infrastructure, providing an evidence base for the introduction of value capture
- Illustrate the benefits of value capture from relevant global and Australian case studies
- Outline the conditions and structures that will encourage institutional capital to invest in new public transport infrastructure
- Outline the features of a national approach that could apply to all urban areas and jurisdictions in Australia.

The report focuses on the opportunities for heavy rail and light rail which represent the type of permanent infrastructure which can deliver transit oriented development and make a perpetual difference to urban amenity and uplift property values so that value capture becomes feasible in Australian cities.

1.2 Structure of report

This report is broadly structured as follows:

- Value capture (Section 2)
- Uplift in property values (Section 3)
- Case studies (Section 4)
- Securing Investment (Section 5)
- Explanation of the challenge facing Australian cities (Section 6)
- Embedding value capture in Australia's infrastructure planning and procurement systems (Section 7).

1.3 Slideshow summary of report

A slideshow of key evidence and conclusions in this report will be provided to the RTBU Australia.

2 VALUE CAPTURE

Development of new public transport infrastructure is usually funded in Australia by government and, by extension, tax payers. Value capture is based on the premise that government has a right to capture a fair and reasonable share of the additional economic value generated for developers and property owners from new public transport infrastructure and reduce their windfall economic gains.

There are four core categories of beneficiaries of new public transport infrastructure:

TABLE 1. NEW PUBLIC TRANSPORT INFRASTRUCTURE BENEFICIARIES

Beneficiary	Scope
Direct users	Better services - especially commuters who enjoy reduced journey times to work
Society	Improved amenity, productivity and economic development potential
Property owners	Uplift in the value of land and existing properties
Business owners	Increase in business productivity

The benefits of an increase in land and property values from new public transport are typically enjoyed exclusively by property owners. However, they are not required to make a contribution to offset the cost of providing new infrastructure above a small proportion of their windfall profit in the form of property tax and council rates after periodic revaluations.

Value capture programs hypothecate a portion of land value uplift to help pay for new public transport infrastructure. The extent of the value uplift varies depending upon the nature of the infrastructure, the distance of property from the infrastructure, accessibility, urban design, and numerous other factors.

Value capture can provide both capital funding and operational funding for new public transport infrastructure, depending on the type of value capture mechanism that is employed.

Global case studies (Section 4) provide evidence that the scale of the uplift in property values from new public transport infrastructure can be very high; especially when it is built with urban development that maximises the economic benefits of the surrounding zone. This enables government to capture a fair and reasonable share of the betterment generated by new public transport infrastructure through value capture mechanisms. However, value uplift from additional public infrastructure investment is not automatic. The infrastructure investment must result in the properties becoming more accessible and productive which are reflected in increased rents and sales prices. Duplication of existing infrastructure capability that does not lead to significant asset level improvements or the selection of projects with poor economic fundamentals are unlikely to generate valuation increases, and value capture gains are likely to be illusory.

2.1 Forms of Value Capture

Value capture mechanisms can be defined as location-based, non-farebox sources of public transport funding. There is a wide range of land value capture mechanisms which can be employed to help fund new public transport infrastructure.

A clear prerequisite for a value capture strategy is that there is value to be captured and that this value can be captured from beneficiaries up to a reasonable limit. This can involve creating a mix of different value capture mechanisms to equitably distribute costs.

Value capture is most successfully deployed in Transit-Oriented Development (“TOD”). TOD involves high density, mixed use urban development in the immediate vicinity of new public transport infrastructure. It

can be applied to urban renewal of a depressed zone or new development in an urban growth corridor. Successful TODs maximise the efficient use of land through high levels of access to public transport thereby stimulating both patronage and economic development. This maximises the economic benefits of development including tax revenues to government.

TODs can help fund the construction of new public transport infrastructure. Where transit projects have difficulty securing capital funding through traditional government budget sources, a comprehensive TOD plan can assist in raising capital by leveraging future development revenues in exchange for upfront financing. Government agencies traditionally implement successful TODs through the imposition of district-specific zoning changes, issuance of bonds and utilization of other strategic value capture mechanisms. Projects like Crossrail and Hudson Yards are prime examples of TODs that have introduced a blend of value capture mechanisms to generate upfront funds.
Relevant models for the introduction of value capture in Australia can be found in major cities in developed countries such as the US and the UK. These cities cover large physical areas and they are undergoing rapidly changing urban form, economic conditions and lifestyle patterns. These cities offer valuable urban renewal opportunities.

A number of questions must be answered when a governance framework and value capture system for a TOD is put in place. It is important to understand how this newly-created value varies by property type, public transport characteristics, and local land use characteristics. The increase in value attributable to new public transport infrastructure is a function of the type of transport service provision, the quality of that service, the distance of each property to new infrastructure, the use of that property, its future potential use and transportation alternatives.

A core list of value capture mechanisms is contained in Table 2.

TABLE 2. VALUE CAPTURE MECHANISMS

Value Capture Type	Mechanism
Tax Increment Financing Betterment Tax	This mechanism allocates the increase in total property tax revenues toward public investment within the designated TIF district. See next sub-section for further description.
Land Value Tax/Location Benefit Levy	Tax on the value of land in the vicinity of a public transport amenity. Note that this mechanism is a tax on the land only, and this is distinct from a conventional property tax
Sale/Lease of Land	The public sector agency acquires (re)developable land in the vicinity of the new public transport facility at market price before the public transport system is built. After the public transport infrastructure is built, the land can be sold or leased at a higher price on the open market, capturing the added value in the transaction.
Sale/Lease of Development Rights or Air Rights	The government acquires land in and adjacent to the public transport facility at market price before ground is broken to build the public transport system. After the public transport infrastructure is built (or concurrently), the owner can enter into long-term leases with developers for ground, air, or subsurface development rights. The added value from the public transport system is capitalized into the lease price.
Joint Development	Partnership between the private and public sectors to build a real estate project on land controlled by the public sector. For example, the public sector agency captures value by requiring the private development partner to build a portion of the station amenity as part of their project, thereby reducing capital costs.
Leasing Of Commercial Space	The government develops and retains ownership of commercial space in and around stations, and leases it out to businesses at market prices.
Transit Company Business Diversification	The public transport company diversifies its business to include real estate and other station-area commercial businesses as a core function.
Income Or Payroll-Based Tax	Income earners or employers in the region served by the transit system pay an extra increment of income or payroll tax that goes to government to pay back some of the cost of new public transport infrastructure.
Transit-Focused Development Fees	Developers working in the vicinity of a public transport system pay extra fees for the privilege of increasing the scale of new real estate projects.
Special Assessment Districts	Districts benefiting from a public transport improvement may choose to self-

Value Capture Type	Mechanism
	impose an additional tax to help finance the improvement. These special assessments

Cities implementing value capture usually introduce multiple mechanisms to capture significant amounts of funding. Crossrail in London, for example, uses a business rates supplement, a small community infrastructure levy and the sale of surplus land. Payroll taxes in Paris and New York cover 40% of operating costs and 10% of system costs, respectively, and each of these cities has other important sources of location-based revenue as well.

It is not realistic to attempt to capture all of the location-based added value of public transport infrastructure for two related reasons:

- It is in the interests of the city to encourage people to live close to transit stations. Thus, leaving some windfall value on the table for developers is a good way to incentivize the construction of higher density development near transit nodes.
- The public sector may over-reach and actually depress development near transit nodes.

The following sub-section provides a more detailed analysis of a prominent form of value capture globally known as Tax Increment Financing.

2.2 Tax Increment Financing

Tax increment financing (TIF) is a public financing method used to subsidise urban renewal, new infrastructure and community projects in a designate zone. It is also known as a Betterment Levy in some jurisdictions. A levy is applied to land owners who stand to enjoy a heightened level of benefit generated by an infrastructure project.

TIF can enable governments to raise bond finance against the future additional tax revenue generated by a TIF district. This is a means of pulling forward funds to the construction stage then repaying the bond finance as tax revenue is received.

Almost all US States are authorized to use TIFs. The first TIF in Canada was used in 2007. The UK government introduced TIF legislation in 2012 to allow local authorities to borrow against future growth in rates. It allocated UKP150 million for TIF projects in 2013-14. Australia's Future Tax System (the "Henry Tax Review") examined the role of infrastructure charges in Chapter E of the Final Report (2010). In Box E4-2, Betterment Taxes were considered. The Report concluded that "betterment taxes are attractive since they aim to tax the economic rent from land rezoning that would otherwise accrue to the landowner."

Typically, TIF works as follows:

- TIF District is established
- A redevelopment plan, project budget and time period are prepared
- Base year assessment of property values in the TIF District
- Annual assessment of incremental increase in property values
- TIF tax rate applied to added property values
- Tax revenue used to pay bond finance or invest in individual projects.

Once the TIF District is established, local taxing bodies receive no new revenue from that area - that is, their tax income is frozen and all additional taxes flow to a regional/State agency which is funding the infrastructure investment.

A TIF mechanism was used in New York City to help fund the Hudson Yards redevelopment and Subway Line 7 extension. This example represents an extreme case where the baseline value was set at zero, meaning that all of the property tax proceeds from the area are to pay for local infrastructure, and the people who live there (or who will live there in the new developments) do not pay into the general city budget.

The following potential flaws have been identified with regard to TIF:

- Excessive use of TIF in the US is placing government budgets at risk by foregoing large amounts of tax revenue. It must be kept in mind that TIFs sacrifice future tax revenue to bring forward urban development and new infrastructure
- Excessive numbers of TIF districts is resulting in too many projects for the market to bear and promoting projects with marginal benefits
- Some areas should not have been selected as TIF districts because they would have experienced successful urban renewal anyway
- Developers with political influence can manipulate the system to gain TIF district status. Effectively, this represents a distorted use or misuse of government funds
- Laws supporting TIF districts can be used to unfairly condemn properties and evict dwellers
- TIF districts become more expensive and gentrified destroying the character of the district
- TIF districts have been securing extra state financial assistance effectively punishing the rest of the city
- TIF funds are not meeting the extra infrastructure and service requirements of TIF districts as they grow. This means cross-subsidies from other areas or sub-optimal TIF district development
- It is possible for governments to suspend or cancel TIF districts according to political circumstances. In California, Governor Jerry Brown enacted legislation to eliminate nearly 400 agencies that had implemented TIFs in response to the state's Fiscal 2010 Emergency proclamation. This stopped the diversion of property tax revenues to TIFs. It was reported in July 2015 that Chicago Mayor Emanuel planned to suspend new funding to 7 downtown TIF districts and shut down these TIF districts when existing projects were paid off. This was designed to retain approximately USD250 million over 5 years.

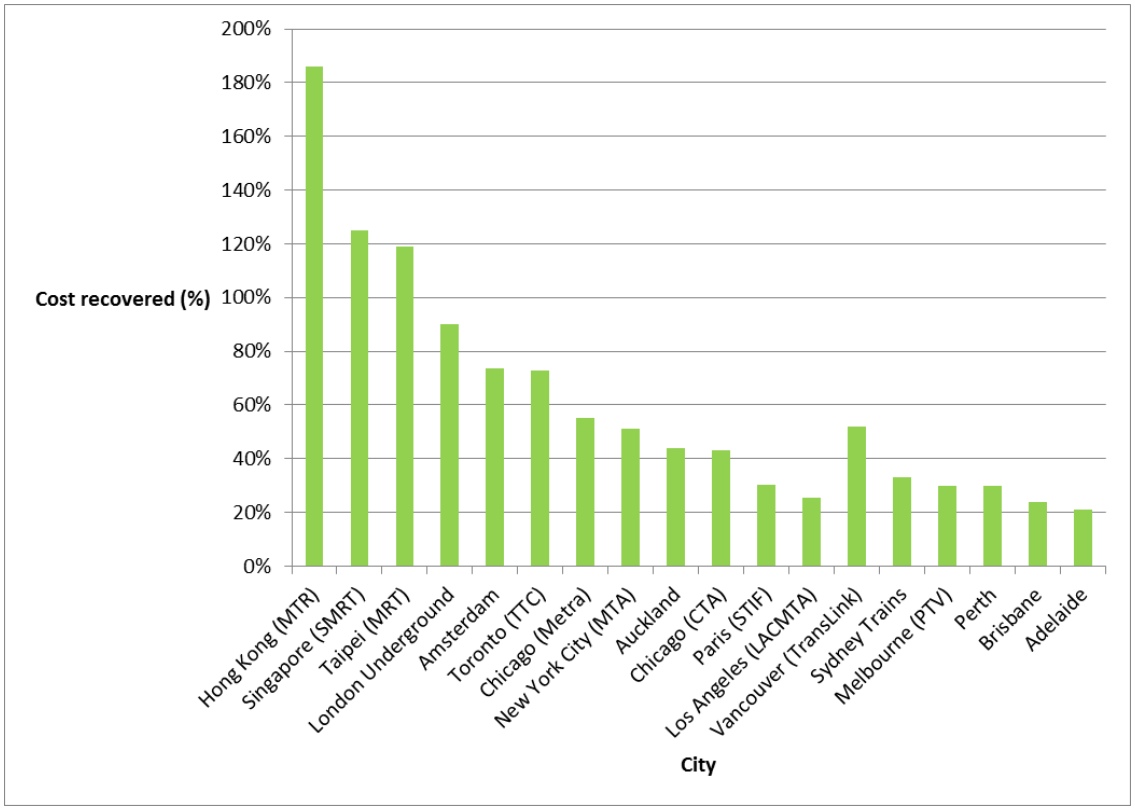
2.3 The Role of Farebox Revenue

Farebox revenue is one source of funding for public transport infrastructure. In some jurisdictions, farebox revenue can support operating costs and even the cost of new infrastructure. The Hong Kong MRT is famous for its "rail + property" business model. However, it also generates a high profit each year from farebox revenue.

Typically, fare box revenue in Australia does not cover rail operating costs let alone fund new infrastructure construction. The BITRE Information Sheet 59 "Urban Public Transport Updated Trends," concluded that "on average, such cost recovery levels are… around 31 per cent of annual UPT operating costs, across the five larger capitals." It is important to express this situation in dollar terms. The BITRE reported that the total cost of urban public transport provision in Australian was approximately AUD10 billion of which only AUD3 billion was returned in farebox revenue. This means that the total gap is AUD 7billion per year. TO look at this issue in another form, the Sydney Trains Annual Report 2013-14 noted that the total cost of each passenger journey was $7.95 while the revenue collected from each passenger journey was $2.65 – a loss/gap of $5.30 for every journey.

The following table lists Australian urban public transport farebox recovery ratios with comparable global cities.

TABLE 3. RATIO OF FAREBOX RECOVERY OF OPERATING COSTS



Farebox recovery should be analyzed in the broader context of urban form, employment patterns and social equity. For example, Sydney now was a high level of daily commuters travelling from outer suburbs to the Sydney CBD. Farebox for these commuters represents a significant proportion of their income. Long commuting times also has an impact on quality of life.

Operating cost recovery levels in Australia are extremely low by international standards and the fiscal requirements for government to fund large recurring operating losses by state transit authorities are a major impediment to new network investment.

The provision of new transport infrastructure that improves amenity, reliability, network coverage and passenger experience is an important component of public dialogue that may facilitate higher degrees of public transport utilization and facilitate long-term pricing increases that will permit a greater level of operating cost recovery than currently exists. Public agreement to real price increases is more likely to be achieved when customer satisfaction with the network is being maximized through demonstrable improvements in new rolling stock, stations, locations, ticketing, communications and services.

2.4 Value Capture Framework

Value capture has become an accepted means of generating capital funding globally for new infrastructure, especially mass transit projects. It is based on the argument that transport infrastructure enhancements improve city access and travel times, thereby increasing economic activity and land values. An equitable proportion of this increased value is captured on behalf of taxpayers to fund or refund the cost of infrastructure. In short, value capture addresses the argument that all taxpayers fund infrastructure yet there are relatively few direct beneficiaries of the 'windfall' profit. There is a growing body of research and economic analysis which supports the theory of value capture.

It is possible that a blend of targeted new value capture mechanisms set at fair and equitable rates could generate satisfactory levels of co-funding to gain support for new cultural infrastructure proposals.

Value capture is based on an inter-related set of principles:

- Taxpayers fund infrastructure yet few receive a direct benefit or windfall profit
- Principal beneficiaries of new and upgraded infrastructure who receive a windfall profit should provide a reasonable share of project funding in return
- Value capture methodology should be sound, systematic, evidence-based, equitable and acceptable to all parties
- Multiple value capture mechanisms can be introduced to spread the cost across the beneficiary base equitably.

Ultimately, the value capture framework should be developed to a standard where it can be integrated into the government agency business case as a core factor supporting project approval and funding on the basis of identifying tangible and deliverable co-funding sources.

A typical value capture framework has 4 stages:

TABLE 4. VALUE CAPTURE FRAMEWORK

Value Capture – Stages	Objectives of Stage
1. Context	Define draft project area Consult stakeholders Collect baseline data Assess planning controls Map market development (now against future) Identify negatives and challenges (such as statutory issues) Conduct gap analysis Identify value capture options
2. Analysis	Finalize project area Identify beneficiaries Build evidence of direct and actual benefit Select optimal value capture method(s)
3. Calculation	Finalise value capture package (multiple mechanisms can spread costs equitably – avoid duplication) Calculate revenue (timing, structure, quantum and termination date of revenues)
4. Decision	Determine feasibility of implementing value capture proposition (assess whether revenue justifies process/effort)

Source: SGS Economics and Planning, 2014

Stage 1: Context

During Stage 1, the context for the introduction of a value capture mechanisms is investigated. A key element of this stage is defining the draft project area, which will inform the scope of the geographical area or market from which contributions are sought. Defining the project area should draw on consultation with stakeholders, as well as baseline data. Planning controls should be assessed to understand the potential hurdles or enablers to introducing the mechanism, as well as the identification of negatives and challenges (such as statutory issues). A baseline should be informed by the mapping of market development (now against future) and a gap analysis. Finally, at this stage value capture options should be able to be identified.

Stage 2: Value Analysis

The Value Analysis (Stage 2) should be consistent with the following principles in terms of both direct benefits and broader economic benefits (Table 5).

TABLE 5. VALUE ANALYSIS – PRINCIPLES OF BENEFIT QUANTIFICATION

Direct Value Uplift	Economic & Social Benefits
Ability to calculate positive and negative impacts	Broader economic analysis (e.g. "visitor economy")
Equitable	Productivity analysis
Minimal variance amongst beneficiaries	Jobs growth
Relevant to each beneficiary	Social impacts (liveability, well-being etc)
No duplication or multiplication of revenue sources	Consistency – minimal variance
Robust and reliable over project timeframe	Robust and reliable over project timeframe

Source: SGS Economics and Planning, 2014

The location of beneficiaries should be defined in terms of both the direct benefit district and zones which receive receding benefits. Each category should be analysed for the potential scale of benefits.

TABLE 6. VALUE ANALYSIS – LOCATION OF BENEFICIARIES

Location	Benefit Type - Examples
Category 1 - Within Direct Benefit District	Enhanced real estate values (high)
Category 2 – Adjacent to District (inside LGA)	Enhanced real estate values (medium)
Category 3 – Broader area (adjacent LGAs)	Enhanced real estate values (low)
Category 4 – Metropolitan region	Broader economic benefits (e.g. visitor economy) State significance
Category 5 – State and National	Broader economic benefits National significance

Source: SGS Economics and Planning, 2014

The range of beneficiaries from new cultural infrastructure and the types of benefits can now be scoped:

TABLE 7. VALUE ANALYSIS – RANGE OF BENEFICIARIES AND INDICATIVE BENEFITS

Indicative Beneficiaries (not complete)	Indicative Benefits (not complete)
National Government	Broader economic benefits National significance
State Government	Broader economic benefits Increased taxes Global and national profile – increase in visitor economy Agencies utilise arts and cultural facilities at zero or minimal cost
Local Government	Increased taxes, levies and contributions Ability to increase urban density due to enhancement of offerings and urban amenity
Property Owners	Higher rental charges (commercial, retail, residential) Quality and security of tenants
Developers	Rezoning windfall profits Value of real estate
Occupiers – sales	Higher re-sale prices
Business – retail	Increase in customers (visitor economy) Higher spending per customer
Business – commercial	Prestige of location Contribution to industry hub (e.g. financial sector) Capacity to attract high quality staff (global & national)
Hotels	Increased patronage Higher occupancy rates (higher staff productivity) Higher room rates (demand)
Tertiary Institutions – government and private	Additional student volumes Students paying higher fees
Other institutions	Increased patronage and ticket sales
Residents	Enhanced urban amenity

Source: SGS Economics and Planning, 2014

Stage 3 – Revenue Calculation

The revenue calculation (Stage 3) is the output of applying reasonable inputs to the value capture mechanisms and calculating of a realistic range of returns. Demonstrable and defined benefits need to be captured. It would be normal to have a base case with conservative and optimistic alternative cases. Extremely optimistic inputs should be avoided as the risk of underperforming on revenue targets is a serious impact on project implementation.

Revenue forecasts need to ensure that value capture mechanisms remain fair and equitable. This is an opportunity to test that mechanisms are not overly onerous on beneficiaries. In this event, the levy should be recalibrated to a reasonable level that reflects the level of direct benefit to the beneficiary.
In summary, the revenue calculation process proceeds along this path:

2.5 Conclusion

There are a range of value capture options available to government to fund new public transport infrastructure in Australia.

The statutory authority for many value capture mechanisms in Australia is unclear and requires further examination. The interface between State government and local government – particularly city governments such as the City of Sydney – needs to be satisfactorily resolved.

A preferred option is to develop a suite of value capture mechanisms that target different types of beneficiaries, delivering fairness and equity in value capture.

The revenue from value capture mechanisms will not be sufficient to offset the full upfront capital cost of new public transport infrastructure.

Agglomerated revenue from a suite of value capture mechanisms could either:

- Generate sufficient funds to support operational requirements arising from new cultural infrastructure; or
- Alternatively, it could be used to offset the recurrent cost of payments for a social infrastructure PPP for new cultural asset(s).

Co-funding of new infrastructure through development of surplus land on existing institutional sites should be encouraged. It should, however, be based on options analysis that examines the full spectrum of options including relocation and asset disposal if the current asset cannot realistically meet the long term statutory and regulatory obligations of the institution.

The opportunity for PPPs could be explored in the context that co-funding from value capture could offset or fully cover recurrent PPP payments. Australia has a sophisticated PPP system with a strong track record. Integration of value capture revenue with the PPP model represents a realistic opportunity to support the development of new public transport infrastructure.

This option is examined in more detail in Section 6.

3 EVIDENCE OF UPLIFT IN PROPERTY VALUES

A core rationale for the introduction of value capture is the positive impact of new public transport infrastructure on property values in surrounding areas. Evidence of an uplift in property values are cited in this Section. The financial windfalls from these examples were the direct result of the public's investment in transport infrastructure.

No equitable mechanism exists in NSW, Western Australia or any Australian state or territory to capture indirect benefits to help pay for the infrastructure or related costs associated with the improvements. Rather than obtaining a financial benefit from its infrastructure investments, the Australian public is in effect paying an inflated price for land around transport infrastructure as a result of its investment, and the uplift in value solely benefits nearby property owners. This inflated cost is then passed on in the form of higher taxes, high housing costs and higher public transport fares. This is occurring throughout Australia despite an increasing gap in infrastructure funding.

Support for value capture mechanisms such as Betterment taxes (i.e. Business Rates Supplements) can be secured from affected property owners by demonstrating that they will receive tangible financial benefits in the form of increased property values that will significantly outweigh the small recurrent cost of a levy.

Uplift in property values can be quantified by comparison with historic values and, where possible, values in adjacent areas which did not enjoy the full benefits of new public transport infrastructure.

At face value, it seems obvious that new public transport infrastructure will raise property values. However, there are differences in the impact on different types of property. It should be noted that a 'standard impact' on land values is difficult to define as the effect of new public transport infrastructure varies depending on a range of factors including proximity to stations, frequency of services and links to strategic destinations such as CBDs or regional hubs. The impact on land values also varies depending on the function of the particular property - residential, office, retail and industrial. For example, there is an obvious positive impact on commercial and retail values whereas residential values may be adversely affected. In terms of residential properties a 'discount area' may exist where the values of properties within the immediate vicinity of the station are adversely affected by externalities such as increased noise, pedestrian activity, vehicle traffic, the visual impact of the station, and even the perception of an increased opportunity for crime.

However, studies which identify a residential discount area generally focus on single family residential properties rather than medium to high density housing and mixed use developments. These types of intense development at stations and hubs generally attract individuals and family units with differing preferences. For instance, they value accessibility to work and urban vitality (access to restaurants, shops and bars) above concerns about increased noise levels and decreased privacy. Indeed, well designed underground stations with good access points and streetscaping can eliminate many of these externalities.

There is no evidence to suggest that retail, commercial or mixed use properties are negatively affected by close proximity to public transport stations. Retail properties benefit from increased visibility and pedestrian flows while office properties are in a prime location with increased accessibility for workers and clients. These properties in fact generally attract a premium for being located in the immediate vicinity of a station.

Many studies have found that the positive aspects of proximity to a train station have a positive impact on property values. These factors include increased accessibility to job opportunities, increased choice in

transportation and decreased travel costs and time. The 'catchment region' (the area for which property prices are affected) has extended in some studies to a 2 kilometre radius from the station.

The following examples of consistent uplift in property values from new public transport infrastructure across all classes of real estate provides consistent evidence to support a small portion of this windfall being subject to value capture:

- In Japan, commercial land parcels within 50 metres of stations increased by 57% in value (PWC, 2008)
- A study of 89 value capture districts in the Chicago metropolitan area in 2006 found that mean property values increased by 35% from 1983-93 compared with 6% in overall property values. Industrial and CBD districts increased by 32% and 26% respectively
- Debrezion et al. provided meta-analysis of the impact of public transport stations on residential and commercial property values based on 57 previous estimation results. They found that commercial property prices were 16.4% higher and residential properties were 4.2% higher within ¼ mile of stations, and that the effect is largest for commuter rail
- Gibbons and Machin studied the effect of two new rail lines in London, finding that prices of residential properties within 2 km of stations grew 9.3% more than house prices elsewhere in London.
- Voith (1993) found a premium for single family homes with access to rail stations of 7.5-8% over the average house value
- Helsinki Metro, Finland (1982) found that the price of property located within walking distance of the nearest railway or metro station increased 7.5% over other locations
- Armstong (1994) found an approximate 6.7% increase in the value of single family residences located in communities with a rail station
- A statistical study of residential property values in Buffalo, NY, found that every foot closer to a light rail station increased average property values by $2.31 (using geographical straight-line distance) and $0.99 (using network distance). Consequently, a home located within one-quarter of a mile radius of a light rail station can earn a premium of $,1300-$3,000 (Hess, 2007)
- Studies over two decades showed average housing value premiums associated with being near a station (within 1⁄4 to 1⁄2 mile of a station) as +6.4% in Philadelphia, +6.7% in Boston, +10.6% in Portland, +17% in San Diego, +20% in Chicago, +24% in Dallas, and +45% in Santa Clara County (Cervero et al, 2004)
- In the San Francisco Bay Area, Alameda County homes near BART stations sold on average for 39% more than otherwise comparable ones 20 miles from the nearest station (Cervero et al, 2004)
- A detailed study conducted by researchers at the University of Toronto in 2000 indicated that proximity to a subway station in Toronto generated approximately $4,000 in additional residential property value for a home with a value of $225,000 (Canadian Transit Association, 2003)
- A study of the DART system compared differences in land values of "comparable" retail and office properties near and not near light trail stations. The average change in land values from 1997 to 2001 for retail and residential properties near DART stops was 25% and 32%, respectively; for "control" parcels, the average changes were 12% and 20% (Weinstein and Clower, 2003)
- Washington, DC's Metro generated between $10 and $15 billion in new land value against $9.5 billion in costs by 2001
- In Santa Clara County, California commercial-retail and office properties were found to attract an extra 23% for a typical commercial parcel near an LRT stop and more than 120% for commercial land in a business district within a quarter mile of a commuter rail station
- The UK Jubilee Line extension for shows GBP 13 billion uplift in property values from a GBP 3.5 billion public investment in the period from 1979 onwards.

In 2008 the Centre for Transit Orientated Development undertook a comprehensive literature review of US case studies. The table below presents a summary of their findings for estimated uplift in value for different types of properties depending on their distance from new stations.

TABLE 8. SUMMARY OF ESTIMATED VALUE UPLIFT FOR DIFFERENT PROPERTY TYPES

Land Use	Range of Property Value **HIGH**	Range of Property Value **LOW**
Single Family Residential	+32% within 40m of station	+ 2% within 70m
Apartment	+45% within 410m	+4% within 810m
Office	+120% within 410m	+9% within 1000m
Retail	+167% within 70m	+1% within 160m

Source: Centre for Transit-Oriented Development (CTOD) Capturing the Value of Transit, 2008

The evidence is conclusive that well-located mass transit oriented development will generate an uplift in property values across all classes of real estate.

3.1 Case Studies - impact of light rail on property values

Evidence of the positive impact of light rail on property values is available in a range of global and Australian case studies. In Australia, the success of light rail in stimulating property value uplift represents a lost opportunity because value capture systems are not being put in place in most instances. The Gold Coast light rail is a notable exception although it is a general property tax across the city rather than a genuine value capture initiative.

Light Rail is returning to popularity in Australian cities as the benefits of a street-level, mass transit system are recognised for cities and urban renewal areas. At present, there are a range of light rail projects in Australia that are being planned, constructed or expanded including:

- Extension of the Sydney light rail network to link the CBD with south-eastern suburbs, sports venues and the UNSW. This follows a recent extension from Lilyfield to Dulwich Hill.
- Extension of Gold Coast light rail project to support the Commonwealth Games and education institutions
- Newcastle CBD urban renewal light rail project replacing heavy rail with light rail
- Parramatta Light Rail
- MAX Light Rail (Perth)
- Canberra Light Rail
- AdeLINK light rail
- Sunshine Coast light rail.

There is clear evidence that the introduction of light rail has a positive impact on property values. Such impacts are typically measured in terms of the quantifiable impact on property prices as an indication of the economic benefit that is provided to a public transport catchment. An increase in property values in an area serviced by recently developed light rail infrastructure - over and above that occurring in comparable areas where light rail has not been a factor - is typically attributed to the presence of the newly developed transport infrastructure. It can be used to measure the economic impact of light rail.

Concentrations of urban activity generate significant land value uplift and consequent increases in urban densities.

Table 9 presents a summary of research findings on the impact of light rail undertaken by SGS Economics and Planning. There have been a range of different variables used (house and unit prices, residential and commercial rents) to understand the impact on property prices of the introduction of a light rail network.

TABLE 9. IMPACT OF LIGHT RAIL ON PROPERTY VALUES

Location	Impact of Light Rail	Variable Used
Newcastle (United Kingdom)	+20 %	House Prices
Freiburg	+15 – 20 %	Office Rents
Strasbourg	+10 – 15 %	Office Rents
Portland	+10%	House Prices
Rouen	+10%	Residential Rents & House prices
Route 96 (Inner North of Melbourne)*	+9%	Residual land value
Strasbourg	+7%	Residential Rents
Portland Gresham	> 5%	Residential Rents
Freiburg	3%	Residential Rents

Source: Hass-Klau, Crampton and Benjari (2004), Economic Impact of Light Rail: The Results of 15 Urban Areas in France, Germany, UK and North America, Environmental & Transport Planning and *SGS Economics & Planning

The long run uplift on property values is variable due to location specific factors such as:

- economic structure of the corridor and broader region
- impact of "averaging" of benefits along the corridor
- social attitudes towards light rail and higher density living
- accessibility by other transport modes
- underlying fundamentals of the property market.

The following case studies provide more detailed evidence of how light rail increases property values and therefore justifies the introduction of modest value capture mechanisms to help fund new infrastructure.

3.2 Swanston Street, Melbourne

Swanston Street in Melbourne stretches over approximately 1.2 kilometres from Franklin Street in the North of the CBD to Flinders Street in the South. Trams operating along the street allow customers to access the whole length of the strip with relative ease. The indicative size of Swanton Street, if it was measured as a "shopping centre", is estimated to be around 130,000 sqm. This would make it amongst the largest shopping centres in Australia.

In the last decade Swanston Street has boomed, mainly in Retail Trade, and Food and Beverage Services. The number of establishments, floor space and jobs has grown significantly in recent years and the vacancy rate has declined to a low level. The vacancy rate in Swanston Street has been consistently below the City of Melbourne average. In part this is attributable to the exposure provide by the trams operating along the street.

TABLE 10. MELBOURNE CBD RETAIL VACANCY 2002-2008

Precinct	2002	2004	2006	2008
Swanston Street	14.3%	18.2%	2.9%	2.8%
City of Melbourne	8.4%	7.3%	6.9%	7.2%

Source: SGS Economics & Planning, 2013

While vacancy rates have increased since 2008 owing to deteriorating consumer sentiment and a slowdown in consumer spending post GFC, Table 3 shows that the Swanston Street area vacancy rate is still nearly half that of the CBD core area. While trams also serve other major Melbourne CBD retail strips,

including Elizabeth Street, Bourke Street, and Collins Street, the density of routes serving Swanston Street, and the pedestrianisation of the entire length of the street within the CBD area have bolstered the street's prospects as a retail destination.

TABLE 11. MELBOURNE CBD RETAIL VACANCY FEB 2013

Precinct	Shops(no)	Vacancy (no)	Vacancy (%)
Swanston Walk	315	14	4.4
CBD Core	832	69	8.3
Total	1,147	83	7.2

Source: Savills Research, 2013

3.3 London Docklands Light Rail

The London Docklands was an urban renewal area which lacked sufficient accessibility to the existing London CBD. Light rail has enhanced transport links but also helped to attracted new investment into Docklands.

The City of London was a rich jurisdiction with leading global financial and professional services while the Docklands was historically home to industrial activities centred on London's docks. The docks were obsolete due to the transition to container shipping, and were closed during the 1970s leaving over 2,000 hectares of vacant industrial land to the East of the Square Mile. The provision of transport infrastructure formed a clear part of the overall precinct regeneration strategy. The development of the Docklands Light Rail (DLR) boosted connectivity between the London financial district and Docklands. This sent a clear signal to the property market of government intentions in the area. The project commenced in the 1980s with subsequent extensions over the next twenty years.

Prior to the development of the DLR, a bus service was mooted as being sufficient to serve the needs of the Docklands regeneration. However, a fixed track system was recognised as providing higher service levels and serving as a greater indicator of government confidence in the precinct regeneration strategy.[1] Most of the present day docklands developments were not planned when the light rail system was designed and the system has reached 100% capacity, prompting the need for additional transport infrastructure investment in the form of the extension to the Jubilee Line, which opened in 1999 linking Canary Wharf and beyond to London's West End. Today the DLR itself has been expanded to include four other routes, not including the original Canary Wharf line.

Light rail has sparked the development of large-scale office properties that now populate the area.[2] This was driven by the increased accessibility of the Docklands which reduced its economic isolation from the rest of London. With this new found accessibility, the area was able to leverage its rental rates competitiveness to induce property investment. Continued demand for office space in the Docklands area has reduced the land price discrepancy between London's Square Mile and Docklands. Canary Wharf has become home to some of the world's most prominent financial services companies, such as HSBC, Citigroup, Barclays and Reuters.

Today the Docklands is home to around 2,700 businesses.[3] This signifies another flow-on effect – job growth.

This has helped strengthen the value chain of small sole trader firms and large global corporations. By welcoming global corporations, it is clear that the labour productivity of the region has grown dramatically.

[1] Light.nl, Transport Orientated Development and the Use of Light Rail in UK's conurbations. http://www.lightrail.nl/uk/uk.htm
[2] Buck Consultants Internation, Twynstra Gudde, LiRa Pilot 3 : Light Rail, Economic Impact and real estate development. http://www.lira-2.com/docs/lira1/Pilot%203.pdf
[3] S Innes, The changing fortunes of London's Docklands. http://www.lddc-history.org.uk/other/lddcpresent09conf.pdf

Agglomeration economies have brought further economic activity to the area. The project has aided Dockland's ability to catch-up with the rest of the London economy.

With such economic activity occurring, it is natural for residential property to start booming.

In 1981, 95% of the housing in Docklands was social housing. Today the area is characterized by growing private housing with 24,046 new homes built between 1981 and 1998. [4] Furthermore, 11 new primary schools, two secondary schools, and several post-high school education institutions have been established. This has greatly improved the human capital accumulation. This is not say that the all these education investments came as a result of the DLR, but it is to that the rejuvenation process was boosted significantly by the DLR.

3.1 Conclusion

A clear prerequisite for a value capture strategy is that there must be value to be captured. Uplift in property values from new public transport infrastructure is the core principle behind value capture. There is clear evidence that new public transport infrastructure does, under the right circumstances, create high uplifts in property values as the examples in Section 4 of this report demonstrate. Value capture is likely to be most successful in key capital cities such as Sydney, Melbourne, Brisbane and Perth where demographics trends and economic growth outlook are strongest to support long term property value appreciation.

This section provides conclusive evidence of the extent of an uplift in property values from well-located new public transport infrastructure.

[4] S Innes, The changing fortunes of London's Docklands. http://www.lddc-history.org.uk/other/lddcpresent09conf.pdf

4 VALUE CAPTURE - CASE STUDIES

Value capture is an established form of public transport infrastructure funding globally. However, there has been limited application of value capture mechanisms in Australia. The case studies that do exist vary substantially in terms of structure and governance. This section profiles global and Australian case studies.

4.1 Economic Benefits of New Public Transport Infrastructure

The economic benefit derived from new public transport infrastructure is high. A recent study by the Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) estimated that public investment in 128 transport projects in Australia had returned $2.65 for every $1 invested and had a present value of net benefits of $62 billion.

The UK National Audit Office General audited the Crossrail project in 2014. It found that the benefits of Crossrail outweigh its costs by a wide margin. The benefit–cost ratio in the business case (2011) was 1.97. This represents 'medium' value for money in the Department for Transport's definition – which is a range of 1.5 to 2.

If wider economic benefits were included, the benefit–cost ratio would increase to 3.1.

This is a high range result due to its impact on a range of indicators including improved transport connectivity, reduced transport congestion, journey time savings, more sustainable urban form, higher economic development levels, improved productivity and less car use reducing emissions. The economic benefits of Crossrail have been calculated regularly over the past 10 years. A full suite of documents is contained at http://www.crossrail.co.uk/benefits/wider-economic-benefits/.

This evidence of strong benefits from public transport infrastructure investment is supported by major overseas studies. In the US, it has been estimated that each dollar of investment in public transport generates $1.80 in GDP growth. This economic benefit flows on to tax collection by US governments, which is estimated at $488 million for each $1 billion spent.

FIGURE 1. ECONOMIC BENEFITS OF PUBLIC TRANSPORT INFRASTRUCTURE

Economic Impact	Per $ Billion of Capital Investment	Per $ Billion of Operations Investment	Per $ Billion of Average Investment
Output (Business Sales)	$ 3.0 billion	$ 3.8 billion	$ 3.6 billion
GDP (Value Added)	$ 1.5 billion	$ 2.0 billion	$ 1.8 billion
Labor Income	$ 1.1 billion	$ 1.8 billion	$ 1.6 billion
Tax Revenue (fed, state, local)	$ 350 million	$ 530 million	$ 488 million
Jobs (Employment)	23,788	41,140	36,108

** Note: indirect and induced impacts reflect effects on additional industries; they do not provide additional multiplier effects on federal investment unless there is sufficient unemployment to absorb additional jobs without displacement of other existing jobs*

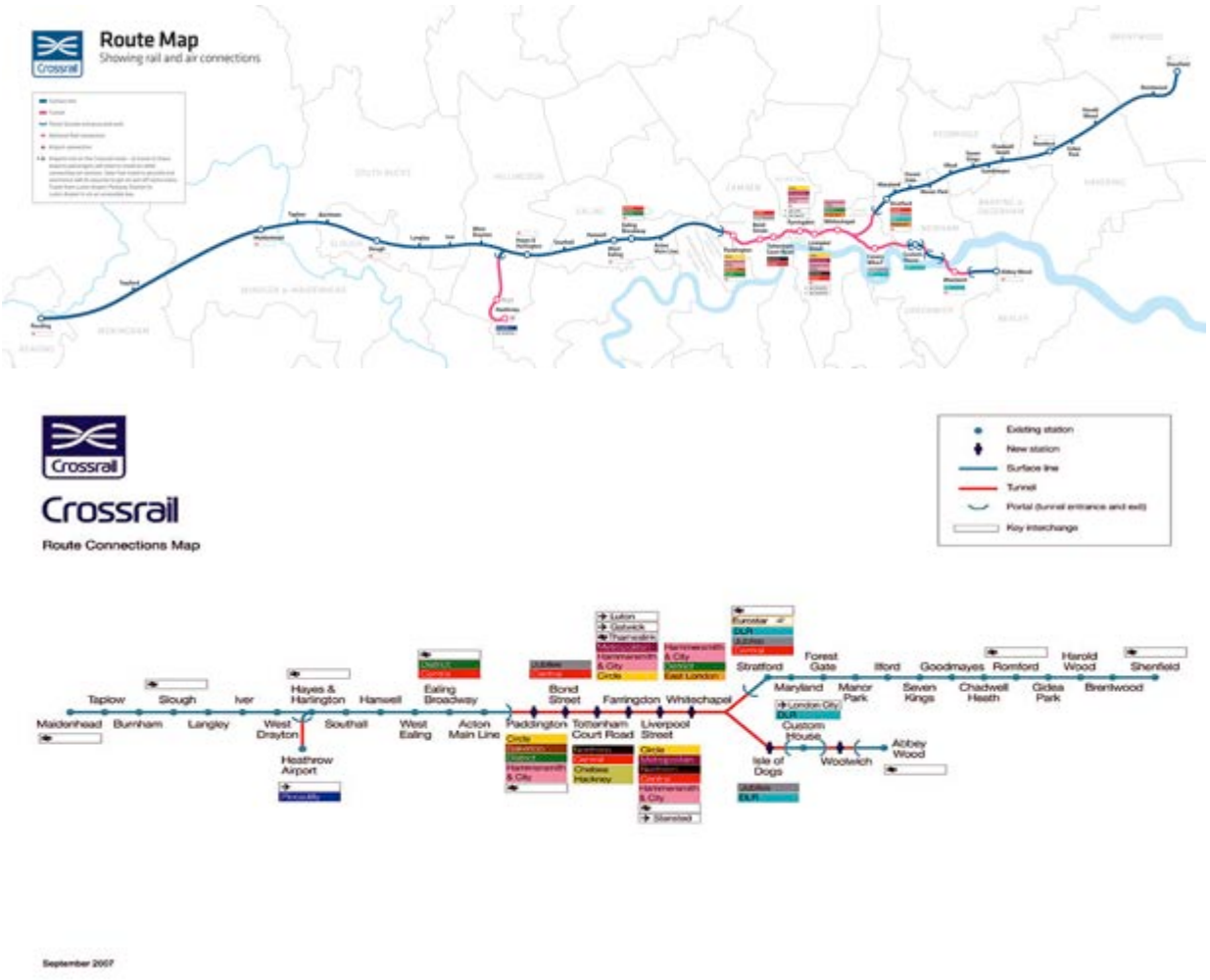
Public transport infrastructure also generates a higher number of jobs than other forms of government investment. In a US study (University of Massachusetts-Amherst), Public transport generated 30,000 jobs for each $1 billion of investment. This compares with 10,800 jobs for tax cuts.

The following case studies provide evidence of value capture in action globally and in Australia as well as outlining some of the flaws in these approaches.

4.2 Crossrail, London – Benefit Rates Supplement

Crossrail is a major public transport project in London that is using value capture to generate a substantial portion of upfront and ongoing project financing. It responds to a forecast increase of 35% in public transport trips in London between 2010 and 2031. The project route exceeds 100 km incorporating development around 40 stations including the construction of 10 new stations. It will link Heathrow Airport to central London. Crossrail will increase rail capacity in central London by 10 per cent. Construction commenced in 2009. The first services will commence in 2018. Total project cost is UKP14.8 billion.
A map of Crossrail is presented below.

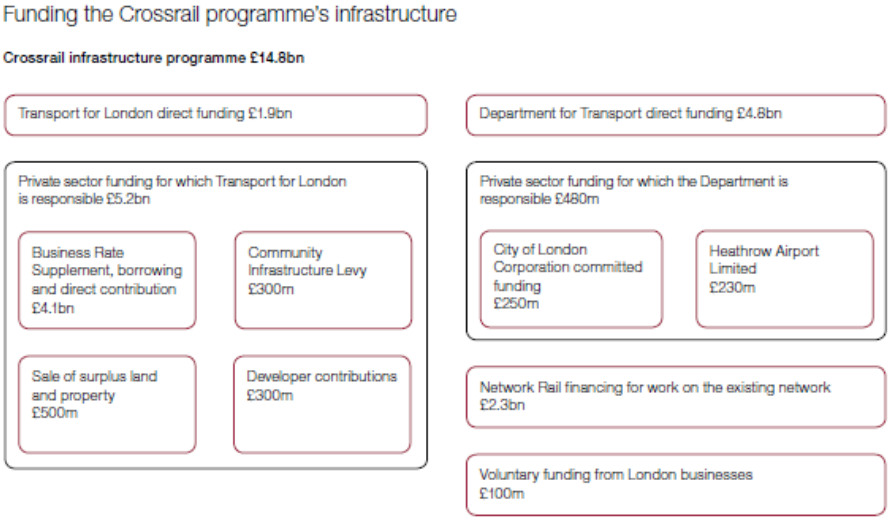
FIGURE 2. CROSSRAIL LONDON



Value capture mechanisms have been put in place that will generate UKP 4.1 billion of capital costs for Crossrail. Value capture will then be used over a 20 year period to pay down debt on the project. This structure significantly reduces the upfront cost to government of delivering major new public transport infrastructure.

The UK Audit Office summarised the funding structure in the following table.

FIGURE 3. FUNDING STRUCTURE OF CROSSRAIL



Crossrail is generating project funds from 4 value capture sources:

1. Business Rates Supplement (BRS)
2. Mayoral Community Infrastructure Levy (MCIL)
3. Sale of surplus land
4. Developer contributions.

In total, these sources will generate approximately 35% of Crossrail's capital costs. Both BRS and MCIL will both continue to raise income after operations commence in order to repay debt until the project is completely paid off.

There are significant improvements to travel times between key locations as the following table demonstrates.

FIGURE 4. TRAVEL TIME IMPROVEMENTS FROM CROSSRAIL

Example Journey	2010 existing journey time	Crossrail journey time
Slough to Tottenham Court Road	55mins	32mins
Ilford to Bond Street	35mins	25mins
Heathrow to Liverpool Street	55mins	32mins
City/Liverpool Street to Abbey Wood	40mins	18mins
Paddington to Canary Wharf	30mins	16mins

The use of a BRS for Crossrail is pertinent to Australian conditions as there is likely to be widespread uplift in property values in a range of proposed rail and light rail corridors especially high volume services such as the extension of the Sydney Light Rail, the Sydney Metro and proposed Melbourne Metro.

The BRS is a compulsory charge levied on National Non-Domestic Rates (NNDR) of qualifying properties within the designated Crossrail 1 beneficiary area. The calculation of NNDR in the UK is based on a 'business rates multiplier' – that is a rate defined in terms of pence per pound of rateable land values. In 2014, NNDR was set at 48.2 pence per pound. The rate was slightly lower for small business. The NNDR is recalculated every 5 years.

The Business Rates Supplement Act 2009 states that a BRS can be levied up to a maximum of an additional 2 pence per pound. The BRS for Crossrail was set at the maximum levy of 2p per pound. The BRS has been

applied to properties with a rateable value above UKP55,000. Approximately 20% of non-domestic properties in London were levied with the Crossrail BRS.

BRS revenue of over UKP 4 billion will be used for the following purposes:

1. Direct capital funding for Crossrail 1 **UKP 600 million**
2. Repayment of debt to Public Works Loan Board **UKP 3,500 million**

Data collected on Crossrail indicated that the BRS was extremely successful with a collection rate of 98.4% in 2013/14. Unoccupied properties remain liable for BRS, shielding it against economic downturns. Crossrail BRS will terminate when debt is repaid.

The loan period was scheduled to end in 2037. It is now projected that debt will be discharged by 2033 due to lower than forecast interest rates.

Principal benefits of the Crossrail BRS:

1. It is broad-based and distributed equitably with relatively low actual costs to qualifying property owners
2. It supplied a very stable, predictable income stream for funding the project.
3. It has been dedicated to an actual project so payees can see tangible outcomes from the levy.
4. It will increase the value of levied properties resulting in extra value for owners as well as periodically increasing BRS revenue as re-valuations occur.
5. It will be collected only until project debt is discharged.

It is noted that BRS is effective for funding successive projects but it could not reasonably be used to fund multiple projects simultaneously as this would represent an unreasonable impost on business.

It is considered likely that the BRS will be "rolled over" in 2033 to commence funding for Crossrail 2 over a further 30 year period. Thus, the BRS will become entrenched as a rolling 'value capture' tool to fund new public transport in London. Crossrail 2 is currently being planned.

The BRS in London has been generally accepted as it has been accompanied by evidence that businesses in London that are close to the route can expect a 10-15% increase in the value of their buildings as a direct result of the Crossrail. The BRS is much lower than that. Thus, land owners will profit overall. In addition, the broader economic benefits have been well publicised. The benefits include much shorter and more predictable travel times to work which will bring significant productivity increases to employers.

The BRS value capture mechanism has an efficiency drawback, which is that its tax rate is not differentiated according to location. One of the main recommendations to improve the efficiency of the mechanism is that the BRS should be restructured such that those areas that gain most from the Crossrail also pay a higher BRS.

The CIL is a compulsory charge on all new development in England to contribute to the cost of new infrastructure that is required to support new development. It is levied by local authorities on a square metre basis. It is designed to supersede individual developer contributions based on case by case negotiations. It is forecast to raise 300 million pounds in total.

4.3 Hudson Yards, New York – Blending Value Capture Mechanisms

In New York, the Hudson Yards Redevelopment Project is a contemporary example of transit oriented development employing a range of value capture mechanisms.

Hudson Yards began with the City of New York initiating a project to extend the 7-Line Subway and redevelop the corridor. The project cost is estimated at USD2.3 billion. Initially, the Metropolitan Transport Authority (MTA) did not consider the 7-Line Subway project as a priority for its limited capital budget.

Therefore, the City decided to leverage future tax revenue from urban renewal to generate upfront funding. With co-funding in place, the City was able to bring the project forward in the MTA's pipeline.

Value capture mechanisms used for Hudson Yards include:

- Bonds (secured by upfront payments form property owners in lieu of future taxes)
- Transferrable Development Rights ("TDRs")
- District Improvement Bonuses ("DIBs").

FIGURE 5. SITE PLAN OF HUDSON YARDS

The first step by the City was rezoning 45-blocks of manufacturing space at Hudson Yards for future commercial and residential development. This zoning amendment allowed for the creation of 25.8 million square-feet (2.3 million square metres) of office space; 20,000 housing units; two million square-feet (185,000 square metres) of hotel space; one million square-feet (92,500 square metres) of retail space; and 20 acres (8 hectares) of parks and open space.

The City established a governance framework for the project which separated planning and project delivery from financing. Two project entities were created:

- Hudson Yards Development Corporation ("HYDC") to produce the development plan
- Hudson Yards Infrastructure Corporation ("HYIC") to control funding and financing.

The HYDC manages the planning, design, and development of the project area. Its role does not include the 7-Line Subway Extension, which is to be built and managed by the MTA.

The HYIC is financing the capital improvements required to stimulate redevelopment. Since 2007, the HYIC has raised $3 billion from 2 bond issues.

In order to secure investors for these bonds, the HYIC and HYDC have mobilised value capture in the form of upfront commercial payments from developers in lieu of taxes.

The mechanism works as follows:

- New York City Industrial Development Agency (NYCIDA) purchases land from developers for a nominal amount, which relieves the developer from paying property taxes.
- Instead, developers are required to pay a pre-determined price per square foot to the NYCIDA over the next 30 years.
- NYCIDA transfers these funds to the HYIC to repay the bonds (principal and interest).
- At the end of 30 years, the property is sold back to the developer at an equivalent rate and the developer will start to pay normal property taxes.
- In order to fast-track Hudson Yards, the NYCIDA was also given the power to discount normal property tax rates to attract developers depending on location and the completion date of a given development.

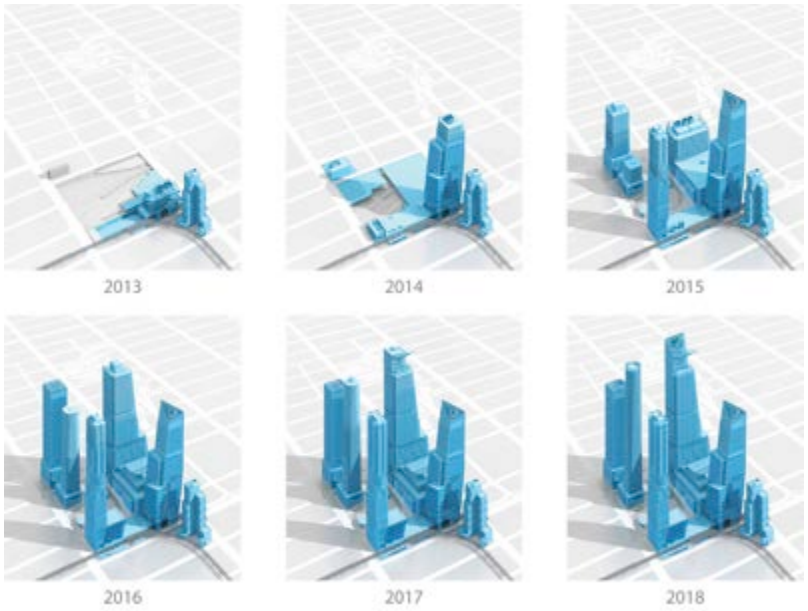
Another source of funds for the HYIC will come from the sale of Transferrable Development Rights ("TDRs") tied to the MTA's Western Yard. The TDRs work as follows:

- Developers wishing to increase the gross floor area (GFA) of their project can purchase TDRs with the proceeds going to the HYIC until it recoups the $200 million cost of land acquisition plus interest.
- From that point, all profits go to the MTA to refund the upfront capital costs of rail development.

Developers in other parts of the project area can also increase GFA through purchase of District Improvement Bonuses ("DIBs") from the HYIC, which function in a similar manner to TDRs.

The proposed build-out of Hudson Yards is shown below.

FIGURE 6. BUILD OUT OF HUDSON YARDS



To date, the HYIC has spent nearly $2 billion on the 7-Line Subway Extension and over $400 million in land acquisition and public amenity construction. This has been funded chiefly by the two bond issuances.

The HYIC has yet to fully capitalize its value capture mechanisms because most project completion dates and still in the future. The HYIC has raised $200 million in TEP and DIB revenue since 2006 on developments completed during early stages of the HYRP.

After rail construction is completed in 2015 and new developments are opened, the HYIC will begin generating increasing revenues. This will allow the HYIC to repurchase the bonds.

4.4 Chicago Rapid Transit Stations – Tax Increment Funding

Tax Increment Funding (TIF) is a well-established value capture mechanism in the US which is being introduced in other countries including the UK and Canada.

Chicago is using TIF to improve public transport infrastructure and promote investment in the city.

Chicago has established 153 TIF districts that are eligible for the TIF program. Funds are generated by growth in the Equalized Assessed Valuation (EAV) of properties in a designated district. The program has a 23 year time frame. Funds are used to construct and maintain infrastructure, remediate polluted land and re-deploy vacant properties for urban development.

A government taskforce estimated that Chicago had a transport infrastructure deficit of USD20 billion. TIF is now being used to fund 6 elevated rail stations. More public transport projects are planned. Developers are supportive of the program.

Zones must exhibit a range of stress factors to become eligible to be TIF districts. Chicago state law lists the following core stress factors:

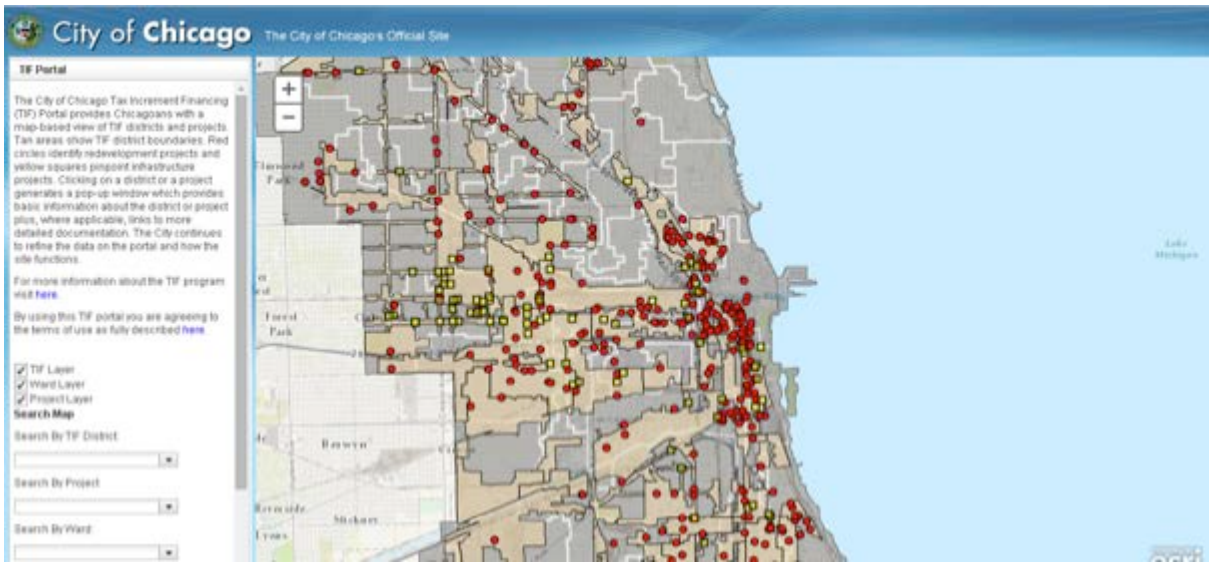
- Age
- Obsolescence
- Code violations
- Excessive vacancies
- Overcrowding
- Lack of ventilation, light and sanitary facilities
- Excessive land coverage
- Inadequate utilities
- Poor land use or layout
- Lack pf physical maintenance
- Lack of community plans and planning
- Dilapidation or deterioration.

The structure for Chicago TIFs is straightforward:

- When an area is declared to be a TIF district, project development plans are prepared and required funding levels for new projects are calculated
- The amount of property tax that is generated from the TIF district is set as a base Equivalent Assessed Valuation
- As property values increase, all tax growth above the base is used to fund redevelopment projects inside the TIF district
- This additional tax revenue is used to pay back any bonds issued to pay upfront costs as well as to finance individual projects
- At the conclusion of the 23 year TIF period, the increased tax revenue (based on current property values) above the base amount will be distributed to the regional government authorities administering Chicago.

The City of Chicago maintains a web portal that enables residents to view progress in TIF districts (see Figure 7 - http://webapps.cityofchicago.org/ChicagoTif/). Tan areas show TIF districts. Red circles are redevelopment projects. Yellow squares identify infrastructure projects. It is possible to drill down through these icons to detailed project information.

FIGURE 7. PROGRESS IN TIF DISTRICTS CHICAGO



4.5 Hong Kong – "Rail + Property" Development

The Mass Transit Railway (MTR) is the rapid transit railway system in Hong Kong. Opened in 1979, the system covers 218.2 km (135.6 mi) of rail with 155 stations, including 87 railway stations and 68 light rail stops. The MTR system generates over 5 million trips made in an average weekday. As of 2012, the MTR has a 46.4% share of the public transport market. The MTR system is operated by MTR Corporation Limited (MTRC). It is the most profitable public transport operating system in the world with a farebox recovery ratio of 185%. This enables it to maintain high quality rail operations and provide generous fare concessions.

MTRC also owns overseas rail concessions including individual subway lines in Beijing, Hangzhou, and Shenzhen in China, two lines of the London Underground, and the entire Melbourne and Stockholm systems. In 2012, the MTR produced revenue of 36 billion Hong Kong Dollars (about U.S $5 billion) with profits of $2 billion.

For the purposes of this report, the focus will be on the MTR's use of value capture mechanisms, not farebox revenue.

The MTRC is a vertically integrated business that undertakes property development to generate revenue to finance railway development and operations. The MRTC model is known as "Rail + Property" meaning that the corporation concurrently develops property with the growth of the MTR system. To enable this integration, the Hong Kong government provides a large indirect subsidy to the MTRC in the form of land provision at pre-MTR rates. The MRTC then sells or leases land at post-MTR rates, using the difference in value to pay for the transit infrastructure. Rail + Property projects are designed to integrate rail user patterns with the built environment offering housing options at specific price points to attract buyer demand.

The MRTC uses the following real estate models:

- Retains full ownership of new developments leasing properties
- Takes co-ownership of new developments splitting profits
- Receives a proportion of property development proceeds.

It is worth noting that 2 major skyscrapers in Hong Kong are MTRC properties. It also retains commercial, retail and residential properties adjacent to every station. All rail inside stations is leased from MTRC.

While this model of value capture is clearly successful, it is perhaps impossible to implement retrospectively in a developed nation due to the following factors:

- Hong Kong has a very high density urban population
- Car ownership is extremely low at 6% of the population
- It is a new rail system which does not bear the historic costs of under-investment in maintenance
- Valuable land parcels are not readily available in older, developed rail systems
- Government is extremely powerful and does not have to contend with a modern wages and industrial relations system
- The low cost of construction labour and operations staff.

It is noted that some Australian governments are putting in place structures for urban renewal areas which create a governance framework

4.6 Singapore - SMRT

The example of Singapore is pertinent to an analysis of how an effective public transport system can be accelerated by inhibiting car ownership. This enabled Singapore to build an effective mass transit system very quickly – inside 20 years. Land sales were also instrumental in generating capital for new construction.

Singapore MRT also provides evidence of the problems that occur when affordability to users is put into conflict with profitability for operators.

Singapore Mass Rapid Transit (SMRT) started in 1987 with a single 6km line. Today, it operates a network of 153 kilometres with 113 stations. Infrastructure is built by the Land Transport Authority, a statutory board of the Government of Singapore. When the MRT system was announced in 1982, construction costs were to be subsidised by selling 255 hectares of reclaimed land at Marina South. The proceeds would be used to pay for the cost of building and equipping the system. In practice, Singapore chose to fund construction from a national development fund. It waited until the MRT was built and sold government land at enhanced values with zoning to allow higher density urban development. The property value uplift in Marina South increased from $200 to $2000 per square metre. Eventually, revenue from total land sales over the 6 year construction period of the original MRT system exceeded $12 billion.

Singapore has an active policy to inhibit the affordability of car ownership. As a result, only 15% of Singapore's population of 54 million people own a car. Polices aimed at restraining car ownership and usage in Singapore began in the late 1960s with the introduction of an Additional Registration Fee (ARF) in 1968. Essentially an externality charge, the ARF was set at 15 percent of a vehicle's open market value (OMV). It was raised to 25 percent in 1972, 55 percent in 1974, 100 percent in 1975, and 175 percent in 1983. As the ARF was based on a percentage of OMV, it induced people to buy smaller cars rather than give up buying cars altogether. Therefore, a Vehicle Quota System (VQS) was introduced in May 1990. Under the VQS, individuals who wished to purchase a car must first obtain a Certificate of Entitlement (COE) through a competitive bidding process. The number of COEs issued each month was decided by the government, while the price of the COE would be determined by the bid that secured the "last" permit for the month – this "marginal" bid set the market-clearing price for all the COEs available in that round of bidding. This was further complemented by congestion pricing which began with an Area Licensing Scheme (ALS) that restricted the entry of cars into a 'restricted zone' in the mid-1970s. The ALS was replaced with the automated Electronic Road Pricing (ERP) system in 1995. The latest set of ownership restraint measures was the financing restrictions on motor vehicle loans. These were announced in February 2013. These restrictions set a cap on the maximum motor vehicle loan amount with maximum loan-to-value ratios of 50-60 per cent and loan periods of a maximum of 5 years.

Public transport is intended to serve the bulk of Singaporeans. In 1996, the Land Transport Plan set a target of 75% of all daily trips in Singapore would be made by public transport. This target has been ruthlessly pursued. Affordability and quality are therefore key objectives in providing services to commuters. However, the corporate structure introduced for the SMRT established profitability as a key commercial

objective. This resulted in a disjuncture which threatened the success of the SMRT system. Increasing congestion was followed by rail system breakdowns in 2011.

Singapore MRT has also benefitted from extremely cheap foreign labour.

The comparative cost of constructing public transport infrastructure in Australia is much higher than regional competitors such as Singapore, Hong Kong and China. This can be explained by the fact that Australia offers much higher salaries and better terms and conditions to workers in the construction industry. Likewise, salaries for public transport operations staff are higher. This should be considered a positive feature of the Australian social system. It is also a positive feature for the economy as it stimulates broad based domestic demand.

By way of comparison, Singapore currently imports over 300,000 construction workers from countries such as China, India and Bangladesh each year. This is extraordinary for a country of less than 6 million people. The *Straits Times* reported in 2013 that Singapore paid foreign construction workers from India and Bangladesh "as low as S$700 per month" and S$1,200 per month to those from China. These workers are employed 10-12 hours per day in a 6 day working week. Even qualified construction industry workers earn much less than in Australia. For example, civil engineers in Singapore earn an average of S$38,804 per year and project managers earn S$86,897 per year (*Payscale*). By contrast, Seek's annual Salary review found that the average salary across the construction industry was A$104,754 per year.

4.7 Melbourne City Loop – Betterment Tax

Melbourne City Loop is one of the few examples in Australia where government has enacted a value capture levy to secure a fair proportion of the uplift in land values which flowed from this new piece of new public transport infrastructure to assist with its funding.

Planning for an underground rail loop in Melbourne's CBD began as early as 1929 by the Metropolitan Town Planning Commission. At the time, Flinders Street was one of the busiest streets in the world.

An aspiration of constructing the loop was to relieve congestion at Flinders and Spencer Street stations, enhancing the capacity of the network and providing greater access to the northern areas of the central grid. In 1971, the Melbourne Underground Rail Loop Authority was established to oversee construction and operation of the loop. The City Loop was completed in stages, with Museum (now Melbourne Central) the first station opened in 1981, followed by Parliament (1983) and Flagstaff (1985). With the completion of the loop, a total of five stations around the CBD were accessible from metropolitan rail lines. The City Loop is now an integral part of Melbourne's transport system and CBD.

Funding for the project was allocated to the State Government (60%) and the ratepayers of inner city Melbourne (40%). Later, this was amended with the Metropolitan Melbourne Board of Works (MMBW) assigned 25% of costs, the City of Melbourne assigned 25% of costs, and the State Government assigned the final 50% of costs.

Funding was offset by a surcharge on ticket prices as well as value capture through a surcharge on ratepayers. The 25% of project costs assigned to the City of Melbourne was collected via a council rate levy over a 32 year period which was introduced in 1963 and removed in 1995. The ticket surcharge applied during the 1970s and 1980s. Whilst specific figures are unclear, the surcharge was reportedly 2% of average ticket prices (Hale 2014, p11).

4.8 Gold Coast Light Rail – Broad-based Transport Levy

Stage 1 of the Gold Coast Light Rail network extends 13km and connects the Gold Coast Health and Knowledge Precinct at Parklands with Southport, Surfers Paradise and Broadbeach. It was opened in mid-2014. The funding for the project was delivered from a partnership of the Queensland Government, City of Gold Coast, the Commonwealth of Australia and GoldLinQ through a Public Private Partnership. The project cost was $1.3 billion.

A broad-based Transport Improvement Levy (TIL) of $111 per year for every ratepayer in the Gold Coast City was introduced in 2012. The TIL has been raised to $117 in recent years. There is no 'sunset' on the TIL and therefore it can be considered to operate in perpetuity.

There appears to be no definitive statement of the funds gained from the TIL. SGS has therefore calculated the approximate revenue from the TIL. The Gold Coast City Annual Report 2013-14 stated that there were 245,687 rateable properties in the city. On this basis, the TIL would generate $28.75 million per year if applied to ALL ratepayers. However, there would be numerous discounts and concessions for many ratepayers.

The success of the project has been widely hailed. The PPP operator, GoldLinQ, stated in May 2015 that the light rail was used by an average of 17, 800 commuters per day in the first 9 months of Year 1. This exceeded the forecast patronage of 16,000 commuters per day in Year 2.

The Queensland Government has commenced Stage 2 of the Gold Coast Light Rail. The Department of Transport and Main Roads has identified a route for Stage 2 that would run from Helensvale heavy rail station adjacent to the Gold Coast Rail line, then adjacent to the Smith Street Motorway to connect with Stage 1 at the Gold Coast University Hospital Station. Expressions of Interest were called in August 2015.

FIGURE 8. CONTEXT MAP – GOLD COAST LIGHT RAIL

The opportunity for further value capture from the TIL for Gold Coast Light Rail Stage 2 is unclear.

The Gold Coast TIL is a blunt form of value capture that has the following flaws:

- It does not consider the difference in values between rateable properties on the Gold Coast
- It does not consider the impact of distance from the light rail on the uplift in property values
- It is not transparent in the amount of funding that it generates or the exact use of funds.
- There is no specific project link
- It has no 'sunset clause.'

These features should be considered in developing value capture systems for new public transport infrastructure in Australia.

4.9 Conclusion

The case studies in this section offer excellent evidence of the opportunities for value capture to provide significant capital funding for new public transport infrastructure in Australia.

The specific urban attributes and histories of densely populated cities in Asia like Hong Kong are transferrable to major Australian cities. It could be argued that Government should be capturing a high percentage of the uplift from the value of their infrastructure investments, as this value would not be happening without them. In fact, these could be permanent fees as the network availability and amenity is permanent. There is no reason to discard them once debt is paid. They could then be used for ongoing improvements to service levels and further network enhancements. This, in turn, would generate new value capture opportunities as the network expanded – similar to Hong Kong and Singapore. Other relevant value capture models can be found in major cities such as London, New York and Chicago. These cities are all undertaking large scale transit oriented development in urban renewal areas to respond to changing economic and job patterns. They are all utilising value capture to fund public transport infrastructure improvements.

There are some key factors which influence the cost and utilisation of new public transport infrastructure including:

- Availability of government land at a discounted rate
- Capacity to impose development rights
- High urban density
- Labour force costs
- Absence of cars
- Farebox returns.

The following lessons are relevant to Australia:

- Governments should not automatically act as a regulator and outsourcer of services because it results in lost opportunities to generate funding for new public transport infrastructure
- Governments can create value at new rail stations by buying and assembling land for future sale and by taking a reasonable share of rezoning and/or development profits
- Governance models can be created to optimise urban development around stations
- Vertical integration of rail and urban development can generate significant funds to offset the cost of new public transport infrastructure
- Changing urban forms in Australia are creating urban renewal areas where “rail + property” structures would be feasible.Government development policy and individual business case analysis should include project and network corridor preservation as well as property acquisition strategies that maximize value capture outcomes.

The following sections of this report provide more detail on how value capture could be introduced into Australian jurisdictions to help fund new public transport infrastructure.

5 SECURING INVESTMENT

Value capture for public transport infrastructure creates the opportunity to introduce new investment products into Australian financial markets.

New domestic investment products are important for the economic future of Australia as the current weight of domestic capital held by institutional investors - notably superannuation funds –far outstrips domestic supply via the stock market, funds and individual assets. While overseas investment by Australian funds is critical to a balanced superannuation portfolio and the national interest, there are clear signals from domestic investors that they would welcome new investment products with solid yields and low risk profiles that are located in Australian jurisdictions. Foreign investors are also becoming increasingly active in the Australian market with Canadian groups like Brookfield and Ontario Teachers' Pension Fund acting as 'market makers' and models for a new generation of businesses and funds.

Bond products that can securitise future tax and levy revenues from value capture mechanisms -such as Tax Increment Financing (TIF) - represent an opportunity to create a substantial new investment class in Australia. Such a bond product would not be considered innovative or high risk to global investors familiar with North America or Europe.

A core objective of any new investment product based on value capture funds in Australia is that it should focus on generating upfront capital funding to offset the onerous costs to budgets of new public transport infrastructure. TIF with a bond issuance is ideal for this task.

5.1 Government Debt Levels in Australia

Australian Governments are debt averse with a political consensus between the major parties to balancing the budget and returning to surplus. This impedes that capacity to build and operate new public transport infrastructure, which is amongst the most expensive investments by government. This explains the preference for PPPs which reduce or remove the balance sheet cost of new projects. There are structural budget deficits in most Australian jurisdictions which will need to be addressed over time. However, the current global investment market has record low interest rates and a weight of global capital seeking secure investment opportunities with modest yields. This is the perfect time to borrow to build new infrastructure, especially infrastructure with proven flow-on benefits to economic growth such as public transport infrastructure.

The examples of Hong Kong and Singapore are instructive in terms of constructing new public transport infrastructure. Both cities commenced building rapid mass transit rail systems relatively recently – Hong Kong in 1979 and Singapore in 1987. In 10-20 years they were able to build the best public transport systems in the world in terms of scale and performance. Value capture though leveraging the value uplift in property prices was the key to their success.

Australian cities are in a good starting place. They generally have relatively large public transport infrastructure systems. There is generally good planning by public transport agencies with future growth corridors identified. Urban renewal areas where transit oriented development could take place are well known. The thinking about how to restructure existing public transport systems to respond to changing employment patterns and urban forms has been done. This is a positive situation in that the backbones of fully integrated mass transit systems are already in place.

The core problem is capital funding for the missing pieces of public transport infrastructure that can achieve network integration.

This is the background to seeking to attract private sector investment into building new public transport infrastructure.

Innovative funding models for new public transport infrastructure can take many different forms. The key for government is to create investment structures that are realistic. The following core principles should be adhered to:

- The investment product should be as simple as possible as complexity creates high transaction costs
- Adapting global precedents will help to educate domestic investors more quickly
- Government should work out which part of the market it is targeting and develop the investment product to attract that specific market with a risk/return profile that is attractive
- Government should accept reasonable levels of risk. Risk is priced into the transaction structure by investors and this can make the cost of finance very high if high levels of risk are transferred
- There needs to be scale and certainty for investment groups to make an allocation of funds to the product. They will not bother to skill themselves up to understand the product let alone compete internally for allocations of capital otherwise
- Credit ratings do need to be considered
- Projects should be carefully selected on the basis of the highest and best benefit-cost outcomes so that they are accepted by the market as tangibly improving the future performance and productivity of the economy.

Credit ratings must be considered in developing any new investment product. Australian governments generally have sound credit ratings.

Credit ratings are not solely dependent on an assessment of debt levels now and in the future. They are complex assessments of the ongoing quality and performance of any economy.

Investment in new public transport infrastructure is well known to have very positive economic and productivity benefits that will support the successful long term growth of any economy. Public transport projects focused on transit oriented development in key centres to enhance the knowledge economy will be particularly important to repositioning the Australian economy and will be well-received by the market.

Credit ratings may not be negatively affected by logical and sound investment in new public transport infrastructure that boosts the long term prospects of the national economy. Rather, they in conjunction with prudent fiscal management may be seen as economy-building projects that improved future economic performance of Australia.

A clear explanation of the economic benefits of new public transport infrastructure based on strong technical evidence will need to be integrated into project development and investment product development to give confidence to the investment market.

The following sub-sections examine some core issues in attracting investment to new public transport infrastructure in Australia.

5.2 Market Scale and Capacity

A threshold issue in Australia is to determine whether the investment market has the market scale, financial capacity, product knowledge and appetite to participate in a new product which would help to fund public transport infrastructure.

This groundwork is important so that any investment product created from value capture mechanisms could be appropriately structured to be embraced by the market.

A bond product could attract superannuation funds, other institutional investors, insurance companies and anyone with an appetite for fixed interest products.

Superannuation funds are often cited as a target investor group for government assets. Funds have become active investing in low risk, user pays infrastructure with predictable yields. The recent sale of Sydney and Newcastle Ports is an example. This concession was acquired by a consortium dominated by Australian superannuation funds. Superannuation funds are not a bottomless pit of footloose capital with a broad social responsibility mandate to assist Australia. They are rigorous in allocating funds to optimise returns for their members, who are retirees needing stable incomes to plan for retirement. They have very diverse portfolios in which different products compete for allocations each year.

It takes time to introduce a new investment product to the market and for the market to accept this product and make an allocation to it.

Australia has a well-developed funds management sector. Recent ABS data (March 2015) indicates that managed funds totalled AU$2.6 trillion with superannuation funds making up a further AU$1.95 trillion. The sector is growing rapidly:

- As at 31 March 2015, consolidated assets of managed funds was $2,073.0 billion - increasing $100.3 billion (5%) on Q4/2014
- Superannuation funds had increased 8% in Q1/2015 to $1,952,761 billion.

The superannuation sector of funds management is forecast to grow strongly in future years:

> Australia has one of the largest and fastest growing funds management sectors in the world. Its growth is underpinned by Australia's government-mandated retirement scheme (superannuation), which will increase progressively from 9 per cent to 12 per cent of salary by 2019-2020. [Australian Government, "Investment Management Industry in Australia."]

Deloitte Touche Tohmatsu estimated that the pool of Australian pension assets will grow to A$7.6 trillion by 2033.

Australian superannuation funds are still the most domestically focused in the world after US investors (Towers Watson 2014 Global Pension Study), but this is changing. Australia is a small market globally with a modest share market (ASX is 2.3% of global size) and a tight concentration of investment-grade domestic industries and dominant stocks. It is far too small to absorb $1.9 trillion of superannuation funds which is growing rapidly. Therefore, Australian superannuation funds are investing globally. In 2014, 48% of equity investments occurred in foreign markets. In December 2013, offshore investment exceeded foreign investment into Australia for the first time on record by $23 billion. Bloomberg recently reported that REST, which manages approximately $30 billion for retail workers, allocated almost 100% of new equity investment offshore in 2013. This resulted in increased profits of 15.3% YOY. Australian Super has 40% of its $65b portfolio in foreign equities and bonds (June 2013 data) – up from 31% in 2011. Its investments in that period included major global firms such as Google, Disney, Visa, UPS and Honeywell. Therefore, new investment products will have to compete on a global platform.

Global investors are also entering the Australian market vigorously due to its high security, stability and low risk as well as the value now being generated from a lower Australian dollar. A recent example is the announcement in June 2015 of Berkshire Hathaway entering into a 10 year strategic partnership with IAG worth AU$500 million. The Reserve Bank of Australia (RBA) publishes data on foreign investment in Australia. The RBA Bulletin, "Foreign Investment in Australian Commercial Property" (September Quarter, 2014), showed that sovereign wealth funds and pension funds were becoming increasingly active in the Australian market.

Investment groups need certainty that a product will be offered regularly and repeatedly to the market in order to set aside an allocation of funds.

It can be concluded that:

- There is the market capacity in Australia for a new investment product based on TIF and bond issuance
- This product would be very familiar to global investors seeking investment opportunities in Australia
- The product will be tapping into a market with increasing depth, greater asset allocation and the right risk profile
- Funds management groups would need to have confidence that such a product would be offered regularly and repeatedly to the market in order allocate a proportion of their funds to this product
- The market will handle these sales as the investors will be both local and international.

5.3 Public Private Partnerships (PPPs)

Australia has a well-established Public Private Partnership (PPP) system which has a high degree of consistency across jurisdictions due to the work of Infrastructure Australia on National PPP Policy and Guidelines. A wide range of PPPs have been delivered in both economic infrastructure and social infrastructure.

PPPs offer opportunities to improve services and achieve better value for money, primarily through appropriate risk transfer, innovation, greater asset utilisation and integrated whole-of-life management. It is worth emphasising that PPPs have a very solid track record in delivering projects faster and at a lower price than conventional procurement models run by government.

A typical PPP structure is contained in the diagram at Figure 9.

FIGURE 9. TYPICAL PPP STRUCTURE

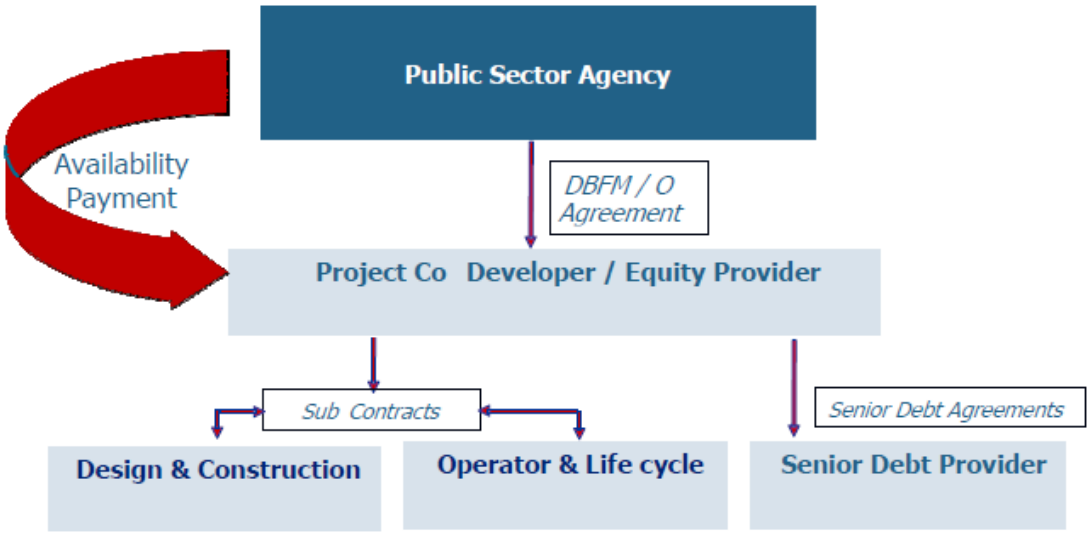


TABLE 12. CORE ELEMENTS OF A SOCIAL INFRASTRUCTURE PPP

Feature	PPP Methodology
Core Services	Government normally retains direct control of core services (for example, clinical services in hospitals and teaching in schools).
Payment Mechanism	Social PPPs are generally availability-based. A unitary payment is paid regularly by government to the operator under a long term contract for provision of infrastructure and operational services regardless of demand.
Construction	Final design and construction is normally undertaken by the private sector.
Operations	Private sector operators normally cover non-core services such as security, maintenance, cleaning etc. Unclear specifications can result in service inefficiencies for complex facilities. Integration with public transport service providers is a potential barrier to a PPP.
Risk Allocation	Optimal risk allocation as demand risk is removed by government fixed payments. Specific risks depend on asset type.
Innovation	Innovation and value-for-money concepts can be proposed by proponents. Risk would be retained by the private sector.
Non-Core Facilities	Institutions desire a range of related facilities which are considered commercial facilities but which retain risk.
Concession Period	In Australia, this is normally 25-30 years.

Source: SGS Economics and Planning, 2014

Public transport infrastructure can be considered social infrastructure because revenue generated from the asset does not cover construction and operating costs over a realistic concession period. This means that a public transport infrastructure PPP would require an 'availability-based' payment – in other words, a regular payment by government to the operator to cover costs including required profit margin.

Transport infrastructure projects would have a very low level of revenue risk due to the fixed payment by government to the operator. For this reason, social infrastructure PPPs generally require a lower return on investment of 8-10% per year compared to economic infrastructure with a user pays structure that contains demand risk and ramp-up stage (for example, expressways). Infrastructure Partnerships Australia (IPA) has noted that social infrastructure PPPs are thus able to be highly leveraged.

The annual quantum of service payments is unique to each PPP.

Value capture mechanisms could generate a recurrent pool of funds which could be collected by the state and used to support the State's concession payment.

5.4 Conclusion

The following conclusions can be drawn from this analysis:

- There is the market capacity in Australia for a new investment product based on TIF and bond issuance
- This product would be very familiar to global investors seeking investment opportunities in Australia
- The product will be tapping into a market with increasing depth, greater asset allocation and the right risk profile
- Funds management groups would need to have confidence that such a product would be offered regularly and repeatedly to the market in order allocate a proportion of their funds to this product
- The market will handle these sales as the investors will be both local and international
- Tax Increment Financing (TIF) would require the creation of a bond product that will provide financing for new public transport infrastructure
- The introduction of a bond product in Australia would potentially require legislative amendments.
- There is a lack of clarity over the boundaries of responsibility between different tiers of government which complicates this issue.

6 THE CHALLENGE FACING AUSTRALIAN CITIES

Australian cities are growing and their urban form is changing rapidly. Our cities are becoming more intensive in employment patterns with a renewed focus on city centres as job generators and magnets. This is part of a global trend. It creates the opportunity to introduce value capture mechanisms into urban renewal projects that will enliven cities and enhance their economic performance. Although value capture can be deployed to outer suburbs and even greenfield areas where potential property value uplift can be clearly seen, it is especially suited for urban renewal areas where population density is to be rapidly increased.

Currently, major Australian cities are characterised by large urban areas with low population density served by public transport systems featuring 'hub and spoke' structures and Inadequate cross regional links. Our public transport systems are a legacy of traditional nineteenth century urban forms subverted by massive suburban expansion especially after World War Two. This shift was exacerbated by a change in the nature of the job market from employment, retail and commercial activities being primarily located in the city centre to more dispersed manufacturing-based activity in suburban areas. The rise of personal car transport with abundant parking at suburban workplaces further entrenched this urban form. The changing nature of the Australian economy today with a reduction in manufacturing and an increase in services has reversed this trend. Manufacturing is now primarily undertaken offshore. Australia has high levels of tertiary education by global standards with a resulting increase in professional services. Increasingly, employment growth is found back in the city centre due to the evolution of a knowledge economy.

Changes to transport networks have the ability to shape and re-shape the land use development pattern and density of any city; indeed, transport investments can be used to facilitate and encourage a desired urban form. This 'city-shaping' ability of transport infrastructure underscores the highly interdependent nature of land use and transport planning.

Transport infrastructure plays several roles in supporting city development. Commuter rail routes bring workers to the CBD from across the metropolitan region. These routes expand the spatial catchment of the CBD. Within the CBD and inner suburbs, investments that extend the light rail network are critical to increasing the economic capacity of the city and spreading dense development beyond the existing CBD grid. Light rail both brings commuters from the inner suburbs to the CBD, and through interchanges with the heavy rail and bus networks, acts to spread dense development along light rail corridors. Together, public transport infrastructure strengthens the agglomeration economies on offer, improving productivity and growing economic capacity.

Public transport is accepted by the community as the best mode for mass transit. However, an equitable and sustainable funding model for building and operating public transport has not yet been established in Australia. Yet funding new public transport infrastructure is a vexed topic in Australia. New roads have been given precedence in government infrastructure plans, largely due to the existence of a user pays model for toll roads which was seen as an 'off balance sheet' structure with no cost and minimal risk to government. The credibility of this model has been damaged in recent years with the bankruptcy of syndicates operating such toll roads as the Cross City Tunnel, Lane Cove Tunnel and CLEM 7 tunnel in Brisbane. As a result, the NSW Government is now building and operating the new Westconnex toll road until it reaches maturity and a concession can be sold to the private sector.

The following table provides context for the experience of Australian cities in the twenty-first century.

TABLE 13. ISSUES IMPACTING ON CITIES

Global	– Urbanisation – Globalisation – International trade – Freedom of migration – Energy and resource prices – Global telecommunications	– Financial market integration – Unbundling of global value-chains – Relative interest rates – Currency markets – Freedom of capital movements – Asia-Pacific nation growth rates
Metropolitan	– Changing housing preferences – Age structure of population – **Major transport infrastructure** – Migration rates – Availability of developable land – Size thresholds	– Changing economic structure – **Metropolitan strategic planning** – Taxation policy (e.g. land tax) – Pricing regimes (e.g. congestion charging) – Trunk infrastructure – Major geographic features
Local	– Zoning and height controls – Community support/opposition – Local development competition – Site specific geography – Land values	– Local planning policy – Land fragmentation – Local demographic factors – Public amenity – Project governance and coordination

Source: SGS Economics and Planning, 2014

The following sections look at urban renewal, value capture and the public transport infrastructure challenges of 5 major Australian cities.

6.1 Urban Renewal Principles

Australian cities are increasingly facing the challenges and opportunities of urban renewal.

This creates a perfect environment for the introduction of value capture mechanisms to create new public transport infrastructure in urban renewal zones.

Urban renewal is the process of transforming often underutilised and sometimes degraded or neglected parts of the city into spaces and built environments that meet contemporary living, working or cultural needs. While urban renewal can happen incrementally, as established urban areas are modernised through new investment, it is usually facilitated by a dedicated public effort.

Successful urban renewal can generate a range of benefits, including better utilisation of existing and proposed infrastructure, increasing the productivity of the city from the colocation of more intensive jobs and housing, attracting visitors and additional expenditure, and providing new employment opportunities. Renewal projects working to clear targets also offer the prospect of more sustainable development including less greenhouse emissions and more affordable housing compared to 'business as usual'. Desirable or best practice principles for renewal should cover the relevant elements or features of the renewal process. A framework for renewal, showing the constituent elements, is shown in Figure 2 and includes:

– **The rationale for the project**. Why is this project being undertaken, who is it for and –at a high level - what does it seek to provide? Policy drivers (such as the metropolitan strategy) are likely to be invoked as a fundamental rationale but there may be other social, economic or environmental reasons for action.

– **The delivery steps to development**. This extends through:
  - Vision and plan-making including research and analysis, community engagement, objectives setting, options development and evaluation.
  - The provision of public space and infrastructure to 'frame the development'
  - Preparation for development and subdivision which involves the creation of lots for development.
  - Buildings and development including housing, offices, shops, community facilities etc.

- **Governance.** This covers all dimensions from who does the planning, through to who provides the infrastructure, who approves development and who ultimately manages and provides the services.

- **Monitoring.** This is part of effective governance and involves identifying the extent to which original objectives are being met, as well as changes in context that might require a change in direction**.**

There is also a need for overarching 'foundation principles' for successful renewal processes and projects. These principles will support decisions to invest in new public transport infrastructure. This creates the platform for introduction of value capture mechanisms.

6.2 Core principles of urban renewal

1. **Create 'shared value' for the long term public interest**

Value should be created for different communities. The scale, membership and reach of these communities may vary but their interests are long term.

2. **Develop the plan with stakeholders**

Early and meaningful engagement with the community and stakeholders is critical. Ongoing engagement should continue in the development of a vision, the setting of objectives, the preparation and evaluation of options and detailed planning for a preferred option.

3. **Take a long term view**

Enduring and authentic development takes time. Desired outcomes should not therefore be defined by short-term prospects alone.

4. **Agree the non-negotiables, including design standards**

Certain design and development standards, community expectations and policy requirements may need to be satisfied by the process. These 'non-negotiables' should be clearly defined from the outset.

5. **Agree a reasonable financial profile – minimising up-front costs and de-risking development while providing an appropriate return on government land and infrastructure investments**

The aim is to recognise that the government is best placed to carry early development risk associated with planning, providing the infrastructure and preparing the site for development, because the beneficiaries of this are distributed widely including beyond the site and through different generations. Consequently the adopted financial approach should not necessarily anticipate significant early revenues which add to developer risks and put pressure on plans for modification to increase yields. This inevitably means that some up-front financing should be provided by government. However, as land is sold and private sector development proceeds, the government should be entitled to an appropriate share of the land value realised to refund its early investment. A value capture approach which provides for return on government investment in assets, while underpinning the delivery of external benefits, should be adopted.

6. **Establish clear development objectives**

With a clear understanding of the development rationale and the non-negotiables, the planning process involving engagement with stakeholders, should develop and confirm clear objectives. The best objectives are not 'motherhood statements' but anticipate physical, economic and social outcomes in the place of focus. To this end they should be measurable.

7. **Establish clear development options to meet objectives**

There may be multiple ways to achieve objectives. Evaluating multiple options, including a base case, enables a comparison of what would happen with and without development and allows for the identification, evaluation and discussion of trade-offs.

8. **Embody 'localness' and reintegrate with surrounds**

While projects should be transformational given the scope, authenticity is most likely created where local character is recognisable in the development, and where the development ultimately 'reads' like an

extension of the existing city. Focussing purely on global branding can lead to homogeneous urban landscapes.

9. **Evaluate options from a holistic perspective with the aim of maximising net community benefits**
While government's may ultimately make choices on political and value grounds, evaluating options using robust cost benefit analysis techniques can enable typical community values and assets (such as open space and heritage items) to be objectively included and considered. Without using such techniques (notwithstanding their limitations) it may be that financial considerations or otherwise vague community aims end up dominating choices between options. This does not necessarily allow for judgements which serve the long term public interest.

10. **Align procurement model with the planning vision**
Procurement processes should be designed to deliver on desired planning outcomes, which are themselves governed by the project's vision. Generally this will favour processes which allow for multiple investors, architects and builders rather than 'single developer' solutions.

6.3 Process related principles

Alongside these core principles sit a number of additional principles that address the elements of the renewal process:

1. Rationale
- Articulate the link to the public interest in rationale

2a. Vision and Planning
- Ensure a rigorous strategic planning process
- Ensure final plans have a vision and clear, measurable objectives
- Plans should identify logical development stages
- Avoid overly prescriptive controls. There should be a clear indication of the scale and bulk of buildings allowable on any particular block ('envelope controls'), including heritage items to be retained, critical through site links and public spaces which need to be created, as well as measurable desired outcomes from an amenity, sustainability and use mix point of view; otherwise the design of individual buildings should be up to the architects, developers and builders of each site (in other words, the plan should not be the design)
- Maintain a detailed record of the decision-making process
- Assess departures from the plan against original vision and objectives

2b. Provision of public space and development infrastructure
- Provide key development infrastructure prior to or with development
- Encourage innovation in infrastructure provision to achieve transformation and ambitious targets
- Establish a clear development contribution regime which minimises up-front costs

2c. Preparation for development and subdivision
- Provide the smallest superlots possible
- Offer development sites to the market on an open basis with maximum participation possible

2d. Development mix and built form
- Allow the private sector to determine built form within the public domain framework, while satisfying the envelope controls and desired outcomes set down by the plan
- 'De-risk' where appropriate by early government investment in facilities and buildings. Early government investment in actual buildings can act as a drawcard for users and businesses, generate confidence in a renewal project, and provide a lead for private sector investment. Governments can also commit to purchasing sites for or developing social and affordable housing which can provide early cash flow to developers to off-set market uncertainty and risk

- Utilise 'land-in-waiting'. For example, sites not yet required for development can be activated by allowing them to be occupied temporarily for low rent or 'pop-up' uses

3. Governance

- Limit the establishment of separate government management and delivery agencies
- Engage appropriate expertise in master planning including local authority representatives
- Commit to transparent processes
- Identify or establish a third party body for evaluating amendments to the plan
- Ensure 'normal' servicing and approvals revert to the local authority at the earliest possible time

4. Monitoring

- Establish targets and indicators (for sustainability, affordability, mode share etc. linked to initial vision and objectives)
- Use multiple, independent reviewers.

The following sub-sections highlight some of the urban planning issues facing major Australian cities and the public transport projects that have been planned to deal with them.

These projects would be the targets for new value capture mechanisms to be introduced to help fund public transport infrastructure.

6.4 Adelaide

Key urban characteristics of Adelaide when discussing future public transport investment include:

- Adelaide's annual growth rate is among the lowest of Australia's capital cities
- Metropolitan Adelaide is characterised by a dominance of low-density residential suburbs
- the majority of population growth for Adelaide is planned in low-density greenfield areas, with expansion constrained to a north-south axis
- A degree of urban consolidation is expected, with Adelaide City forecast to experience an 80 per cent growth in residential population
- Adelaide's employment distribution is highly monocentric, with Adelaide City's share of total employment forecast to increase from 19.7% in 2011 to 22% in 2031
- In 2011, Adelaide was found to be the most car-dependent state/territory capital for journeys to work, with 84 per cent of commuters using a passenger vehicle.

TABLE 14. ADELAIDE - NEW PUBLIC TRANSPORT INFRASTRUCTURE

- AdeLINK light rail network (ProspectLink, UnleyLink, PortLink, EastLink, WestLink, CityLink)
- Rail Revitalisation projects
- O-Bahn City Access project

The AdeLINK network of light rail corridors represents a substantial investment in public transport in Adelaide and an excellent value capture opportunity.

FIGURE 10. PROPOSED ADELINK - ADELAIDE LIGHT RAIL NETWORK

The light rail network will expand from a single line to Glenelg to a multiple-line network spanning much of the inner city. The addition of these light rail lines will result in a significant jump in patronage, with the light rail network anticipated to attract around 130,000 passengers in the morning peak by 2031.

Investment in light rail will influence land markets causing uplift in land values and an increase in urban density along light rail corridors. The clustering of people closer to employment and in areas well connected by public transport would also have implications for whole of city productivity. This type of development increases the Effective Job Density of the inner city, further strengthening agglomeration economies. In turn, this would likely improve the attractiveness of the CBD and its surrounds for firms.

6.5 Brisbane (South East Queensland)

Key urban characteristics of Brisbane when discussing future public transport investment include:

- Brisbane has a population of 1.56 million with expected growth to 1.95 million people by 2026
- Brisbane CBD is the primary employment zone of the city
- Brisbane is part of the broader South-East Queensland (SEQ) region which has strong local governments with the scale, balance sheet and growth potential to promote their own public transport infrastructure initiatives
- SEQ is the third largest urban region in Australia with forecast average growth of 50,000 new residents per year over the next 20 years
- Gold Coast City has a light rail network and will host the Commonwealth Games.

Public transport initiatives in SEQ can be initiated by state government or by individual councils.

TABLE 15. SOUTH EAST QUEENSLAND (2031) - NEW PUBLIC TRANSPORT INFRASTRUCTURE

- Cross River Rail: new north–south rail line in Brisbane with stations in inner city
- Gold Coast light rail from Helensvale to Coolangatta.
- Brisbane subway
- North-west rail line: new line from Cross River Rail to join the North Coast Line at Strathpine.

Greater Brisbane provides opportunities for urban consolidation, particularly through infill and redevelopment of areas with good accessibility to activity centres and public transport.

A new subway is proposed to improve city transit as there will be 2.4 million trips per day in the inner city by 2031 (up from one million in 2006). An extra 100,000 people are forecast to live in inner Brisbane and employment is forecast to increase by 100% by 2031.

Both the Brisbane subway and Cross River Rail represent excellent opportunities for value capture. Value Capture should be incorporated into the planning and design of new subway stations.

6.6 Melbourne

Key urban characteristics of Melbourne when discussing future public transport investment include:

- Melbourne has been growing at around 2% per annum. This rate is anticipated to continue beyond 2030
- Future residential development is expected to be characterised by densification of inner suburbs and widespread low-density growth in outer suburbs
- Employment is forecast to increasingly centralise in the CBD and surrounding inner suburban locations
- Centralising employment, investment in public transport and rising road congestion is likely to result in a reduction in car use.

TABLE 16. MELBOURNE - NEW PUBLIC TRANSPORT INFRASTRUCTURE

Short Term	Long Term
Melbourne Metro rail tunnel	Mernda rail extension and station
Regional Rail Link	Additional stations on multiple lines
South Morang rail extension and station Electrification to Sunbury	
Additional stations on multiple lines – urban renewal opportunities	

The Melbourne Metro rail tunnel is the most significant proposal from the point of view of value capture opportunities. It will significantly expand the capacity and reliability of the existing rail network, allowing for additional services to be run during peak hour. As Melbourne's rail network is predominately radial and focused on the CBD, this will improve labour market accessibility to the CBD and strengthen agglomeration economies - increasing productivity, land values and enabling higher density development.

In addition to the increased clustering of population and employment in the CBD, the delivery of new stations in the inner city would have significant value capture potential.

The accessibility of locations currently outside the CBD such as City North (around Melbourne University), Arden Macaulay and St Kilda Road would substantially rise with the construction of Melbourne Metro, resulting in higher densities. Locations along this corridor, such as Footscray and Sunshine in Melbourne's west are also likely to have increased development as a result of improved access to the CBD.

6.7 Perth

Key urban characteristics of Perth relevant when discussing future public transport investment include:

- Perth has exhibited strong population growth over the past few decades, with high growth expected to continue despite the end of the mining boom

- The Swan River constitutes a natural barrier between the metropolitan north and south of Perth with the CBD on the north side
- Many high growth residential areas of Perth are distant from the city centre such as Wanneroo (25 km from CBD) and Mandurah (+30 km from the CBD)
- Inner city regions such as Cottesloe-Claremont, Fremantle, South Perth and Canning are expected to experience lower population growth
- Employment growth is forecast to be strongest in Perth City, with jobs growth in outer areas not growing at the same rate as population.

TABLE 17. PERTH - NEW PUBLIC TRANSPORT INFRASTRUCTURE

Short Term	Long Term
MAX Light Rail Project	Extensions to the MAX light rail network: – Stirling (north) – Oats Street and Curtin University (south) – UWA (west)
Forrestfield-Airport Rail Link	Rail extensions north on Joondalup Line and East on
Clarkson – Butler rail extension	Armadale Line

MAX Light Rail will improve public transport connectivity to the CBD resulting in increased urban densities over. Many of the proposed routes are adjacent to major attractors including universities, hospitals, and major employment precincts. Much of this area is also relatively low density despite its proximity to the central city.

FIGURE 11. PERTH – PROPOSED MAX LIGHT RAIL NETWORK

The construction of the MAX Light Rail is expected to have a significant impact on the distribution and type of employment in Perth. This is particularly the case if the light rail network is well integrated into the

heavy rail network, as this will provide greater access to Perth's broader labour market. This will lead to an increase in critical mass and productivity of the professional services.

6.8 Sydney

Key urban characteristics of Sydney when discussing future public transport investment include:

- Greater Sydney is on a growth path that will see population increase by 2 million people in the next 20 year
- This has massive consequences for the city, which is geographically-constrained on all sites
- Development will be forced upwards rather than outwards in Sydney resulting in greater urban density than other Australian cities
- Sydney has multiple sub-regional centres (such as Parramatta) with strong employment potential that can accommodate future urban growth
- Sydney's public transport corridors will become genuine mass transit hubs
- Badgerys Creek Airport has the potential to change urban development and employment patterns.

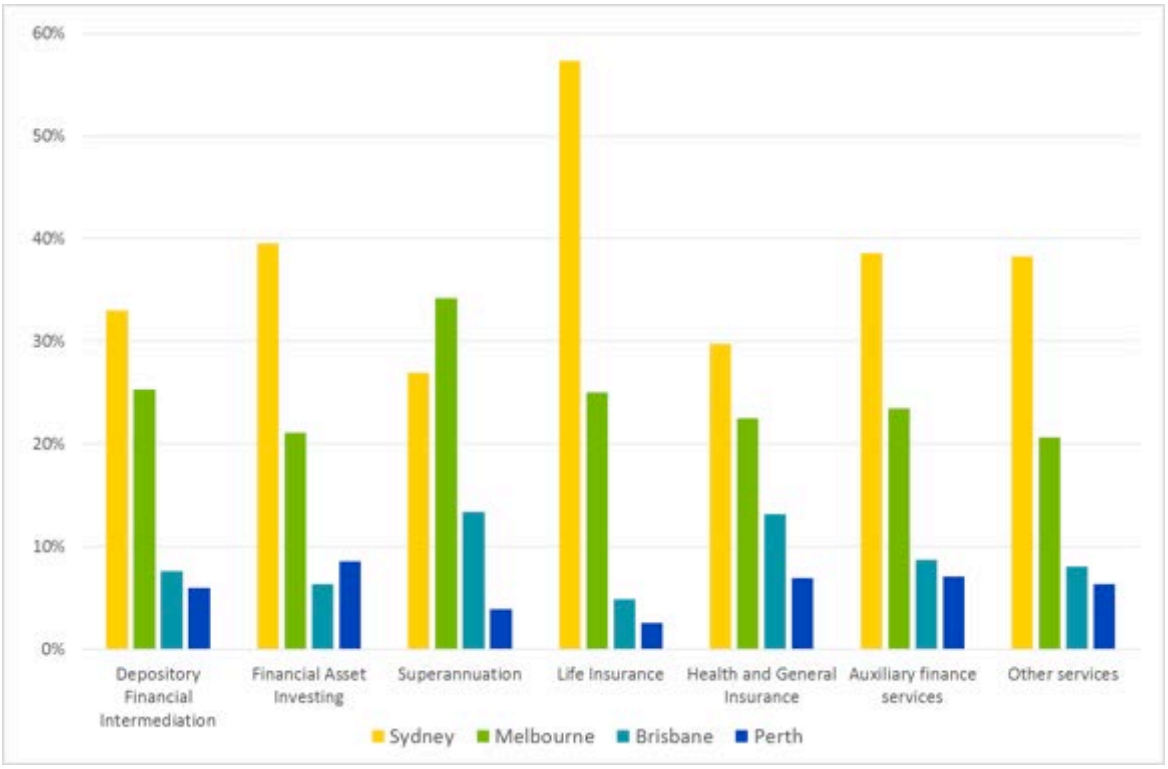
Sydney has a suite of high cost public transport infrastructure projects which are being planned and built in the next 10 years.

TABLE 18. SYDNEY - NEW PUBLIC TRANSPORT INFRASTRUCTURE

Short Term	Long Term
Sydney Light Rail extension (UNSW, Randwick)	South West Rail extension (Badgerys Creek)
Sydney Metro (Bankstown)	Green Square light rail
North West Rail	Parramatta Light Rail Stage 2
Parramatta-Epping Rail Link	Western Sydney Airport

Sydney's current job density pattern has a high concentration of jobs in the CBD. Sydney is particularly strong in the financial and professional services sectors which are job magnets for the city. The table shows that Sydney dominates the 7 categories of these sectors nationally.

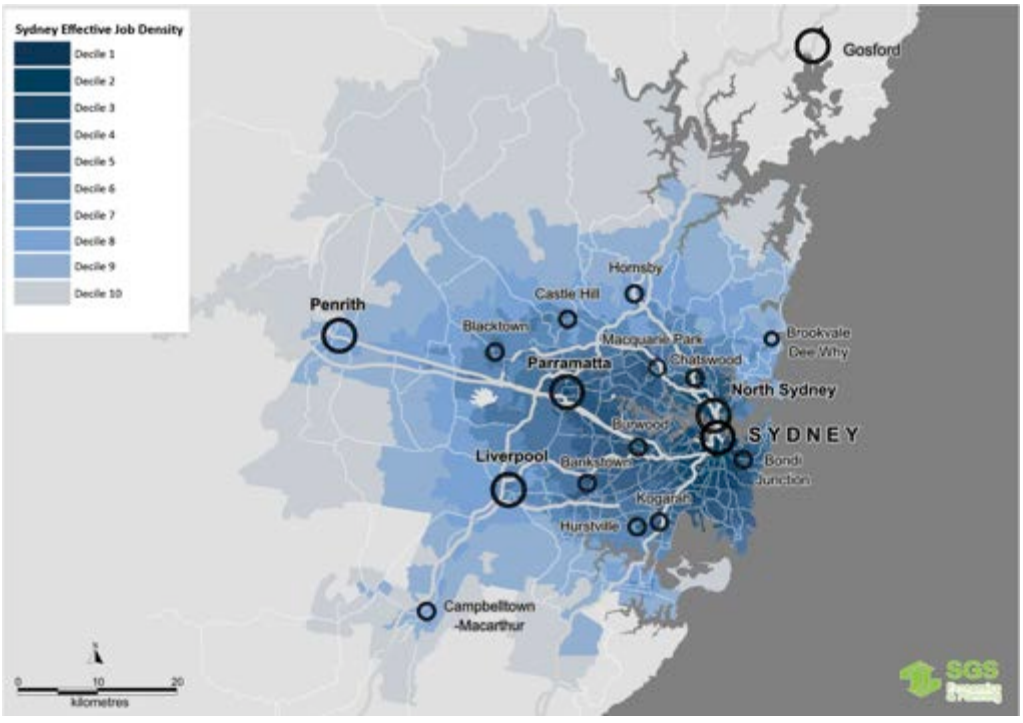
FIGURE 12. AUSTRALIAN CITIES PROPORTION OF FINANCIAL SERVICES SECTOR



Source: SGS Economics and Planning, 2015

Unlike other Australian cities, however, Sydney does have major regional centers led by Parramatta, which has become Sydney's second CBD. This will create a broad base for future urban development with urban renewal in areas close to the city areas and new development in designated regional centers such as Parramatta, Liverpool, Penrith, Macquarie Park and Norwest. The North-West and South-West growth areas are feeding into these centres.

FIGURE 13. SYDNEY – JOB DISTRIBUTION



Source: SGS Economics and Planning, 2015

Sydney CBD's high level of financial services jobs combined with multiple regional hubs will create diverse, multiple opportunities for value capture in the future. They will need to be specifically tailored to individual development scenarios. Of all Australian cities, Sydney most resembles its economic competitors in Asia such as Singapore and Hong Kong.

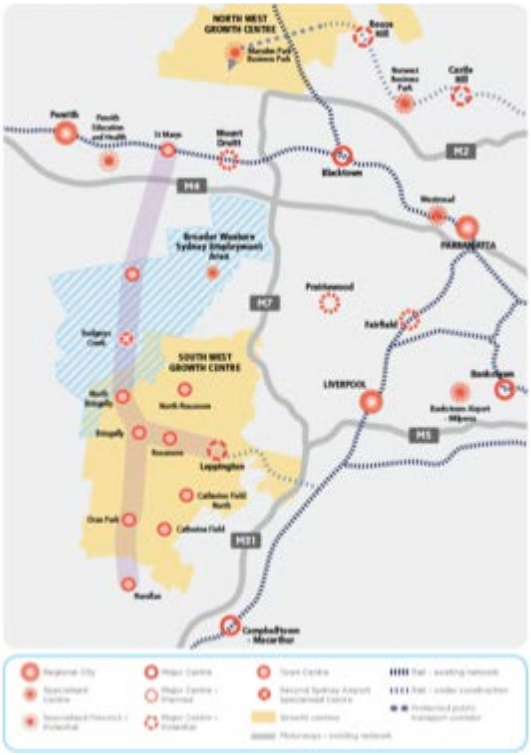
Western Sydney Airport (Badgery's Creek)

A special case for value capture can be made for rail funding for the new Western Sydney Airport. The Australian Government has announced the construction of the new Western Sydney Airport ("WSA") at Badgery's Creek. The Australian and NSW governments have already committed more than $3.6 billion to a 10-year road investment plan for Western Sydney. Roads funding has been the focus to date. The first steps towards building WSA include:

- Work has begun on Stage 1 of the Bringelly Road upgrade and Werrington Arterial Road.
- A rail corridor and station on the airport site is being planned.
- An Environmental Impact Statement is currently being prepared. The community will have an opportunity to comment on the draft later in 2015.
- An Airport Plan is also being developed and will be released later this year with the draft Environmental Impact Statement.

It is expected work on the site will commence in 2016 with airport operations planned to commence in the mid-2020s.

FIGURE 14. WESTERN SYDNEY AIRPORT RAIL LINK OPTIONS



The development of rail infrastructure to WSA is an ideal opportunity for value capture mechanisms to be introduced to provide co-funding sources as airport industries are developed and urban development takes place. Property values should start rising consistently in the corridor over a long period of time. The

proposed rail route for WSA will link with Leppington and the South West Rail Link (SWRL), which is due for completion in 2015. The extension of the SWRL to WSA could also offer new cross-regional links if it is extended to other main train lines (Main South, Western). This would create stronger connections to Parramatta and Penrith providing access and jobs with WSA and BWSEA. A fast train option should also be considered.

Value capture would increase the potential for rail to SWA to be fast-tracked and may ensure that the best option is built to link with Western Sydney and Sydney CBD.

The WSA is located within the Greater Western Sydney Employment Area ("GWSEA"), which is expected to comprise approximately 500 hectares of employment land with 12,000 jobs.

6.9 Conclusion

There are a broad range of proposed public transport infrastructure projects across major Australia cities which could be planned and developed to incorporate value capture mechanisms which would significantly decrease capital costs. Of particular relevance are:

- AdeLink Light Rail Network
- Cross River Rail (Brisbane)
- Gold Coast Light Rail (Stage 2)
- Brisbane Subway
- Melbourne Metro
- MAX Light Rail Project (Perth)
- Sydney Light Rail
- Western Sydney Airport rail link.

These projects all have the potential to introduce value capture mechanisms to offset the upfront capital cost of building new public transport infrastructure.

Value capture mechanisms should form an integral part of project development with full integration of proposed measures into the business case as per the examples of Crossrail and Hudson Yards.

7 EMBEDDING VALUE CAPTURE IN AUSTRALIA

An Australian value capture system would require an active partnership of Commonwealth, state and local governments to ensure that value capture principles and mechanisms were integrated into procurement strategies, taxation systems and land use planning across jurisdictions. The national consistency achieved by Infrastructure Australia and COAG in relation to PPPs would need to be extended to value capture so that there was a level playing field and a system in place to reward innovation.

Examining value capture opportunities should become a standard and accepted part of every public transport infrastructure proposal in Australia. Every proposal should be required to examine a full suite of value capture options in the business case and develop an appropriate, integrated set of value capture mechanisms that can be implemented to help fund the project. Forecasts of economic benefits, uplift in property values and capital funding levels from value capture should be incorporated into the economic and financial appraisals of all public transport infrastructure proposals.

The Commonwealth Government should encourage value capture by providing financial incentives for state and local governments that incorporated value capture mechanisms into new public transport infrastructure proposals. This could operate on a dollar-for-dollar, co-funding basis as with the Asset Recycling Program currently being pursued by the Commonwealth Government. Infrastructure Australia is the obvious vehicle for promoting value capture as an integral part of public transport infrastructure development across the nation.

7.1 Value Capture Core Criteria

SGS has developed a set of basic Value Capture evaluation criteria for Australian public transport infrastructure proposals. They could be used as a checklist for the development of detailed strategies. The core criteria are:

Policy, Planning & Governance

1. Alignment with government policy objectives
2. Part of a comprehensive urban plan
3. Designated project priority in an infrastructure investment framework
4. Clear governance framework with well-defined roles

Practicality

1. Ability to use existing legislation or easily-amended legislation
2. Ability to use existing institutions for revenue collection
3. Capacity to consolidate land parcels to optimise urban renewal outcomes and funding potential
4. Successful precedents in deploying similar mechanisms elsewhere in Australia and/or globally

Revenue & Yield

1. Potential to recover a substantial % of projects costs
2. Favourable cash flow characteristics (continuous predictable flow as distinct from intermittent receipts) and sensitivity to time horizons

3. Ability of the mechanism to capture new funds (not just re-distribute existing revenue)
4. Achieving target yield and risk profiles for investors
5. Building a sustainable market for the investment product.

Equity

1. Deployment of a suite of mechanisms to spread the impact - rather than reliance on a single mechanism
2. Avoid inconsistent tax treatment of similarly placed land owners or development proponents
3. Avoid 'double dipping' alongside other infrastructure funding mechanisms
4. Avoidance of perverse incentives or investment distortions.

International experience demonstrates that well planned public transport can lift property values by up to 50%. The contribution that value capture programs can make to capital costs as a result of capturing a fair proportion of value uplift will vary depending upon the nature of the project, the value capture method utilised and their complexity.

Clearly, value capture's potential contribution has a wide range. For example, using a fully integrated transport operating and property development model in a densely developed urban environment, Hong Kong's public transport system pays for itself.

Given international experience in less densely developed cities in North America and Europe, it is reasonable to assume that a well-conceived and managed value capture program in Australia could contribute between 10% and 30% of directly related infrastructure costs within a defined improvement district.

7.2 Governance

Governance frameworks that effectively integrate rail and urban development are essential to value capture. Governance structures must be able to develop a value capture framework that sets objective, credible and systematic reporting mechanisms that can be effectively measured.

Governance arrangements can mirror the integrated "rail + property" structure of Hong Kong or the two-tier structure in New York's Hudson Yards where planning and development is split from fund raising. The most important element is integration between entities and role clarity.

Effective institutional arrangements have been critical to value capture implementation on a large scale to finance public transit systems. For example, the Hong Kong MTR was established in 1979 with a specific mandate to integrate rail and property development. In recent years, New York and London have both created new governmental bodies that enabled value capture implementation. Montreal is making similar moves and the San Francisco Municipal Transportation Agency made important changes to its charter in 2007 that enable certain value capture mechanisms.

It is noted that some Australian governments are putting in place special governance structures for urban renewal areas which create a framework that is conducive to value capture systems. For example, Urban Growth NSW has a specific mandate to undertake property development in urban renewal zones around public transport nodes such as the Central to Eveleigh district in Sydney and the forthcoming light rail system in Newcastle CBD. Value capture mechanisms could easily be introduced into these projects – subject to property value uplift being achieved.

However, these governance structures do not integrate urban development with rail operations as with Hong Kong MTR. In Australia, rail operators are generally split from urban development authorities. In part, this is a product of history. Originally, rail authorities were established at state government level to build and operate the rail system. A core business focus on rail operations was considered prudent and logical. Urban development along transport corridors was considered separate and usually left in the

hands of local governments except for major city and suburban rail stations. This structure expedited the sale and/or outsourcing of rail operations when government decided to pursue a policy.

The MTR pathway to controlling and developing sites would require operational and governance structures that included both commercial real estate and network operational and planning as well as regulatory oversight etc.

Governmental bodies created in cities such as New York and London have authority over region-wide transport planning and finance. As such, they are able to work with the relevant provincial (in the Canadian context), national (in France and the UK), and city (in San Francisco) governments to develop taxation schemes to help fund transit costs. In both London and San Francisco, the transit agencies also govern the roads and manage car user fees in the region. This makes cross-mode transportation subsidies relatively seamless, allowing transit to capture part of the location value of central destinations by charging private vehicles for driving and parking there.

In contrast, the transit agency in Washington, D.C. is institutionally trapped in a governance structure where large-scale value capture financing is a “very attractive yet very impossible way to generate funding” (WMATA interviewee, Feb. 2014). This has occurred because they are funded directly by multiple local and state governments in their region, and there is no realistic way to coordinate a taxation scheme across so many different governments. Where they do have significant value capture financing of infrastructure, it is special assessment district-based and entirely the initiative of the local community to self-tax itself.

For Hudson Yards, the city of New York embarked on value capture without federal support, which is highly unusual in the case of a major transport deal in the US. It used value capture to raise finance that was then offered as an incentive to the local transport authority to lift Hudson Yards in the rankings of infrastructure investment priorities. This is often called “co-funding” and it is increasingly used as a way of motivating government agencies to be more commercial in their approach to new infrastructure planning.

The roles and powers of city governments across Australia will need to be examined when it comes to developing the best governance framework for value capture. In some jurisdictions, such as Queensland, local governments are large and relatively independent with substantial balance sheets. They are empowered to act. Gold Coast City is an example of this type of local government. On the other hand, NSW has a sprawling local government sector at present with over 150 differnet councils ranging in size from 312,000 (Blacktown) to 1,180 (Urana) people. NSW is currently moving towards amalgamation through the “Fit for the Future” process. This is designed to create sufficient scale in local government to generate services efficiencies and deliver increased capacity for independnent investment activity.

Clearly, it is not feasible to introduce a ‘one size fits all’ approach to value capture and innovative funding models for new public transport infrastructure in Australia. Different states and local governments have different levels of autonomy. There are some cities with feasible public transport concepts which are ripe for urban development and value capture. These cities and places need to be encouraged to introduce innovative funding models and expedite the development of new public transport infrastructure.

The Commonwealth Government can play the role of catalyst in introducing value capture across Australia by ensuring that federal legislation and policy is supportive and by introducing financial incentives which will encourage state and local authorities to act.

7.3 Conclusion

The evidence is conclusive that value capture should become a normal part of public transport project development and funding in Australia. A value capture framework could be incorporated into the business case for all public transport infrastructure proposals. The framework would assess value

capture opportunities, select the best mix of appropriate value capture mechanisms, quantify the amount of funds to be generated and put in place a governance structure to deliver funding.

Public infrastructure investment should not create windfall profits for landholders who are fortunate enough to be in control of strategic real estate holdings. Value capture is highly desirable from a social equity perspective, in that tax payers who are funding the cost of development of transformative infrastructure projects, get to share proportionally in the economic benefits that are created. Government development policy and individual business case analysis should include project and network corridor preservation as well as property acquisition strategies that maximize value capture outcomes.

There is clear evidence that the weight of capital seeking to invest in Australia would respond positively to innovative funding models that support public transport infrastructure. This applies to domestic superannuation funds, broader managed funds and overseas investors. Australia is a developed country with a Triple AAA credit rating. It has low levels of risk. Value capture mechanisms such as TIF-related bonds could become an integral part of the Australian investment market generating high levels of funding for new public transport infrastructure to be constructed in major urban centres across Australia.

In conclusion, Australian governments should:

- Maximize returns by not only advocating a broad based use of value capture mechanisms, but they should also take a substantial proportion of the uplift in valuation that occurs in closely proximate areas to the infrastructure development (on a sliding scale in terms of distance from the new station box)
- Focus on preserving development corridors and land assembly activities on a strategic level that will maximize value capture outcomes
- Use infrastructure development and service improvement to have a discussion with the public about creating a more sustainable level of operating cost recovery for transit systems
- Expanding public transport networks when each expansion increases the levels of total network operating losses is a big impediment to network investment. Cities such as Sydney, Melbourne and Brisbane should use this strategy to develop a list of projects where value capture could be employed and demonstrate how PPP and value capture could intersect. These projects would include Sydney Metro, Melbourne Metro, Bays Precinct, Central to Eveleigh, Brisbane Cross River Rail.

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