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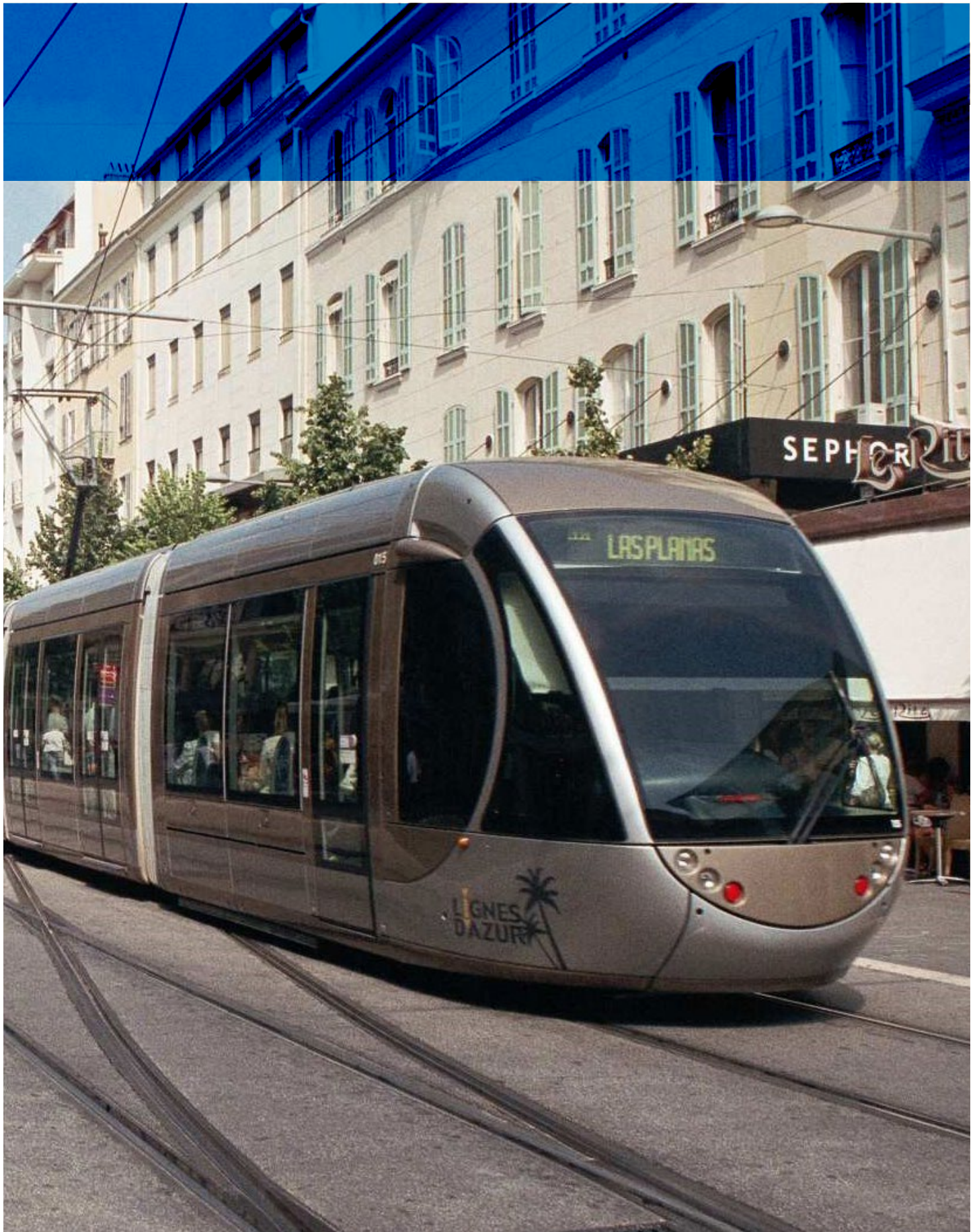
ENTREPRENEUR RAIL MODEL

A DISCUSSION PAPER



Tapping Private Investment for New Urban Rail

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This document has been developed in consultation with the City of Stirling and the City of Perth and with advice from John Langoulant.

Nice Tramway – Image Greg Sutherland

Over: Cover Photo Strasbourg Tramway Image By Eole99, via Wikimedia Commons

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There is significant valuable redevelopment potential that is unlocked by new rail lines

THE ENTREPRENEUR RAIL MODEL SUMMARY

Australian cities need and want new rail projects. The people cry out for it so they can go around, over and under those traffic lines. The planners want it as they need to create activity centres that are efficient at enabling local jobs and services; they know railways create the land value uplift that brings investment and developers. The politicians are hearing these pleas, but they don't have the money anymore.

This paper seeks to solve the problem by tapping private investment for which there is no shortage, especially superannuation funds looking for good, safe investments. But how can you make money out of urban rail when governments have to subsidise them?

The answer is found in land development around stations. If enough land can be found to enable redevelopment by the private sector to sell and lease buildings around stations, or to redevelop jointly with private owners or government for mutual benefit, then they can create the capital to enable them to build the rail line, to own it and to operate it. This is the Entrepreneur Rail Model.

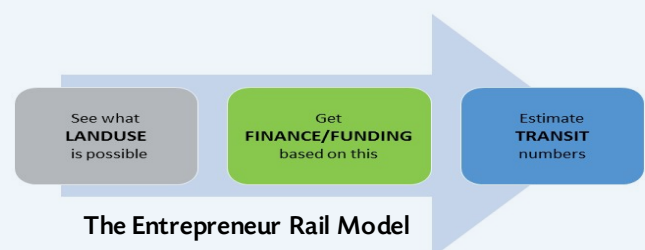
The result is not only to have a new rail line but to have strong local activity centres that planners are trying so hard to enable, though they are finding them hard to do in reality. Transit-land use integration is hardly happening compared to problematic urban fringe development.

INTEGRATING TRANSIT, LAND USE AND FINANCE

The secret to achieving this is a new governance instrument that integrates transit, land use and finance in the Entrepreneur Rail Model. It reverses the traditional approach to transit planning of:



by turning the process on its head:



Instead of government planning the rail system, **the private sector suggests the most important opportunities for creating viable redevelopment projects** and therefore how much private investment can be attracted to build a rail line. This is how tram and train lines were first built and how they are now built in Japan and Hong Kong. It uses private sector development skills as cities are built by the private sector.



Image by Jeff Kenworthy

VALUE

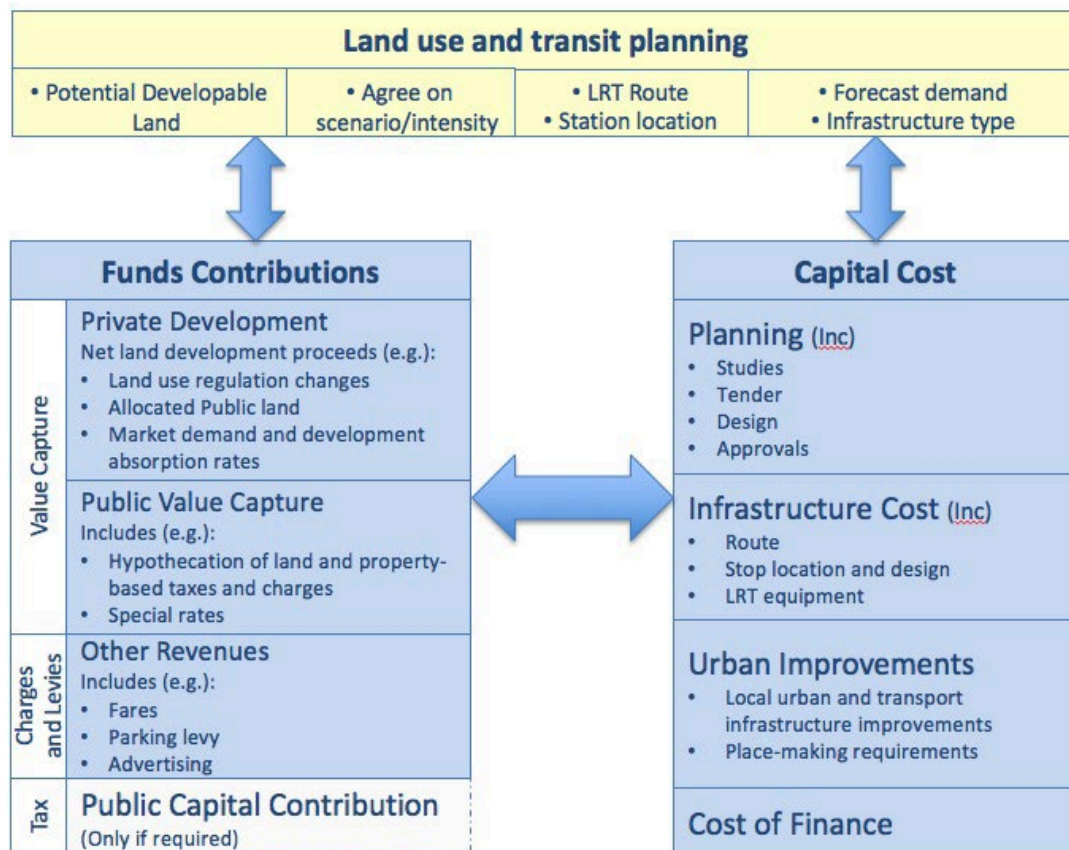
This paper sets out the evidence for how rail and land development add value to a city. Rail projects raise the value of land around stations substantially. The value of an Entrepreneur Rail project is outlined in some detail in the paper in terms of its:

- Travel time savings;
- Increased land values;
- Agglomeration economies in activity centres;

- Land development efficiencies; and
- Environmental gains due to reduced automobile dependence.

The results of studies in Perth show that a new rail line raised land values in station precincts by 42% in 5 years, above the general value uplift, and for commercial land even higher values. Thus it demonstrates there is significant valuable redevelopment potential that is unlocked by new rail lines.

The sources of funding have been set out in a conceptual way below.



The Entrepreneur Rail Model turns the traditional transit planning approach on its head

DELIVERY

The paper then sets out how to deliver such a rail project. It suggests there are three approaches:

- a) **Unsolicited bids** – a consortium of land developer, train builder, train operator and financier, provide government with a bid that makes a rail project proceed to an evaluation phase.
- b) **Government calls for bids** – a general consensus that a particular corridor could have the required land development potential as well as fulfilling transport needs, means that government can request bids from consortia before evaluating the best one.
- c) **Government controls internally** – a new government agency (or revamped land agency) creates a rail project through land development in the same way that Hong Kong MTR does it. This could be a semi-private enterprise.

There are also three ways of funding and financing such projects:

- a) **Totally private capital.** Government's role would be kept to in-kind activity to ensure land assembly and land acquisition, zoning and other transport planning integration is fully covered. This would depend on sufficient land being available to generate the capital and enabling whatever mechanisms are needed to generate private investment. It would mean that the project could be off balance sheet and hence would help with State Government credit ratings.
- b) **Substantial private and some public capital.** Substantial private capital can be supplemented by some government capital. Government's expected land value based tax flow-on could be hypothecated to cover

their contribution. This approach would ensure that the rail project is still generating all the capital required though some is from public sources at the three levels of government.

- c) **Some private and substantial public capital.** This seeks help from private sources through land development, but primarily raises government capital through a mixture of sources such as parking levies, tolls on associated private traffic, developer contributions, an increase in registration fees or some other form of tax hypothecated to the rail project.

Governments can seek combinations of these approaches and funding/financing. **Our paper suggests that the preferred option should be to seek a process of Government Bids based on 100% private capital as the goal of the Entrepreneur Rail Model.** If some small contribution from public capital is needed then this would be the next level to be sought. A Federal Government role could be to help fund bids for potential demonstration projects.

The importance of enabling private sector investment is the critical step in unleashing the new governance instrument. Without this the rail lines will not happen and the activity centres will not be built.

It is important that a government bidding process is controlled by Treasury as the central agency required to ensure private sector funds are attracted to achieve public-good goals. Treasury would ensure consortia are evaluated by financial criteria, land development criteria and transit criteria, in an integrated way. This cannot be done by a transit agency as their emphasis on choosing the routes in detail first will not optimise land development opportunities so the rail will not get built.

A transit agency's only task in our model is to ensure transit system compatibility with any new rail lines. The delivery process will require the powers of a redevelopment agency to provide government's role in land acquisition, zoning and land assembly to unlock the latent value in land development around the stations.

It is therefore suggested that two new government roles are established. The first is a ***Transit Investment and Land Development Unit*** established in Treasury to oversee the bidding process for Entrepreneur Rail projects. State Governments can immediately call for bids from consortia to establish a private rail system based on development of activity centres along a particular corridor. The criteria by which these will be evaluated would consist of:

1. **Financial** – the project should aim to be self sufficient in capital and operating expenses based on land development, fares and other means such as parking levies and advertising.

2. **Land** – the project should aim to utilise government land provided as part of the bidding process as well as private land that will need to be built into development partnerships or purchased as part of the project's financing. Land acquisition, zoning and assembly will be assisted by government to achieve required activity centre goals as well as sufficient funding outcomes to enable the rail line to be built.
3. **Transit** – the project should provide a high quality transit service that is linked into the rest of the system and generates its own patronage from the land development activity centres. The quality of the system should be high enough to unleash the potential for development of the activity centres.

After a private sector consortium has been chosen to lead the planning and delivery of the urban rail infrastructure and the development of available government and private lands, there will need to be another co-ordinating government entity. We are suggesting the formation of a



new **Entrepreneur Rail Delivery Agency** to facilitate the planning and delivery process. The delivery agency would be similar to development corporations and authorities that have been created in Australia over the last two decades for undertaking the planning and development of urban renewal projects. It would not need new legislation to establish and could be made part of a current Redevelopment Authority.

The development authority model is a tested method by which redevelopment under the Entrepreneur Rail Model would work. By way of example, the function of the Western Australian Metropolitan Redevelopment Authority is to *plan, undertake, promote and coordinate the development of land in redevelopment areas in the metropolitan region*^A. Specific purposes of the planning scheme for Midland, as one of the Authority's redevelopment areas, include providing sufficient certainty to enable location and investment decisions to be made with confidence and enabling the Authority to recover the costs of providing infrastructure within the

redevelopment area. Thus sufficient powers are available to help unleash the new governance instrument inherent in the Entrepreneur Rail Model.

Urban rail projects across the world are now being owned and operated by private consortia (e.g. new light rail in the Gold Coast, Canberra and Sydney, as well as Melbourne trams and trains). This is not unusual. What is unusual about the Entrepreneur Rail Model is how land development becomes the cornerstone of its funding, how the integration of private land development entrepreneurial skill unlocks access to private capital. The power of this model is that the unlocking of private development in new activity centres could not occur unless it was completely integrated with the amenity-creating, value-creating power of a new urban rail service.

^A Metropolitan Redevelopment Authority Act 2011 - Sect 7



There is significant redevelopment potential that is unlocked by new rail lines.

The Entrepreneur Rail Model will deliver urban rail infrastructure and urban regeneration through land development as the basis for financing



SECTION 1

Why The Entrepreneur Rail Model Is Needed

1.1 INTRODUCTION

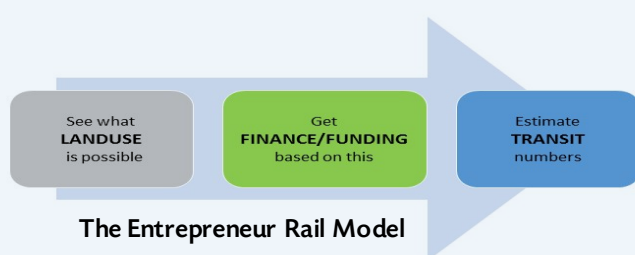
The 'Entrepreneur Rail Model' is a proposal developed at CUSP to plan and deliver urban rail infrastructure on commercial principles – funded by land development and built, owned, operated and financed by the private sector. This model will deliver necessary rail infrastructure, as well as achieving urban regeneration goals and equitably distributing the economic value generated by quality rail infrastructure^B.

The Entrepreneur Rail Model starts by predicting how much land can be developed as the fundamental source of the funding. Under the new model, land development is planned as the basis of financing, then an estimate of the potential transit patronage can be produced to match a fit-for-purpose infrastructure design.

This is therefore an entrepreneur's approach to rail. It cannot be done simply by government planners as land development is mostly a private enterprise activity. This was in fact the historic process of how tram and train lines were originally built, and is the approach still taken today in Hong Kong and Tokyo, two cities with arguably two of the best public transport systems in the world.

The model is shown in the simplified graphic as follows:

Figure 1 The Entrepreneur Rail Model



This is instead of the business-as-usual approach of predicting the number of people who could use a railway line based on present land use.



Rail infrastructure generates significant positive externalities (benefits that accrue to those other than the organisation delivering the infrastructure), such as improved business productivity. This is reflected in the significant increase in land values surrounding railway stations, a phenomenon found in countless empirical studies internationally, and also in Australia^C. This is expanded in Section 2 under the Why the Entrepreneur Rail Model Can Work. The transport operations in isolation seldom even cover their operating costs and in all Australian cities require heavy subsidies, but have the potential to create significant profits in properly integrated land development. Therefore, it has always been problematic for the market to provide this infrastructure unless properly integrated with land development.

If built in this way under the old model – a welfare model – then investors come in and take windfall profits from the land around stations thereby capturing much of the

^B Newman P., (2015) The Entrepreneur Rail Model Discussion Paper, CUSP, Curtin University

^C For Australian evidence, see for example McIntosh J., Trubka R., Newman P. (2013) Can Value Capture work in a car dependent city? Willingness to pay for transit access in Perth, Western Australia. Published in Transportation Research - Part A, 67 (2014) 320-339

economic value. It is an unearned transfer of wealth, from ordinary taxpayers to a fortunate few land owners. As well, the opportunity to link land development into rail stations is an afterthought. It is therefore rare and difficult. By contrast, in the Entrepreneur Rail Model activity centre development can be built into the project, and indeed it is imperative.

Delivery is proposed through a BOOF development – Build Own Operate and Finance model. If sufficient land for redevelopment can be made available through government land assembly, it should be possible to fund a rail line entirely with private capital. The mechanisms for this are suggested in Section 3 under Delivery of the Entrepreneur Rail Model.

In some cases, it will not be possible to assemble a sufficient quantity of re-developable land to fully fund a worthwhile rail project just from government land or from land purchased by consortia. There are ways of developing private sector partnership projects with land-owners to create many opportunities for land development to raise funds, though this will require government assistance through powers given to redevelopment authorities. There is also a range of

different passive sources of value capture that flow to the three levels of government (McIntosh et al 2014)^D. These funds can be hypothecated back to a rail project but in this Entrepreneur Rail Model, passive value capture is seen as only a small and supplementary part of a project and if possible it should not be seen as necessary. **Private funds from land development should be the primary source of financing an Entrepreneur Rail project.** This is called active value capture through tapping the enhanced land value to make land development happen and hence fund the rail project, otherwise the land values do not rise.

The Federal Government has announced its intention to proceed down this path. The Hon Greg Hunt, in a speech to the Sydney Business Chamber said this:

"It is clear that rapid growth in major capital cities can't be accommodated with existing public funding models. All levels of Government in Australia are facing budget constraints.

While there are a number of major infrastructure projects underway or in planning, we are unlikely to be able to sustain this rate of investment in the long-term.

^D McIntosh J., Trubka R., Newman P., (2014) Tax Increment Financing framework for integrated transit and urban renewal projects in car dependent cities. Urban Planning and Research 33(1): 37-60. On-line 3 December, DOI: 10.1080/08111146.2014.968246



Image by Jeff Kenworthy

If we are to provide the transport infrastructure that Australia's cities will need in the future, we will have to find new ways of paying for its construction. Minister for Major Projects, Paul Fletcher, is looking at this issue very carefully and exploring options, including flexible financial arrangements rather than just traditional grants.

One of the fairest ways to fund new infrastructure investment is for the beneficiaries of that infrastructure to contribute to the cost.

Value capture is increasingly used internationally to ensure that projects go ahead, residents receive the benefits, but some of the cost is offset through the uplift in value to beneficiaries."

Cooperation between Federal, State and Local Governments will need to be developed to make this model work but most of all new ways of working with the private sector in planning a rail line will be required.

This paper sets out the concepts behind such a funding model, supporting the benefits of private sector involvement in urban rail, and proposes a procurement process and governance system to enable this to happen.

1.2 STRUCTURE OF THIS DISCUSSION PAPER

Section 1 has set out the Context for how we have created the Entrepreneur Rail Model and why we believe it can establish a new way for funding that achieves multiple urban benefits.

Section 2 of the scoping paper sets out the basis of a business case for the Entrepreneur Rail Model, based on global best practise and related work by CUSP through a number of PhD research projects (e.g. J. R. McIntosh et al, 2014). Additional insights are added from other national and international sources as referenced.

Section 3 of the report outlines a preliminary framework for development of the Entrepreneur Rail Model, its procurement through a Public Private Partnership and delivery through a BOOF scheme using two new government entities.



*The Entrepreneur Rail Model
would diminish the public
financial burden of providing
rail by enabling finance from
groups like superannuation
funds to provide the
investment.*



SECTION 2

Why The Entrepreneur Rail Model Can Work

2.1 THE VALUE OF LAND DEVELOPMENT-BASED URBAN RAIL

The value of urban rail to economic activity is based on a number of key overlapping factors. These are outlined further in Newman and Kenworthy (2015) but are summarised in five key factors:

1. TIME SAVINGS

Urban rail can now go faster than urban traffic and thus saves travel time. Traffic has been getting slower and slower as road capacity fills very quickly and most cities have now recognised that it is uneconomic in time and space to try to satisfy this. Urban rail can go around traffic and so rail to traffic speeds everywhere (since the 1990s in Australia) have been increasing, and are now faster (Table 1).

Table 1 Rail outstripping traffic speeds

COMPARATIVE SPEEDS IN GLOBAL CITIES	1960	1970	1980	1990	1995	2005
Ratio of overall transit system speed to road speed						
American cities	0.46	0.48	0.55	0.50	0.55	0.54
Canadian cities	0.54	0.54	0.52	0.58	0.56	0.55
Australian cities	0.56	0.56	0.63	0.64	0.75	0.75
European cities	0.72	0.70	0.82	0.91	0.81	0.90
Asian cities	-	0.77	0.84	0.79	0.86	0.86
Global average for all cities						
Ratio of metro/suburban rail speed to road speed						
American cities	-	0.93	0.99	0.89	0.96	0.95
Canadian cities	-	-	0.73	0.92	0.85	0.89
Australian cities	0.72	0.68	0.89	0.81	1.06	1.08
European cities	1.07	0.80	1.22	1.25	1.15	1.28
Asian cities	-	1.40	1.53	1.60	1.54	1.52
Global average for all cities	0.88	1.05	1.07	1.11	1.12	1.13

Source: Newman and Kenworthy (2015)



Image by Jeff Kenworthy

2. INCREASED LAND VALUES

As urban rail has been built, densities have begun to increase around such systems, as they provide the amenity that creates urban development opportunities.

Land value increases around rail are universal. See Table 2 for some examples.

Table 2 Land value increases and LRT systems from around the world

LAND VALUE UPLIFT RESULTING FROM LRT INVESTMENT	Uplift	Reference
San Diego, USA LRT	3.8% to 17.3%	Cervero & Duncan (2002)
Missouri, USA St Louis Metrolink LRT	32%	Garrett, (2004)
England, UK Tyne & Wear light rail	17.1%	Du and Mulley (2007)
Buffalo, NY, USA LRT	2% to 5%	Hess and Almeida, (2007)
Phoenix, USA Phoenix LRT	25%	Golub, et al., (2012)

Source: McIntosh (2014)

Land value increases around rail occur because people want to live or work near them so they can have no car or one less car and because they want easy access to the jobs and services attracted to the area. Thus there is a private value in rail projects that is not usually turned to advantage

in building the rail system; those who own the land just get wind-fall profits. However, governments do get some value flowing back to them through increased land-related taxation (see later).



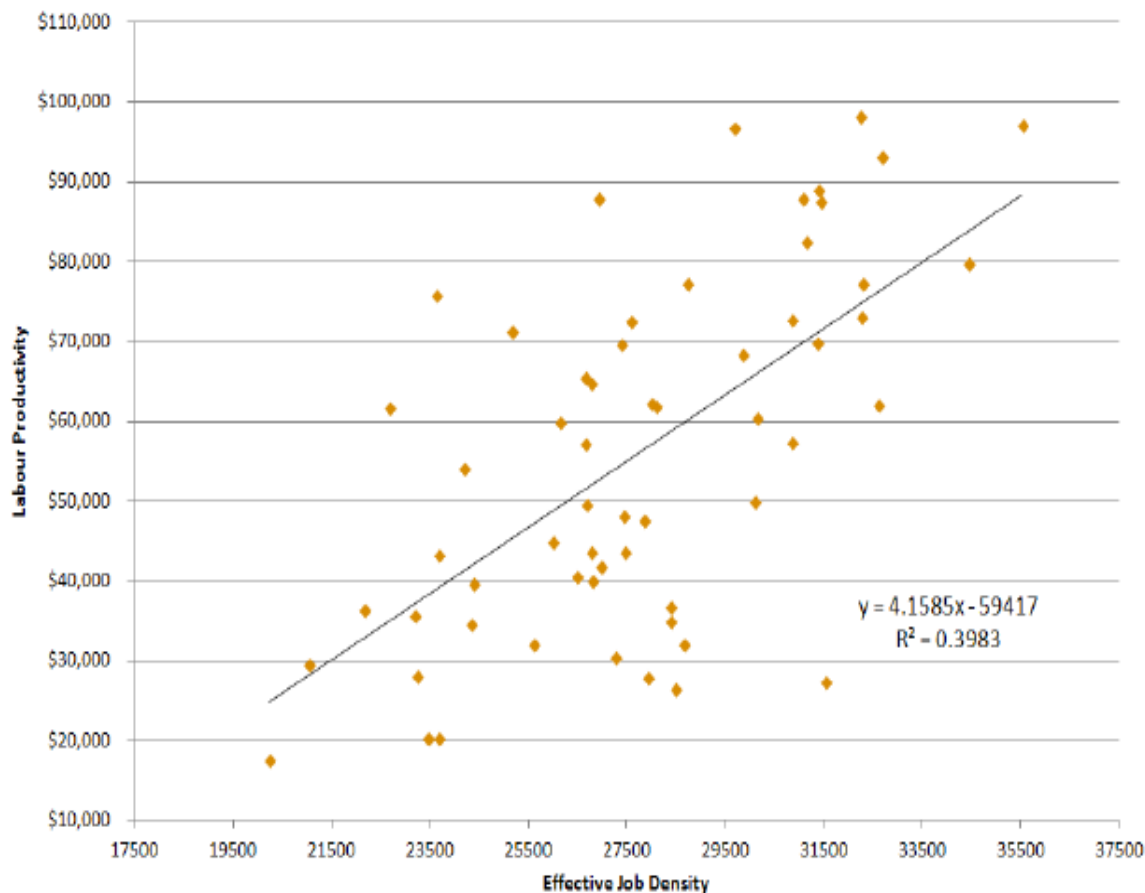
Image by Jeff Kenworthy

3. AGGLOMERATION ECONOMIES IN ACTIVITY CENTRES

Density in activity centres is strongly related to urban productivity. This case is strongly made by Yale Professor Ed Glaeser in *The Triumph of the City*, and has been measured in Melbourne (See **Figure 2**).

This phenomenon is known as agglomeration economies, and is caused by the clustering of urban activities and jobs that require face-to-face interactions for the creativity and innovation related to urban productivity gains.

Figure 2 Job density and labour productivity



Source: SGS Economics (2014)

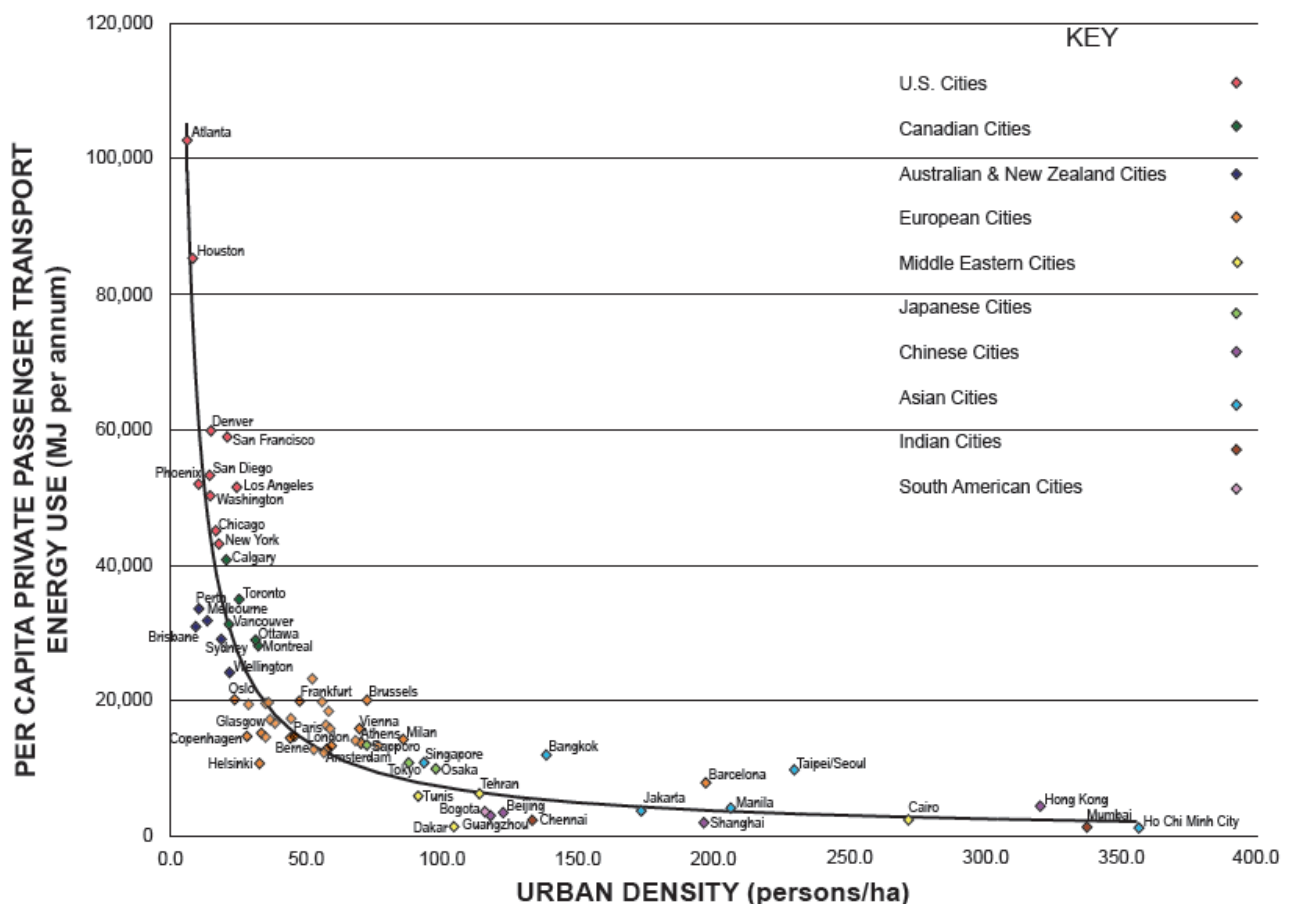
4. LAND DEVELOPMENT EFFICIENCIES

By focussing urban activity rather than scattering it, there are significant economic efficiency gains. Urban infrastructure is saved for energy, water and transport; around \$100,000 per block in Australian cities is saved whenever a residence in the suburban fringe is not built in favour of redevelopment. Urban services are more efficiently provided for health, education, and other social services. Health productivity is increased due to greater walkability and activity when people drive less, and an increase in productivity due to healthy workers of some 6% has been estimated (Trubka et al. 2010).

5. ENVIRONMENTAL GAINS DUE TO REDUCED AUTOMOBILE DEPENDENCE

There are many environmental issues exacerbated by urban sprawl and improved by increasing density in activity centres around rail stations. **Figure 3** shows how transport fuel decreases exponentially with increasing density and thus reducing all the other issues connected to high automobile dependence such as greenhouse gases, air pollution, and traffic-related accidents.

Figure 3 Transport fuel vs density



Source: Newman and Kenworthy, 2015

There is therefore a multi-pronged rationale for why planners want a more polycentric city, where urban activity is better focussed and linked into a quality transit system.

The Entrepreneur Rail Model can deliver this.



2.2 THE PUBLIC TRANSPORT EXTERNALITY

Delivering railways on commercial terms has always been problematic, as the railway operator does not capture all of the benefits of the infrastructure through fares. Businesses close to the infrastructure gain from improved accessibility, and this becomes factored into land values. This is a positive externality – a benefit that does not accrue to those who are creating it, and which the market therefore under-provides.

Due to this externality, almost no public transport system is profitable purely based on their operational revenue – the economic benefits they create instead deliver windfall profits to nearby land owners. Very few systems even cover their operating costs, with Perth's at around 30%.

Traditionally, this problem has been solved by direct government action – centrally-planning railways, funded through general taxes.

Under the Entrepreneur Rail Model (and in many of the world's more successful public transport networks), the Public Transport Externality is resolved by jointly developing rail infrastructure and parcels of land along the corridor. The increase in land value resulting from the rail infrastructure,

and ongoing rental income, is the principal source of funding. However, when governments are left to do the land development it rarely happens or is less than could have been achieved through market forces. This approach seeks to use the creativity and innovation of the private sector; they know a great deal about land development markets, as they do the vast majority of urban land development.

2.3 A NEW WAY TO PLAN TRANSPORT

The Entrepreneur Rail Model would diminish the public financial burden of providing rail infrastructure and services and enables finance from groups like superannuation funds to provide the investment. It would also radically change how our cities are planned and shaped. Currently, cities are mostly built to central government plans – for land use and activity centres, transport networks, water and power, among others. Under the Entrepreneur Rail Model, a city's rail network would instead be shaped much more by economic forces. Private proponents chase the lucrative and city-shaping re-development opportunities, as these provide the greatest profits and therefore the most opportunity to create a rail line.



Image by Jeff Kenworthy

To operate, this model requires large parcels of re-developable government and private land that private sector bids can identify as the basis for them to commit private capital. Where this is not feasible (for example, through already heavily-developed CBDs), traditional value capture and other mechanisms (including parking levies) may be needed instead, to capture the external benefits of network improvements. **Public funding from general taxation revenue should be used as a last resort**, when government land is not sufficiently available and when assembly and re-development of private land is too expensive or politically unfeasible.

2.4 THE ROLE OF GOVERNMENT

The Entrepreneur Rail Model still envisages several functions being retained or adopted by government. These are:

- Land acquisition and assembly
- Network coherency and integration
- Zoning land use changes, so as not to prohibit re-development
- Urban design and building standards

These are explained in more detail below.

LAND ACQUISITION AND ASSEMBLY

In order to link together land development opportunities along a potential rail corridor it may be necessary for government to compulsorily acquire some land parcels to enable the station precincts to be large enough for transit-oriented developments (TODs) to be built, as well as some land for the rail lines.

Land assembly is also needed to enable development to occur. Private sector proposals can suggest how best to do land assembly to make the most out of a site.

The process of purchasing land for government purposes has various mechanisms across Australia. The Western Australian Planning Commission performs such a function using funds from the Metropolitan Region Improvement Fund (MRIF). This process has been used to acquire land over long periods of time for the purposes of assembling infrastructure reserves and delivering public open space. It has minimised the financial and political costs of compulsory land acquisition for a number of major projects in Western Australia, such as the Perth to Bunbury Highway^E.

^E Western Australian Planning Commission (2007) The Case for Retaining the Metropolitan Region Improvement Tax

This process across Australia has been mostly used to enable road construction, rather than rail, though examples are now emerging as cities begin building new rail lines such as the light rail in Gold Coast and Sydney. Some land for the Southern Rail in Perth was acquired by the MRIF, including the land for the central railway station at 140 William Street. Such a mechanism would be well suited to long-term strategic land assembly for the purposes of rail-based redevelopment in the Entrepreneur Rail Model. The Planning Act established the MRIF to be for 'land acquired for the purposes of the Metropolitan Region Scheme' and 'shall dispose of for the likely provision of the Scheme.' Redevelopment authorities have similar abilities and as redevelopment opportunities and rail projects are clearly a major agenda for every regional strategy in Australia, it is not hard to see how they can be part of the implementation of metropolitan plans.

NETWORK COHERENCY AND INTEGRATION

There is the potential for multiple private sector organisations or consortia to be involved in rail development under the Entrepreneur Rail Model. It is vital that these different lines, and any legacy publicly-owned infrastructure, are effectively integrated into a single network.

Ensuring network coherency and integration would involve:

- Ensuring an integrated ticketing system. This would require a process for sharing revenue between lines when passengers transfer
- Regulating fares, ideally by a statutory or judicial body, rather than through a political process
- Potentially facilitating negotiations between different proponents whose lines should interconnect, or otherwise interact with each other. Also, ensuring that these interchanges run smoothly and are well maintained

Since integration occurs in most urban transit systems between different private sector operated services, it should not be too difficult to manage. Transit operations will need to be well connected between services. The Perth bus system has several different operators, Melbourne's rail and tram system and Tokyo's rail lines are all examples of private integration.

ZONING

The Entrepreneur Rail Model relies on land use change to capture the potential benefits of rail infrastructure. Land use zoning restrictions are often hard to overcome as low-rise and low density development is seen to be the only desirable urban form. However community support for increased zoning at proposed activity centres will be considerably enhanced by having a rail service as part of the positive benefits. Government's role in relation to zoning is to ensure that projects are not prevented from going ahead due to land use planning restrictions and will need to engage the public in detailed design discussions as well as showing the advantages of the new rail line and activity centre.

URBAN DESIGN AND BUILDING STANDARDS

A high quality public realm and enduring urban design are vital to ensuring public acceptance of rail-based redevelopment. Such high quality is usually in the immediate commercial interests of developers as well and redevelopment agencies are experienced in ensuring there are detailed design guidelines. These can include a proportion of social housing, to ensure access to such quality living is not just for the wealthy as has been achieved in East Perth and Subiaco redevelopments.

2.5 SIMPLIFIED MODEL

The Entrepreneur Rail Model is to be based on how much land can be developed – or redeveloped – as the basis of financing the rail construction and operations.

The model is based on the potential for a private sector-led proposal to:

1. Propose route and station locations based on planned land use which will ensure that development within station catchments is maximised along with transit patronage;
2. Match finances to the proposed rail system iteratively by:
 - a. Estimating revenue contributions available from private development due to increases in land value if a rail line is built to service the area;

- b. Designing the urban rail system (and its future operation) in order to be affordable against likely available funds after customer access and land development opportunities have been maximised (capital and operating costs).

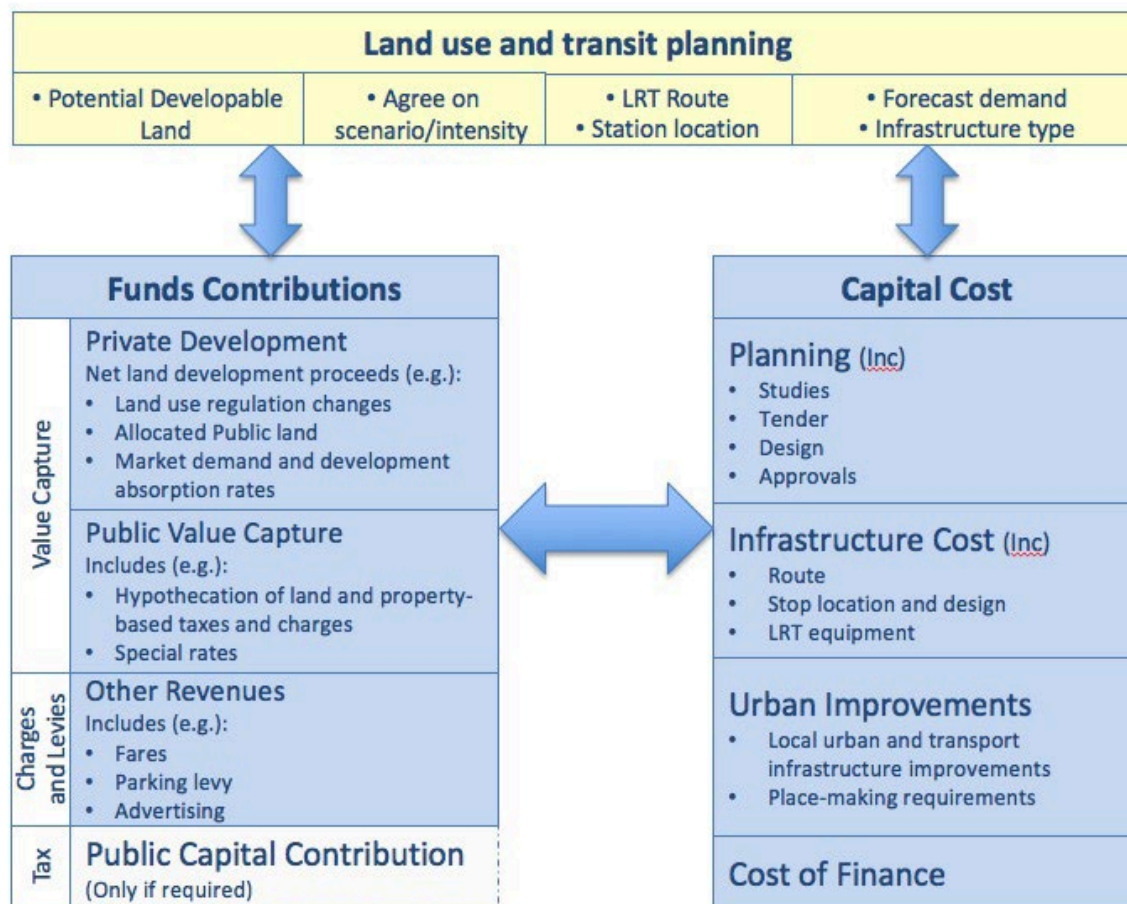
The Entrepreneur Rail Model process would seek bids from consortia to:

1. Predict how much land can be developed along a corridor to provide the fundamental source of the funding.
2. Provide an estimate of the potential transit patronage that can be produced from the corridor to be developed.

3. Provide an estimate of private capital to be contributed by combining land redevelopment potential and patronage potential for capital and on-going costs.
4. Estimate the public gain from land value-based taxes (Federal, State and local) that could be potentially accessed as partnership funding by governments.

A simplified model of the potential of value capture for payment of capital cost is set out below. In Appendix 1 the basis of how value capture can be measured and delivered is provided.

Figure 4: Simplified Planning, Funds Contribution and Capital Cost Model





2.6 PRIVATE-SECTOR-LED DESIGN MODEL

Strategic planning in all Australian cities has identified the importance of redevelopment, especially in activity centres. However, mechanisms to make this happen require private capital to be attracted to such sites. If a light rail can be brought into an area, then it will raise the potential for land development to be focussed around it.

Strategic planning is essential to help maximise the dual benefits of the infrastructure/development relationship and deliver development where there is demand by making sites more viable for development or for greater development intensity through improved connectivity^F.

The development of a good understanding and joint vision for an Entrepreneur Rail Model project is required between the preferred private sector bidder and State and local Government in terms of:

- A future land use vision and plan – that particularly creates the conditions for high value public transport within walking distance of stations; and
- The preferred alignment and station locations that would be most effective in the urban structure, i.e. in helping to create better Activity Centres.

These activities are usually seen as occurring before any rail project proposal. In the Entrepreneur Rail Model they

would need to be done in parallel and in partnership with the private sector. If this does not occur, then the private sector will be shut out and their funds will not be provided.

Other mechanisms, such as use or extension of the Perth Parking Levy could also be used to capture value. Under the Entrepreneur Rail Model these would be used to top-up direct land value capture of land development in the Entrepreneur Rail Model project.

A range of Value Capture Methods are outlined in Appendix 1 and from Consult Australia and AECOM are listed in Appendix 2.

2.7 DIRECT GOVERNMENT FUNDING BASED ON GOVERNMENT RETURN

Under the Entrepreneur Rail Model in **Figure 4** direct government funding could be a supplementary source for any project. The calculations of government return as outlined above can set out the potential contribution and this can be included together with land allocations to demonstrate government support for the financing process. However it is not the goal to seek that as it should be possible to find enough land-based development opportunities to make viable a new rail line in Australia's car dependent cities.

^F Royal Town Planning Institute (RTPI), (2014) Transport Infrastructure Investment: Capturing the Wider benefits of Investment in Transport Infrastructure.



East Fremantle Now and After Light Rail – Images by Cole Hendrigan





*Government Bids based on
100% private capital is the goal
of the Entrepreneur Rail Model.*

SECTION 3

How to Deliver the Entrepreneur Rail Model

3.1 DIFFERENT DELIVERY METHODS

The Entrepreneur Rail Model is fundamentally different to how rail planning is currently done. Traditional approaches start with defining a transport route, seeking funding from government and getting private sector involvement in providing the transport. Land development happens afterwards and the value is mostly captured by entrepreneur developers with some value going to government through land value-based taxes.

To reverse this process, the Entrepreneur Rail Model begins by seeking private land developers that can create sufficient profit from land development to fund the rail project. The land value increase from building rail enables the private land development to proceed viably, because the land development is unlocked.

There are three ways this can proceed:

- a. **Unsolicited bids** – a consortium of land developer, train builder, train operator and financier, provide government with a bid that makes a rail project proceed to an evaluation phase.
- b. **Government calls for bids** – a general consensus that a particular corridor could have the required land development potential as well as fulfilling transport needs, means that government can request bids from consortia before evaluating the best one.
- c. **Government controls internally** – a new government agency (or revamped land agency) creates a rail project through land development in the same way that Hong Kong MTR does it. This could be a semi-private enterprise.

There are also three ways of funding and financing such projects:

- a. **Totally private capital.** Government's role would be kept to in-kind activity to ensure land assembly and land acquisition, zoning and other transport planning integration is fully covered. This would depend on sufficient land being available to generate the capital and enabling whatever mechanisms are needed to generate private investment. It would mean that the project could be off balance sheet and hence would help with State Government credit ratings.
- b. **Substantial private and some public capital.** Substantial private capital can be supplemented by some government capital. Government's expected land value based tax flow on could be hypothecated to cover their contribution. This approach would ensure that the rail project is still generating all the capital required though some is from public sources at the three levels of government.
- c. **Some private and substantial public capital.** This seeks help from private sources through land development, but primarily raises government capital through a mixture of sources such as parking levies, tolls on associated private traffic, developer contributions, an increase in registration fees or some other form of tax hypothecated to the rail project.

Governments can seek combinations of these approaches and funding/financing. **Our paper suggests that the preferred option should be to seek a process of Government Bids based on 100% private capital as the goal of the Entrepreneur Rail Model.** If some small contribution from public capital is needed then this would be the next level to be sought. A Federal Government role could be to help fund bids for potential demonstration projects.

The importance of enabling private sector investment is the critical step in unleashing the new governance instrument. Without this the rail lines will not happen and the activity centres will not be built.

It is important that a government bidding process is controlled by Treasury as the central agency required to ensure private sector funds are attracted to achieve public-good goals. Treasury would ensure consortia are evaluated by financial criteria, land development criteria and transit criteria, in an integrated way. This cannot be done by a transit agency as their emphasis on choosing the routes in detail first will not optimise land development opportunities so the rail will not get built. A transit agency's only task in our model is to ensure transit system compatibility with any new rail lines. The delivery process will require the powers of a redevelopment agency to provide government's role in land acquisition, zoning and land assembly to unlock the latent value in land development around the stations.

It is therefore suggested that two new government roles are established. The first is a **Transit Investment and Land Development Unit** established in Treasury to oversee the bidding process for Entrepreneur Rail projects. State

Governments can immediately call for bids from consortia to establish a private rail system based on development of activity centres along a particular corridor. The criteria by which these will be evaluated would consist of:

1. Financial – the project should aim to be self sufficient in capital and operating expenses based on land development, fares and other means such as advertising.
2. Land – the project should aim to utilise government land provided as part of the bidding process as well as private land that will need to be built into development partnerships or purchased as part of the project's financing. Land acquisition, zoning and assembly will be assisted by government to achieve required activity centre goals as well as sufficient funding outcomes to enable the rail line to be built.
3. Transit - the project should provide a high quality transit service that is linked into the rest of the system and generates its own patronage from the land development activity centres. The quality of the system should be high enough to unleash the potential for development of the activity centres.



After a private sector consortium has been chosen to lead the planning and delivery of the urban rail infrastructure and the development of available government and private lands, there will need to be another co-ordinating government entity. We are suggesting the formation of a new **Entrepreneur Rail Delivery Agency** to facilitate the planning and delivery process. The delivery agency would be similar to development corporations and authorities that have been created in Australia over the last two decades for undertaking the planning and development of urban renewal projects. It would not need new legislation to establish and could be made part of a current Redevelopment Authority.

The development authority model is a tested method by which redevelopment under the Entrepreneur Rail Model would work. By way of example, the function of the Western Australian Metropolitan Redevelopment Authority is to *plan, undertake, promote and coordinate the development of land in redevelopment areas in the metropolitan region*⁶. Specific purposes of the planning scheme for Midland, as one of the Authority's redevelopment areas, include providing sufficient certainty to enable location and investment

decisions to be made with confidence and enabling the Authority to recover the costs of providing infrastructure within the redevelopment area. Thus sufficient powers are available to help unleash the new governance instrument inherent in the Entrepreneur Rail Model.

The next two sections provide more detailed consideration of the different ways of using land development to create revenue for the Entrepreneur Rail Model.

3.2 PRIVATE LAND DEVELOPMENT AS A SOURCE OF REVENUE

DEVELOPMENT SOURCED REVENUES

Development sourced revenue is a model successfully being used in Hong Kong, China and Japan to finance construction of urban rail systems.

The Entrepreneur Rail Model also proposes to fund urban rail infrastructure from development sourced revenue that benefit from rezoning for higher intensity land uses and increased density along a rail line. Development-led funding approaches will be sourced from:

⁶ Metropolitan Redevelopment Authority Act 2011 - Sect 7



1. Development-based land value capture that includes:
 - i. Development and redevelopment of government lands along and adjacent to urban rail stations;
 - ii. Joint development of public land and adjacent private property at stations; and
 - iii. Land assembly and redevelopment by a new rail delivery authority.
2. Developer contributions that can be taken from increased development rights by intensifying allowable development along the urban rail line through:
 - i. Large landowner developers with sizeable development sites; and
 - ii. Small landowners around transit nodes through urban redevelopment schemes that encourages or obligates land pooling for development.

A private sector partner will lead the planning and delivery of the urban rail infrastructure and the development of available government lands. Facilitation of the planning and delivery process and an ongoing regulatory process should be undertaken by the proposed new Entrepreneur Rail Delivery Agency.

This is an entrepreneurial governance model where the state partners with the private sector to undertake development of government lands to raise revenue to pay for rail infrastructure as well as acts to attract other development and raise revenue from private land. The delivery agency would be similar to development corporations and authorities that have been created in Australia over the last two decades for undertaking the planning and development of urban renewal projects.

DEVELOPMENT OF PUBLIC LANDHOLDINGS

Surplus or under-utilised public landholdings are often incorporated into urban renewal projects in various Australian States. The land is sold, developed by the renewal authority or joint ventured with the private sector to provide a source of revenue to help finance infrastructure and redevelopment.

The Entrepreneur Rail Model proposes to develop available state and local government lands within walking distance

of urban rail stations thus cycling a 'lazy' land asset into a productive transport asset. Public land assets would be identified along a preferred route, and the private consortium would be allowed access to plan and develop the land with a proportion of the revenues generated being directly allocated to fund the urban rail infrastructure. This enables development to be undertaken using the experience and expertise of the private sector without the government being exposed to the risks of development itself. Importantly, access to the public land significantly reduces private sector capital commitment and risk as the cost of acquiring and holding the site during development will not be incurred. This should noticeably increase development returns.

Some private owners can be encouraged to participate in conjunction with public land development around rail stations through the private consortium. This can be the same process as per the public land holding model except the land owner can make profits that are retained as well as contributing to the rail line. Also a land owner may agree to cede part of the land holding for urban rail infrastructure in return for additional allowable development. In some cases, the State may need to use compulsory acquisition powers to obtain private land parcels critical to rail infrastructure provision, with any surplus lands then becoming available for development with revenues in excess of the land cost directed back into project revenue.

The private consortium as developer would be responsible for actual development costs including project management fees and finance, with net proceeds going to pay for the urban rail infrastructure.

There are a wide variety of partnership models through which the public sector can work through the private sector to capture the land asset value through development. Straight-forward models include the direct sale at an agreed value; and the government retaining its interest through granting a long lease, allowing a developer to undertake development in return for a capital sum or an annual rent. More complex equity sharing approaches have evolved to deal with sharing the risks and rewards from property development – for example where priority payments for land are made to guarantee a public return,

or where additional profits are agreed to be shared on a predetermined split decided between the developer and public land owner. An optimal approach would be negotiated by the Entrepreneur Rail Delivery Agency.

DEVELOPMENT OF PRIVATE LANDHOLDINGS

A large proportion of land around likely routes for urban rail infrastructure will be held in private ownership and account needs to be taken of the practical and commercial realities of land ownership.

A key challenge is that it is essential to facilitate the development of private landholdings around urban rail stations in order to increase ridership. Typically, the land and property markets are not directly responsive as landowners will bring land to the market in uncertain quantities, at indeterminate times and at an asking price which may fail to reflect the aspirations of the urban rail station plans^H. Coordinated planning and TOD infrastructure are needed.

The Entrepreneur Rail Delivery Agency with the selected consortium would initially plan to acquire lands along the rail route at the initially lower values for assembly, planning and development and could use public funds or funds from the selected consortium for this purpose. For example, the Washington Area Metropolitan Area Transit Authority has aggressively purchased vacant land near planned rail stations, often at bargain rates, to ensure development of transit-supportive projects^I.

A station precinct land use planning process offers scope to address private ownership issues by allocating additional development rights to larger sites which are more likely to be brought to the market at a reasonable price, or by mandating land pooling.

TOD INFRASTRUCTURE

Station precincts will be located in a variety of urban contexts that could range from city centres and urban districts that already have high density office, residential and retail development to single-use residential neighbourhoods. A number of activity centres are listed

in the strategic plans of Australian cities and many have little actual development happening without them. The new governance instrument suggested here can unleash the potential for redevelopment in these centres. The process will need more than a rail line and associated land development in order to create a viable and attractive activity centre. There may be infrastructure needs within the station catchment such as pedestrian and cycling facilities or improved open space that are needed to support higher density development.

Consideration will need to be given by the delivery agency to the economics of development in particular areas to balance funding for local infrastructure needs for redevelopment with funding for new urban rail infrastructure.

Development based revenues may be able to be supplemented with other mechanisms such as parking levies in markets where the economics of development are strong and growth is rapid and intense. Where development is more marginal, there may be a case for a form of catalytic government financial assistance by way of grants or loans as in other land development projects, however these should not be seen as the norm for an Entrepreneur Rail project.

MARKET AND REVENUE TIMING CONSIDERATIONS

There will be a lag between development revenue receipts and capital expenditure for urban rail infrastructure which will occur up-front. Mechanisms such as bridge financing or rapid approvals to ensure early development returns, can be part of a PPP negotiation.

Also, cash flows for the funding of the urban rail from development will need to be cycle sensitive. Development will occur over a long period of time depending on the ability of local markets along the rail route to absorb new development. When the real estate market is in a downturn, the rate of revenue captured will also reduce. These matters are normal practice for private sector land development companies.

^H RICS Planning and Development Faculty briefing paper (July 2008). Delivery Strategies for Masterplans and Area Action Plans

^I Gloria Ohland, Value Capture: How to get a return on the investment in Transit and TOD. www.ctod.org/pdfs/2005ValueCaptureTOD.pdf

Requirements will depend on the models and offers of the bidding private consortiums. Once selected, the Entrepreneur Rail Delivery Agency would prepare a delivery strategy in partnership with the winning consortium, to optimise outcomes and minimise risk by indicating infrastructure priorities, funding and timing over market cycles.

3.3 PRELIMINARY FRAMEWORK: MODEL DEVELOPMENT AND REALISATION

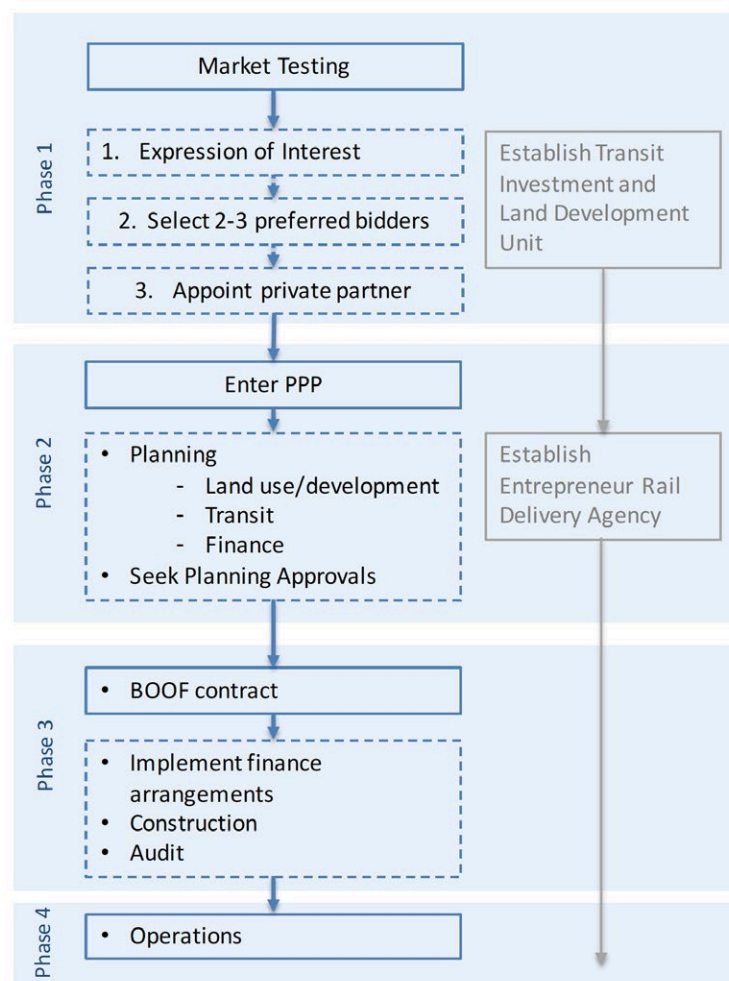
This section outlines a preliminary procurement process for development of the Entrepreneur Rail Model, through a Public Private Partnership and delivery through a BOOF scheme.

The process outlined in **Figure 5** provides an example of a staged procurement where the Government calls for bids

following a general consensus that a particular corridor could have the required land development potential as well as fulfilling transport needs. This means that government can request bids from consortia before evaluating the best one.

The Transit Investment and Land Development Unit would examine the consortia bids and report to a committee chaired by the Treasurer and with relevant local government representation. State Cabinet would give final approval to appoint a private partner and enter into a PPP. The winning bid would work with the Entrepreneur Rail Delivery Agency and report back to the same committee. The Entrepreneur Rail Delivery Agency would be maintained through delivery in an ongoing land assembly and planning regulatory function.

Figure 5: Entrepreneur Rail Model Preliminary Framework: Model Development and Realisation



3.4 CONCLUSIONS

Urban rail projects across the world are now being owned and operated by private consortia (e.g. new light rail in the Gold Coast, Canberra and Sydney, as well as Melbourne trams and trains). This is not unusual. What is unusual about the Entrepreneur Rail Model is how land development becomes the cornerstone of its funding, how the integration of private land development entrepreneurial skill unlocks access to private capital.

The power of this model is that the unlocking of private development in new activity centres could not occur unless it was completely integrated with the amenity-creating, value-creating power of a new urban rail service.



Image by Jeff Kenworthy



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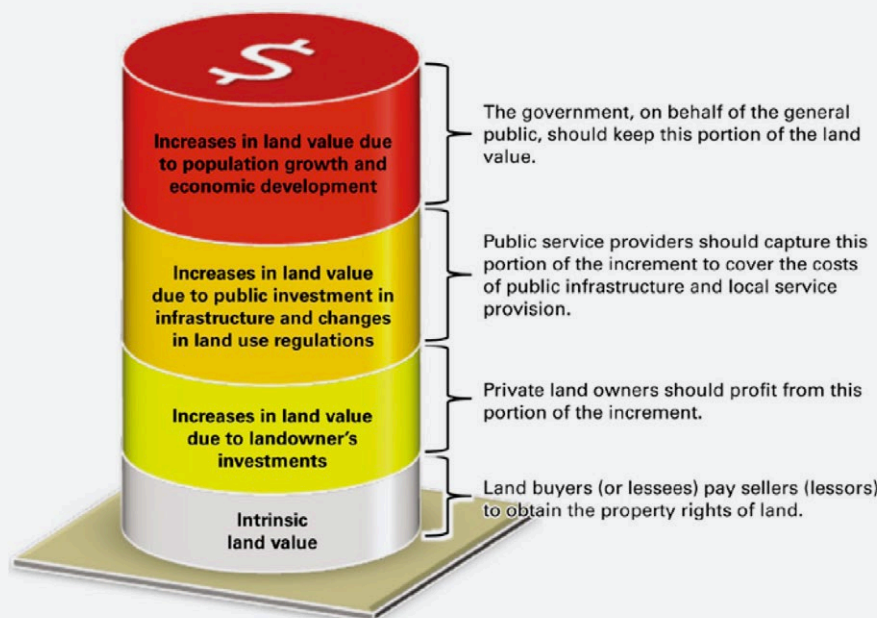
APPENDIX 1:

Value Capture Principles and Practice

A.1 VALUE CAPTURE PRINCIPLE

The value capture concept is well founded on the principle that land value is determined by its intrinsic value and private investments, as well as (normally public) investment

in infrastructure and changes in land use regulation along with population and economic growth^J as follows:



Land Values and their attribution (Suzuki, H., et al 2015)

The notion of taking back created public value is accepted by the United Nations on the basis that “the beneficiaries of the public investments or the public decision increase their land values should partly cover investment costs or return their benefit to the public”^K.

As an evolution, the Entrepreneur Rail Model would authorise the private sector to recoup an investment in new rail infrastructure through development profit as a direct method of land value capture along with the portion of the increment of land value increase attributable to the provision of the LRT infrastructure and service.

^J Suzuki, H., Murakami, Hong, Y., and Tamayose, B. World Bank Group (2015) Financing Transit-oriented Development with Land Values: Adapting Land Value Capture in Developing Countries.

^K United Nations (1976) The Vancouver Action Plan Recommendation D3. United Nations Conference on Human Settlement, Vancouver, Canada.

A.2 CAPTURING VALUE IN PRACTICE

There is a diversity of options to address the capturing of value, with some 15 measures listed by Consult Australia in its Value Capture Roadmap (see Appendix 2)^L.

The Entrepreneur-Led Rail Model is to be private sector-led and so the Scoping Paper makes a distinction between value capture mechanisms that can be privately-led and those that require public sector support (see Figure above).

Potential private-sector-led mechanisms are discussed below, followed by a Transit Tax Increment Financing (TTIF) Framework developed by J. R. McIntosh et al (2014) included in the Newman, P. Entrepreneur Rail Model that sets out a process to capture public funds. It also shows how to link private and public value capture.

A.3 CORE QUESTIONS BEHIND THE ENTREPRENEUR RAIL MODEL

A James McIntosh Consulting study for the Stirling Alliance and J. R. McIntosh et al (2014) indicate that land values in the walkable catchments of new (heavy) rail stations have achieved very strong growth notwithstanding other factors that influence property values^M (see s. 2.1). Values of up to 42% increase in land value uplift were found in the first five years of building the Southern Railway. This land value increase can be used to attract capital to station precincts before a project is built and therefore to create the capital base for a new rail line.

The key value capture questions for an Entrepreneur Rail Model project are:

1. How much can the private sector make from land development to enable the rail project to proceed based on private investment?
2. How much government return can be made from such projects, due to increased flows of property-

based taxes – rates, stamp duty, land tax, GST and capital gains tax? Such tax gain could be the basis for calculating government contributions (at all three levels of government).

The scoping paper next expands on how value may be able to be captured for the Entrepreneur Rail Model as the evidence on value capture is generalised with no direct comparator project.

A.4 PRIVATE LAND DEVELOPMENT AS A SOURCE OF RAIL FUNDING

Private investment in the land to create dense development becomes feasible due to the rail project – providing a new level of amenity. It is also possible to get higher zonings and quicker approvals for such development.

Thus private consortia involving land development in partnership with rail builders/operators can create new ways for urban land to be brought to the market.

By way of a high level example of the value potential of government lands, there is 52 hectares of vacant state and local Government land is available in the Stirling City Centre^N. If valued at a rate of \$725 per m²^O from Urbis (2012), the Stirling State Government and Council lands could yield a direct value of \$377 million to the Curtin-Stirling LRT pilot^P. Whilst this does not take into account the cost any necessary infrastructure or improvements that may be required to unlock the land or the timing of the sale of the lands, it is evidently a sizeable capital sum in any case.

The value uplift for the Stirling Centre land could result in say the 14 per cent uplift (calculated by James McIntosh Consulting for the Stirling Alliance^Q for land within the 400 metres walking distance of a station- see 3.1.6 next) at 14 per cent uplift. This proportion of \$377 million equals \$53 million.

^L Consult Australia & AECOM (2015), Value Capture Roadmap, <http://www.consultaustralia.com.au/docs/default-source/cities-urban-development/value-capture-roadmap/value-capture-roadmap-as-web.pdf?sfvrsn=2>, pg. 9

^M In practice a wide range of factors may affect land values ranging from macro factors (population and economic growth, degree and pattern of urbanisation, market demand, land availability); regulatory and institutional factors (planning regulation, competent institutions) transit logistics (accessibility vs. nuisance for heavy vs. LRT, transit alternatives, transit network connectivity).

^N Western Australian Planning Commission and Stirling City Alliance (2012) Stirling City Centre Program Business Case.

^O as the average of residential land value of \$700m² and commercial/mixed use-retail which was valued by Urbis as \$750m² in 2012.

^P Urbis for Landcorp (2012) Land Value Uplift & Property Taxation Analysis: Stirling City Centre

^Q James McIntosh Consulting, (2013) Hedonic Price Modelling for Metropolitan Perth: Calculation of the Effects on Perth Land Values for Application

A.5 PUBLIC VALUE CAPTURE - TRANSIT TAX INCREMENT FINANCING (TTIF) MODEL

The Entrepreneur Rail Model is distinct from value capture as the term is normally understood. Both models of public transport funding are based on the observed phenomenon that rail infrastructure raises land values.

Under the Entrepreneur Rail Model, public transport infrastructure is part of the private sector business model, delivered by a consortium that includes developers. This significantly reduces the need for government-levied developer contributions and other taxes on property to cover the public costs associated with new developments

However, government will also benefit from land value increases and thus public value capture can be used in a project, when it is difficult to assemble sufficient re-developable land for the Entrepreneur Rail Model.

AUSTRALIAN EXAMPLES

A proxy for government making leasehold land available is access to the value of State and local government land holdings. Government landholdings frequently include surplus or under-utilised land that can be either sold or developed to provide a source of revenue, and can be incorporated into an infrastructure or urban renewal project^R. This method has been commonly used in Western Australia through the Metropolitan Redevelopment Authority which has been given access to State Government lands in order to improve them and make profits through redevelopment of brownfield and other sites.

Direct Australian examples of the use of government land for value capture for transport infrastructure projects are scarce or vague. For example, Langley J. of AECOM informs that a study by KPMG for the Sunshine Coast light rail project indicated that a “well designed and articulated value capture strategy” could contribute in the order of 10% to

20% of that project’s \$1.8 billion cost^S, through increases in land and property-based taxes and charges.

The Gold Coast Rapid Transit (GCRT) was funded by local, state and federal Governments, with only minimal regard to value capture from development. Four primary land parcels were resumed for transport purposes and are now vacant remanet parcels following clearance and reallocation for road or light rail corridor purposes. The balance of the land is under review by the Gold Coast Rail Transit to deliver land value capture and TOD outcomes^T.

State and local Government needs to deliver good title to any property which it provides, but there may also be obstacles and delays in alienating public land, depending on the public land’s status.

Therefore, agreement towards and an estimate of available State and local Government land around stations along any proposed rail route will be vital elements of any value capture scheme.

TAX INCREMENT FINANCING

A Transit Tax Increment Financing (TTIF) Framework developed by J. R. McIntosh et al (2014) for the integration of strategic transit and land development projects with induced land and property value based funding/financial mechanisms is a workable model for how government can be envisaged and seen to be an acceptable investment.

The McIntosh et al approach ‘has a particular focus on implementation in car-dependent cities to maximise both city shaping benefits and potential TIF revenues to defray project costs’.

The proposed steps in the TTIF model are:

Step 1. Assess the relevant land and property taxing legislation and policies and define the zone for a Tax Increment District (TID).

^R Consult Australia & AECOM (2015), pg. 9

^S Langley, J. AECOM (2015) Capturing Value New Funding Strategies for Transport Infrastructure. Australasian Transport Research Forum 2015 Proceedings.

^T Curtin University Sustainability Policy Institute (CUSP), McIntosh, J. (2012) Presentation of Australian and International projects as case studies to the Doncaster Rail Project.

Step 2. Analyse the Willingness to Pay (WTP) for transit accessibility and TOD.

Step 3. Conduct TID financial analysis to forecast revenue generation and viability.

Step 4. Propose a project-specific TTIF implementation strategy.

The model was applied retrospectively as a case study for the Mandurah Line. Key learnings in relation to the model's four steps relevant to the Entrepreneur Rail Model are as follows.

Step 1: Taxing Legislation and Policies and definition of Tax Increment District

The three tiers of government have a suite of land and property-based taxes and charges that are impacted by land and property value uplift that occurs from a transit investment.

Australian Commonwealth Government Legislation

- New Business Tax System (Capital Gains Tax) Act 1999 (Capital Gains Tax)
- A New Tax System (Goods and Services Tax) Act 1999 (GST)

Western Australian State Government Legislation

- Planning and Development Act, 2005—Metropolitan Region Improvement Tax (MRIT)
- Stamp Act 1921 (Stamp Duty)
- Land Tax Act 2002 (Land Tax)

Western Australian Local Government Legislation

- Local Government Act 1995 (Council Rates).

While these taxes and charges were not designed to capture revenues for funding transit projects, all the government taxes can be analysed for induced cash flow purposes. However, only State Government based taxes would be suitable to be used for a TTIF to defray the cost of the transit investment^U.

In other words, all these taxes and charges can be used to strengthen the business case to Federal, State and Local Governments even if they are not able to be used to contribute finances for capital or operational purposes.

Defining the zone for a Tax Increment District

The Mandurah rail line station proposed TTIF TIDs at 400, 800 and 1600m pedestrian catchments of stations. Depending on the level of urban renewal/change proposed, it was concluded that the station pedestrian catchments could form the bounds of a TID and PCA.

Step 2: Analyse the Willingness to Pay (WTP) for transit accessibility and TOD

The study found that although the Mandurah rail line's pedestrian catchments' hedonic prices are still negative with respect to the land parcels in the rest of the region (due to the negative externalities of being in the freeway median), the change in the hedonic prices is significantly positive.

Step 3: Conduct TID financial analysis

A 'Value Capture' financial model was developed by J. R. McIntosh et al (2014) with the Western Australian Treasury Corporation to forecast revenue generation.

The study estimated the impact on the tax system of the investment in the Mandurah rail line across the three tiers of government would have accounted for approximately \$506 million (in real 2007 dollars) over a 30-year period, or 43 per cent of capital expenditure (\$1.184 billion 2007 AUD).

The model that has been developed with the Western Australian Treasury Corporation provides a credible model with which to undertake public value capture scenarios that has a sound basis from a State Government perspective.

^U McIntosh, J., Newman, P., Crane, T. & Mouritz, M. (2011) Alternative Funding Mechanisms for Public Transport in Perth: The Potential Role of Value Capture, Committee for Perth. Available at <http://www.committeeforperth.com.au/pdf/Advocacy/Report%20%20AlternativeFundingforPublicTransportinPerthDecember2011.pdf>

APPENDIX 2

Value Capture Methods: Consult Australia and AECOM (NSW focus)

1 RETAIL SALES TAXES (GST)

Modest increases or partitioning of retail sales taxes, similar to GST, are frequently used in overseas value capture programs at the local government level for a variety of public purposes, including for light rail projects and general revenue. These often require voter approval via a public referendum. In NSW, the equivalent of retail sales tax is the GST, which is administered at the national level in Australia and is redistributed to the states and territories.

2 TRANSFER (STAMP) DUTIES

Stamp duty is applied to all property transfers and some other transactions in NSW. In 2014-15, stamp duty is expected to generate \$7.2 billion (31%) of NSW tax revenue. Changes in legislation would be required to use this source in a value capture program.

3 PAYROLL TAXES

In NSW, companies with payrolls exceeding \$750,000 per annum incur payroll taxes. The current payroll tax rate is 5.45% above this level. Payroll tax is expected to generate \$7.8 billion (30%) of NSW tax revenue in 2014-15.

4 PROPERTY TAXES

Property taxes are the most commonly used source of value capture programs in North America and are typically based upon the combined value of land and improvements on a given parcel of land. In NSW, land tax does not apply to a principal place of residence. In some jurisdictions, including NSW, unimproved land value only is used in calculating land tax. Land tax is expected to contribute \$2.7 billion (10%) of the State's tax revenue in 2014-15. Legislative changes would necessarily be required to use land tax as a value capture mechanism.

5 COUNCIL RATES

In NSW, council rates generally apply uniformly throughout a local government area (LGA), as opposed to a specific benefitted area within the LGA, which is a characteristic of value capture programs overseas. Council rates are set and strictly controlled by the NSW Government based on the cost of administering the LGA.

Local councils have little control over this revenue source as annual rate increases are capped and any increase in rates requires state government approval. Council rates are therefore not well suited to value capture methods without the approval of NSW Government and changes to current legislation.

6 SECTION 94 DEVELOPMENT CONTRIBUTIONS

Councils in NSW have the ability to levy developers for contributions towards local infrastructure under Section 94 or Section 94A of the Environmental and Planning Assessment Act (EP&A). Section 94 contributions plans must identify specific public improvements and their costs, and the funds collected must be held in a separate account and applied only to those public improvements.

7 VOLUNTARY PLANNING AGREEMENTS

Voluntary Planning Agreements (VPAs) may be accepted as an alternative to development contributions. A VPA is an agreement entered into by council and a developer during council's consideration of a rezoning application (planning proposal) or development application. VPAs can either be in lieu of or in addition to a development contribution payment. This is negotiated as part of the VPA.

8 SPECIAL RATES

The NSW Local Government Act permits local councils to apply special rates in certain circumstances, such as to extend water supply networks and drainage systems. Using this Act for value capture purposes would require minor changes to the current legislation.

9 SALE OF BONUS GROSS FLOOR AREA (GFA)

Some local government councils in NSW enter into Voluntary Planning Agreements (VPA) under which additional development rights above existing zoning are sold to developers and the proceeds used to fund community infrastructure. The sale of GFA is a common funding mechanism overseas and is a logical source of additional infrastructure funds where transport and other infrastructure capacities exist to support the additional demand for services. However, there are examples in NSW where state and local authorities have lifted development rights without the additional services capacity being available, leaving infrastructure providers with no means of augmenting services to meet the increase in demand. The most evident result of the mismatch between approved development and lack of infrastructure capacity is traffic congestion.

10 SALE AND / OR LEASE OF AIR RIGHTS

Government agencies frequently sell or lease air rights above publicly-owned land, such as for development over road reservations and railway corridors. The St Leonards railway station on Sydney's north shore is a good example of air rights development. This method is widely used in Hong Kong, Japan, the US, France and the UK to fund metropolitan transport systems but is not used for this purpose in NSW.

11 SALE OR LEASE OF SURPLUS DEVELOPMENT SITES

The sale or lease of surplus public land has been frequently recommended as a source of revenue for infrastructure and desirable policy reform by the Productivity Commission, Infrastructure Australia and the NSW Parliament.

UrbanGrowth NSW is pursuing this option in a number of instances. However, Government agencies and community

groups often resist the sale of government assets, delaying or preventing projects from proceeding.

12 PARKING LEVIES

Parking levies are used by North Sydney Council and City of Sydney Council as a revenue source and as means of controlling congestion. In Perth, parking levies are used to fund free public transport in the city centre.

13 HOTEL TAXES

Some city and state governments in North American impose hotel occupancy taxes that are hypothecated to value capture funds. These examples are common in large cities that have significant convention and tourists trades, but are not used in NSW.

14 CAPITAL GAINS TAX (CGT)

Under current provisions, owner-occupiers of residential properties do not pay CGT upon the sale of their properties. A proposal has been put forward at the Federal level to introduce CGT on owner-occupied properties experiencing a sharp increase in value as a result of a public infrastructure investment. The CGT would only apply to "super" profits from property sales attributed to the public infrastructure investment. Under this scheme, owner-occupiers would be entitled to the CGT-free, Base Case market value proceeds from the sale and / or compulsory acquisition of their homes; this is, the value as determined prior to the infrastructure's influence on property values. Proceeds above the Base Case market value, the "super" profit, would be split between the owner-occupier and the infrastructure funding agency. This would allow a portion of the value created by the public infrastructure investment to be used to fund it.

15 PROPERTY DEVELOPMENT

State and local government land holdings frequently include surplus or under-utilised land that can be either sold or developed to provide a source of revenue, and can be incorporated into an infrastructure or urban renewal project. For example, a 2013 inquiry into rail corridors by the NSW Legislative Assembly directed the state Treasury to implement value capture mechanisms to generate funding for infrastructure projects.



Image by Jeff Kenworthy



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