
Research undertaken by

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Discussion Paper:  
Alternative Funding Mechanisms for Public Transport in Perth: the Potential Role of Value Capture

Synopsis 4
Executive Summary 5
1. Introduction 12
2. Why do we need to focus on public transport? 13
3. What is value capture? 15
3.1 Introduction to value capture 15
3.2 International research on the impact of transit on property values 16
3.3 The accessibility impacts on property values – Australian context 19
4. Why are value capture mechanisms needed? 20
5. What are the plans for Perth’s public transport and centres? 22
6. What are the suggested alternative funding mechanisms in the Public Transport Plan for Perth in 2031? 25
6.1 Short term Perth PT Plan funding mechanisms 25
6.1.1 Public private partnerships 25
6.1.2 Reallocation of the State budget to finance projects 27
6.1.3 Cash in lieu for car parking or parking levies 28
6.1.4 Public transport fare structures 36
6.2 Long term public transport plan funding mechanisms 40
6.2.1 Raise public transport funding as an issue at COAG 40
6.2.2 Congestion charging 41
6.2.3 Developer contributions 42
7. What is the current WA legislative basis for alternative public transport funding mechanisms? 43
7.1 The metropolitan region of Perth 44
7.2 Planning and Development Act, 2005 46
7.2.1 Metropolitan region improvement fund 46
7.2.2 State planning policy, 3.6 – Development Contributions for Infrastructure 2009 48
7.2.3 Planning control areas and improvement plans 49
7.3 Land Tax Act, 2002 50
7.4 Perth Parking Management Act, 1999 53
7.5 Local Government Act, 1995 – Division 6 – Rates and Services Charges 55
7.5.1 Local Government Act, 1995 Section 6.37 – Differential General Rates 55
7.5.2 Local Government Act, 1995 Section 6.37 – Specified Area Rates 57
7.5.3 Local Government Act, 1995 Section 6.38 – Service Charges 58
7.6 Summary of the review of current legislation 59
8. How is value captured? 60
8.1 Introduction to value capture 60
8.2 The differing scales of value capture mechanisms 61
8.2.1 Strategic level value capture mechanisms ............................................... 61
8.2.2 Project level value capture mechanisms .................................................. 62
8.3 Value Analysis Framework ........................................................................... 62
  8.3.1 Value capture for Government property .................................................. 62
  8.3.2 Value capture for Non-Government property ........................................... 63
  8.3.3 Value capture for increased service provision ......................................... 63
  8.3.4 Costs to the metropolitan region that are avoided .................................... 63
8.4 Value Capture Framework ............................................................................ 66
8.5 Value capture mechanisms .......................................................................... 67
  8.5.1 Active value capture from Government property .................................... 67
  8.5.2 Passive value capture from Government property ................................... 68
  8.5.3 Active value capture from Non-Government property ............................ 70
  8.5.4 Passive value capture from Non-Government property ........................... 79
9. How is value capture implemented? .................................................................. 81
  9.1 The value proposition .................................................................................... 81
  9.2 The planning control area / implementation plan .......................................... 84
  9.3 Tax increment financing facility ................................................................. 84
  9.4 Public-Private Partnership process .............................................................. 86
10. How could this alternative integrated land use and transport funding approach be applied to Perth? 87
  10.1 Land use and transportation integration – Directions 2031 and Beyond ...... 87
  10.2 An alternative approach to enable integrated transport and land use .......... 89
  10.3 An alternative funding approach – Metropolitan Region Public Transportation Fund (MRPTF) ................................................................. 89
11. What are the conclusions drawn and next steps required to implement value capture-based funding of public transport in Perth? 91

Appendix 1
Acknowledgements
“Public transport increases the quality of a city’s transport system and adds significant value to the land uses that it serves”

Synopsis

This Research Paper on alternative funding mechanisms for Perth has identified the following implications for the integration between land use and transport planning and, in particular, the funding of public transport for metropolitan Perth:

- Public transport both increases the quality of a city’s transport system (with rail twenty times more spatially efficient than car based modes) and adds significant value to the land uses that it serves. By improving the transport accessibility of the properties within rail pedestrian catchments, increases in property value of between 5 and 25% have been found for residential properties. For some commercial land properties, land values have increased by over 50%. RP data from Brisbane data shows a 22% increase over the past few decades.
- This increase in land value, resulting from an increase in transport accessibility, can be captured (value capture) to share the costs and benefits of the increased amenity and help offset the cost of the implementation of new transit infrastructure. At the same time the increased funding source can provide the missing link that can enable a land development to proceed at its full development capacity (with much less need for parking and high road capacity) because the rail access project can proceed.
- Value capture can assist in delivering the transport goals within Directions 2031 and Beyond (Directions 2031) as well as assisting the funding of the implementation of the Public Transport Plan for Perth in 2031 (Perth PT Plan). Without it, the potential to build the major centres being planned in Perth is unlikely to be fulfilled and the opportunities for enabling the planned (but unfunded) light rail network are significantly reduced.
- A range of existing legislative opportunities exist to enable the implementation of land value capture mechanisms in Metropolitan Perth including the use of the Metropolitan Regional Improvement Fund (MRIF), local government rating schemes and parking levies.

The paper also demonstrates how:

- Using a Value Capture Framework for the implementation of land value capture mechanisms in Metropolitan Perth enables economic value to be translated into financial mechanisms.
- Use of an implementation and cross jurisdictional governance framework developed through the preparation of a Value Proposition for transport projects demonstrates how all the costs and benefits can be drawn into one table to illustrate the net cash flows to each tier of government.
- Value capture mechanisms could be developed to enable the implementation of a strategic public transport fund for metropolitan Perth.
“The role of public transport in Perth and other car dependent cities globally has been relegated over the past fifty years to a secondary welfare role behind facilitating car-based transport”

Executive Summary

The Committee for Perth has commissioned Curtin University to examine how public transport can be funded in Perth using new integrated land and transport focused financing mechanisms known as value capture. Curtin has worked with Tim Crane from the Corview Group and Mike Mouritz from City of Canning to answer a series of questions outlined below:

1. Why do we need to focus on public transport?
2. What is value capture?
3. Why are value capture mechanisms needed?
4. What are the plans for Perth’s public transport and centres?
5. What are the suggested alternative funding sources in the Public Transport Plan for Perth in 2031?
6. What is the current WA legislative basis for alternative public transport funding mechanisms?
7. How is value captured?
8. How is value capture implemented?
9. How could this alternative integrated land use and transport funding approach be applied to Perth?
10. What are the conclusions drawn next steps required to implement value capture-based funding of public transport in Perth?

1. Why do we need to focus on public transport?

The role of public transport in Perth and other car dependent cities globally has been relegated over the past fifty years to a secondary welfare role behind facilitating car-based transport. However in recent years public transport usage has been growing dramatically and it has become obvious that public transport is a critical part of the economic value of a city. There are two aspects of investment in public transport infrastructure through which public transport creates economic value in cities:

a) Increasing transport value. Car-based congestion has reached such a stage in most cities that a fast, quality transit system can now be highly competitive with cars in terms of time and economic value. Cities without good transit are now becoming less and less competitive and hence need a good alternative transport mode to be provided.
b) Increasing urban value. The economy of cities globally is now based on the transfer of knowledge through both codified and tacit forms that require quality information and communication technologies (ICT) and a dense form of urbanism that encourages people to meet in centres. The clustering in dense centres of different professions, different skills and different approaches to problem solving is now a measurable contribution to productivity improvements. Public transport can enable this dense urbanism in ways that car-systems cannot as they are more efficient spatially. Rail is particularly efficient with more than twenty times the spatial efficiency of cars, and thus the urban value is created through transit-facilitated re-urbanisation that creates dense, mixed use centres that are the basis of the knowledge economy.

2. What is value capture?

Increased public transport amenity increases accessibility, which is reflected in increases in real estate values in the areas served, especially around rail stations. This land value increase can be captured and used to help pay for the public transport infrastructure thus enabling both the transit to be built and the land use to reach its full potential. Without it, the need for car-based systems such as car parking and roads means considerably less land use efficiency and lower yields.

The increases in residential land value found globally around rail stations have generally been between 5% and 20% (with some commercial land values increasing over 50%) compared to similar non-transit areas. RP data shows a consistent 22% increase in median unit dwelling prices when suburbs are near transit in Brisbane compared to non-transit suburbs over the past twenty-five years. The same value increase has not been found around bus systems, which is probably due to the lower noise and emissions of rail and also because rail speed and capacity can compete better with cars and hence are an attraction to live or work near. In addition to the operational differences between modes, rail is an attraction to developers due to its permanence which provides surety for long term land development investment.

3. Why are value capture mechanisms needed?

Value capture mechanisms enable the integration of transport value and land use value. They can be used as a mechanism to monetise the additional land value created by the provision of additional transit amenity which, in turn, can be used to defray the cost of providing transport infrastructure. The improved transport and land use value can be optimised by:

a) Sharing costs and benefits. Traditionally the funding of public transport infrastructure has been through government debt, especially by state governments, with a more recent foray from the Federal Government through Infrastructure Australia (IA). Value capture is a new mechanism that requires a sharing of the costs and benefits of public transport across the three tiers of government. The Gold Coast Light Rail broke new ground on this new kind of partnership. The benefits are not just a shared balance sheet across the three levels of government to ease debt constraints, the practice also enables the different strengths of each tier to be focussed on public transport delivery, especially with regard to bringing local perspectives that have rarely been involved before.

b) Enabling urban centres to be financed through Public-Private Partnerships (PPPs). Value capture mechanisms are enhanced where PPPs are formed to enable centres to be financed and delivered. It is difficult to meet the property market demand for dense unless these complex redevelopments have such partnerships forged. Significant public urbanisation costs can be avoided through transport savings and spatial efficiencies such as less parking and road capacity required by developers, resulting in reductions in both sprawl and private costs. The funding and financing integration between public transport and dense centres is a market-led process when value capture is used to enable public and private interests to be merged.

4. What are the plans for Perth’s public transport and centres?

The State Government’s Public Transport Plan for Perth in 2031 (Perth PT Plan) is a highly significant document as it recognises the need to expand public transport into new areas including potential cross-corridor linkages via light rail. It also recognises the need for some activity centres in Perth to be linked into this expanded rail system and suggests that new funding mechanisms will need to be pursued to implement the Plan.
The Directions 2031 plan continues the fifty-year tradition of having a strategic land use plan for Perth. Its significance is that the plan makes a conceptual commitment to link all major activity centres with improved rail systems, including a ring rail. The same close connection between rail and centres is not as clear in the Perth PT Plan.

This research paper suggests that the close connection between rail and centres can be made more financially deliverable if proper value capture mechanisms are developed to guide the future delivery of the required infrastructure as well as the land development associated with the re-urbanisation of the metropolitan activity centres. Such a process requires a market-oriented public transport funding system that uses the benefits of Perth’s growth and channels them into facilitating dense re-urbanism of the key activity centres.

5. What are the suggested alternative funding sources in the Public Transport Plan for Perth in 2031?

The Perth PT Plan sets out both short and long term options for funding public transport in Perth with each outlined option indicating considerable potential. The short term mechanisms (next 5 years) include:

a) Public Private Partnerships (both for delivery and financing);
b) Reallocating the State Budget (this suggests some serious constraints);
c) Car Parking Levies (significant amounts can be generated from car parking levies near all rail stations and even by charging for park ‘n’ ride at minimal amounts, e.g. $4 a day); and
d) Public Transport Fare Structures (shifting to differential fares based on time of day can help ease peak load problems as well as being progressive).

The long term mechanisms (the subsequent 5-20 years) include:

a) Using COAG processes to develop a national strategy (potential exists to provide more funds through IA and perhaps targeted transit-integrated land development projects);
b) Congestion charging (as outlined in the Henry Review will depend on national policies); and
c) Developer Contributions (the Perth PT Plan refers only to this one value capture mechanism thus we have attempted to include a broad spectrum of these mechanisms; also this does not need to be left to the long term but can be implemented immediately).

6. What is the current WA legislative basis for alternative public transport funding mechanisms?

Four main legislative channels are open to be available for value capture funding immediately:

a) Planning and Development Act, 2005 - There are three ways this can be used:
   i) Through the Metropolitan Region Improvement Fund (MRIF) that is based on a regional land tax applied since the Stephenson Hepburn Plan was first implemented and has been used for transport infrastructure (mostly roads) and public open space. The MRIF seems highly relevant to public transport-based value capture projects that have regional impacts.
   ii) Through the use of Developer Contributions which are presently used for a range of urban development-focused purposes but these may impede the implementation of developer capacity at centres if the pricing is appropriate.
   iii) Planning Control Areas and Improvement Plans that give the State Government power to implement specific planning controls and value capture mechanisms in specified districts to enable the integration of transit and land use, and hence to enable the value capture to be implemented.

b) Land Tax Act, 2002 - Land taxes are collected through this Act and deposited in consolidated revenue. State government could hypothecate the tax increment into transport infrastructure projects business cases that cause the value of land to increase through improved accessibility.

c) Perth Parking Management Act, 1999 - for public transport in the City of Perth. The Act could be amended to include similar parking levies in the activity centres across the metropolitan region and is a useful value capture mechanism due to its ability increase revenue and deter car use.
d) **Local Government Act, 1995** - to set a broad transport rate across the whole local government, as the Gold Coast Council was able to do (a specified area levy) or differential rates for particular developments associated with a transit oriented development to enable the transit and associated local infrastructure to be funded. It could best be used for local amenity linkages at stations as these are best understood at local level.

The overall conclusion from this assessment of available mechanisms is that Perth has a significant level of value capture financing potential within the current legislative framework.

7. How is value captured?

Value capture mechanisms can be strategic or project based. Strategic value capture mechanisms raise funds from a broad base of sources such as the Gold Coast Transport Levy which is collected across the whole of the Gold Coast municipality in order to help fund and operate the new light rail. It is within this context that the MRIF could also be seen as a regional strategic value capture mechanism. Project value capture mechanisms focus on the specific stakeholders that benefit directly from the transport that is actually being developed (as in a differential rate) or localised mechanisms such as a parking levy.

The best way to assess how to capture these increases in value is to construct a Value Analysis Framework. An example Value Capture Framework is included in Table 1, which was developed by Corview to demonstrate how an economic analysis can be used to assess the full economic value of a project and then this information used to assess how financial value can be captured. This Value Capture Framework contains active mechanisms (such as joint development of government land to enable on-going value to be extracted from the land) as well as passive mechanisms (such as holding government property to grow the increased property value). The metropolitan infrastructure and land use costs avoided can be factored into the assessment demonstrating that the development of transit-based dense centres can significantly reduce the need for greenfield development and associated infrastructure. From the Value Capture Framework the best mechanisms for value capture can be selected.

Table 1  **Value Capture Framework** (Corview, 2011)

<table>
<thead>
<tr>
<th>Value created</th>
<th>Value type</th>
<th>How assessed</th>
<th>How value can be captured</th>
<th>Financial return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased level of service</td>
<td>Increased service provision</td>
<td>Service revenue modelling analysis</td>
<td>Passive: increase in existing service based revenue</td>
<td>Passive: increase in existing service based revenue or premium revenue streams</td>
</tr>
<tr>
<td>Government property development</td>
<td>Active government property</td>
<td>Property development analysis</td>
<td>Various active strategies: acquisition and development joint venture with current owner</td>
<td>Development returns, rental returns etc</td>
</tr>
<tr>
<td>Increased value of government property</td>
<td>Passive government property</td>
<td>Value of property with and without project</td>
<td>Passive: value of property increases</td>
<td>Increase in future sale price</td>
</tr>
<tr>
<td>Increased value of non-government property</td>
<td>Active and passive non-government property</td>
<td>Valuation of property with and without project</td>
<td>Passive: increase in existing ad valorem tax</td>
<td>Increase in earnings from current or new tax regimes</td>
</tr>
<tr>
<td>Increased economic prosperity</td>
<td>Active and passive non-government property</td>
<td>Valuation of increased economic activity and productivity as a result of project</td>
<td>Passive: increase in income tax from existing regimes</td>
<td>Increase in earnings from current or new tax regimes</td>
</tr>
<tr>
<td>Cost avoided</td>
<td>Costs avoided</td>
<td>Valuation of costs avoided as a result of project</td>
<td>Decrease in future expenditure on infrastructure</td>
<td>Decreased future expenditure</td>
</tr>
</tbody>
</table>

8. How is value capture implemented?

There are four steps in implementing value capture projects:

a) Provide a Value Proposition that can enable the project’s financial cash flows to be clarified;
b) Establish a Tax Increment Financing accounting process in Treasury to enable value capture mechanisms to be packaged up for financing;

c) Set up Planning Control Area or Implementation Plans over the desired corridors and centres to be redeveloped; and

d) Provide a PPP process to enable all the key stakeholders to be involved at the start of the project planning process through to its delivery.

Table 2  
Indicative Value Proposition for the implementation of a Public Transport Project involving value capture

<table>
<thead>
<tr>
<th>All cash flows</th>
<th>Net cost to Federal Govt</th>
<th>Net cost to State Govt</th>
<th>Net cost Local Govt</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Capital costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Cost</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Design and construction risk (P90)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Land (net of State Govt land transfers)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Project team, government and professional engagements</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Total Construction Period Costs (A)</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Project Operational Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fare box revenue</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>+ Alternative Fare Structure</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Rolling stock (capital and operating items)</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Operating costs</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Lifecycle costs</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Operating and lifecycle risk (P90)</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Total Operating Period Costs (B)</strong></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Value Capture Opportunities**

**Government Property (Passive)**

- Sale of surplus property/development rights | (x) | (x) | | |
- Increase in Govt property values | (x) | (x) | (x) | |

**Government Property (Active)**

- Development of Govt. property | (x) | | (x) | |
- Joint development | (x) | | (x) | |
- Returns on government parking | (x) | | (x) | |
- Government property rental returns | (x) | | (x) | |
- Advertising revenue | (x) | | (x) | |

**Non Government (Passive)**

- Passive Increases in land/property based taxes | | | | |
  - Capital Gains Tax | (x) | | (x) | |
  - Stamp Duty – TIF | (x) | | (x) | |
  - Land Tax - TIF | (x) | | (x) | |
  - Local Government Rates - TIF | (x) | | (x) | |

**Non Government (Active)**

- Benefit area levies | (x) | | (x) | |

**Local Infrastructure cost recovery through Local Government**

- Differential Rates | (x) | | (x) | |
- Specified Area Rates | (x) | | (x) | |
- Service charges | (x) | | (x) | |
- Region wide transport levy | (x) | | (x) | |
- MRIT (possibly increased) – Hypothecated to PT for period | (x) | | (x) | |
- Developer contributions | (x) | | (x) | |
- Parking levies | (x) | | (x) | |
  - + Localised development Parking levies | (x) | | (x) | |
  - + Increased cash in lieu | (x) | | (x) | |
  - + Metropolitan Wide Parking Levy | (x) | | (x) | |
- Density bonuses | (x) | | (x) | |

**Total Value Capture (C)** | (X) | (X) | (X) | (X) |
Once a value capture framework is established, the next step is the preparation of a Value Proposition which is a financial cash flow analysis for the three tiers of government. This enables the full capital and operational costs of a project to be set out, along with value capture opportunities, PPP efficiencies achieved and the costs avoided.

A total net cost to each tier of government is then available and can be used for negotiation. An indicative Value Proposition is outlined in Table 2. The evaluation of the different value capture mechanisms can be conducted using this value proposition and a set of evaluation criteria developed for the Property Council by Allen Consulting which includes:

- Revenue Yield;
- Cost Effectiveness;
- Economic Efficiency;
- Equity;
- Compliance Costs, Certainty and Transparency;
- Stakeholder Support; and
- Technical Feasibility.

This would be followed by drawing up a Planning Control Area or Implementation Plan across the corridors and centres that are to be redeveloped for rail and dense urbanism.

The next step, once the value capture mechanisms have been selected, would be to establish a public transport funding facility within WA Treasury that can enable the various value capture and alternative funding mechanisms to be brought together to enable a clear financing package to be drawn up for the projects to be funded.

Finally a PPP process could be used to enable the synergies between public and private interests to be merged and innovative solutions to the integration of transit and land use created in the delivery of the public transport projects.

9. How could this alternative integrated land use and transport funding approach be applied to Perth?

The application of value capture to Perth would begin by examining the potentially most significant land development opportunities in urban centres as well as the need for improved public transport. The strategic land use plan, Directions 2031, suggests the former and the Perth PT Plan tends to focus on the latter. An attempt to bring these together can be made by identifying the key centres in the West Australian Planning Commission’s (WAPC) Inner Growth Ring and outlining the best transit options that could enable these centres to flourish.

It is suggested that by evaluating strategic integrated land use and transport objectives with the value capture potential for this project it would be possible to:
• Involve all three tiers of government particularly Infrastructure Australia who are looking to assist innovative projects through partnership and value capture initiatives, as well as the relevant local governments that would benefit from the project;

• Involve the institutional stakeholders such as universities and health centres as well as major private landholders;

• Involve land use and transport professionals in one integrated team that determines the most appropriate routes that can unlock potential development sites to facilitate alternative funding opportunities as well as optimal transport outcomes;

• Involve the community through engagement on the land development necessary to enable these strategic activity centres to be built as well as the new rail systems along the preferred routes; and

• Involve the private transport, land development and construction sector in the delivery process through using a PPP to enable true integration of land use and public transport.

10. What are the conclusions drawn and next steps required to implement value capture-based funding for public transport in Perth?

This research paper outlines the need for Perth to move into a new phase in the development of its public transport infrastructure and the simultaneous development of dense urban centres. This strategic integration of land use and transit can be seen as a key way to utilise the economic growth occurring in the city and achieve long term economic, social and environmental benefits. The legislative mechanisms are in place to enable value capture to be employed but they have not yet been applied in a coordinated and strategic way to achieve the large scale upgrading of Perth’s transit system and build its re-urbanised activity centres.

There is also a need to integrate Directions 2031 and Perth PT Plan into a set of next stage projects that lend themselves to a value capture driven project pipeline as part of the strategic vision for developing metropolitan Perth. The development of a value proposition would be the next phase in this project followed by the establishment of a strategic public transport funding facility in WA Treasury and the creation of a Planning Control Area or Implementation Plan over the corridors and centres involved. It would also be possible to allocate the centres and rail upgrades into a set of staged projects that could be selected as PPP projects where the best combination of rail transit and land development can be determined through the PPP process.

All this suggests that value capture can become a major new way to facilitate this public transport oriented re-urbanisation process through the development of a value capture fed Metropolitan Region Public Transport Fund (MRPTF). This fund would facilitate the funding of both strategic projects and localised projects, much in the way of the Metropolitan Region Improvement Fund (MRIF). The development of the MRPTF would require all levels of government to agree to its terms of reference and integrated land use and transportation focus, and, importantly, the selection or development of a delivery agency to manage the investment of its funds (the Metropolitan Redevelopment Authority or Landcorp for example).

Whilst there may be challenges in setting up the value capture mechanisms and ultimately the MRPTF, not to do so would mean that the city would be a poorer place socially, environmentally and economically.

This would be a new approach to planning public transport and urban development in Perth.
“Whilst there may be challenges in setting up the value capture mechanisms, not to do so would mean that the city would be a poorer place socially, environmentally and economically”

1. Introduction

The Committee for Perth has commissioned Curtin University to examine how public transport can be funded in Perth using new integrated land and transport-focused financing mechanisms known as value capture. Curtin has worked with Corview to answer a series of questions which are outlined below.

1. Why do we need to focus on public transport?
2. What is value capture?
3. Why are value capture mechanisms needed?
4. What are the plans for Perth’s public transport and centres?
5. What are the suggested alternative funding sources in the Public Transport Plan for Perth in 2031?
6. What is the current WA legislative basis for alternative public transport funding mechanisms?
7. How is value captured?
8. How is value capture implemented?
9. How could this alternative integrated land use and transport funding approach be applied to Perth?
10. What are the next steps to implement value capture-based funding of public transport in Perth?
“In recent years public transport usage has been growing dramatically and it has become obvious that public transport is a critical part of the economic value of a city”

2. Why do we need to focus on public transport?

Public transport is important to cities as it adds value to the transportation system as well as adding urban value by providing the connectivity to the city’s urban centres and this modal shift to public transport is apparent in a review of Australian cities.

The role of public transport in Perth and other car dependent cities globally has been relegated over the past fifty years to a secondary welfare role behind facilitating car-based transport. However in recent years public transport usage has been growing dramatically and it has become obvious that public transport is a critical part of the economic value of a city. It does this through two mechanisms that create economic value in cities:

a. Increasing transport value. Car-based congestion has reached such a stage in most cities that a fast, quality transit system can now be highly competitive with cars in terms of time and economic value. Cities without good transit are now becoming less and less competitive and hence need a good alternative to be provided.

b. Increasing urban value. The economy of cities globally is now based on the transfer of knowledge through both codified and tacit forms that require quality information and communication technology (ICT) and a dense form of urbanism that encourages people to meet in centres. The clustering in dense centres of different professions, different skills and different approaches to problem solving is now a measurable contribution to productivity improvements. Public transport can enable this dense urbanism in ways that car-based systems cannot as they are more efficient spatially – rail is particularly efficient with more than 20 times the spatial efficiency of cars. Thus urban value is created through transit-facilitated re-urbanisation that creates dense, mixed use centres that are the basis of the knowledge economy.

The recent trends in car use and public transport use shown in Figures 1 and 2 indicate:

a. Car use per capita in cities across Australia began to decline in 2004 and, like all western cities, has continued to fall ever since. This appears to be due to high oil prices and a demographic shift of younger people wanting to live in dense urban centres with less need for a car.²

b. Public transport usage is dramatically increasing in Perth, Melbourne and Brisbane where infrastructure has been improved in recent years; it is slightly increasing in

Sydney and Adelaide where little improvement has been made (although major commitments are now in place); and reductions in patronage have been seen in Hobart, Canberra and Darwin where no rail options exist.

**Figure 1** Private vehicle travel in Australian Cities (BTRE, 2011)

**Figure 2** Public Transport travel in Australian Cities (BTRE, 2011)
“It is possible to expect residential property value increases of around 22% from rail projects in Perth”

3. What is value capture?

The introduction of transport amenity and accessibility through increased public transport infrastructure increases the value of the surrounding land uses (rail based modes in particular) and value capture is the process where part of these value increases is captured to offset the cost of the infrastructure investment.

3.1 Introduction to value capture

Increased transport amenity through the introduction of public transport infrastructure significantly increases accessibility to key destinations such as employment and activity nodes. Numerous international and local studies have demonstrated that this increase in transit amenity delivers improved real estate values.

Beneficiaries from the investment in transport infrastructure include:

- **Land owners**: due to the increase in underlying land values.
- **Property developers**: due to the potential increase in developed real estate values, the potential for faster sales rates, and lower construction costs due to reduced parking requirements.
- **Transport system users**: a more efficient, less congested transport system will result in less time spent in transit, allowing more time for other activities.
- **Business owners**: due to improved accessibility for their customers and employees.
- **Government**: due to improvements in property based revenue streams, such as rates and land taxes, from increased land values.

Understanding the overall value created by a transport project is important as it allows:

- An understanding of the net cost of infrastructure;
- Development of options to offset the cost of the project;
- Support for cost sharing arrangements between stakeholders;
- Support for long term planning and policy development;
- Support for project affordability and funding analysis; and
- Development of a value proposition.

Value capture is the process whereby some or all increments in accessibility gains (such as increases in property values) attributable to public sector actions are recouped by the public
sector for public purposes. There are many different types of value capture mechanisms available (including both strategic and project focused mechanisms) and they can be categorised into the following groupings:

- Passive value capture
  - Government property
  - Non-government property
  - Service provision
- Active value capture
  - Government property
  - Non-government property
  - Service provision
- Costs avoided

In essence, value capture provides a means to monetise a project’s economic and financial benefits as cash returns that may either be captured and contributed or recognised and attributed towards project costs. In an environment of fiscal constraint it is important to assess and understand value capture options that may be available to support a major transport project and to understand the true value created and possible returns to government available which may offset a portion of the cost of the project.

This research paper focuses on the opportunities available to Western Australia (WA) to offset the cost of the provision of new public transport infrastructure, by analysing the WA Legislative and Governance frameworks, presenting the value capture opportunities available and developing a value proposition for the three tiers of government to discuss the costing and funding options available.

3.2 International research on the impact of transit on property values

The introduction of public transport is well known to increase the value of the land surrounding the public transport infrastructure through its increase in transport amenity and accessibility that public transport facilitates, while reducing travel time and providing economic benefits to the wider community. Transit also influences patterns of urban land use, development activity and property values.

Numerous international and local studies have demonstrated that transit accessibility benefits are capitalised in property values. Many have also quantified the extent of these benefits\(^3\). The majority of studies have found that the introduction or improvement of mass transit provides a positive value impact on surrounding properties. The consensus among these studies is that property values are generally higher when they are:

- located in proximity to mass transit (pedestrian catchment of between 400m – 800m); and
- provided with good accessibility to mass transit (transit oriented land development).

Although studies tend to agree that proximity and accessibility to mass transit delivers value uplift to properties, the value of the uplift can vary depending on a number of factors. The residential and commercial value premiums observed internationally as a result of rail transit projects are presented in Tables 3 and 4.

Variability of price premiums presented in these tables can have a number of causes including:

---

properties might exhibit increments in value before the actual completion of transit infrastructure works (a leading impact). The mere expectation or announcement of improvements might be sufficient to drive up property values proximate to these improvements; and

• conversely there may be a lagging market response to property value in response to the enhancement of a transit network (a lagging impact). The durability of property stock may sometimes result in a delay in price responses to changes in a transit system.

Table 3  Property value increases in different jurisdictions - Residential value premiums from accessibility to mass transit

<table>
<thead>
<tr>
<th>Project</th>
<th>Premium rate</th>
<th>Property type</th>
<th>Catchment area</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston Commuter Rail</td>
<td>6.7%</td>
<td>House value</td>
<td>Immediate area</td>
<td>Armstrong, 1994</td>
</tr>
<tr>
<td>Chicago METRA CRS, Illinois</td>
<td>20%</td>
<td>House value</td>
<td>300m</td>
<td>Gruen, 1997</td>
</tr>
<tr>
<td>Dallas DART, Texas</td>
<td>18.2%</td>
<td>Residential sales</td>
<td>Undefined</td>
<td>Clower, 2002</td>
</tr>
<tr>
<td></td>
<td>12.6%</td>
<td></td>
<td>400m</td>
<td>Weinstein and Clower, 2002</td>
</tr>
<tr>
<td>Dallas DART, Mockingbird Station</td>
<td>20%</td>
<td>Unit rents</td>
<td>Immediate area</td>
<td>TCRP, 2004</td>
</tr>
<tr>
<td>London Victoria Line, England</td>
<td>1% to 5%</td>
<td>Residential sales</td>
<td>Immediate area</td>
<td>Wacher, 1971</td>
</tr>
<tr>
<td>Portland MAX LRS, Oregon</td>
<td>10.6%</td>
<td>House sales</td>
<td>450m</td>
<td>Al-Mosaind, 1993</td>
</tr>
<tr>
<td>Sacramento LRS, California</td>
<td>6.2%</td>
<td>House sales</td>
<td>275m</td>
<td>Landis, 1995</td>
</tr>
<tr>
<td>San Francisco BART, California</td>
<td>5%</td>
<td>Unit rents</td>
<td>400m</td>
<td>Bernick, 1991</td>
</tr>
<tr>
<td>San Francisco BART, California</td>
<td>15% to 26%</td>
<td>Unit rents</td>
<td>Immediate area</td>
<td>Sedway Group, 1999</td>
</tr>
<tr>
<td>San Francisco BART, Pleasant Hill Station</td>
<td>10.1% to 15% - 9%</td>
<td>Unit rents</td>
<td>Immediate area</td>
<td>TCRP, 2004</td>
</tr>
<tr>
<td>San Diego Trolley System, California</td>
<td>2%</td>
<td>House sales</td>
<td>60m</td>
<td>VNI Rainbow, 1992</td>
</tr>
<tr>
<td></td>
<td>2% to 18%</td>
<td>Unit sales</td>
<td>800m</td>
<td>Cervero, 2001</td>
</tr>
<tr>
<td></td>
<td>Nil to 4%</td>
<td>Unit sales</td>
<td>800m</td>
<td>Cervero, 2001</td>
</tr>
<tr>
<td></td>
<td>4 to 12%</td>
<td>Unit sales</td>
<td>800m</td>
<td>Cervero and Duncan, 2002</td>
</tr>
<tr>
<td>Santa Clara Light Rail, California</td>
<td>-10.8%</td>
<td>House sales</td>
<td>275m</td>
<td>Landis, 1995</td>
</tr>
<tr>
<td></td>
<td>45%</td>
<td>Unit rents</td>
<td>400m</td>
<td>Cervero, 2002</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td></td>
<td>Immediate area</td>
<td>Curtis, 2009</td>
</tr>
<tr>
<td>St Louis Metrolink LRS, Missouri</td>
<td>32%</td>
<td>House sales</td>
<td>30m</td>
<td>Garrett, 2004</td>
</tr>
</tbody>
</table>

Table 4  Property value increases in different jurisdictions - Commercial value premiums observed internationally as a result of rail transit projects are tabled below.  

<table>
<thead>
<tr>
<th>Project</th>
<th>Premium rate</th>
<th>Property type</th>
<th>Catchment area</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breda, Arnhem and Scheidam stations, Netherlands</td>
<td>0.4% to 1.2%</td>
<td>Office rents</td>
<td>Immediate area (undefined)</td>
<td>Van der Krabben, 2008</td>
</tr>
<tr>
<td>Dallas DART, Texas</td>
<td>10%</td>
<td>Commercial</td>
<td>400m</td>
<td>Weinstein, 1999 Clower, 2002</td>
</tr>
<tr>
<td></td>
<td>18.2%</td>
<td>Office sales</td>
<td>Immediate area (undefined) 400m</td>
<td>Weinstein and Clower, 2002</td>
</tr>
<tr>
<td></td>
<td>13.2%</td>
<td>Strip retail rents</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>64.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London, Jubilee Extension</td>
<td>[Positive capital values]</td>
<td>Commercial</td>
<td>1000m and 3000m</td>
<td>Chesterton, 2000 Chesterton, 2002</td>
</tr>
<tr>
<td></td>
<td>[Positive capital values]</td>
<td>Commercial (flats higher positive value)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>London Victoria Line, England</td>
<td>1% to 5%</td>
<td>All</td>
<td>n/a</td>
<td>Wacher, 1971</td>
</tr>
<tr>
<td>Market Square, Denver, Colorado</td>
<td>60%</td>
<td>Office rents</td>
<td>Immediate area (undefined)</td>
<td>Cervero, TCRP, 2009</td>
</tr>
<tr>
<td>MARTA, Atlanta</td>
<td>11 to 15.1%</td>
<td>All</td>
<td>90m</td>
<td>Cervero, 1993</td>
</tr>
<tr>
<td>San Diego Trolley System, California</td>
<td>25%</td>
<td>Commercial</td>
<td>400-800m</td>
<td>Cervero and Duncan, 2002</td>
</tr>
<tr>
<td>San Francisco BART, California</td>
<td>5%</td>
<td>All</td>
<td>400m</td>
<td>Bernick, 1991 Landis, 1995</td>
</tr>
<tr>
<td></td>
<td>Nil</td>
<td>Commercial</td>
<td>800m</td>
<td></td>
</tr>
<tr>
<td>Santa Clara Light Rail, California</td>
<td>15%</td>
<td>Office sales</td>
<td>800m</td>
<td>Weinberger, 2001 Cervero, 2002 Curtis, 2009</td>
</tr>
<tr>
<td></td>
<td>120% (San Jose stations only)</td>
<td></td>
<td>400m</td>
<td></td>
</tr>
<tr>
<td>Tokyo Tokaido Line, Japan</td>
<td>57%</td>
<td>Commercial</td>
<td>50m</td>
<td>Cervero, 1998</td>
</tr>
</tbody>
</table>

Variability of price premiums shown in Tables 3 and 4 have a number of causes including:

- properties might exhibit increments in value before the actual completion of transit infrastructure works (a leading impact). The mere expectation or announcement of improvements might be sufficient to drive up property values proximate to these improvements.
- conversely there may be a lagging market response to property value in response to the enhancement of a transit network (a lagging impact). The durability of property stock may sometimes result in a delay in price responses to changes in a transit system.

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3.3 The Accessibility Impacts Property Values – Australian Context

Whilst the level of value uplift can differ depending on the nature of the project and a number of local factors, the research overwhelmingly supports that good accessibility to rail transit generally increases the value of nearby properties. Localised analysis of Australian projects can be developed by undertaking comparative trend analysis of the prices of commercial, industrial and residential property with and without transit amenity. Long term trend analysis of residential property data in Brisbane demonstrates there is a 22% difference in property price between properties in suburbs with high transit amenity compared to properties in suburbs with low transit amenity. Similar increases would be expected in Perth.

The dominant cause for this increase in the value for the properties close to transit is that they have higher accessibility and amenity than those properties that are not. This increase in accessibility is due to reduction in the generalised cost of travel (travel time and travel cost). The capture and collection of these accessibility related property value increases to use as a co-funding source for the Perth PT Plan will be demonstrated within the context of a Value Analysis Framework and the preparation of the value proposition for inclusion in the financial business case for the Perth PT Plan.

The same value increase has not been found around bus systems which is probably due to the lower noise and emissions of rail and also because rail speed and capacity can compete better with cars and hence are an attraction to live or work near. In addition to the operational differences between modes, rail is an attraction to developers due to its permanence which provides surety for long term land development investment.
SECTION 4
Why are Value Capture mechanisms needed?
“Value capture mechanisms enable the integration of increased transport value and land use value through the funding and delivery process”

4. Why are value capture mechanisms needed?

Value capture mechanisms are necessary to help offset the cost of the investment in public transport infrastructure by sharing the costs for the infrastructure amongst the beneficiaries of the investment in public transport service infrastructure. They are also necessary to enable the city’s urban centres to develop.

To meet their infrastructure investment requirements for their constituent community’s, Australian Governments have used six main sources of funding. The following list ranks them from favoured to least favoured⁶:

1. **Government Debt** - while government debt inevitably has to be serviced from taxes or charges, its use allows temporary restrictions in time to be overcome and is therefore included as a distinctive variant of available funding approaches. Debt funding for infrastructure is through long term instruments such as infrastructure bonds (i.e. NSW Government - Waratah Bonds).
2. **Special Purpose Vehicles (SPVs)** - ‘off-budget’ agencies (including PPPs) or companies established with the specific purpose of operating infrastructure facilities often involving a mixture of funding approaches including user charges, debt finance and subsidies from government (funded via taxes).
3. **Residential Rates** – increase local government municipal rates to facilitate infrastructure improvements (e.g., to commercial and residential property).
4. **Aggregate State Taxes** - the activities of government are often ultimately financed through the power of government to apply taxes. This includes a wide range of taxes at the state level (e.g., payroll taxes, land taxes and stamp duties).
5. **User Charges** - charges, generally applied as a price or a fare, for the use of the services provided by infrastructure facilities.
6. **Producer Levies** - including a wide range of mechanisms that require developers to provide infrastructure or make payments commensurate with development-related infrastructure needs.

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⁶ The Allen Consulting Group (2003), *Funding Urban Public Infrastructure*, Report for the PCA
Value capture mechanisms enable the integration of transport value and land use value through the funding and delivery process. They can be used as a mechanism to monetise the additional land value created by the provision of additional transit amenity which, in turn, can be used to defray the cost of providing transport infrastructure. The improved transport and land use value can be optimised by:

1. **Sharing costs and benefits:** Traditionally the funding of public transport infrastructure has been through government debt, especially by state governments, with a more recent foray from the Federal Government through Infrastructure Australia. Value capture is a new mechanism that enables a sharing of the costs and benefits of public transport across the three tiers of government. The Gold Coast Light Rail broke new ground on this new kind of partnership. The benefits are not just a shared balance sheet across the three levels of government to ease debt constraints but the practice also enables the different strengths of each tier to be focussed on public transport delivery, especially with regard to bringing local perspectives that have rarely been involved before.

2. **Enabling urban centres to be financed through PPPs:** Value capture mechanisms are enhanced where public-private partnerships are formed to enable centres to be financed and delivered. It is difficult to meet the property market demand for dense urbanism unless these complex redevelopments have such partnerships forged. Significant public re-urbanisation costs can be avoided through reduced sprawl and reduced private costs through transport savings and spatial efficiencies such as less parking and road capacity required by developers. The funding and financing integration between public transport and dense centres is a market-led process where value capture is used to enable public and private interests to be merged.
What are the plans for Perth’s public transport & centres?
“An enhanced public transport system will support the future growth of Perth via strengthening connections of the major centres as articulated in Directions 2031”

5. What are the plans for Perth’s public transport and centres?

The Western Australian State Government has recently released two important strategic plans for Perth; the Public Transport Plan for Perth in 2031 and Directions 2031 and Beyond, which is a metropolitan strategic land use plan. The stakeholders involved in the implementation of these plans cross the three tiers of government, the private sector and the general public and value capture can enable the implementation of the plans to begin in a more integrated way.

The State Government’s Public Transport Plan for Perth in 2031 is a highly significant document as it recognises the need to expand public transport into new areas including potential cross-corridor linkages via light rail. It also recognises the need for some activity centres in Perth to be linked into this expanded rail system and suggests that new funding mechanisms will need to be pursued to implement the Perth PT Plan.

The Directions 2031 and Beyond plan for the metropolitan region continues the fifty year tradition of having a strategic land use plan for Perth. Its significance is that Directions 2031 makes a conceptual commitment to link all major activity centres with improved rail systems, including a ring rail. The same close connection between rail and centres is not as clear in the Perth PT Plan.

This research paper suggests that the close connection between rail and centres can be made more financially deliverable if proper value capture mechanisms are developed to guide the future delivery of the required infrastructure as well as the land development. Such a process will need to have a more market-oriented public transport funding system using the benefits of Perth’s growth being channelled into dense urbanism in key activity centres.

The key stakeholders need to be considered in the context of implementing any agreed or modified funding mechanism for public transport enhancement. The proposed Perth PT Plan has a range of stakeholders, all of whom will need to be engaged to discuss the identification and quantification of the benefits and impacts from the implementation of the plan as it applies to them collectively and individually. The stakeholders for the project and their relative interest in its implementation are listed below to show why they will have a particular interest in the outcomes of this report.
1. Commonwealth Government of Australia
   a. *Infrastructure Australia* – Assessment of the project by IA will require a financial delivery component which can involve value capture. An IA assessment adds value to the project through its due diligence process and as such it can attract private investment for the project’s delivery via a PPP. The IA process facilitates the innovation in project funding via value capture to be recognised and endorsed and provides enhanced ‘bankability’ for the project.
   b. *Commonwealth Department of Treasury* – Provides a possible funding source for the project (if deemed suitable by IA assessment). Commonwealth Treasury will want to see as much sharing of the project cost as possible.

2. State Government of Western Australia
   a. *Western Australian Planning Commission / Department of Planning* – An enhanced public transport system will support the future growth of Perth by strengthening connections of the major centres as articulated in *Directions 2031*. Similarly it is critical that the various planning mechanisms and powers are aligned to realise the re-urbanisation and transit oriented development opportunities. The WA Department of Treasury is a critical part of the process of reviewing and advising Government on how projects of this kind might be funded by private, local government and Federal funds rather than just via WA Treasury through their allocation of the state budget for public infrastructure.
   b. *Department of Transport* – This is the lead government agency that is responsible for advising Government on the public transport priorities and is responsible for project scoping and feasibility. The funding mechanisms documented in this research paper provide potential mechanisms to assist in considering project viability.
   c. *Public Transport Authority for Western Australia (PTA)* – Enabling an alternative mechanism to meet the current and future public transportation service requirements of the PTA.
   d. *State Government Land Development Agencies (Metropolitan Redevelopment Authority and Landcorp)* – These are responsible for delivering the government’s land development priorities where the project scale and complexity requires government involvement. The MRA and Landcorp may be involved through owning and developing some of the government land around the new public transport infrastructure. They also have the potential to enable the proposed innovative value capture and other financing mechanisms to be delivered.

3. Local Government Agencies of Metropolitan Perth
   There are thirty local government agencies in metropolitan Perth, with seven along the proposed LRT alignment in the Inner Growth Ring. They have delegated local land use planning and development control powers to facilitate the necessary land use and transport integration and have certain value capture powers. The LGA’s rating system may be a partial funding source for the *Perth PT Plan*.

4. Private Developers and Institutional Agencies
   a. Private Land Developers – Developers will be critical to the land development surrounding the public transport infrastructure to ensure land / transport integration and pedestrian patronage for the public transport and as such may act as a partial funding source for the public transport infrastructure. Project viability will be enhanced with the certainty provided by the public transport infrastructure.
   b. Specialist centres – Institutions such as universities and hospitals require public transport infrastructure to enable them to function, especially when they are constrained in the provision of roads and parking. Institutions may provide partial funding for the public transport infrastructure.
5. General Public

The general public are the main beneficiaries of an enhanced public transport system, particularly as the city growth consolidates around main activity centres that are linked by the system and it will be important that the general public gain an understanding of the benefits of the system’s improvements as they are the ultimate customers. A strong patronage will help provide the ‘fare box’ contribution to the project financing. There will of course be members of the public directly affected by light rail projects and thoughtful community engagement will be critical to project success. For those directly affected by the system there will be changes in land values and changes to land uses.
SECTION 6
What are the suggested alternative funding mechanisms in the Public Transport Plan for Perth in 2031?
6. What are the suggested alternative funding mechanisms in Perth’s public transport plan?

The Draft Public Transport Plan for Perth in 2031 presents a range of funding options for consideration in the short and long term which are proposed by the government to be investigated in terms of their suitability for funding the public transport network expansion for Perth in both the long and short term. They all have potential to assist in implementing this Plan but value capture is not given the full treatment it deserves.

6.1 Short term Perth PT Plan funding mechanisms

The duration for the short term funding mechanisms is set at 5 years and they are effectively the funding mechanisms for the Stage One projects as set out in the Perth PT Plan. The four funding mechanisms suggested by the Plan will be discussed individually to discuss their attributes and their suitability to meet the funding requirements outlined within.

6.1.1 Public Private Partnerships

The first alternative funding mechanism mentioned in the short term funding plan of the Plan (page 35) states that major capital projects should:

‘...be developed utilising a public partnership approach in the first instance with potential opportunities for private funding.’

Public-Private Partnerships (PPP) could be a partial or full privatisation of the system and it could also be an involvement of private capital through land development that will be covered under the value capture investigation. PPPs are an established method of project procurement with the private sector being involved in differing aspects of the projects from design, construction, financing and infrastructure operation. Infrastructure Partnerships Australia produced a report in November 2007 that evaluated the performance of PPPs against traditional procurement in Australia, and it found that:

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7 Department of Transport (2011), Public Transport for Perth in 2031
8 Infrastructure Partnerships Australia (2007), Performance of PPPs and Traditional Procurement in Australia
‘PPPs demonstrate clearly superior cost efficiency over traditional procurement, which can range from 30.8% when measured from project inception to 11.4% when measured from contractual commitment to the final outcome. In absolute terms, the PPP cost advantage was found to be economically and statistically significant. On a contracted $4.9 billion of PPP projects the net cost over-run was only $58 million which is not statistically different from zero. For $4.5 billion of traditional procurement projects, the net cost over-run amounted to $673 million. Our overall conclusion is that PPPs provide superior performance in both the cost and time dimensions, and that the PPP advantage increases (in absolute terms) with the size and complexity of projects.’

The use of PPPs to deliver public infrastructure projects is not new to Western Australia (for example, the new Young Adults Prison Facility), but the delivery of public transport projects via a PPP is and, given the comments from Infrastructure Partnerships Australia above, it would appear to be an improvement on the traditional procurement methods used for public infrastructure. There have been some spectacular failures of transport PPPs, in particular the Cross City Tunnel and the Lane Cove Tunnel toll ways in Sydney, with important lessons to be learned from these projects (such as overly optimistic traffic demand calculations). Governments are now retaining part or all of the demand risk for the projects and thus making the service and availability charges exclusive of demand/patronage. This enables the operators to bring innovation to the project without having to increase the costs to government to cover the uncertainty surrounding the demand risk for the project.

Example of PPPs in Public Transport in Australia

A current example of a relevant PPP is the stage one of the Gold Coast Rapid Transit project. The $1 billion Gold Coast Rapid Transit project is the primary mode of public transport network for one of Australia’s fastest growing cities. A fleet of light rail vehicles will operate in a dedicated corridor servicing the coastal strip of Southport, Surfers Paradise and Broadbeach. Stage one of the light rail system will be delivered between Griffith University and Broadbeach (13km)\(^9\), with 16 light rail stations planned in the first stage, including bus interchanges for Southport and Broadbeach\(^9\).

The project will be delivered by the Queensland Government, in partnership with the Federal Government and the Gold Coast City Council, and a private consortium GoldLinQ, which is lead by the contractor McConnell Dowell. The project is currently in the construction phase of a ‘Design, Construct, Finance, Operate and Maintain’ PPP with a thirty year operation franchise. The project has received funding commitments from Gold Coast City Council ($120 million), the Queensland Government ($464 million) and the Australian Government ($365 million).

The design of the PPP is such that the government is making milestone payments for the detailed design and construction period with the private financing for the operational component of the project with government making service and availability payments during the thirty year operational franchise period. Importantly the State Government retain the patronage risk for the operation of the LRT, with the project PPP franchise operator being paid service and availability payments, in accordance with cost of service delivery.

6.1.2 Reallocation of the State Budget to finance projects

In the WA Budget for 2011-12, the transport system and road infrastructure component of the Budget is as follows\(^\text{11}\):

**Public Transport ($384M over the next 4-5 years)**
- $164M over 5 years to purchase an additional 15 three car train sets
- $40M over 4 years to purchase an additional 78 buses
- $134M to increase bus service frequency
- $46M to extend the northern suburbs railway to Butler

**Roads ($1200M in 2011-12)**
- $1200M in 2011-12 on roads

A re-allocation of the Western Australian State Budget to finance the short term public transport projects presented in the *Perth PT Plan* is unlikely to be significant by simply increasing the public transport budget. Even if the State Government was to undertake Stage One of the *Perth PT Plan* (up to 2020), the capital cost increase alone would be over $1billion dollars (2010 dollars as stated in the Plan). It is unlikely that the reallocation of the State Budget alone is going to be sufficient to meet the strategic capital financing requirements of the Plan, with budget reallocations, as well as the increased operating costs from the provision of the new services, which are to nearly double by 2031\(^\text{12}\).

Rather than a budget reallocation to undertake the *Perth PT Plan*, what will be required is an ongoing allocation of funding to implement the strategic program of works, similar in nature to that which exists for funding roads.

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\(^{11}\) Government of WA (2011), *Budget Overview (2011-12)*

\(^{12}\) Department of Transport (2011), *Public Transport for Perth in 2031* (Page 31)
The WA budget revenue is on average expected to be outstripped by expenses for the next 4 years, and does not forecast for the significant growth\(^\text{13}\) required to make a significant contribution toward the cost of the Plan. This is illustrated in the Key Budget Aggregates shown in Table 5. This demonstrates that State Government would need to increase state debt (which is forecast to nearly double over the next 4 years) to pay for it and repay the borrowing over a period through smaller reallocations of the budget or by using other alternative funding mechanisms explored in this report.

### Table 5 WA State Government Budget 2011 – 2012 – Key Budget Aggregates\(^\text{14}\)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Government Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue ($M)</td>
<td>23,764</td>
<td>25,233</td>
<td>26,232</td>
<td>27,209</td>
<td>28,202</td>
</tr>
<tr>
<td>Growth (%)</td>
<td>7.8</td>
<td>6.2</td>
<td>4.0</td>
<td>3.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Expenses ($M)</td>
<td>22,980</td>
<td>24,791</td>
<td>25,464</td>
<td>26,422</td>
<td>27,732</td>
</tr>
<tr>
<td>Growth (%)</td>
<td>8.4</td>
<td>7.9</td>
<td>2.7</td>
<td>3.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Net Operating Balance ($M)</td>
<td>784</td>
<td>442</td>
<td>768</td>
<td>787</td>
<td>471</td>
</tr>
<tr>
<td><strong>Total Public Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Position ($M)</td>
<td>-3,763</td>
<td>-3,944</td>
<td>-2,534</td>
<td>-1,425</td>
<td>-852</td>
</tr>
<tr>
<td>Net Debt at 30 June ($M)</td>
<td>13,387</td>
<td>17,291</td>
<td>19,959</td>
<td>21,451</td>
<td>22,441</td>
</tr>
<tr>
<td>Asset Investment Program ($M)</td>
<td>6,936</td>
<td>7,638</td>
<td>7,303</td>
<td>6,129</td>
<td>5,401</td>
</tr>
<tr>
<td><strong>Total Non-Financial Public Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Interest Costs as a Share of Revenue (%)</td>
<td>2.1</td>
<td>2.4</td>
<td>2.8</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Net Financial Liabilities as a Share of Revenue (%)</td>
<td>60.6</td>
<td>67.3</td>
<td>70.8</td>
<td>71.1</td>
<td>69.6</td>
</tr>
</tbody>
</table>

6.1.3 Cash in lieu for car parking or parking levies

A hypothecation of the cash in lieu for car parking or parking levies at the strategic centres, with part of the net revenue to be dedicated to public transport is a potential strategy. It would be very similar to the existing mechanisms set out in the *Perth Parking Management Act, 1999* and the *Perth Parking Policy* (Govt Gazette, WA 16 July 1999). As outlined above, this is where the WA Government collect a levy for the non residential car parking bays within the City of Perth and hypothecate the net revenue to fund the Perth CBD Central Area Transit (CAT) bus network which is managed by the Public Transit Authority.

**Car Parking Levies**

The current rates (June 2011) for the Perth Parking Management Levy applies differentially to on and off street car parking spaces within the Perth Parking Management Area (Figure 1):

- $616.30 per space - Commercial off street car parking
- $584.30 per space - Commercial on street car parking

The Perth Parking Management Fee has risen three times since 2007, by over 320% with the revenue only to be spent within the City of Perth parking management area, as presented in Figure 1. The majority of the funds have been used to extend and update the Perth CBD CAT Bus services and some more modest cycling infrastructure. An extension to this scheme to the other strategic centres within Metropolitan Perth, as described in *Directions 2031*

\(^{13}\) Government of WA (2011), *Budget Overview (2011-12)*

\(^{14}\) Government of WA (2011), *Budget Overview (2011-12)*
Part or all of the revenue that could be generated by expanding the *Perth Parking Management Act, 1999* to the Strategic Centres identified in *Directions 2031* could be hypothecated to the provision of public transport infrastructure services to each of the Strategic Centres as presented in the Plan. This expansion would generate both significant revenue for the implementation of the Plan, but also induce modal shift from the car to public transport by raising the generalised cost of a trip.

### Examples of the operation of parking levies in other jurisdictions

To compare the scale and effectiveness of the *Perth Parking Management Act, 1999*, the operation of parking levies in Sydney and Melbourne will be presented. It is important to note that whilst the parking space levies for each city are comparable, the overall road pricing strategy is very different between Perth and each of the other cities, as Melbourne and Sydney both have extensive road tolls across their metropolitan road network, which is not the case in Perth. This difference is important as it significantly increases the generalised cost of a trip on the road network in Sydney and Melbourne when compared to Perth and this should be considered when comparing the different schemes.

#### Sydney Parking Space Levy

The Parking Space Levy is part of many strategies adopted by the NSW Government to discourage car use in major commercial centres, encourage the use of public transport and to improve air quality. In 2009-10 the Parking Space Levy collections were $97.7M, and the

---

15 Generalised Cost = Travel Time Cost + Monetary Cost + Opportunity Cost (Congestion), where:

- **Travel Time Cost** = is a function of the monetised value that has been calculated based on the trip purpose (journey to work) and the traveller's income, and
- **Monetary Cost** = costs of fuel, wear and tear and any parking charge or toll on a car journey
- **Opportunity Cost** = is a function of the additional journey time the traveler experiences due to congestion

projects resourced from the Parking Space Levy have become crucial to improving Sydney's air quality, reducing traffic congestion and facilitating access to public transport. A number of significant projects such as the Parramatta Transport Interchange and bus infrastructure on the Liverpool - Parramatta and North West Transit ways have been funded with substantial contributions from the Parking Space Levy. The current Commuter Car Park Program which will deliver commuter car parking facilities across suburban Sydney, the Central Coast, the Illawarra and the Blue Mountains, is predominately funded by the Parking Space Levy. The Parking Space Levy applies to leviable premises in the districts of:

- Sydney's CBD, North Sydney/Milsons Point (Category 1)
- Bondi Junction, Chatswood, Parramatta and St Leonards (Category 2)

Parking Space Levy rates are indexed annually to movements in the Consumer Price Index (All Group Index) for Sydney. From 1 July 2010 the Parking Space Levy rates are:

- $2,040 per space in Category 1 areas
- $720 per space in Category 2 areas.

**Melbourne Congestion Levy**

Melbourne’s car parking levy, called the ‘Melbourne Congestion Levy’, is very similar in operation to the Sydney Parking Space Levy. As a strategy to reduce traffic congestion in the Central Business District and inner Melbourne and encourage a greater use of public transport, the Victorian government has introduced a congestion levy on commercial car parking spaces within the area prescribed in Figure 5. Similar to the Sydney Parking Space Levy, the Melbourne Congestion Levy has two categories, with the main area covered by the Congestion Levy, and a temporary Congestion Levy on the area highlighted in red on Figure 5. The rates for the Congestion Levy have increased every year since its inception in 2006, and from 2011 the rates are:

- $880 per space in the Main Area (Bounded in Blue in Figure 5)
- $400 per space in the Temporary Area (Highlighted in Red in Figure 5)

**Summary**

Each of the cities has differing parking strategies, with significant revenue generated from each. Table 6 summarises the car parking attributes of each city and provides a good overview of the relative position of Perth’s Parking Management Strategy with respect to Sydney and Melbourne. The other contextual point that is worth understanding is the amount of revenue generated by parking when compared to each state public transport budget and, whilst the amount of money generated is significant in itself, it is relatively insignificant in the scale of the Public Transport Budget for each state.

**Table 6  Car Parking Summary table**

<table>
<thead>
<tr>
<th>City</th>
<th>Cost / Bay in CBD</th>
<th>Cost / Bay in 2nd Tier centres</th>
<th>Annual Revenue</th>
<th>State Public Transport Budget 09/10</th>
<th>Parking taxes as % of Public Transport Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>$2,040</td>
<td>$720</td>
<td>over $100M</td>
<td>$4B</td>
<td>2.5%</td>
</tr>
<tr>
<td>Melbourne</td>
<td>$880</td>
<td>$400</td>
<td>over $48M</td>
<td>$3.364B</td>
<td>1.4%</td>
</tr>
<tr>
<td>Perth</td>
<td>$616.30</td>
<td>N/A</td>
<td>over $29M</td>
<td>$757M</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Parking Pricing in Major Canadian Cities

The Victoria Transport Policy Institute has prepared a study of parking pricing for major Canadian cities in 2010, (VTPI, 2010)\(^20\).

**Vancouver, British Columbia (www.bcrelinks.com/articles/rbj3-new.htm)**

TransLink, the Vancouver, British Columbia Regional Transportation Authority, which builds and operates roads and bike paths and public transport services, implemented a Parking Site Tax in 2006. The initial rate was $1.02 annually per square meter of non-residential parking facility, typically $25-$40 per space. BC Assessment, a provincial agency, was charged with assessing and collecting the tax using the existing property tax framework. The agency used aerial photos, digital mapping, municipal records and site visits to develop an inventory of non-residential parking facilities in the region.

Exemptions include:

- On-street parking.
- Most buildings exempt from general property taxes (schools, churches, synagogues, etc.).
- Parking facilities used for vehicle retail and rental business inventory storage, impounded vehicles, trailers of tractor-trailer units, vehicle servicing and fueling.
- Parking facilities owned by TransLink (including Park & Ride lots).
- Ferry loading queuing areas.
- Campgrounds.

This tax was criticised by suburban businesses. In 2007 the provincial government changed TransLink’s charter to, among other things, eliminate the parking property tax and replaced it with other revenue sources, including a sales tax on parking transactions. This began as a 7% tax but increased to 21% in 2010 (VTPI, 2010)\textsuperscript{21}.

Toronto Commercial Concentration Tax

During the early 1990s, the Ontario provincial government imposed a Commercial Concentration Tax (CCT) of $1.00 per square foot per annum on commercial properties larger than 200,000 square feet in the Toronto area to fund transit and road programs.

Large-scale paid parking facilities were subject to this tax although the tax was not specific to parking. Unexpectedly, some of the largest impacts were on suburban parking facilities where the fee was relatively large compared with paid parking revenues. As a result, suburban area municipal lots and transit Park & Ride lots abolished their parking fees to avoid paying the tax.

The tax had no apparent impact on regional vehicle travel since it caused a relatively small price increase in downtown areas and had little or no impact in suburban areas where most parking is free, and, in some cases, resulted in the elimination of parking charges to avoid the tax. The tax was highly criticised because it generated revenues from Toronto businesses but used the revenues to fund projects in other parts of the province and was repealed after three years (VTPI, 2010)\textsuperscript{22}.

Cash in Lieu for car parking

The local government cash in lieu for car parking charges are collected as part of the planning approval process from developers where it is impractical or undesirable to build the required amount of car parking on the site of the proposed development. The sites where cash in lieu for car parking can be collected are generally in the major centres and the revenue collected is to be used for the construction of additional public car parking within the vicinity of the proposed development site by the Council. This is seen as an equitable use of the funds for the purpose for which they were collected.

Example of Cash in Lieu for Parking Requirements

Table 7 presents the current cash in lieu contributions for Fremantle Council, which was identified in Directions 2031 as one of the centres to be connected by public transport.

\textsuperscript{21} VTPI, 2010, \textit{User Pay Parking Implementation Guide}
\textsuperscript{22} VTPI, 2010, \textit{User Pay Parking Implementation Guide}
Table 7  Existing cash in lieu requirements for car parking contributions by Local Government Agencies for the Directions 2031 Strategic Centres

<table>
<thead>
<tr>
<th>Strategic Centre</th>
<th>Local Government Agency Responsible</th>
<th>Cash in Lieu Contribution (per car parking space) as required in the Council’s Town Planning Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fremantle</td>
<td>City of Fremantle (Local Planning Scheme No 4 – Gazetted 8th of March, 2007)</td>
<td>Clause 5.7.4(a) ‘...shall not be less than the estimated cost to the owner of providing and constructing the car parking spaces required by the Scheme...’ and (c) Payments under this clause shall be paid into a special fund to be used to provide public car parking stations within the locality from which it was collected, or for the provision transport infrastructure (which includes, but is not limited to, infrastructure for cyclists, pedestrians and public transport uses and users)’</td>
</tr>
</tbody>
</table>

The cash in lieu for car parking requirements for the City of Fremantle are representative for the rest of the strategic centres within Metropolitan Perth, and as such it is important to understand the cost of the provision of car parking.

Cost of Car Parking Construction

The costs presented in Table 8 are indicative of the costs of the provision of car parking in Australian capital cities, though when the cost of land is added to the construction cost, the cost per space can exceed $50,000 per bay for multi deck inner city locations. This has been included to illustrate the costs associated with car parking spaces and the benefit to the government that can be gained where the costs for the car parking spaces is paid by developers in lieu of having to construct them.

Table 8  Car parking construction costs (in 2009 $ in selected Australian capital cities)

<table>
<thead>
<tr>
<th></th>
<th>Sydney</th>
<th>Brisbane</th>
<th>Melbourne</th>
<th>Perth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost/m²</td>
<td>Cost/space</td>
<td>Cost/m²</td>
<td>Cost/space</td>
</tr>
<tr>
<td>At Grade</td>
<td>$77</td>
<td>$2,618</td>
<td>$92</td>
<td>$3,128</td>
</tr>
<tr>
<td>Undercover</td>
<td>$564</td>
<td>$19,176</td>
<td>$635</td>
<td>$21,590</td>
</tr>
<tr>
<td>Basement</td>
<td>$977</td>
<td>$33,218</td>
<td>$1,271</td>
<td>$43,214</td>
</tr>
<tr>
<td>Multi Storey</td>
<td>$584</td>
<td>$19,856</td>
<td>$722</td>
<td>$24,548</td>
</tr>
</tbody>
</table>

Notes:

1. Includes bitumen areas, line marking, lighting, drainage and wheel stops
2. Basement parking under office block (suburban)
3. Multi storey car park with low speed passenger lifts, minimum finish

In order to calculate the cost per bay, the above amounts need to be multiplied by the size of the bay which, depending on the design efficiency, ramps and access areas could range between 30 and 34m².²⁴

Car Parking Required for Different Developments

In Australia, the NSW Roads and Traffic Authority (RTA) Guide to Traffic Generating Developments (Version 2.2) is regularly sited as a standard when undertaking cross Local Government Agency jurisdictional traffic and parking assessments. Table 9 presents parking requirements for different land uses from which the cash in lieu for the minimum car parking requirements for each development can be drawn and a basis for the calculations of contributions could be drawn.

**Table 9  RTA Guide to Traffic Generating Developments**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Parking Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
</tr>
<tr>
<td>Dwelling houses</td>
<td>1 - 2 spaces per dwelling</td>
</tr>
<tr>
<td>Medium density residential flat</td>
<td>1 space per unit</td>
</tr>
<tr>
<td>buildings</td>
<td>+1 space for every 5 x 2 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>+1 space for every 2 x 3 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>+1 space for 5 units (visitor parking)</td>
</tr>
<tr>
<td>High density residential flat</td>
<td>Metropolitan regional centres (CBD)</td>
</tr>
<tr>
<td>buildings</td>
<td>0.4 spaces per 1 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>0.7 spaces per 2 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>1.2 spaces per 3 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>+1 space per 7 units (visitor parking)</td>
</tr>
<tr>
<td></td>
<td>Metropolitan sub-regional centres</td>
</tr>
<tr>
<td></td>
<td>0.6 spaces per 1 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>0.9 spaces per 2 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>1.40 spaces per 3 bedroom unit</td>
</tr>
<tr>
<td></td>
<td>+1 space per 5 units (visitor parking)</td>
</tr>
<tr>
<td><strong>Office and Commercial</strong></td>
<td></td>
</tr>
<tr>
<td>Commercial premises</td>
<td>Unrestrained situation:</td>
</tr>
<tr>
<td></td>
<td>1 space per 40m² GFA</td>
</tr>
<tr>
<td></td>
<td>Restrained situation:</td>
</tr>
<tr>
<td></td>
<td>refer to council parking code</td>
</tr>
<tr>
<td><strong>Retail</strong></td>
<td></td>
</tr>
<tr>
<td>Shopping centres</td>
<td>GLFA (m²)       spaces per 100m² GLFA</td>
</tr>
<tr>
<td></td>
<td>0-10,000        6.1</td>
</tr>
<tr>
<td></td>
<td>10,000-20,000   5.6</td>
</tr>
<tr>
<td></td>
<td>20,000-30,000   4.3</td>
</tr>
<tr>
<td></td>
<td>over 30,000     4.1</td>
</tr>
<tr>
<td>Service stations and convenience</td>
<td>Requirements are additive:</td>
</tr>
<tr>
<td>stores</td>
<td>6 spaces per work bay</td>
</tr>
<tr>
<td></td>
<td>5 spaces per 100m² GFA of</td>
</tr>
<tr>
<td></td>
<td>convenience store</td>
</tr>
<tr>
<td></td>
<td>(if restaurant present, then greater of:</td>
</tr>
<tr>
<td></td>
<td>15 spaces per 100m² GFA, or</td>
</tr>
<tr>
<td></td>
<td>1 space per 3 seats)</td>
</tr>
</tbody>
</table>
An important counter argument to the use of parking generation tables such as the one provided by the RTA is that they are not representative of the actual transport environment in which a particular site is located. Shoup (1999) states:

‘Parking generation rates therefore typically measure the peak demand for parking observed in a few surveys conducted at suburban sites that offer ample free parking and lack public transit. Urban planners who use these parking generation rates to set minimum parking requirements are making a big mistake.’

It is the provision of high quality public transport that the Perth PT Plan is suggesting, therefore the reduction in the required amount of car parking within the pedestrian catchment of fixed public transit is recommended. To illustrate this change in the cash in lieu policy by local government, the Town of Vincent has reduced the car parking requirements for their centres when in close proximity to public transport. This reduction in the requirement for car parking is reflected in Table 10.

Table 10  Town of Vincent car parking reductions in proximity to public transport.

<table>
<thead>
<tr>
<th>Percentage reduction</th>
<th>Adjustment factor</th>
<th>Factors to be successfully justified by the applicant to the Town of Vincent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 %</td>
<td>0.80</td>
<td>The proposed development is within 400 m** of a rail station; or</td>
</tr>
<tr>
<td>15 %</td>
<td>0.85</td>
<td>The proposed development is within 800 m** of a rail station.</td>
</tr>
<tr>
<td>15 %</td>
<td>0.85</td>
<td>The proposed development is within 400 m** of a bus stop or station.</td>
</tr>
<tr>
<td>20 %</td>
<td>0.80</td>
<td>The proposed development contains a mix of uses, where at least 45 per cent of the gross floor area is residential.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The proposed development is within 50 m** of one or more existing public car parking place(s) with over 50 car parking spaces; or</td>
</tr>
<tr>
<td>20%</td>
<td>0.80</td>
<td>The proposed development is within 400 m** of one or more existing public car parking place(s) with over 75 car parking spaces; or</td>
</tr>
<tr>
<td>15%</td>
<td>0.85</td>
<td>The proposed development is within 400 m** of one or more existing public car parking place(s) with over 50 car parking spaces; or</td>
</tr>
<tr>
<td>10%</td>
<td>0.90</td>
<td>The proposed development is within 400 m** of one or more existing public car parking place(s) with over 25 car parking spaces.</td>
</tr>
<tr>
<td>5%</td>
<td>0.95</td>
<td>The proposed development is within 400 m** of one or more existing public car parking place(s) with over 25 car parking spaces.</td>
</tr>
<tr>
<td>10%</td>
<td>0.90</td>
<td>The proposed development provides end-of-trip facilities* for bicycle users in addition to facilities specified in the Bicycle Parking Requirements table; or</td>
</tr>
<tr>
<td>5%</td>
<td>0.95</td>
<td>Secure on-site and/or adjacent street bicycle parking (complying with the standards identified in Bikewest guidelines)**.</td>
</tr>
<tr>
<td>10%</td>
<td>0.90</td>
<td>The proposed development is within a district centre zone.</td>
</tr>
</tbody>
</table>

Note:

The calculated adjustment factor is applied to the car parking requirement provisions outlined in the Land Use Parking Requirement. The maximum adjustment factor, where all factors are justified to the maximum extent is 0.35 (0.80 x 0.85 x 0.80 x 0.80 x 0.90 x 0.90 = 0.352512). If the resultant shortfall of parking is less than or equal to 0.5 bays, no parking bays or cash-in lieu of parking is required for shortfall.

* See the Austroads (Part 14. Section 10) standards for bicycle end-of-trip facilities.

** This distance means the most direct route via a gazetted footpath not just the direct route.

*** Only relates to those uses, which have not been included in the bicycle parking requirements table.

Proposed ‘Metropolitan Centres Parking Policy Framework’

The Department of Planning (DoP), on behalf of the WAPC, has commenced preparing the draft of a new state planning policy to be called Metropolitan Centres Parking Policy Framework. They have issued a discussion paper to commence the process of consultation on the topic.

The Town of Cambridge has prepared a submission where they state that the key issues are:

- the parking standards used in local schemes no longer generally reflect the existing or desired quality of access by public transport, walking and cycling (most council planners consider that the current standards of provision are out of date);
- time management and pricing of parking need to be used;
- there is a lack of parking strategies and, where they do exist, different approaches in philosophy and scope are being used e.g. ‘predict and provide’ verses ‘future demand management’ (where parking is timed/not always free and cash-in-lieu is used to shift some parking to public control);
- inconsistent cash-in-lieu policies and scheme clauses, including calculation of parking bay costs in terms of construction standards (at-grade or basement or decked?) and land cost (whether included at all, amount of land assumed per bay, method of valuation), discretion to waive, and the timing and use of funds generated (minimum expenditure period, whether only payable in accordance with an approved strategy, whether in addition to land or structures for parking, expenditure is also possible on public transport/cycling/pedestrian capital works or even non-capital costs);
- the need for parking ‘caps’ for town centres or precincts in terms of commuter (long stay) parking with an associated parking strategy and overall management including better integration of parking provision with public transport improvements (i.e. decreasing the number of parking spaces, especially all-day commuter bays, in a centre needs to go hand-in-hand with more frequent and convenient public transport services being provided); and
- lack of overall guidance and the need for a metropolitan parking policy, strategies and guidelines.

With the Metropolitan Centres Parking Policy Framework yet to be released, the key issues raised above should provide sufficient guidance with respect to car parking policies for the introduction of the Perth PT Plan.

6.1.4 Public Transport Fare Structures

Like most public transport systems, consolidated revenue funds the major proportion of the annual budget. According to the Perth PT Plan, the metropolitan Perth Public Transport Budget is $499.1M (Operating Costs) or $691.2 (including Capital and interest charges), with revenue from fares, the Perth Parking Management Levy (and parking levies and fines contributed from Fremantle and Joondalup Councils), and joint ticketing at major sporting events amounting to $154.3, or 22% of total operating costs. This section will initially review the existing fare structure and present the options proposed in the Plan for discussion.

The Existing Transperth Public Transport Fare Structure

Transperth is part of the State Government's Public Transport Authority (PTA) and is the brand name through which the Western Australian Government provides public transport services in the Perth metropolitan region. This includes Perth's public buses, trains and ferries. The current Transperth public transport fare structures in Western Australia are as presented in Figure 6, while the zone maps that show the spatial extents of the transport network are illustrated in Figure 7.

The Transperth ticketing system is fully integrated between modes, and there is a 15% cost saving per trip (when compared to a cash ticket) to use the SmartRider pre-paid card. School students are given an additional concession of a flat 50 cent fares for the journey to school, with tertiary and TAFE students given a 2/3 discount on the standard fare.

In addition to the zone based fare structure for the bus, train and ferries operated by Transperth, there are the Perth, Fremantle and Joondalup Central Area Transit (CAT) services, which are free and high frequency services that operate in the Perth, Fremantle and Joondalup CBD. The Perth CAT services are fully funded by the Perth Parking Management Levy, whereas the Fremantle CAT is funded 60% from the Fremantle Council and 40% from the State Government.

Figure 6 Transperth fare structure

Transperth fares effective Friday 1 July 2011

<table>
<thead>
<tr>
<th></th>
<th>STANDARD</th>
<th></th>
<th>CONCESSION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash</td>
<td>SmartRider - cost per journey</td>
<td>Cash</td>
<td>SmartRider - cost per journey</td>
</tr>
<tr>
<td></td>
<td>15% discount</td>
<td>25% discount</td>
<td>15% discount</td>
<td>25% discount</td>
</tr>
<tr>
<td>2 Sections</td>
<td>$1.80</td>
<td>$1.53</td>
<td>$1.35</td>
<td>$0.70</td>
</tr>
<tr>
<td>1 Zone</td>
<td>$2.60</td>
<td>$2.21</td>
<td>$1.95</td>
<td>$1.00</td>
</tr>
<tr>
<td>2 Zones</td>
<td>$3.80</td>
<td>$3.23</td>
<td>$2.85</td>
<td>$1.50</td>
</tr>
<tr>
<td>3 Zones</td>
<td>$4.70</td>
<td>$4.00</td>
<td>$3.63</td>
<td>$1.90</td>
</tr>
<tr>
<td>4 Zones</td>
<td>$5.60</td>
<td>$4.75</td>
<td>$4.20</td>
<td>$2.20</td>
</tr>
<tr>
<td>5 Zones</td>
<td>$6.80</td>
<td>$5.78</td>
<td>$5.10</td>
<td>$2.70</td>
</tr>
<tr>
<td>6 Zones</td>
<td>$7.80</td>
<td>$6.63</td>
<td>$5.65</td>
<td>$3.10</td>
</tr>
<tr>
<td>7 Zones</td>
<td>$9.00</td>
<td>$7.65</td>
<td>$6.75</td>
<td>$3.60</td>
</tr>
<tr>
<td>8 Zones</td>
<td>$9.80</td>
<td>$8.33</td>
<td>$7.35</td>
<td>$3.90</td>
</tr>
<tr>
<td>9 Zones</td>
<td>$10.50</td>
<td>$8.93</td>
<td>$7.88</td>
<td>$4.20</td>
</tr>
<tr>
<td>DayRider (A)</td>
<td>$9.90</td>
<td>$8.33</td>
<td>$7.35</td>
<td>$3.90</td>
</tr>
<tr>
<td>FamilyRider (B)</td>
<td>$9.30</td>
<td>$8.33</td>
<td>$7.35</td>
<td>$3.90</td>
</tr>
<tr>
<td>Student (C)</td>
<td>$9.30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All fares GST inclusive. Fares calculated are rounded to the nearest whole cent based on normal rounding convention.

Figure 7  Transperth Public Transport zone map\textsuperscript{28} with the inner radius of 8km subsequent rings 10km


\textsuperscript{28} Transperth (2011) \url{http://www.transperth.wa.gov.au/TicketsandFares.aspx}
Independent Pricing Mechanisms for evaluating Public Transport Fare Structures

There are four alternative public transport fare structures presented in the *Perth PT Plan*, and they are:

- Differential charging peak/non peak travel fare variations;
- Change the proportion of overall revenue obtained over time;
- Assess the level of concession subsidy in meeting the governments community service obligations; and
- Park and Ride user charging.

Each of these alternatives will be presented and the costs and benefits of each will be discussed.

**Differential charging peak/non peak travel fare variations**

It currently costs the state government of WA significantly more to run services in the peak period than in the off peak periods. Differential charging for public transit fares aim to achieve temporal shift from key peak times to travel in non peak times, whilst it is also thought that existing passengers shift their travel to non peak times to avoid crowding on the transit system. It would therefore be logical that a mix of fare reductions for the shoulder times, fare surcharges for travelling in the peak, and the effects of crowding on the public transit system would be conducive to achieving temporal shift to the non-peak travel times.

A differential charging scheme that simultaneously increases peak fare whilst reducing off peak fares could be cost neutral to the government and, whilst in itself it will not generate an increase in revenue, it would reduce the rolling stock requirements for the peak times, which is a significant cost saving to government.

**Change the proportion of overall revenue obtained over time**

To change the proportion of overall revenue generated to a proportion where transit fare alone covered the cost of service provision would require a 75% increase in the price of a transit fare which is unrealistic and would have a significant impact on ridership. Another way of increasing overall revenue is to obtain it from multiple sources, most of which are discussed in this report (hypothecated parking levies and charges for example) and included in this funding mix could be increased transit fares.

The generalised cost of a journey or trip is a factor of the monetary cost of the trip (fares, car parking and, where relevant, tolls) and the monetised cost of travel time and a factor for congestion. Any variances to the fare structures would need to analyse the generalised cost of a peak travel trip in all the available travel modes and ensure that any increases to transit’s generalised costs do not make it more expensive than its rival modes. In addition to the generalised cost calculations an assessment of the elasticity of the peak travel trips for each mode would be required to ensure that any changes to the fare structures did not cause a change of mode from transit to car.

**Assess the level of concession subsidy in meeting the government’s community service obligations**

Whilst the level of subsidy given to the majority of the concession holders for the transit network is substantial, they are made available to allow members of the community who have insufficient financial capacity to use any other modes access to the transit network and it is therefore the intention to minimise social accessibility and mobility exclusion. The only area that would be worth analysing in depth is the level of student concession given and the
elasticity of the modal trips made as to whether an increase in these peak trips would force a modal shift to the car.

**Park and Ride user charging**

Transperth operate park and ride facilities at their suburban railway stations which have been built at grade on Transperth land adjacent to the rail station. There are currently approximately 15,000 park and ride bays at the stations and the parking is provided either free (Lock ‘n’ Ride) or for a flat fee of $2 (Pay ‘n’ Display) and this fee is waived if you pay using your SmartRider card and travel more than two zones. Over 50% of the parking currently being provided being is free.

The recovery of the marginal cost of the provision of the car parking (which is around $4 per day) should be a starting place for the cost to the transit user, with some consideration given to stations where there are poor levels of buses feeding the stations, and where the pedestrian catchment is low. The additional cost to the transit passenger of $4 per day for the use of a park and ride station is insignificant when compared to the hourly costs of secure parking in the City of Perth (minimum of $3 - $5 hour).

### 6.2 Long term public transport plan funding mechanisms

The long term funding mechanisms as presented in the *Perth PT Plan* is over the ten to twenty year time period and as such is seen as the long term strategic funding mechanisms to secure funding for the implementation of the plan in its entirety and in perpetuity. It is worth recognising that unlike the short term mechanisms proposed, the long term mechanisms would be significant structural changes to the funding of the public transport network. The congestion charging option raised in the *Perth PT Plan* is in effect a restructuring of the funding and cost allocation model for the transport system as a whole and, as such, has ramifications beyond the question of simply funding of public transport. Therefore this review will focus on the effect of the long term mechanisms on the long term funding of public transport and only superficially describe the broader issues of the implementation of these measures.

#### 6.2.1 Raise public transport funding as an issue at COAG

The draft *Perth PT Plan* recommends that the WA State Government raises the issue of funding public transport at Council of Australian Governments (COAG) as part of national strategy for funding public transport capital and operating costs. As the funding of capital and operating costs are quite separate matters with differing possible solutions they will be addressed separately.

**Public Transport Capital Costs**

The process to seek additional funding for the capital costs of large public transport infrastructure projects from the Commonwealth Government is no different to that of other infrastructure projects. Where the standard process is for the state governments to make a submission to Infrastructure Australia using the Infrastructure Australia Submission Assessment Methodology (IA, 2011). IA is a statutory body, established under the *Infrastructure Australia Act, 2008* which came into effect on 9 April 2008, and advises governments, investors and infrastructure owners on a wide range of issues. These include:

- Australia's current and future infrastructure needs;
- mechanisms for financing infrastructure investments; and
- policy, pricing and regulation and their impacts on investment and on the efficiency of the delivery, operation and use of national infrastructure networks.

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IA’s focus is on assisting Australian governments to develop a strategic blueprint for unlocking infrastructure bottlenecks and to modernise the nation’s economic infrastructure. It reports regularly to the Council of Australian Governments (COAG) through the Federal Minister for Infrastructure and Transport (IA, 2011). This provides the appropriate vehicle to raise the topic of public transport funding support. The existing IA processes assess infrastructure projects through a rigorous assessment methodology and report directly to COAG to make recommendations on infrastructure project suitability.

Public Transport Operational Costs

The matter of funding the operational costs of large individual public transport is quantified and addressed at a project level as part of the IA assessment of large individual projects and the project life cycle operational costs are not generally funded by the Commonwealth in funding of individual projects, by a grant, equity or loan. The operational cost of a project should be funded as part of the upgraded public transport system through a mix of increased fare box revenue and land based alternative funding mechanisms (as with the revenue from the Perth Parking Management Act, 1999).

6.2.2 Congestion Charging

Congestion charging has been raised as a potential long term source of funding for the Perth PT Plan.

The Henry Tax Review found that existing road transport taxes have been designed with the specific objective of raising revenue, but will be inadequate to deal with future requirements based on increasing congestion problems:

‘The existing structure of fuel tax, annual registration and other road-related taxes is designed primarily to raise revenue. These taxes more than cover the direct costs of providing road infrastructure, but are not capable of providing specific prices that vary according to location or time of use.’

There are several different types of models that could achieve the desired goals of reducing car travel on heavily congested roads:

- Road Tolls (new privately owned and operated roads such as those toll roads operated in Sydney and Melbourne)
- Road Tolls on existing roads (Sydney harbour bridge is a good example)
- Cordon Charges (such as the city of London congestion charge)
- Broader increases in vehicle taxes (fuel tax, and vehicle registration and insurances)
- Coordinated Parking Management Strategies (such as Perth’s Parking Management Strategy)

While the increases in vehicle and fuel taxes are seen as regressive in nature and whilst the introduction of a cordon charge or specific road tolls is politically unpalatable at this stage, a metropolitan wide parking strategy would increase the generalised cost of travel to destinations on congested roads. The revenue generated from these charges can be used to fund alternative modes (such as the Perth City parking charges funding the Perth City CAT Bus).

This use of parking as a congestion management tool is extremely successful in achieving modal shift to transit, and is one of the key mechanisms used in the City of Sydney to achieve their 87% modal share of journey to work trips to the Sydney CBD.

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31 (Henry, Harmer, Piggott, Ridout, & Smith, 2010b, p. 376)
32 (Henry, Harmer, Piggott, Ridout, & Smith, 2010b, p. 376)
6.2.3 Developer Contributions

Of the funding measures proposed in the Perth PT Plan the one mechanism of most significance and requiring the most new thinking for Western Australia is ‘land value capture’ which is only being presented in the Draft Plan by ‘developer contributions’.

Contributions to the costs of the implementation of the Perth PT Plan by the private sector as a way of returning all or part of the private sector gains from the introduction of public infrastructure will be dealt with as part of the report’s review of value capture mechanisms.
What is the current WA legislative basis for alternate public transport funding mechanisms?
“There is existing legislation in WA that has mechanisms that can act as alternative funding sources for public transport infrastructure”

7. What is the current WA legislative basis for alternative public transport funding mechanisms?

The legislative review identifies a range of existing Western Australian government acts and policies that could facilitate in the collection of a portion of the land value increases attributable to the implementation of public transport infrastructure.

As part of this project, a review of Western Australian (WA) Government legislation and policies has been undertaken to determine whether there are any legislative or policy hindrances to the implementation of alternative funding mechanisms in WA.

The review below identified that, in addition to the existing land value capture legislative mechanisms, there is legislation that has mechanisms that can act as alternative funding sources for public transport infrastructure though it is not strictly capturing the benefits of public transport infrastructure projects directly. These mechanisms might be used as alternative funding for projects.

Four main existing legislative channels that are available for value capture funding:

a. Planning and Development Act, 2005 - There are three aspects of this act that can be used:
   i. Through the Metropolitan Region Improvement Fund (MRIF) which is an annual metropolitan region land tax that has been applied since the Stephenson Hepburn Plan was first implemented and has been used for transport infrastructure (mostly roads) and public open space. The MRIF is a suitable funding mechanism for public transport-based value capture projects that have metropolitan region wide impacts.
   ii. Through the use of Developer Contributions which are presently used for a range of urban development-focused purposes, though these may impede the implementation of developer capacity at centres through increased development costs.
   iii. Planning Control Areas and Improvement Plans that give the State Government power to implement planning and value capture mechanisms in specified districts to enable the integration of transit and land use, and hence enable the value capture to be implemented.
b. **Land Tax Act, 2002** - Land taxes are collected through this Act and deposited in consolidated revenue. State Government could hypothecate this tax increment into infrastructure projects that cause the value of land to increase through improved accessibility.

c. **Perth Parking Management Act, 1999** - This can be used for public transport in the City of Perth. The Act could be amended to include similar parking levies in different areas and is a useful value capture mechanism.

d. **Local Government Act, 1995** - This can be used to set a broad transport rate across a whole local government municipality such as the Gold Coast Council was able to do (a specified area levy), or differential rates for particular developments associated with a transit oriented development to enable the transit to be funded. This could prove to be the best for enabling local amenity linkages at stations as these are best understood at local level.

7.1 The metropolitan region of Perth

The Metropolitan region has an approximate population of 1,700,000 to which the MRIF includes the thirty local governments presented in Table 11:

**Table 11 Metropolitan Region Local Government Agencies**

<table>
<thead>
<tr>
<th>Armadale</th>
<th>Gosnells</th>
<th>Serpentine-Jarrahdale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassendean</td>
<td>Joondalup</td>
<td>South Perth</td>
</tr>
<tr>
<td>Bayswater</td>
<td>Kalamunda</td>
<td>Stirling</td>
</tr>
<tr>
<td>Belmont</td>
<td>Kwinana</td>
<td>Subiaco</td>
</tr>
<tr>
<td>Cambridge</td>
<td>Melville</td>
<td>Swan</td>
</tr>
<tr>
<td>Canning</td>
<td>Mosman Park</td>
<td>Victoria Park</td>
</tr>
<tr>
<td>Claremont</td>
<td>Mundaring</td>
<td>Vincent</td>
</tr>
<tr>
<td>Cockburn</td>
<td>Nedlands</td>
<td>Wanneroo</td>
</tr>
<tr>
<td>Cottesloe</td>
<td>Perth</td>
<td></td>
</tr>
<tr>
<td>Fremantle</td>
<td>Rockingham</td>
<td></td>
</tr>
</tbody>
</table>

The spatial extents of the metropolitan region are illustrated in Figure 8.

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33 http://en.wikipedia.org/wiki/Perth,_Western_Australia
Figure 8  Perth Metropolitan Region (http://www.rdl.wa.gov.au/)

MAP 1: PERTH METRO REGION

KEY FEATURES
The purpose of this map is to display the Local Government Area boundaries for the Perth Metropolitan Region.
7.2  Planning and Development Act, 2005

Under the Western Australian Planning and Development Act, 2005, there are three supporting pieces of legislation that enable value capture mechanisms to be implemented:

i. Metropolitan Region Improvement Fund (MRIF);
ii. State Planning Policy 3.6 - Developer Contributions; and
iii. Planning Control Areas and Improvement Plans.

7.2.1 Metropolitan Region Improvement fund

The main area of alternative funding for Public Transport Infrastructure available for Perth is the use of the Metropolitan Region Improvement Fund (MRIF). The uses of the MRIF are stated in the Planning and Development Act, 2005 and the collection mechanisms and rates are set out in the Metropolitan Region Improvement Tax Act, 1959.

In short the MRIF is a fund managed through the Metropolitan Region Improvement Account (MRIA) by the Commissioner for Planning, which is collected through the Metropolitan Region Improvement Tax. This is in addition to Land Tax that is applied to all properties (excluding primary places of residence) within Metropolitan Perth.

Metropolitan Region Improvement Tax

The Metropolitan Region Improvement Tax (MRIT) is an annual tax that is based on the aggregated taxable land within each cadastral parcel (which is effectively an additional land tax). The MRIT is levied on metropolitan commercial property owners, and as with Land Tax private residences are exempt from the MRIT. Table 12 below is taken from Section 10 of the Metropolitan Region Improvement Tax Act, 1959, and it illustrates the current scope and scale of the MRIT:

<table>
<thead>
<tr>
<th>Taxable value of the land</th>
<th>Rate of Metropolitan Region Improvement Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exceeding ($</td>
<td>Not exceeding ($)</td>
</tr>
<tr>
<td>0</td>
<td>300,000</td>
</tr>
</tbody>
</table>

There is sufficient justification to raise the current rates to assist in the funding of Public Transport Infrastructure due to the fact that the current rates collected by the MRIT are actually lower than those collected in previous years.

Table 13 illustrates the variability of the MRIT by showing a compilation of the previous rates and thresholds for the MRIT from Metropolitan Region Improvement Tax Act, 1959.
Table 13  Compilation table of the Metropolitan Region Improvement Tax rates (1967 – 2011)

<table>
<thead>
<tr>
<th>Years of operation</th>
<th>Min. Taxable value of land</th>
<th>Rate of MRIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967/1976</td>
<td>0</td>
<td>0.25 cent for each $1</td>
</tr>
<tr>
<td>1976/1987</td>
<td>0</td>
<td>0.25 cent for each $1</td>
</tr>
<tr>
<td>1987/1993</td>
<td>0</td>
<td>0.225 cent for each $1</td>
</tr>
<tr>
<td>1993/2001</td>
<td>0</td>
<td>0.15 cent for each $1</td>
</tr>
<tr>
<td>2001/2002</td>
<td>0</td>
<td>0.15 cent for each $1</td>
</tr>
<tr>
<td>2002/2007</td>
<td>0</td>
<td>0.15 cent for each $1</td>
</tr>
<tr>
<td>2007/2008</td>
<td>$250,000</td>
<td>0.18 cent for each $1</td>
</tr>
<tr>
<td>2008/2009</td>
<td>$300,000</td>
<td>0.14 cent for each $1</td>
</tr>
<tr>
<td>2009/2010 and subsequent years</td>
<td>$300,000</td>
<td>0.14 cent for each $1</td>
</tr>
</tbody>
</table>

The variability of the rate of the MRIT over time demonstrates the changes to the needs of WA government to fund different requirements for the development of Perth at different times and this is illustrated in Table 13 and Figure 9.

Figure 9  The effect of the differing rates of the Western Australian MRIT on its revenues since 1967

What can the MRIF be used for?

Division’s 1 and 2 in Part 12 of the Planning and Development Act, 2005, sets out the uses for which any funds collected can be used. In particular, Section 200 of the Planning and Development Act, 2005, details who is liable to pay and what Acts the revenue is collected under. For the purposes of investing the MRIF in Public Transport for Perth, Section 199 of the Planning and Development Act, 2005, states that:

(1) The Commission may apply money in the MRI Account to payment of all expenditure incurred by it for the purpose of reviewing, amending, carrying out and
giving effect to the Metropolitan Region Scheme and any metropolitan improvement scheme, including —

a) payment of capital expenditure, costs and other expenses incurred by the Commission in and in connection with, the acquisition, whether by agreement or compulsorily, of any property in the metropolitan region under this Act; and

b) all expenses incurred by the Commission in or in connection with —

(i) the Metropolitan Region Scheme, a regional interim development order in respect of land in the metropolitan region or a metropolitan improvement scheme or the establishment and maintenance of any works in connection with the Metropolitan Region Scheme, regional interim development order or metropolitan improvement scheme; or

(ii) the development, maintenance and management of any land held by the Commission that is reserved under the Metropolitan Region Scheme or metropolitan improvement scheme; or

(iii) the carrying out of any works, including the provision of facilities, incidental to such development, maintenance and management or conducive to the use of such land for any purpose for which it is reserved.

(2) The Commission is also authorised to apply money standing to the credit of the MRI Account to payment of expenditure required for the purpose of carrying out the East Perth Redevelopment Act 1991, the Subiaco Redevelopment Act 1994, the Midland Redevelopment Act 1999, the Hope Valley-Wattleup Redevelopment Act 2000 or the Armadale Redevelopment Act 2001.

In addition to the redevelopment acts stated, it would seem likely that the soon to be created ‘Metropolitan Redevelopment Act’ will be added and that it would be authorised to invest the MRIF moneys as it saw necessary. Section 9 of the State Tax Review (May 2006) conducted by the Department of Treasury and Finance, states that the:

‘...exemptions and concessions for MRIT are the same as land tax. However, unlike land tax, MRIT is levied on the total land value once the land tax exemption threshold is exceeded. MRIT revenue is hypothecated to a trust fund for expenditure by the WAPC primarily on land acquisitions for road reserves, parks, recreation areas and the ‘Bush Forever’ program, within the metropolitan region.’

In a submission to the State Tax Review (May 2006) by the WAPC, it states that:

Additional resources will be required in the Perth region to implement the revitalisation and sustainability policies of the Government.

Future liabilities for compensating land holders are likely to increase as there will be a greater need for development in the inner and middle rings of Perth, rather than on the urban fringes where funding requirements are less.

This statement from the WAPC with respect to their intentions for the expansion of the use of the MRIF into inner and middle urban areas, then arguably introducing city shaping changes that are proposed by the Perth PT Plan provide sufficient justification for its use, in the way that it was used to acquire land for the Perth to Mandurah heavy rail line.34

7.2.2 State planning policy, 3.6 – Development Contributions for Infrastructure 2009

A common project level source of funding toward land development costs is charging developers for the system wide infrastructure costs wrought by individual land development (head works charges). The nature of the infrastructure which can have costs recovered by the developer contribution charges have been detailed in the State Planning Policy 3.6, 2009.

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The State Planning Policy 3.6 - Development Contributions for Infrastructure, states that the scope of the relevant policy measures required are:

... for items of infrastructure that are required to support the orderly development of an area. This includes the standard requirements for infrastructure contributions... In addition, local governments can seek contributions for the capital costs of community infrastructure which is defined as: 'the structures and facilities which help communities and neighbourhoods to function effectively, including:

- sporting and recreational facilities
- community centres
- child care and after school centres
- libraries and cultural facilities; and
- such other services and facilities for which development contributions may reasonably be requested, having regard to the objectives, scope and provisions of this policy.'

Development contributions can be sought for—

- a new item of infrastructure;
- land for infrastructure;
- an upgrade in the standard of provision of an existing item of infrastructure;
- an extension to existing infrastructure;
- the total replacement of infrastructure once it has reached the end of its economic life;
- other costs reasonably associated with the preparation, implementation and administration of a development contribution plan.

This policy sets out the mechanism for a Local Government Agency (LGA) to collect a development contribution to the infrastructure cost of public transport projects in similar ways to how LGAs charge for the provision of other infrastructure essential for the development and use of land (sewer, water, roads, etc.). It also provides scope for contributions toward capital costs of other services which could include streetscapes, alterations to services and a range of locally oriented infrastructure that would help support the provision of Public transport services, but states that:

‘The contributions are for the initial capital requirements only and not for ongoing maintenance and/or operating costs of the infrastructure.’

7.2.3 Planning control areas and improvement plans

Developing and profiting from intensifying land use around public transport infrastructure is a critical part of the story in funding public transport. The WAPC (and the soon to be created Metropolitan Redevelopment Authority) have the power to create special districts using the creation of Land Use Planning Control Areas using Planning Control Areas (Part 7 - Planning and Development Act, 2005) or the creation of Improvement Plans (Part 87 - Planning and Development Act, 2005) around the Public Transport Infrastructure corridors. These mechanisms are very powerful ways to help guide development in strategically important locations. Schedule 6 of the Planning and Development Act, 2005 presents the list of purposes which land may be required for a Planning Control Area and these include:

<table>
<thead>
<tr>
<th>Item</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Car parks</td>
</tr>
<tr>
<td>2.</td>
<td>Civic and cultural amenity</td>
</tr>
<tr>
<td>3.</td>
<td>Commonwealth Government</td>
</tr>
<tr>
<td>4.</td>
<td>Cultural heritage conservation</td>
</tr>
<tr>
<td>5.</td>
<td>Highways and important regional roads</td>
</tr>
</tbody>
</table>
6. Hospitals
7. Parks and recreation areas
8. Port installations
9. Power services, including electricity and gas supply
10. Prisons
11. Public purpose of the State
12. Railways
13. Schools
14. Special uses
15. State forests
16. Universities
17. Water catchments
18. Water services, including sewerage and drainage
19. Waterways

Of the purposes stated in Schedule 6, the following purposes seem to meet the requirements for planning controls required: (11) Public Purpose of State, (12) Railways and (14) Special Uses. The creation of Special Districts will be important for the 'Transit Oriented' re-urbanisation of the new public transport corridors to aid the patronage for the public transport and to help the urban infill objectives in Directions 2031.

One of the difficult aspects of the proposed extent of the Perth PT Plan is the number of Local Government municipalities that it will cross and, as such, the use of Planning Control Areas or Implementation Plans has the potential to facilitate the coordination of a homogeneous implementation of transit oriented planning measures and controls across numerous local government areas. This will help facilitate the integration of land use and transit to meet the Perth PT Plan’s objectives.

7.3 Land Tax Act, 2002

Land Tax is a state wide annual state government land based tax, on land which non primary and principal residential, and commercial properties are located, and is of a similar nature to the MRIT. It has a range of different thresholds for which non primary and principal residential (commercial) land is taxed.

Unlike the MRIT, there are currently no limitations to the use of the revenue generated by Land Tax under the Land Tax Act, 2002 and as such the revenue is deposited directly into state government consolidated revenue. Table 14 below is taken from Section 50 of the Land Tax Act, 2002, and it illustrates the current scope and scale of the Land Tax for the State of Western Australia. The purpose of presenting the land tax is to illustrate the amount of revenue generated by this land based tax, and the fact that it has been steadily reduced since 2002.
Table 14  Land Tax rates for 2009/10 and subsequent financial years

<table>
<thead>
<tr>
<th>Taxable value of the land</th>
<th>Rate of Land Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exceeding ($)</td>
<td>Not exceeding ($)</td>
</tr>
<tr>
<td>0</td>
<td>300,000</td>
</tr>
<tr>
<td>300,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>1,000,000</td>
<td>2,200,000</td>
</tr>
<tr>
<td>2,200,000</td>
<td>5,500,000</td>
</tr>
<tr>
<td>5,500,000</td>
<td>11,000,000</td>
</tr>
<tr>
<td>11,000,000</td>
<td></td>
</tr>
</tbody>
</table>

A historical perspective with regard to the scale and nature of the differing rates of land tax since 2002 is presented in Figure 10. This graph presents an interesting trend where the land based taxes are being reduced in absolute terms, and such limit the State Government’s ability to provide urban economic generative infrastructure such as public transport infrastructure and services. The reductions in the rate of land tax charged in WA are further highlighted in Table 15, where land values of $1,000,000 had their annual land tax bill reduced by 93%, and properties with a land value worth $10,000,000 had their land tax reduced by nearly 50% in the period of 2002 to 2008, where it has remained since.

Table 15  Land Tax rates charges comparison since 2002

<table>
<thead>
<tr>
<th>Property Values</th>
<th>Land Tax Costs / Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>$500,000</td>
<td>$2,382</td>
</tr>
<tr>
<td>$1,000,000</td>
<td>$8,782</td>
</tr>
<tr>
<td>$2,000,000</td>
<td>$27,782</td>
</tr>
<tr>
<td>$5,000,000</td>
<td>$96,782</td>
</tr>
<tr>
<td>$10,000,000</td>
<td>$221,782</td>
</tr>
<tr>
<td>$15,000,000</td>
<td>$346,783</td>
</tr>
</tbody>
</table>

A comparison of the scale and attributes of the current rates of the MRIT and Land Tax as they apply to non-primary and principle residential properties is illustrated in Figure 11.
Figure 10 The differing rates of the Western Australian Land Tax on its revenues since 2002

Figure 11 Western Australian Land Tax and MRIT revenues with respect to property value

WA State Government Land Tax/MRIT

Land Tax Rates Since 2002
7.4 Perth Parking Management Act, 1999

Levies generated from parking can and do make a contribution to public transport funding in WA. These should be explored more fully as part of the potential funding mix for public transport. Under the *Perth Parking Management Act, 1999* and the Perth Parking Policy (Govt Gazette, WA 16 July 1999) the WA Government collect a levy for the non residential car parking bays within the City of Perth. The funds collected from the levy are deposited into the Perth Parking Account and the funds to be spent in the Perth Parking Management Area. The objectives of the Perth Parking Policy, 1999, are to:

- Ensure the continued economic vitality of the City of Perth;
- Improve accessibility to and within the city, for all users;
- Improve air quality and the physical environment of the city;
- Keep the impacts of vehicular traffic within acceptable limits;
- Encourage the efficient use of parking facilities in the policy area; and
- Provide a framework for the development of parking facilities within the city.

The Perth Parking Policy, 1999 states that the following transport tasks are to be funded by the Parking Levy Account:

- Central Area Transit (CAT) System and improvements to that system;
- Improving Public Transport Access;
- Enhancing the Pedestrian Environment;
- Supporting bicycle access;
- And other initiatives that support a balanced transport system for the city.

The spatial extent of the Public Parking Zones of the *Perth Parking Management Act, 1999* is illustrated in Figure 12.

*Figure 12  Public Parking Zones of the Perth Parking Management Act, 1999*  

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Section 11 of Schedule 2 of the Perth Parking Management Regulations 2011 deals with which vehicle bays that incur the levy and the quantity of the levy charged, and deposited into the Perth Parking Account:

<table>
<thead>
<tr>
<th>Item</th>
<th>Parking Facility</th>
<th>Annual Licence Fee 2011 (Fee in 2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>a facility that has more than 5 parking bays for the use of vehicles (excluding a bay set aside for the exclusive use of vehicles referred to in any of the items 2 to 10) —</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) for each motor cycle bay;</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>(ii) for each bay (excluding a bay that is on a carriageway) that is available to the public for use without time constraints;</td>
<td>$616.30 ($189.00)</td>
</tr>
<tr>
<td></td>
<td>(iii) for each bay that is on a carriageway;</td>
<td>$584.30</td>
</tr>
<tr>
<td></td>
<td>(iv) for each bay that is available to the public and in which 50% of the vehicles being parked stay for less than 4 hours and at least 90% stay for less than 6 hours;</td>
<td>$584.30 ($163.50)</td>
</tr>
<tr>
<td></td>
<td>(v) in a building used only for non-residential purposes, for each bay that is not available to the public but is available for use by a person who is not the owner of the building.</td>
<td>$616.30</td>
</tr>
</tbody>
</table>

In their review of the Parking Policy for Perth, SKM (2007) state with respect to the use of the Parking Policy revenue that:

‘To date, revenue has been used to fund the CAT bus system and to compensate the Public Transport Authority for revenue foregone in the Free Transit Zone and to meet DPI administration costs.’

The Parking Policy for Perth has been very successful not only in generating significant revenue to be used in the provision other modes of transport (CAT Buses) and enhancing the pedestrian and cycling facilities of the city, but probably most importantly it has had a significant role in the Travel Demand Management (TDM) strategy for the city.

The ongoing success of the heavy rail system and the rest of the public transport network is due in part to the Parking Policy for Perth in that it raises the generalised cost (the combination of the financial and time cost) of a car trip to the city to the point where from some areas of metropolitan Perth it has become quicker, and possibly cheaper, to take public transport than it is to drive.

Any increase in scale of the amount of the licence fee that is charged (and passed on to car users) and / or extent to which the licence fee is charged (for example to the major activity centres proposed within Directions 2031) has the potential to further enhance the viability of the proposed Perth PT Plan by reducing the operational costs and increasing patronage along its routes.
7.5 Local Government Act, 1995 – Division 6 – Rates and services charges

The Local Government Act, 1995, Section 6.32 presents how the rates for Local Governments within Western Australia are calculated. Clause 6.32(b)(i) is of particular interest as this could be used to fund localised improvements to the Public Transit Corridors to facilitate greater public transit development and possibly be used to fund the capital cost of the public transit itself.

(1) When adopting the annual budget, a local government —
   (a) in order to make up the budget deficiency, is to impose* a general rate on rateable land within its district, which rate may be imposed either —
      (i) uniformly; or
      (ii) differentially;
   (b) may impose* on rateable land within its district —
      (i) a specified area rate; or
      (ii) a minimum payment;
      and
   (c) may impose* a service charge on land within its district.
   * Absolute majority required.

(2) Where a local government resolves to impose a rate it is required to —
   (a) set a rate which is expressed as a rate in the dollar of the gross rental value of rateable land within its district to be rated on gross rental value; and
   (b) set a rate which is expressed as a rate in the dollar of the unimproved value of rateable land within its district to be rated on unimproved value.

The option for differential rating based on property valuation (Gross Rental Value) allows for Local Governments along the public transport corridor (particularly the LRT) to recover some or all of the capital and operating costs for upgrading the land use and transport infrastructure. For example this has included urban renewal infrastructure upgrades (water/sewer/stormwater/electricity/gas) and landscaping or increasing security requirements.

7.5.1 Local Government Act, 1995, Section 6.37 – Differential General Rates

The ‘Rate’ for the Local Government Agencies within the Perth Metropolitan area is generally calculated using a multiplication of a ‘Gross Rental Value’ and a differential rate with a specified minimum value which the chargeable rate cannot go below. Section 6.33 describes how a differential rate for a Local Government Agency can be calculated.

(1) A local government may impose differential general rates according to any, or a combination, of the following characteristics —
   (a) the purpose for which the land is zoned, whether or not under a local planning scheme or improvement scheme in force under the Planning and Development Act, 2005
   (b) a purpose for which the land is held or used as determined by the local government;
   (c) whether or not the land is vacant land; or
   (d) any other characteristic or combination of characteristics prescribed.

(2) Regulations may —
(a) specify the characteristics under subsection (1) which a local government is to use; or

(b) limit the characteristics under subsection (1) which a local government is permitted to use.

(3) In imposing a differential general rate a local government is not to, without the approval of the Minister, impose a differential general rate which is more than twice the lowest differential general rate imposed by it.

(4) If during a financial year, the characteristics of any land which form the basis for the imposition of a differential general rate have changed, the local government is not to, on account of that change, amend the assessment of rates payable on that land in respect of that financial year but this subsection does not apply in any case where section 6.40(1)(a) applies.

(5) A differential general rate that a local government purported to impose under this Act before the Local Government Amendment Act 2009 section 39(1)(a) came into operation 1 is to be taken to have been as valid as if the amendment made by that paragraph had been made before the purported imposition of that rate.

The power to apply differential rates in recovering increased localised infrastructure or service provision cost can be applied in such a way that the size and value of the benefitting properties in the localised area surrounding the infrastructure (through the calculation of the Gross Rental Value) determines the size of the contribution to the cost recovery process.

**Differential Rates Example**

To illustrate how differential rates are applied, the rate specifications for the City of Fremantle have been included below. The City of Fremantle sets a ‘rate in the dollar’ and a ‘minimum payment’ amount annually that is applied to all rateable properties.

*Rates are calculated by multiplying the Gross Rental Value (GRV) (which is supplied by Landgate Valuation Services) by the ‘rate in the dollar’. Where this calculation fails to equate to the ‘minimum payment’, then the minimum payment is levied on the property.*

Differential rates known as general, city centre commercial, vacant residential land, undeveloped CBD property and nightclubs will be applicable for the 2011-2012 financial period and will be:

<table>
<thead>
<tr>
<th>Differential rates</th>
<th>Rate in dollar</th>
<th>Minimum payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General rate</td>
<td>$0.06781</td>
<td>$1014.00</td>
</tr>
<tr>
<td>City centre commercial</td>
<td>$0.07161</td>
<td>$1014.00</td>
</tr>
<tr>
<td>Vacant residential land</td>
<td>$0.12827</td>
<td>$1014.00</td>
</tr>
<tr>
<td>Undeveloped CBD zone property</td>
<td>$0.13562</td>
<td>$1014.00</td>
</tr>
<tr>
<td>Nightclubs</td>
<td>$0.13562</td>
<td>$1014.00</td>
</tr>
</tbody>
</table>

**City centre commercial differential rate**

On 1 July 2008 the City took over management of the Fremantle First brand and introduced a differential rate to fund the management, administration and delivery of marketing activities aimed at enhancing the economic and social viability, and the general amenity, of the Fremantle commercial business district (CBD) and environs.

… 36

These differential rates are an example of a Local Government Agency recovering the costs of increased service provision from the beneficiaries of that service. This is conceptually no different to the increase in amenity from the introduction of the proposed *Perth PT Plan*.

7.5.2 **Local Government Act, 1995, Section 6.37 – Specified Area Rates**

Further to Clause 6.32(b)(i), Section 6.37 details the requirements for Specified Area Rates which seem perfectly suited for Public Transport Infrastructure funding.

(1) A local government may impose a specified area rate on rateable land within a portion of its district for the purpose of meeting the cost of the provision by it of a specific work, service or facility if the local government considers that the ratepayers or residents within that area —

(a) have benefited or will benefit from;

(b) have access to or will have access to; or

(c) have contributed or will contribute to the need for,

that work, service or facility.

(2) A local government is required to —

(a) use the money from a specified area rate for the purpose for which the rate is imposed in the financial year in which the rate is imposed; or

(b) to place it in a reserve account established under section 6.11 for that purpose.

(3) Where money has been placed in a reserve account under subsection (2)(b), the local government is not to —

(a) change the purpose of the reserve account; or

(b) use the money in the reserve account for a purpose other than the service for which the specified area rate was imposed,

and section 6.11(2), (3) and (4) do not apply to such a reserve account.

(4) A local government may only use the money raised from a specified area rate —

(a) to meet the cost of providing the specific work, service or facility for which the rate was imposed; or

(b) to repay money borrowed for anything referred to in paragraph (a) and interest on that money.

(5) If a local government receives more money than it requires from a specified area rate on any land or if the money received from the rate is no longer required for the work, service or facility the local government —

(a) may, and if so requested by the owner of the land is required to, make a refund to that owner which is proportionate to the contributions received by the local government; or

(b) is required to allow a credit of an amount proportionate to the contribution received by the local government in relation to the land on which the rate was imposed against future liabilities for rates or service charges in respect of that land.  

As the localised area surrounding the public transport infrastructure (again in particular the LRT) will require generally significant upgrade from its current state to facilitate the transit and pedestrian oriented redevelopment of the corridor and nodes. An additional ‘Flat Rate’ applied
to the benefiting properties is a potential source of funding for all or part of the cost of the urban renewal infrastructure is using ‘Specified Area Rates’.

Specified Area Rates Example

Again a good example of the use of the ‘Specified Area Rates’ charter is The City of Fremantle, and this is presented to demonstrate the implementation of Specified Area Rates by a Local Government Agency.

Specified area rates

Security Service – a safety and security strategy for a specified area of the Fremantle CBD that is bounded by Parry Street, South Terrace, Suffolk Street, Fishing Boat Harbour (west of Mews Road) and along the coast to Bathers Beach, Fleet Street, Phillimore Street and Elder Place.

Underground power Chalmers/Knutsford Streets – to fund costs associated with provision of underground power to properties in Chalmers and Knutsford Streets, Fremantle including interest on borrowings used to finance the project.

Leighton precinct maintenance – to fund the above normal costs associated with maintaining the higher standard of the landscaping of the Leighton residential area.

These ‘Specified Area Rates’ implemented by The City of Fremantle are of a similar nature to the type that will be required for the re-urbanisation that will be required along the public transport corridors and nodes and as such are well suited for use as a funding mechanism for these localised infrastructure upgrade costs.

7.5.3 Local Government Act, 1995, Section 6.38 – Service charges

In addition to Clause 6.32(c) and Section 6.37, Section 6.38 of the Local Government Act, 1995 details the requirements for Service Charges which again seems perfectly suited for Public Transport Infrastructure funding.

1) A local government may impose on —
   a) owners; or
   b) occupiers,

of land within the district or a defined part of the district a service charge for a financial year to meet the cost of providing a prescribed service in relation to the land.

(2) A local government is required to —
   a) use the money from a service charge in the financial year in which the charge is imposed; or
   b) to place it in a reserve account established under section 6.11 for the purpose of that service.

(3) Where money has been placed in a reserve account under subsection (2)(b), the local government is not to —
   a) change the purpose of the reserve account; or
   b) use the money in the reserve account for a purpose other than the service for which the charge was imposed,

and subsections (2), (3) and (4) of section 6.11 do not apply to such a reserve account.

(4) A local government may only use the money raised from a service charge —

a) to meet the cost of providing the specific service for which the service charge was imposed; or

b) to repay money borrowed for anything referred to in paragraph (a) and interest on that money.

(5) If a local government receives more money than it requires from the service charge imposed under subsection (1)(a) it —

a) may, and if so requested by the owner of the land, is required to, make a refund to the owner of the land which is proportionate to the contributions received by the local government; or

b) is required to allow a credit of an amount proportionate to the contribution received by the local government in relation to any land on which the service charge was imposed against future liabilities for rates or service charges in respect of that land.

(6) If a local government receives more money than it requires from the service charge imposed under subsection (1)(b) it is required to make a refund to the person who paid the service charge which is proportionate to the contributions received by the local government.

The use of service charges is effectively an infrastructure cost recovery charge in the way that ‘head works charges for infrastructure’ are implemented for green field development. The use of service charges could be a very effective way of recovering the re-urbanisation infrastructure improvement costs and any costs incurred for the changes to the utilities and local government services as part of the implementation of the public transport infrastructure (in particular the LRT).

Service Charges Example

Another a good example, this time for the implementation of ‘Service Charges’ is also provided by The City of Fremantle through their ‘Service Charges Charter’. The charter has been presented below to demonstrate the implementation of Service Charges by a Local Government Agency.

Service charges

Local governments may set service charges for prescribed services and in the 2006–07 financial year, the City levied service charges to fund the costs for provision of underground power to properties in the underground power East area.39

As with the ‘Differential Rating’ and ‘Specified Area Rates’, the implementation of the ‘Service Charges’ that have been described by the City of Fremantle illustrates the possibility for their use as a funding mechanism for Public Transport Infrastructure along their corridors or at their nodes.

7.6 Summary of the review of current legislation

The overall conclusion from this survey of available mechanisms is that Perth has sufficient possible value capture financing potential in the current legislative framework.

“Value capture is the process whereby some or all increments in accessibility gains attributable to public sector actions are recouped by the public sector for public purposes”

8. How is value captured?

The land value increases that are created through the introduction of improved transport amenity and accessibility affect government and non government properties differently and as such there are a range of value capture mechanisms that can be used to collect some of this value to offset the cost of the infrastructure investment. The suitability of each of the value capture mechanisms is assessed in a Value Analysis Framework that enables agencies to select mechanisms on the basis of their suitability for implementation and their ability to obtain public acceptance.

8.1 Introduction to value capture

Increased transport amenity through the introduction of public transport infrastructure significantly increases accessibility to key destinations such as employment and activity nodes. Numerous international and local studies have demonstrated that this increase in transit amenity delivers improved real estate values.

Beneficiaries from the investment in transport infrastructure include:

- **Land owners**: due to the increase in underlying land values;
- **Property developers**: due to the potential increase in developed real estate values and the potential for faster sales rates;
- **Transport system users**: a more efficient, less congested transport system will result in less time spent in transit, allowing more time available for other activities;
- **Business owners**: due to improved accessibility for their customers and employees; and
- **Government**: due to improvements in property based revenue streams, such as rates and land taxes, from increased land values.

Understanding a transport project’s overall value created is important as it allows:

- An understanding net cost of infrastructure;
- Development of options to offset the cost of the project;
- Support for cost sharing arrangements between stakeholders;
- Support for long term planning and policy development;
• Support for project affordability and funding analysis; and
• Development of a value proposition.

Value capture is the process whereby some or all increments in accessibility gains (such as increases in property values) attributable to public sector actions are recouped by the public sector for public purposes. There are many different types of value capture mechanisms available (including both strategic and project focused mechanisms) and they can be categorised into the following groupings:

- Passive value capture
  - Government property
  - Non-government property
  - Service provision

- Active value capture
  - Government property
  - Non-government property
  - Service provision

- Costs avoided

In essence, value capture provides a means to monetise a project’s economic and financial benefits as cash returns that may either be captured and contributed or recognised and attributed towards project costs. In an environment of fiscal constraint, it is important to assess and understand value capture options that may be available to support a major transport project and to understand the true value created and possible returns to government available which may offset a portion of the cost of the project.

This section of the report will focus on the opportunities available to Australia and, in particular, Western Australia (WA), to offset the cost of the provision of new public transport infrastructure. This will be achieved by analysing the WA legislative and governance frameworks, presenting the value capture opportunities available, and developing a value proposition for the state to discuss the options available.

8.2 The differing scales of value capture mechanisms

The Value Analysis Framework and the subsequent value capture mechanisms have different focuses depending on the context in which they are operating, and the nature of the scale of the focus of the funding objectives. There are effectively two scales to which the different mechanisms belong: the strategic regional scale, and the project scale.

8.2.1 Strategic level value capture mechanisms

Strategic level value capture mechanisms are ones that are used to fund the long term implementation of a strategic transport network and, as such, are focussed on raising a base load of funding from a broad range of stakeholders for a program or vision that cannot be justified by one project alone. The strategic level value capture mechanisms do not impact on the objectives of individual projects (such as increasing transit ridership), but rather they generally impact on a large number of stakeholders across a metropolitan region and are relatively cheap to implement as they require limited investments in infrastructure and technology.

Examples of strategic level mechanisms would be the expansion of MIRF or the creation of a metropolitan region wide public transport or parking levy, as they affect a significant distribution of the metropolitan region’s population and, whilst they deliver a small charge to individuals, they generate significant funds for the regions transport projects. As presented previously, the main strategic land use funding mechanism that has been available in WA has been the MRIF and this has provided the city shaping benefits of regional open space and early practical purchasing of land for road reserves. It is suggested that the natural extension of use this mechanisms is to aid in the implementation of the Perth PT Plan.
8.2.2 Project level value capture mechanisms

Project level mechanisms are more targeted toward funding a particular transport infrastructure project and must have very strong links to project benefits to be justified on a project by project basis. The aim of project level value capture mechanisms is that they should ideally closely match the beneficiaries of the transport infrastructure and accessibility improvements and those who are impacted. Given that the impacts of projects commonly affect only relatively small number of stakeholders within the metropolitan region, they are easily identified and engaged with.

The project level mechanisms can be costly to implement and, if not correctly focussed, can decrease the ability of a project to achieve its objectives (such as disproportionally high developer levies/fees within a catchment driving development from the area rather than attracting it).

8.3 Value Analysis Framework

Transport infrastructure projects create significant value which can be assessed in a number of ways and the scale of a large transport infrastructure project is such that it can have a significant impact on the environmental, social and economic networks of a region and create change in a number of complex ways far beyond pure transport outcomes. For example the additional transit amenity could increase the economic efficiency of an area, resulting in businesses becoming more profitable. It may allow for a region to become more competitive and thus grow the local economy. It can also improve residential, commercial and industrial property values whilst reducing emissions and improving transport accessibility to lower socio economic areas.

To fully understand the value created by transport projects there is a need to conduct a number of specific assessments of the benefits of the project. A complexity to be considered in this process is that not all assessment methods are additive as sometimes there is overlap between them. Nonetheless there is merit in assessing the project using different techniques to gain a full understanding of the value of the project.

The value analysis framework provides an overview of assessment techniques (see Figure 15) by grouping value assessment into financial and economic analysis and sub-analytical techniques.

Economic analytical techniques are used to assess the total value of the project to society including non-financial benefits such as travel time savings and environmental benefits and can be undertaken on a number of levels including transport, economic (traditional and wider economic impacts) and land use planning (macro and micro) economic analysis. Financial analytical techniques are typically used to analyse financial cost of the impact of a project from a particular stakeholder’s point of view which, in the case of the implementation of the Perth PT Plan, is the WA State Government.

The Value Analysis Framework provides an overview of a number of typical financial value capture analytical techniques, which include active and passive value capture from government and non-government property, increased service provision, as well as the costs to society that are avoided by undertaking the project.

8.3.1 Value capture for Government property

Active Mechanisms

Active value capture from government property includes the assessment of options which government can proactively undertake to capture the value generated by the implementation

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40 Corview, (2011) The Value Analysis Framework is from Corview’s working documentation that is used to present these concepts to clients, and has been provided by Tim Crane for use in this report.
of a transport infrastructure project upon property either already owned by government or property acquired by government to undertake the project. Typically these options allow government to capitalise upon increased transit and other amenity afforded to government property by the virtue of undertaking the project, where these options can include property development of adjoining or surplus project land, joint development with the private sector and add value (develop) and hold for return strategies (rental returns and parking returns etc).

**Passive Mechanisms**

Passive value capture of government property includes assessment of relatively passive strategies available to government to allow it to capitalise upon value generated and these can include sale of surplus property and/or the holding of surplus property.

### 8.3.2 Value capture for Non-Government Property

**Active Mechanisms**

Active value capture of non-government property by government to capture some of the value generated (by the implementation of a transport infrastructure project) which has accrued to others. The strategies to capture this value typically include the proactive implementation of a new tax or revenue securitisation scheme to assist in offsetting the cost of the infrastructure project.

Value capture options for non-government property are highly varied, often project specific and complex as they have a number of public interest, legal and implementation issues which need to be analysed to properly assess their merit. Project level strategies can include the implementation of benefit area levies or special assessment districts, changes in property based taxes, in kind contributions by developers and/or joint development options between government and developers. Metropolitan region (strategic level) mechanisms also include broad scale options such as the implementation of a region wide transport levy.

**Passive Mechanisms**

Passive value capture of non-government property can include the assessment of changes in government wealth or income as a result of the increased transit and other amenity due to the development of a transport infrastructure project.

This typically includes increases in property based taxes such as capital gains tax, stamp duty, rates, land tax etc but also includes changes in income tax as a result of a potential increase in net economic activity attributable to the project.

### 8.3.3 Value capture for Increased Service Provision

**Active Mechanisms**

Active value capture from increased service provision can include the possible introduction of new or premium level service fees to help to offset the cost of the project. An example of this would be the introduction of new tolls or public transport fees or the increase in existing fees, either by a general increase or the introduction of premium ticketing/toll products.

**Passive Mechanisms**

Passive value capture from increased service provision can include the assessment of the increase in existing service provision fees such as existing tolls and/or public transport fares.

### 8.3.4 Costs to the Metropolitan Region that are avoided

Costs avoided as part of the introduction of new infrastructure are reflected in the reduction for need to develop other infrastructure due to the implementation of the project, or the delay
of other infrastructure development. These costs avoided can include the reduction or delay in expenditure on transport, health, law and order, education, sewer, water and other community infrastructure through re-urbanisation around the increased infrastructure provided.

Whilst the calculation of avoidable cost is not strictly a value capture option, the combination of integration of transport and land use planning to facilitate the re-urbanisation of land surrounding new infrastructure can result in significant cost savings to government in terms of more efficient use of existing infrastructure or fewer major upgrades to existing infrastructure.

When the metropolitan region’s infrastructure costs are viewed holistically, the costs avoided by the project can significantly offset the net cost of a significant transport infrastructure project, particularly where that project provides a significant level of increased transit amenity in an area which has considerable civil infrastructure, which is the case of the public transport infrastructure proposed in the Perth PT Plan.
Figure 13  Value Analysis Frameworks\(^{41}\) (Corview, 2011)

\(^{41}\) Corview, (2011) The Value Analysis Framework is from Corview’s working documentation that is used to present these concepts to clients, and has been provided by the Corview group for use in this report.
8.4 Value Capture Framework

The Corview value capture framework\(^2\) provides a structure for understanding how value can be created by a significant transport project and how government can attempt to capture that value to defray the cost of the project. The value capture framework (illustrated in Figure 14) is focused on financial value capture options identified in the value analysis framework.

**Figure 14 Value Capture Framework\(^3\) (Corview, 2011)**

<table>
<thead>
<tr>
<th>Value created</th>
<th>Value type</th>
<th>How assessed</th>
<th>How value can be captured</th>
<th>Financial return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased level of service</td>
<td>Increased service provision</td>
<td>Service revenue modelling analysis</td>
<td>Passive: increase in existing service based revenue</td>
<td>Increased fare box or toll revenue etc</td>
</tr>
<tr>
<td>Government property development</td>
<td>Active government property</td>
<td>Property development analysis</td>
<td>Various active strategies: acquisition and development joint venture with current owner</td>
<td>Development returns, rental returns etc</td>
</tr>
<tr>
<td>Increased value of government property</td>
<td>Passive government property</td>
<td>Value of property with and without project</td>
<td>Passive: value of property increases</td>
<td>Increase in future sale price</td>
</tr>
<tr>
<td>Increased value of non-government property</td>
<td>Active and passive non-government property</td>
<td>Valuation of property with and without project</td>
<td>Passive: increase in existing ad valorem tax Active: introduction of new ad valorem taxes</td>
<td>Increase in earnings from current or new tax regimes</td>
</tr>
<tr>
<td>Increased economic prosperity</td>
<td>Active and passive non-government property</td>
<td>Valuation of increased economic activity and productivity as a result of project</td>
<td>Passive: increase in income tax from existing regimes Active: introduction of new tax regimes</td>
<td>Increase in earnings from current or new tax regimes</td>
</tr>
<tr>
<td>Cost avoided</td>
<td>Costs avoided</td>
<td>Valuation of costs avoided as a result of project</td>
<td>Decrease in future expenditure on infrastructure</td>
<td>Decreased future expenditure</td>
</tr>
</tbody>
</table>

The Corview value capture framework provides an important consideration of value capture methodologies as it focuses understanding on:

- what value is created;
- who receives the value;
- what value is passively captured by government by virtue of existing taxation regimes; and
- what additional value capture regimes may be introduced to further defray the cost of the project?

The identification of the project beneficiaries and those who bear the costs of implementing a transport project is an important element in considering the broader societal equity concerns related to the implementation of significant project infrastructure. The value capture framework provides a tool that can be used to link the beneficiaries of a transport project to a value capture mechanism which can help to offset the cost of the project.

The analysis of the different options for capturing value and offsetting the cost of the project can also help in the development of cost sharing arrangements between various levels of governments and also between government and special interest groups. This is particularly important as it can form the basis of funding negotiations between public and private stakeholders and investors and can

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\(^2\)Corview, (2011) The value capture Framework is from Corview’s working documentation that is used to present these concepts to clients, and has been provided by Tim Crane for use in this report.

\(^3\)Corview, (2011) The value capture Framework is from Corview’s working documentation that is used to present these concepts to clients, and has been provided by Tim Crane for use in this report.
help to illuminate the level of fair contributions that should be made by the three tiers of government and the beneficiaries.

Understanding the total net cost of a project (i.e. after the inclusion of value capture options to reduce the net cost of a project) provides investors with a better picture of project cost and affordability, which is important for consideration between a portfolio of potential projects vying for limited investment funds (social infrastructure including; health, education, law enforcement, etc). The value capture Framework supports the development of other financial analysis tools to allow for evaluation of competing projects for funding particularly when taking into consideration the use of value capture techniques.

Whilst it is acknowledged that the majority of transport infrastructure projects do not necessarily return a financial profit to government in the way that a normal investment would to shareholders or financiers, traditional and derivate analytical tools can be used to measure the financial performance (including the performance of value capture mechanisms) of the project. Value capture can however be viewed through the context of *traditional financial performance framework* such as:

- Return on investment (noting that this is a valid measure even of a project that makes a financial loss or a negative return);
- Derivates such as returns to beneficiaries;
- Beneficiary return to investment ratio;
- Return by value creation type; and
- Proportion of returns generated by passive and active value capture technique etc.

### 8.5 Value capture mechanisms

In accordance with the value analysis and capture frameworks there are a series of value capture Mechanisms that capture the value increases in government property, non-government property and increased service provision using both active and passive methods.

#### 8.5.1 Active Value Capture from Government Property

The implementation of transport projects results in increases in land values and economic prosperity that increase the value of government land, and there a number of value capture mechanisms that can be used to capture these increases to offset the capital and operating costs of the infrastructure. These include:

- Development of government property to maximize the transportation and revenue outcomes;
- Joint development of government land with the private sector;
- Returns on government provided parking;
- Rental returns of government property; and
- Returns from leasing space within the public transport infrastructure for advertising.

In Western Australia under the *Local Government Act Section 1995*, Section 3.60 there is a significant clause that limits local government agencies from entering into a commercial arrangement for the purposes of developing land. Section 3.60 states:

> ‘A local government cannot form or take part in forming, or acquire an interest giving it the control of, an incorporated company or any other body corporate except a regional local government unless it is permitted to do so by regulations.’

The limitations posed by this clause effectively mean that the local governments are unable to undertake significant land development projects or enter into joint development of local government owned land. In contrast, other local and international transit projects have typically utilised the sale of surplus property and development rights (Barangaroo, Chatswood Interchange, MRT 3 Metrostar Express in Manila, Dublin Metro) or the joint development approach (Hong Kong MTR, Dallas DART)\(^4\).

Importantly, the direct development by government option can expose government to a very high level of development risk and it is not regularly used for projects of this nature. It is considered to be unsuitable for implementation of the *Perth PT Plan* and so the active value capture mechanisms for

\(^4\) Corview, 2011
government property will focus on the State Government opportunities for joint development, returns on parking and rental of government property within a transit precinct.

**State Government Joint development**

Under the joint development model, the State Government governance authority would enter into a joint development agreement with a private sector developer to jointly develop the air rights (above or in-station development) or on land within transit precincts. Typically, the governance authority would undertake some element of upfront planning to inject certainty and value into the site and would then tender for a development partner to:

- Manage the development including finalising design and approvals, manage lease or sales marketing, tender and manage construction and arrange finance;
- Provide capital to fund some or all of the development (under the latter, the governance authority would contribute the development rights or land value towards Project costs); and
- Sell the completed property outcomes.

Under this model, the governance authority can obtain a base land value plus a share of the development outcomes or the development profits (over and above the land value payments). Land payments and profit share would be determined via negotiation but realisation of the land payments (some or all) and profit share would be subject to development risk and timed to development completion. Key advantages and disadvantages of the model are set out in Table 18 below:

**Table 18  Summary of key advantages and disadvantages – Joint development model**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in development outcomes can increase financial return relative to sale of land/development rights.</td>
<td>Potential for interface risk if development rights are separated from station development and/or operation.</td>
</tr>
<tr>
<td>Can combine with project station procurement to reduce Project costs (e.g. station availability payments).</td>
<td>Above station or in-station development opportunities require consideration of operational interface with transit authority.</td>
</tr>
<tr>
<td>Reduces capital requirements relative to direct development.</td>
<td>Realisation of development payments are subject to development risk.</td>
</tr>
<tr>
<td>Potential to capture future property related revenues to defray operating costs.</td>
<td></td>
</tr>
<tr>
<td>Incorporation of experienced property developer partner(s) can improve design and as a result development value and underlying land with commensurate return to government.</td>
<td></td>
</tr>
</tbody>
</table>

**Joint Development implementation issues**

Timing of implementation of a realisation strategy is a key issue in determining the best outcome to be achieved by government. Poor integration between the development opportunity and the transit infrastructure, or lack of interface between future construction and transit operation during the design phase, may result in suboptimal design outcomes which can devalue future development potential of the site.

The inclusion of experienced developers in station design, construction and fit out components of the project can assist in ensuring design outcomes optimise the development opportunities above and adjacent to the station thereby maximising the value of future property development.

However, inclusion of longer term development opportunities with procurement of other transit components to ensure design outcomes are maximised and interface risks minimised runs the risk that the full value of the development rights will not be realised by government. This reflects the limited ability of developers to finance property developments that will not be realised in the near term and also reflect a discount in value for the inherent risk in assessing the potential financial returns from longer-term developments.
Returns on government provided parking

The major government parking to be provided, both currently and through the *Perth PT Plan*, is the provision of park and ride facilities at transit stations. Currently the state government transit agency (Transperth) are either not charging for car parking or charging a minimal amount ($2 per day) at their stations, which is refunded if you travel 2 zones on the network.

Whilst the role that park and rides play in increasing modal shift from the single occupant vehicle to transit is acknowledged, the park and ride schemes are now such a success that they are inevitably over subscribed for the journey to work times, with calls for an increase in the park and ride facilities mounting.

It is suggested that the introduction of a regional car parking management plan for the park and ride locations near stations would increase the revenue to cover their operating costs and generate sufficient revenue to contribute toward the introduction of new facilities as part of the introduction of the *Perth PT Plan*, without significantly affecting patronage on the transit lines they serve given the inelastic nature of the journey to work for many of the transit users.

Rental returns of government property

As part of the development of government building within proximity to stations through either direct or joint development as part of the value capture opportunities presented as part of the introduction of the *Perth PT Plan*, it is suggested that the rental returns from the leasing of any government owned buildings developed as part of the *Perth PT Plan* be returned to fund the Plan’s infrastructure costs. This may not generate a significant amount of net revenue to the project, but it would contribute directly to repay the cost of the building and the transit amenity that it has facilitated.

Returns on the Lease or sale of advertising space

Advertising space at public transport facilities on infrastructure is in demand from advertisers and their clients and as such can generate a significant return to the *Perth PT Plan*’s business case. An example of the success of the sale of the advertising space is the Gold Coast Rapid Transit (GCRT) project that is currently under construction, where the advertising returns over the life of the project are substantial and will defray a significant part of the operating cost of the project. If this revenue was to be entered into the project business case it would further offset the cost of the project, making it more likely to be funded.

8.5.2 Passive Value Capture from Government Property

In addition to the active value capture mechanisms to capture the value gains to government property, there are passive value capture mechanisms that can be used to capture these increases to offset the capital and operating costs of the infrastructure. These include:

- Sale of surplus property and/or development rights above/adjacent to transit infrastructure and
- Hold property.

The basic premise discussed as part of this report is that transit increases the value of property within proximity to it after the infrastructure is operational. Therefore the concept of holding property after the infrastructure is operational is a pragmatic one where the government seeks to gain maximum benefit and return to the project’s business case. The sale of surplus property and or development rights is the key way in which government will obtain the benefit from both their infrastructure investment (increased patronage post development of the government land) and a financial return from the sale. As indefinitely holding property waiting for a maximum sale price is counter to both of these objectives, this report will focus on the sale of property and or development rights to further both these project goals.

Sale of surplus property and/or development rights

State government rarely undertake land development themselves, preferring to get the private sector to develop land on their behalf (the government offices above the train station in Perth at 140 Williams Street is a good example of this). Similarly with the development of air space over rail stations, development of precincts surrounding stations (including construction compounds used to develop the project) and the use of space within the station for commercial returns.
The sale of surplus property and development rights involves a value capture governance authority selling air rights to develop property in or above stations or land within transit precincts. The sale can be in the form of freehold or long-term leasehold. Typically, the governance authority would undertake some element of upfront planning to inject certainty and value into the site and would then tender the development rights in a competitive environment. Sale could occur through either a formal sale process or be incorporated as an element of development of the delivery package component of the public transit business case. The sale process could also specify minimum development outcomes to achieve broader objectives in relation to transit precincts (e.g. mix of uses or land density outcomes).

Use of a Property Feasibility Study

The development of transit infrastructure creates property development opportunities for government property within proximity to or even within transit infrastructure and the optimisation of the returns to the project and to government are dependent on undertaking a property development feasibility study. Such a study would value the surplus property and/or development rights for each site by assessing the value that a property developer would pay government to acquire the site and/or property development rights.

A property feasibility study would assess the level of potential property development that could be undertaken on a site and may take into consideration among other things:

- the value that a property developer would be willing to pay government for the right to develop the property on a site;
- relative development scenarios based on the current and anticipated state of the property market and technical constraints associated with each of the sites;
- higher level of transit amenity to the local area and resultant increase in value of any property development; and
- optimal timing of property development.

Feasibility studies use market-derived construction costs, sale and lease rates, infrastructure charges, tenant incentives and capitalisation rates including requisite internal rates of return for developing property of this nature.

Implementation Issues for Sale of Surplus Property and/or Development Rights

Successful introduction of a sale of surplus property and/or development rights often requires:

- a buoyant property market to achieve the best outcomes for the return on the sale; and
- a strong demand for that sector of the property market (residential, commercial, retail, etc).

A property feasibility study as part of the transit business case would determine the nature of the demand for the differing sectors of the property market that are appropriate to a particular site. Further considerations in the selection of the appropriate criteria for the sale of the development rights for a transit property are:

- the level of risk government is exposed to;
- the capital that government is required to invest to realise the land value uplift; and
- the potential for increased financial return for bearing this risk.

8.5.3 Active Value Capture from Non-Government Property

As discussed previously, the implementation of transport projects and the resultant increases in land values and economic prosperity will be captured by non-government land and business owners unless mechanisms are put in place to return some component to government. The development of significant transport projects creates a number of opportunities for potential implementation of a number of new value capture mechanisms.

These include the introduction of:

- benefit area levies;
- region wide transport levy;
- developer contributions;
- parking levies; and
- density bonuses.
In Western Australia, the state government has broad powers to raise specific value capture levies or implement broad based levies or taxes to assist the financing of large transport infrastructure. These mechanisms can be implemented through existing legislation or through specific purpose legislation, such as:

- Planning and Development Act, 2005,
- Metropolitan Region Improvement Tax Act, 1959,
- Perth Parking Management Act, 1999,
- Land Tax Act, 2002,
- State Planning Policy 3.6, 2009 - Development Contributions for Infrastructure and
- Local Government Act, 1995

Local government is also empowered to raise special purpose or general levies that can be isolated to the beneficiaries of the investment transit projects under the Local Government Act, 1995. This can include arrangements to hypothecate the revenue to the project being implemented. An analysis of the possible financial value from the introduction of each new tax or levy can be assessed together with analysis of domestic and international experiences, implementation issues, legal power to levy and public interest considerations. The financial return from the range of alternatives varies depending on which options are potentially used.

**Benefit area levies**

Benefitted area levies (also known as special assessment districts, betterment levies or value capture levies) aim to recover some of the increases in property values or economic prosperity which result from the construction of adjacent infrastructure. The levies are applied to properties or areas that are considered likely to benefit from introduction of the new infrastructure.

Benefits can be levied against the value created from the improved transit amenity or from the value created from combining improved transit amenity with value increments from favourable re-zoning in locations surrounding transport infrastructure. The levies generally take the form of an additional tax on landowners (Land Based Levies) or businesses (Economic Prosperity Based Levies) in the benefitted area and are levied as either a one-off or an additional recurrent charge (illustrated in Figure 15).

**Figure 15  Graphic Example of a recurrent benefit assessment levy**

- Local taxes or rates ($) generated
- Benefit Assessment Levy (levied in addition to tax base)
- Tax base (increases with property base)
- Time over which levy is in effect

- Land value based levies
  - Calculated on the unimproved value of the land (in order to avoid the disincentive for landowners improving their property). In many cases owner-occupied residential properties are exempted from the imposition of the levy (depending on the scale of the levy). The funds collected through implementation of the levy are generally applied against the cost of constructing the infrastructure.
- Economic prosperity based levies
Applied as a fees paid by businesses within the levy area or as an increase to an existing tax base such as an increase in payroll tax.

Examples of typical benefitted area levies include:

- increases to local rates;
- levies on businesses; and
- specific purpose.

Features of successfully implemented benefit area levies typically include:

- support from impacted property or business owners, for example in the United States, benefitted area levies require a majority vote of affected owners;
- a clear nexus between the benefit received by property or business owners and the levy imposed on them;
- clearly defined boundaries of operation;
- straightforward calculation of levy amounts; and
- efficiency of application and collection.

When the benefits of increased transit are conferred on developed land and on land with development opportunities, benefitted area levies are easier to introduce in areas with significant development potential and where the number of owners are small. In part, this reflects:

- the requirement for public support for introduction (including public vote in some countries);
- the levy must be related to the investment in transit and the expected benefit to the property owner. Owner-occupiers or existing property owners may not be able to realise the value improvement immediately (e.g. due to restrictions on the ability to redevelop their land or long-term leases limiting rental growth); and
- the motivation of developers to support transit investment due to the enhanced value of their property development opportunity.

Similarly where the benefits of increased transit amenity are provided to the business community, benefitted area levies are easier to introduce when the business community understand the benefits provided by the project and actively support the development of the project (including the implementation of the levy).

Implementation issues of Benefit Area Levies

Successful introduction of a benefitted area levy often requires:

- a robust assessment and determination of the benefits, beneficiaries and benefitted areas due to the investment in the project;
- determination of parties to be included and excluded from the benefitted area levy;
- development of the methodology to calculate and determine the benefitted area levy;
- a legislative framework to support collection of the benefitted area levy;
- consultation and support of the beneficiaries to be incorporated in the benefitted area levy regime;
- establishment of the benefitted area levy revenue authority to collect and enforce the benefitted area levy regime; and
- arrangements to hypothecate the revenue to the investment in the project.

Benefitted area levies could be undertaken by local government through the use of differential general rates or special rates or by the State through specific new legislation or by amendment to land or business taxes. Arrangements for the direction of revenue to the cost of the investment in the project may be required.

Powers to levy – Local Government

Generally councils have the authority to levy a number of rates and charges including:

- general rates (which can include general differential rates);
- specified area and special rates and charges;
- utility charges; and
- separate rates and charges.

Differential general rates are for services, facilities and activities that are supplied or undertaken for the benefit of the community in general (rather than a particular person). Differential general rates
are levied to contribute to the cost of roads and other infrastructure that benefit the community in general. Local government in Western Australia has the authority to establish rating categories for differential general rates.

A council may, for example, determine that land surrounding a project constitutes a different rating category and through the differential rating powers of the Local Government Act, 1995, Sect 6.37, may establish rating categories and to determine the category to which particular land belongs. Western Australian local government also has the ability to establish differential rating categories which can be set by reference to some attribute of the land. The capacity of the landowner to pay a higher rate is not normally a relevant consideration and this can in certain circumstances present a significant public interest issue. Differential rating categories can be prepared to recover the capital and or operating cost of the implementation of infrastructure or the provision of services.

In Western Australia, through the Local Government Act, 1995, Section 6.37, specified area and special rates and charges can be set for services, facilities and activities that have a special association with particular land. Often they can be imposed if the land or its occupier has special benefits from a service, or where the land or occupier specifically contributes to the need for the service. Special rates and charges are, for example, often levied for the cost of maintaining roads in an industrial area that is regularly used by heavy vehicles. Special rates are also typically used in undertaking urban capital improvements although there is little application of special rates being used in Australia as a value capture mechanism for the delivery of major infrastructure.

Powers to levy – State Government

State governments have relatively broad powers to implement legislation for specific purposes, and subject to government policy constraints and the need to comply with local restrictions, there is generally the legal power for a state to enact legislation specifically to implement value capture mechanisms. However any such legislation is restricted in that it cannot:

- be with respect to a subject matter over which the Federal Government has exclusive jurisdiction;
- contravene any express provision of or implied restriction in the Commonwealth Constitution; or
- contravene any restriction contained in the local constitution acts.

The broad nature of the power of state governments generally provides considerable opportunities to implement value capture mechanisms. For example a state government could generally introduce project specific legislation that provides for:

- the establishment of the benefitted area (i.e. identifies the geographical area within a Redevelopment Authority’s jurisdiction, or put in place an Improvement Plan under Part87 - Planning and Development Act, 2005); or
- the imposition (and collection) of the levy (The State Planning Policy 3.6 - Development Contributions for Infrastructure).

There are examples where states have established an authority with specific powers to manage a levy. Often this authority has a number of land use planning and duties which the levy may assist in defraying the cost of implementing. There are a number of examples where councils are obligated to collect special levies on behalf of a state. Often this is implemented to take advantage of the council's already established rates collection system which can be often relatively efficiently adapted to collect the levy on behalf of the state.

Public interest considerations for Benefit Area Levies

Consideration needs to be given to a number of public interest issues in assessing the merit of benefit area levies. The Table 19 provides an outline of these issues.
<table>
<thead>
<tr>
<th>Key public interest issues</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity to pay</td>
<td>Land based benefitted area levies are referenced to land value and the levy does not take into account an individual’s capacity to pay. Exemptions can be granted to specific categories of beneficiaries (e.g. principal place of residence).</td>
</tr>
<tr>
<td>Fairness</td>
<td>Benefitted area levies that are calculated by reference to land value can be seen as government ‘double-dipping’ as land tax and rates are based on underlying land values and existing revenue streams will capture land value improvements over time.</td>
</tr>
<tr>
<td>Identification of beneficiaries</td>
<td>The investment in the project may deliver benefits to transport to a broad region, often significantly outside of the immediate area of the project. In addition, for property owners in the vicinity of the project, the uplift in land value is not always uniform and can be affected by other factors (e.g. proximity to railway lines and associated noise). As a result, the benefits from public transit amenity are not evenly distributed and arbitrary interpretation of a benefitted area can result in inequitable application.</td>
</tr>
<tr>
<td>Quantification of benefits</td>
<td>Property values, including value uplift, can be difficult to quantify particularly as sales evidence is needed to support the valuations. Quantification of the benefits by reference to land value can occur through the normal land valuation processes; however, valuation of land value uplift on an aggregated basis is not always a fair reflection at individual property level. Application of a benefitted area levy, without reference to whether or not benefits are actually realised, can create arguments of fairness and equity.</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>The administrative costs of benefitted area levies can be significant relative to the return. Costs can be minimised via application through an existing tax base (e.g. an increase to an existing property tax).</td>
</tr>
<tr>
<td>Stakeholder consultation and support</td>
<td>International case studies demonstrate that successful implementation of benefitted area levies relies on broad support from beneficiaries. Rigorous analysis of the potential benefits, the key beneficiaries and approach to a benefitted area levy, will require significant stakeholder consultation before implementation. The introduction of the levy must also establish a clear link between the funds raised by the levy and the use of the funds for the investment in the project.</td>
</tr>
<tr>
<td>Broader project objectives, i.e. infill development in transit corridors</td>
<td>Depending on the structure of the benefitted area levies they can create incentives that encourage development away from transit nodes, which may not be in the public interest and which may erode the ability of the project to meet its city transformation objectives. Arguments have been raised that special development areas which have a development levy can create a disincentive to investment. Actions that discourage infill development can result in other costs for government such as increased investment in social and economic infrastructure to support greenfield development.</td>
</tr>
<tr>
<td>Broader project objectives – economic prosperity</td>
<td>Economic benefitted area levies can create incentives that can limit the development of the economy within the benefitted areas. The levy may incentivise businesses which do not necessarily benefit from the levy to move to a region not within the levy area. For example a business may re-establish just outside of the benefit areas levy or may relocate to another region or state.</td>
</tr>
</tbody>
</table>
Region wide transport levy

Region wide transport levies capture a benefit stream from a much broader region than the targeted benefit area levies, and, as a result, the nexus between new infrastructure and increased property values is relatively small. However, land owners may still be able to derive amenity or indirect financial benefits from the infrastructure (e.g. benefits from higher levels of regional economic growth).

The region wide transport levy can be developed in a similar way to the benefit area levy. The levy generally takes the form of an additional tax on landowners in the region (e.g. increased rates for three or more council areas). However, these taxes apply to a large number of established residents rather than the relatively limited benefit area levies which target a few suburbs/station precincts. The funds collected can be used to offset the costs of constructing infrastructure.

Whilst region wide transport levies are not widely applied due to the limited nexus between the project and property values and a range of other geographic factors (e.g. American and European cities tend to procure infrastructure on a more local basis and are limited in applying levies regionally) however there have been some notable exceptions such as the successfully implemented levy developed by Gold Coast City Council which supports the development of transport infrastructure in the city including the Gold Coast Rapid Transit (GCRT) project. The Gold coast regional transport levy is a $100 levy applied to each rateable property within the Gold Coast municipality, and this enabled the Gold Coast Council to contribute $120 million dollars to the GCRT. The levy is in place in perpetuity as a strategic funding mechanism for the Gold Coast Council to use for strategic transport projects, and will inevitably be used to fund subsequent stages of the GCRT.

Implementation issues

Considerations for the introduction of a region wide transport levy are similar to those of a benefit assessment levy, with the following additional issues:

- identification of the beneficiaries to be included and excluded from the region wide transport levy would require consideration of the benefits they derive from the project; and
- determination of the broader boundaries in which the region wide transport levy would apply and who would administer the levy.

Region wide transport levies could be administered by local government through the use of special rates, or by the state through specific new legislation. There would be additional complexity for local government implementation where the project or the benefit area levy spans several local government areas. Arrangements for the direction of revenue to the cost of the investment in the project may be required.

Powers to levy – state and local government

Local and state governments generally have similar powers to impose region wide transport levies as targeted benefit area levies. Local government often has a level of authority to implement special rates and charges for facilities that have a special association with particular land.

Whilst in Western Australia the State Government has an existing statutory mechanism in the Metropolitan Improvement Tax, 1959, which, as previously described, is a land based tax, similar in nature to Land Tax, and is used to fund for improvements within the metropolitan region. The MRIT is currently used to purchase green space and road reserves for the region, but has the scope to be used for public infrastructure upgrades. Hypothecation of the MRIT to fund the Perth PT Plan over an extended period would yield significant funds for the implementation of the public transport. In addition to hypothecation of the MRIT, increasing it for a period to assist in the construction period would significantly increase the net benefit to the implementation of the Perth PT Plan.

Public interest considerations

Consideration needs to be given to a number of public interest issues in assessing the merit of a region wide transport levy and Table 20 presents an outline of these public interest issues.
### Table 20  Public interest issues – region wide transport levy

<table>
<thead>
<tr>
<th>Key public interest issues</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity to pay</td>
<td>Region wide transport levies are applied at a flat rate and the levy does not take into account an individual’s capacity to pay. Exemptions can be granted to specific categories of beneficiaries (e.g. principal place of residence, senior citizens).</td>
</tr>
<tr>
<td>Identification of beneficiaries</td>
<td>The transit benefit is not always uniform for parties on whom the levy is applied. As a result, the benefits from public transit amenity are not evenly distributed and broad indiscriminate application of a region wide transport levy can result in inequitable application.</td>
</tr>
<tr>
<td>Quantification of benefits</td>
<td>Application of a region wide transport levy, without reference to whether or not transit benefits are actually realised, can create arguments of fairness and equity.</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>The administrative costs of region wide transport levies can be significant relative to the return. Costs can be minimised via application through an existing tax base (e.g. an increase to existing council rates).</td>
</tr>
<tr>
<td>Stakeholder consultation and support</td>
<td>International case studies demonstrate that successful implementation of benefitted area levies relies on broad support from beneficiaries. Rigorous analysis of the potential benefits, the key beneficiaries and approach to a benefitted area levy, will require significant stakeholder consultation before implementation. Introduction of a levy should establish a clear link between the funds raised by the levy and use of the funds for investment in a project.</td>
</tr>
</tbody>
</table>

### Developer contributions

A development fee can be charged on new developments as a means of offsetting the cost of expanding public infrastructure. The imposition of contributions as a condition of development approvals for the development of land surrounding the delivered infrastructure is a form of value capture. Subject to existing legislative constraints, conditions may be imposed on proposed development of land surrounding a project requiring contributions towards infrastructure, whether in the nature of cash contributions, infrastructure works or public realm contributions.

Developer contributions are widely used in Australia with many local government jurisdictions levying contributions for urban infrastructure related to development of land. These contributions include amounts related to transport improvements and tend to focus on the investment in roads. Developer contributions are levied upfront in advance of development and can be in the form of financial or in-kind contribution. Developer contributions can also be combined with density bonuses (value capture in return for planning related outcomes). Developer contributions have not been widely used to fund significant transport infrastructure but rather for the development of local infrastructure such as local roads. Developer contributions tend to be tied to strong real estate markets with significant levels of new development.

### Powers to levy – state and local government

Councils often receive contributions from developers towards the additional infrastructure requirements arising from a development through the imposition of infrastructure charges as part of the development approval process. Developer contributions could be undertaken by local government through the use of differential general rates or special rates or by Western Australian State Government through the *State Planning Policy 3.6 - Development Contributions for Infrastructure*, where contributions can be hypothecated to a particular project or to a more general infrastructure fund. In addition to this, all Australian states generally have power to pass legislation to
place an obligation on local authorities to impose contributions for particular purposes and to pay the amounts received to the state.

In addition to the State Planning Policy 3.6 - Development Contributions for Infrastructure, the Western Australian State Government has special redevelopment authorities (including the newly created Metropolitan Redevelopment Authority) which can impose restrictions on the types of conditions which can be imposed on development including developer contributions which could be in the form of financial contributions, public realm contributions or infrastructure charges.

Public interest considerations

Consideration needs to be given to a number of public interest issues in assessing the merit of developer contributions including those outlined in Table 21 below.

<table>
<thead>
<tr>
<th>Key public interest issues</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantification of benefits</td>
<td>When using a value capture mechanism, developer contributions require detailed evaluation of the value uplift to ensure that the contribution is not excessive relative to the value created from the investment in transit. Application of developer contributions, without reference to whether or not benefits are actually realised, can create arguments of fairness and equity.</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>The administrative costs of developer contributions from the state’s perspective can be significant relative to the return.</td>
</tr>
<tr>
<td>Impact of investment decisions</td>
<td>Use of developer contributions can distort investment decisions and result in developers avoiding development around key transit nodes in order to avoid the higher costs of development.</td>
</tr>
<tr>
<td>Equity</td>
<td>Developer charges are only applied to new property development. Existing property, which also benefits from the investment in transit, does not incur a value capture impost.</td>
</tr>
<tr>
<td>Housing affordability</td>
<td>Use of developer contributions can impact on the cost and feasibility of development and have a negative impact on the affordability of housing (purchase or rent) and commercial rents.</td>
</tr>
</tbody>
</table>

Parking levies

Parking levies through the existing Perth Parking Management Act, 1999, involves an annual fee on the owners of car parks within a designated area. These parking levies have been introduced in a number of states generally as a mechanism to:

- discourage private car use in major commercial centres;
- encourage the use of public transport; and
- improve air quality.

The metropolitan wide implementation of parking levies needs to take into consideration a number of issues including, for example, the demand for parking, special exemptions such as spaces for loading, religious bodies, residents and disabled parking, boundaries and rating categories (e.g. category 1 and 2 areas etc). The funds raised through a parking levy can be applied towards the improvement of transit amenity in a local area (as is the case with the Perth Parking Management Act, 1999 which fund the operations and capital upgrade costs of the Central Area Transit (CAT) buses).

Implementation issues

State governments generally have power to pass special legislation to implement parking levies and, in the case of the Perth Parking Management Act, 1999, extend it to the other activity centers within metropolitan Perth. In certain circumstances, local government may also have the capability to implement effective forms of parking levies (which is the case in the cities of Fremantle and Joondalup which use their parking levies to fund all or part of their own regional CAT bus networks).
Public interest assessment

A number of key public interest issues are associated with parking levies as outlined in Table 22 below.

Table 22    Public interest issues – parking levies

<table>
<thead>
<tr>
<th>Key public interest issues</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential low value return/high cost to administer</td>
<td>The potentially low revenue value and high costs of administration may not support the use of parking levies as a funding support mechanism for the project.</td>
</tr>
<tr>
<td>Capacity to pay</td>
<td>Broad based parking levies do not take into account individual capacity to pay or the impacts on specific groups of people such as residents or charities. Exemptions can be granted to overcome these impacts, however this would also require consideration of the use of car parks for profit making purposes by these parties. This would increase administrative complexity.</td>
</tr>
<tr>
<td>Impact on business</td>
<td>Broad based parking levies may adversely impact certain businesses operating in the levy boundaries. For instance, increased cost of car parking may adversely impact retail businesses by diverting customers to other locations. Exemptions can be granted to overcome these impacts, such as exempting short-stay car parks, however this would increase administrative complexity.</td>
</tr>
<tr>
<td>Impact on owners of car parking facilities</td>
<td>Car parking levies may have adverse impacts on the capital value and financial performance of existing car parking facilities. Alternative arrangements, such as car park licences, can be implemented to restrict the number of car parks within a defined area providing potentially similar mode share benefits as car parking levies. The impact on the value of existing car parking facilities can be offset by allowing licences to be traded (creating a valuable commodity for car park owners). Annual licence fees could provide a financial return to government.</td>
</tr>
<tr>
<td>Public support</td>
<td>Introduction of parking levies often benefit from stakeholders’ support to be successful over the long term. This can be difficult to achieve even with significant stakeholder consultation. Public response to proposed parking levies is generally overwhelmingly negative, particularly with the business community who often threaten to relocate rather than suffer the impact of the levy. Lack of public support can lead to the levy being prematurely withdrawn and hence reduce the financial contribution to the project.</td>
</tr>
</tbody>
</table>

Density bonuses

Density bonuses relate to the granting of development rights over and above those which the land currently enjoys. In exchange for the granting of density bonuses, concessions are obtained from the developer. The concessions can be in the form of creation of public open space by the developer as part of the development or alternatively as a payment, or provision of infrastructure, to offset the cost of delivery of the infrastructure.

Density bonuses vary from project to project. Usually, the additional bonus will not exceed a particular threshold (for instance, 20% of normal density) and are considered to be an incentive based approach. Many density bonus schemes permit a greater number of dwellings in an area of development.

In order to implement density bonuses, it is necessary to:

- define the purpose for providing the density bonus;
• identify the area where the density bonuses are allowed;
• develop a specific policy for allowing the density bonuses; and
• determine the concessions that
• will be required to be provided in exchange for the density bonus.

Implementation issues

Potential options and issues to be considered for the introduction of density bonuses and increased concessions from developers include:

• implementing or amending legislation to provide a specific regime for density bonuses
• ensuring that regional and local land use plans allow for more intensive land use
• allowing for flexibility and increased density to be granted to developers in exchange for developer concessions (e.g. additional green space, public realm space or some other kind of community benefit as part of the development).

Funds raised through the implementation of density bonuses may be payable to the local authority and potentially hypothecated to a specific infrastructure project or an infrastructure fund. A state government may need to pass legislation to support the implementation of density bonuses which may need to include an obligation on local authorities to impose levies for particular purposes and to pay the amounts received to the state.

Value Capture by the Federal Government

The forms of value capture outlined in this paper are not within the usual role or powers of the Federal Government. Section 51 of the Australian Constitution provides the Federal Government with power to make laws for the peace order and good government of the Commonwealth with respect to taxation.

However, the taxation power is restricted in that taxation must not discriminate between states or parts of states. Any value capture mechanism would necessarily relate to a specific area within a state and not have broad national application as required under section 51 of the Australian Constitution, and this significantly limits the capability of the Federal Government to participate in value capture schemes.

8.5.4 Passive Value Capture from Non-Government Property

The Perth PT Plan will have a positive impact on property values at transit nodes along the network which in turn will increase ad valorem taxes earned by the three tiers of government from those properties. The increase in the ad valorem taxes and rates includes:

• Property based stamp duties, land taxes, remitted to the state Government;
• MRIT, remitted to the State Government;
• Local government rates, remitted to the Local Government agencies; and
• Capital gains tax, remitted to the Federal Government

Stamp Duty

Stamp (or transfer) duties are levied on a transactional basis, with the increase in property values the stamp duties at property transfer will increase as well.

Land Tax

Land taxes are assessed on a sliding scale, depending on the total value of property held by each landowner, and therefore as unimproved capital value (UCV) increases over time, so too will the amounts of land tax received by the Western Australian (WA) State Government. Since the Perth PT Plan will contribute to increased UCV of properties, it will also indirectly increase the level of land tax remitted to the WA state government.

Local Government Rates

Local councils levy rates on landowners on the basis of UCV of land, and the Perth PT Plan’s impact on land values will indirectly contribute to increased rates revenue.

Capital Gains Tax

Capital gains tax (CGT) is remitted via income tax to the Federal Government on any capital gains realised on sales of property. The Federal Government taxes the gain a taxpayer receives each time
a property is sold at a value greater than the cost of its acquisition. The Federal Government levies CGT on a transactional basis. There are various assumptions, exemptions and intricacies of the Australian Tax System with regard to CGT:

- Properties acquired before 1985, which are generally exempt from CGT;
- Primary residences, which are generally exempt from CGT;
- The CGT discount of 50%, which is available on assets held for more than one year; and
- Different CGT revenues arising from varying tax rates and income brackets of taxpayers.

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45 Property values tend to invariably increase over the long-term. In light of the upward trend in property values in the past, this section assumes that all properties are sold at a capital gain.

46 Generally, CGT exemptions are available for properties acquired before 1985. It is assumed that all residential properties have been acquired after 1985 for purposes of this analysis.

47 Primary residences are generally exempt from CGT. All commercial properties are assumed to be subject to CGT.
9. How is value capture implemented?

There are four key parts to implementing value capture:

a) Providing a Value Proposition that can enable the economic and financial case to be clarified,

b) Setting up a Planning Control Area over the desired corridors and centres to be redeveloped,

c) Establishing a Tax Increment Financing accounting process in Treasury to enable the value capture to be packaged up for financing, and

d) Providing a PPP process to enable all the key stakeholders to be involved at the start of the planning process through to the delivery of the projects

9.1 The Value Proposition

The value proposition is an important project financial cash flow statement that summarises each tier of government's net financial position in a project by attributing all the costs and revenues from the project appropriately in such a way that the different tiers of Government can transparently see the costs and benefits attributed and the overall net cost to the whole of government.

Each tier of government has significant demands on their limited resources, and as such will require the financial costs and benefits of a particular project to be demonstrated (which are measured independently of the economic benefits of the project) and how their required funding contributions relate to their return. The securitisation of value capture revenues are an important component of the preparation of value proposition in that as the allocation of these value capture revenues have been allocated and acknowledged by the different parties, the securitisation of the revenues will be used to reduce the funding requirements of each of the project investors.

If the securitisation of the value capture revenues are either not desirable or practical (as may be the case with Capital Gains Tax), the acknowledgment of the net cost of the project applicable to each party should provide sufficient guidance to the distribution of the project funding requirements to each of the parties. An indicative value proposition for the implementation of the public transport is illustrated in Table 23. The value proposition is indicative only at this stage as it is yet to be resolved:

- which tiers of government will be involved in the funding of the Perth PT Plan;
- which modes of transit will be selected and their distribution, and
- which value capture and financing mechanisms would be applicable.

Another important aspect of the preparation of the value proposition is that enables open discussion between the parties when negotiating the level of funding to be contributed by each level of government. This is particularly important with public transport funding as it has historically been the responsibility of state government to fund metropolitan public transport capital and operating costs.

This change in the historical funding (and financing) model for public transport infrastructure requires justification and as such the value proposition will be the key bargaining tool in gaining support
across not only the three tiers of government, but the private sector and the community as well. As it will be predominantly the private sector and the general public that will be asked to contribute to the project funding through the value capture mechanisms presented. A comprehensive presentation of the costs and benefits to all parties will be required to gain sufficient stakeholder support to undertake the project funding model suggested.

Prior to the implementation of the value capture mechanisms proposed in this paper into a value proposition to seek funding support, each of the mechanisms will need to be evaluated against a policy evaluation framework4849.

1. Revenue Yield
   • Whether the mechanism generates adequate yield for the cost of implementation, and whether the mechanism is stable over time. Funding approaches have to be practical; the greater the simplicity of its implementation the cheaper it is for government to collect or raise the funds required (low administration costs). A consistent and predictable source of revenue is preferred to a source that is subject to shifting and unforeseeable influences, with the preference for a source of revenue that grows as the economy grows. This is of particular concern with some property based tax based mechanisms in volatile property markets (which Perth has recently experienced).

2. Cost Effectiveness
   • Effectiveness is the central requirement of a funding approach to mobilise sufficient funds for investment in infrastructure, and to do so in a timely manner.

3. Economic Efficiency
   • Allocative efficiency is a longstanding concern of governments and measures which distort economic decision making with regard to investment or consumption patterns can lead to outcomes that shrink overall wellbeing.

4. Equity
   • Social justice concerns about sharing the burden of revenue raising fairly between individuals who have differing abilities to pay: it is generally deemed fair if people in similar economic circumstances are treated similarly (horizontal equity) and the amount paid varies in relation to the individual’s economic circumstances (vertical equity).

5. Compliance costs, certainty and transparency
   • Low compliance costs, and certainty is crucial in effective planning for businesses, with transparency being a key means of reducing uncertainty as it facilitates an understanding of the process and issues that need to be dealt with.

6. Stakeholder support
   • Ultimately every funding approach requires making someone pay and governments are well aware that this inevitably involves discontent from some quarter in the community, and though funding policies generally involve winners and losers, having either does not automatically preclude widespread support for a measure with the question of support often more about reasonableness and the outcome of a fair process, or trust in a fair decision maker.

7. Technical Feasibility
   • New technology is used in the collection of transport related taxes and revenue handling, and whilst can be effective and accurate in allocation and collection of costs they can add another layer of complexity to traditional methods of funding collection.

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48 Allen Consulting Group, 2003, Funding for Urban Public Infrastructure (report for the Property Council of Australia
49 TCRP Report 129 (2009) – Local and Regional Funding Mechanisms for Public Transport
### Table 23  
**Indicative Value Proposition for the implementation of a Public Transport Project involving value capture**

<table>
<thead>
<tr>
<th></th>
<th>All cash flows</th>
<th>Net cost to Federal Govt</th>
<th>Net cost to State Govt</th>
<th>Net cost Local Govt</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Capital costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Cost</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Design and construction risk (P90)</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Land (net of State Govt land transfers)</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Project team, government and professional engagements</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Total Construction Period Costs (A)</strong></td>
<td>X X X X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project Operational Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fare box revenue</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>+ Alternative Fare Structure</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Rolling stock (capital and operating items)</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating costs</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Lifecycle costs</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Operating and lifecycle risk (P90)</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Period Costs (B)</strong></td>
<td>X X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Value Capture Opportunities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Government Property (Passive)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale of surplus property/development rights</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Govt property values</td>
<td>(x)</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td><strong>Government Property (Active)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of Govt. property</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Joint development</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Returns on government parking</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Government property rental returns</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising revenue</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td><strong>Non Government (Passive)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive Increases in land/property based taxes</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Capital Gains Tax</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Stamp Duty – TIF</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Land Tax - TIF</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Local Government Rates - TIF</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td><strong>Non Government (Active)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefit area levies</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td><strong>Local Infrastructure cost recovery through Local Government</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential Rates</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Specified Area Rates</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Service charges</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Region wide transport levy</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>MRIT (possibly increased) – Hypothecated to PT for period</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developer contributions</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Parking levies</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>+ Localised development Parking levies</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Increased cash in lieu</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>+ Metropolitan Wide Parking Levy</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Density bonuses</td>
<td></td>
<td>(x)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Value Capture (C)</strong></td>
<td></td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
</tbody>
</table>
The comprehensive evaluation of the implementation of each of the value capture mechanisms proposed for inclusion in the value proposition is critical to ensure that the positive effects of the mechanisms can, where possible, remove social distortions or correct a market failure. Externalities from poorly implemented funding mechanisms arise where there are divergences between social and private costs and is an example of a circumstance where the market acting alone will deliver poor outcomes.

Funding options that allow the full economic, social and environmental costs to be accurately reflected in prices will, in general, be those that least distort economic activity and lead to the best outcomes for the community50.

9.2 The planning control area / Implementation plan

As set out in previous sections, it is necessary to set up a Planning Control Area or Implementation Plans to enable a strategic planning process to be established over the corridors and centres that are to receive transit infrastructure investment and re-urbanisation. This is necessary for corridor planning to be integrated and focused, and also for value capture mechanisms to be bounded and feasible.

9.3 Tax increment financing facility

An important component for the financing of projects using passive tax increases related to property value uplift which is called Tax Increment Financing (TIF). TIF is simply the overall term used by many agencies, especially in the US, for the way in which their Treasury agencies form a debt financing facility that utilises future taxes or levies to repay debt issued to finance public infrastructure. TIFs work by recognising and securitising the additional funds from increases in the existing tax base (stamp duty, land tax, etc) or additional funds from new taxes or levies (MRIT or additional local government rates). These levies can be collected and securitised to raise finance which can partially pay for the construction of an infrastructure project. The debt would be repaid over time by a specific fund using the securitised incremental tax cash flow.51

TIF has been used extensively in the United States (US) as a means to fund infrastructure and in particular urban renewal projects, with 49 States having TIF enabling legislation (PWC, 2008). Figure 16 illustrates the function of the TIF model, with the incremental tax revenue used to finance the debt incurred through the implementation of the new infrastructure. In the US, debt incurred by the infrastructure project is usually in the form of infrastructure bonds, with the TIF revenue being used to service and repay the bonds. With the implementation of a transport infrastructure project

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50 Allen Consulting Group, 2003, Funding for Urban Public Infrastructure (report for the Property Council of Australia

51 The loans would likely need to be guaranteed by government which would require further analysis to assess the impact on the government balance sheet.
there is an increase in transit amenity which in turn increases property values and property value
based taxes.

**Figure 16**  
**Tax Increment Financing Model - Active and passive value capture**

Figure 16 demonstrates the three different ways that TIFs can be supported by value capture
mechanisms. The TIF can be supported by either the increase in property values over time, the
additional incremental increase in property value as a result of increased transit amenity or the
introduction of a new active value capture mechanism.

The implementation of a transit project gives a step change in property value and hence property
taxes. This is represented in Figure 18, as the light grey and the black areas. This is a passive
increase in property based taxes that the government will receive. Government does not need to
undertake any activity to capture this increase in value (i.e. it accrues naturally to government).

The grey and black areas will be recovered by government as long as the increased value in the
transit amenity continues to increase the value of property prices (i.e. given the long term nature of
transit projects and resultant transit amenity it is essentially infinitum). The blue area shown in Figure
18 represents the government actively implementing a benefit area levy, over a limited time period,
to capture additional value. This is an example of an active value capture scheme being
implemented to capture value to reduce the overall cost of the project.

Both active and passive value capture options can be used to support tax increment finance scheme
(although it is rare to combine value capture options in this way). In terms of passive value capture
the increment in the value of the property above that which otherwise would have accrued could be
used to support a TIF over a limited time period (i.e. a TIF and an active value capture scheme will
normally have a limited timeframe).

Sometimes the TIF will have access to all increases in value of property value tax revenues over the
time period in which case the amount captured to support the TIF is represented in Figure 18 by the
black dotted line. In terms of active value capture (or in this example the benefit area levy), the blue
area shown in Figure 18 could be also be used to support a TIF.

TIF is not a new or additional tax on the land (though it can include additional funding measures in
its securitised revenue), but merely a hypothecation and securitisation of the future increases in
property taxes to specifically repay the cost of the new infrastructure that is the source of the
increases in property value. The increases in property taxes reverting back to the state’s general
consolidated revenue at the end of the TIF period (or repayment of the debt). To enable the
collection of TIF, a development area or TIF District is created. In WA this would mean a Planning
Control Area or Improvement Plan would need to be created in accordance with the WA Department
of Planning requirements for local area plans. These areas would be administered by a controlling
body such as the newly created Metropolitan Redevelopment Authority, which could be backed by
specific State Government Bonds (to gain investor confidence) or infrastructure revenue bonds
(PWC, 2008).
9.4 Public-Private Partnership process

Finally a PPP process is desirable where stakeholders can be invited to bid for projects where they can design construction financing and operation of the transit infrastructure. The PPP process and integrate with land development so that value capture can be facilitated. In this way, expressions of interest can be put together at an early stage in the decision making process about the corridor suitability, where the lines should go and what land development is feasible and ready for development. This would be a much more market-oriented approach to building public transport and can bring efficiencies in project delivery. The Gold Coast Light Rail has shown what can be done to create a PPP process around light rail though the final integration of land development was not drawn into the bidding process but has occurred afterwards.
SECTION 10

How could this alternative integrated land use & transport funding approach be applied to Perth?
“The application of value capture to Perth would begin by examining the potentially most significant land development opportunities in urban centres as well as the need for improved public transport”

10. How could this alternative integrated land use and transport funding approach be applied to Perth?

The funding of integrated land use and public transport systems can be achieved by involving all three tiers of government and the private sector by apportioning the cost for the provision of the Perth PT Plan through the preparation of a value proposition. Subsequently capturing the proportional benefit of its implementation to each of the stakeholders through a suite of value capture mechanisms, which would be collected into a newly created Metropolitan Region Public Transport Fund (MRPTF), and finally have the Perth PT Plan infrastructure procured and delivered through a PPP.

10.1 Land Use and Transportation Integration - Directions 2031 and Beyond

The strategic land use planning documentation for Metropolitan Perth referred to as Directions 2031 and Beyond, was undertaken in conjunction with the Perth PT Plan but released prior to the Perth PT Plan’s. Directions 2031 very clearly plans for growth of metropolitan Perth to a city of 3.5 million residents with a 40%/60% mix of infill and green field land development focussed around a network of activity centres connected with high frequency (rapid transit) public transport.

An important aspect of Directions 2031 is that the intention of the plan for the addition of the high frequency public transport connecting the activity centres, and the medium density infill development proposed for the region will be focussed around this public transport infrastructure. To aid this integrated land use and transport vision, a conceptual future public transport connection plan was produced, and this is illustrated in Figure 17.

While the Perth PT Plan has some elements of the Directions 2031 plan, it falls short of adequately connecting the activity centres to the level suggested by Directions 2031. An important aspect of the connectivity proposed by Directions 2031 is that each of the major centres are connected, and thus reducing the need for the public transport trips to pass through the centre of the city of Perth which will reduce the transport system congestion at the Perth railway station as the city grows.

This connection of the centres with rapid transit will become more important with time with the diversification and distribution of the region’s employment to the activity centre and will take a significant number of cars off the road by facilitating modal shift to public transport, enabling new rapid transit routes between the activity centres where the rapid transit public transport network does not currently extend.

Interestingly, the central metropolitan sub regional strategy for Directions 2031 states that:

‘the Perth PT Plan, on its release will be consistent with Directions 2031 and the subregional growth strategies’
Whilst arguably the *Perth PT Plan* has incorporated some of the rapid transit requirements for fulfilling the land use infill and activity centres connectivity goals set out in *Directions 2031*, it has fallen short of fulfilling its core intention for metropolitan Perth becoming a network of public transport connected activity centres.

**Figure 17** Conceptual future public transport connection plan (*Directions 2031*)
10.2 An alternative approach to enable integrated transport and land use

The application of value capture to Perth would begin by examining the potentially most significant land development opportunities in urban centres as well as the need for improved public transport. The strategic land use plan Directions 2031 suggests the former and the Perth PT Plan tends to focus on the latter.

An attempt to bring these together can be made by identifying the key centres (for example in the WAPC’s Inner Growth Ring) and outlining the best transit options that could enable these centres to flourish. It is suggested that by evaluating strategic integrated land use and transport objectives with the value capture potential for this project it would be possible to:

- Involve all three tiers of government particularly Infrastructure Australia who are looking to assist innovative projects through partnership and value capture initiatives, as well as the relevant local governments that would benefit from the project;
- Involve the institutional stakeholders such as universities and health centres as well as major private landholders;
- Involve land use and transport professionals in one integrated team that determines the most appropriate routes that can unlock potential development sites to facilitate alternative funding opportunities as well as optimal transport outcomes;
- Involve the community through engagement on the land development necessary to enable these strategic activity centres to be built as well as the new rail systems along the preferred routes; and
- Involve the private transport and construction sector in the delivery process through an integrated PPP procurement process that can enable true integration of land use and public transport.

The Perth PT Plan contains a set of projects for the whole metropolitan region. It has stages that can be extracted and seen as the first step for financing. These stages have a range of rationales based on mostly transport requirements. However it is clear that public transport infrastructure is a major enabler of growth in more focussed transit oriented developments. This is especially so when light rail is considered, and less so when modes with less spatial permanence are considered (such as bus based modes).

The link between the need for centres to be built (as set out in Directions 2031) and the need for new public transport systems like light rail, is increasingly recognised. However although both the Perth PT Plan and Directions 2031 are explicit about the need for this link, neither are clear about how particular centres and particular rail connections could be built together. This is probably because the financial mechanism that joins the two has not been spelt out sufficiently.

This research paper seeks to bridge this link. It demonstrates that the choices over particular routes for funding can be influenced by the need and potential for land development with potential for value capture. In addition to this it illustrates that particular land development opportunities can be made far more feasible if the routes of light rail options are worked out conjointly with the land development. Because of the close integration of market-ready land development opportunities and transport-related rail opportunities, this report requires a plan for delivering the first stages in the Perth PT Plan to be more integrated.

A range of the activity centres identified in Directions 2031 require financing and will all be accelerated if the required light rail or heavy rail connections are completed as part of their development. This research paper demonstrates the need to find planning and development and financing mechanisms that can be linked into one package to enable this.

10.3 An alternative funding approach – Metropolitan Region Public Transportation Fund (MRPTF)

The funding for public transport within the metropolitan region of Perth requires a region wide strategic approach to the collection of funds to a specific public transit focussed fund to provide a long term commitment to fund the ongoing development of public transportation for metropolitan Perth, in the way that the MRIF has for the funding of strategic purchases for road reserves and public open space.

This Metropolitan Region Public Transport Fund (MRPTF) could be created and funded by strategic and project based active value capture mechanisms and hypothesized funds from legislative tools such as a Metropolitan Parking Management Act, the Metropolitan Region
Improvement Fund, and the *Local Government Act* (parking levies and cash in lieu contributions for example).

In addition to these active value capture mechanisms and legislation, the hypothecation of passive *ad valorem* tax increases due to the introduction of new transit projects (Land Tax, Stamp Duty, etc). The hypothecated funds would be deposited into the MRPTF to contribute to the development of a strategic fund for public transport. The MRPTF would require all levels of government to agree for its terms of reference and integrated land use, transportation focus, and importantly the selection, or development of a delivery agency to manage the investment of its funds. The Metropolitan Redevelopment Authority or Landcorp could be options.

The revenue generated by the MRPTF would enable government to defray a public transport infrastructure project cost. Use of PPP delivery options would improve outcomes by allowing the private sector to use innovation to capture more value (for example through property development) and may allow matching of the MRPTF funding with private sector funding.

**This would be a new approach to funding integrated public transport and re-urbanisation development in Perth.**
SECTION 11
What are the conclusion & next steps to implement Value-Capture based funding of public transport in Perth?
“The legislative mechanisms are in place to enable value capture to be employed but they have not yet been applied in a co-ordinated and strategic way”

11. What are the conclusions and next steps to implement value capture-based funding of Public Transport in Perth?

The next step is to establish a Metropolitan Region Public Transport Fund and an agency to help deliver integrated land use and transit projects.

This research paper demonstrates the need for Perth to move into a new phase on the development of its public transport infrastructure and the simultaneous development of dense urban centres. This can be seen as a key way to utilise the economic growth occurring in the city to achieve long-term economic, social and environmental benefits. The legislative mechanisms are in place to enable value capture to be employed but they have not yet been applied in a co-ordinated and strategic way to achieve the large scale upgrading of Perth’s transit system and the building of its urban activity centres.

There is also a need to bring together Directions 2031 and the Perth PT Plan into a set of next stage projects that lend themselves to a value capture project pipeline as part of the strategic vision for developing metropolitan Perth. The development of a value proposition would be the next phase in this project followed by the establishment of a Metropolitan Region Public Transport Fund (MRPTF). It would also be possible to divide the centres and rail upgrades into a set of staged projects that could be selected as PPP projects where the best combination of rail route upgrading and land development can be coordinated through partnership.

All this suggests that value capture can become a major new way to facilitate this public transport oriented re-urbanisation process through the development of a value capture fed MRPTF. Where the MRPTF would facilitate the funding of both strategic projects and local projects, much in the way the Metropolitan Region Improvement Fund (MRIF) does.

The MRPTF would require all levels of government to agree to its terms of reference and integrated land use and transportation focus, and, importantly, the selection or development of a delivery agency to manage the investment of its funds. Such an agency would need powers that can enable integrated delivery of land use and transit projects by using these alternative funding mechanisms. The new Metropolitan Redevelopment Authority and Land Corp for example, both have these necessary powers.

Whilst there may be challenges in setting up the value capture mechanisms, the MRPTF and an implementing agency, not to do so would mean that the city would be a poorer place socially, environmentally and economically.

This would be a new approach to planning public transport and urban development in Perth.
Appendix 1 - Acknowledgements

James McIntosh – Curtin University Sustainability Policy (CUSP) Institute

James is a qualified Land Use Planner, Transport Planner and Registered Cadastral Surveyor, and has 14 years of professional experience in multidisciplinary engineering and environmental consultancies in Australia (SKM and pitt&sherry), as well as international experience in hydrocarbon exploration (Western Geophysical).

James is currently studying a PhD at the Curtin University Sustainability Policy (CUSP) Institute in developing a “Comprehensive assessment framework for valuing transport infrastructure projects”.

James' key skills are in the fields of:
- Transport Economics and Planning
- Land Use Planning
- Cadastral Surveying and Land Development Consulting
- Project Management and Project Risk Assessment

Peter Newman – Curtin University Sustainability Policy (CUSP) Institute

Peter Newman is the Professor of Sustainability at Curtin University and Director of the Curtin University Sustainability Policy (CUSP) Institute that has 60 PhD students working on all aspects of the green economy. He is one of the most highly published academics in sustainability policy with over 200 academic papers and 12 books.

Peter invented the term ‘automobile dependence’ to describe how we have created cities where we have to drive everywhere, a term adopted in planning policy across the world. For 30 years since he attended Stanford University during the first oil crisis he has been warning cities about preparing for peak oil. Peter’s text book with Jeff Kenworthy ‘Sustainability and Cities: Overcoming Automobile Dependence’ was launched in the White House in 1999.

Peter is a regular contributor in the media and presents some 200 public addresses each year in conferences and public events around the world. In recent years Peter has been a contributor to many major studies on planning, urban development and infrastructure.
Tim Crane – Corview Group

Tim is a leading practitioner in the development of project assessment frameworks and their application to major infrastructure projects. Tim uses his 25 years of experience in infrastructure planning and delivery, corporate finance and governance to help government make major funding decisions for infrastructure projects. He owns and operates his own specialised consultancy firm for the assessment and procurement of complex infrastructure, the Corview Group.

Tim has specialised in developing business cases for significant infrastructure projects including funded projects currently undergoing development such as Airport Link, Northern Busway and Gold Coast Rapid Transit.

Recently Tim has focused on the role of value capture in funding transport projects and programs and applying lessons learned from these and other recent transport projects. He is currently developing business cases for the Cross River Rail and New Generation Rollingstock projects in Brisbane.

Dr Mike Mouritz

Mike has more than 15 year’s executive level experience in local and state government and in the private sector as mark of twenty five year career in urban and environmental planning.

Since November 2010 he has held the role of Executive: City Futures for the City of Canning where he is responsible for the city’s strategic policy direction. Prior to taking this role he spent 2 years at HASSELL, one of Australia’s leading design and planning consultancy practices.

Mike has had extensive experience in leadership and management roles associated with a broad range of urban planning roles in state and local government. Responsibilities have included managing and instigating urban policy processes to running small specialised teams responsible for developing the urban regeneration projects.