



VALUE CAPTURE – OPTIONS, CHALLENGES AND OPPORTUNITIES FOR VICTORIA

POLICY PAPER

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WHAT THIS PAPER IS ABOUT

This paper outlines the options, challenges and opportunities for implementing value capture in Victoria, including opportunities that arise from both infrastructure investment and planning changes.

If you are interested in understanding more about using value capture to help fund infrastructure in Victoria, this paper will explain it for you. This paper aims to build community awareness and understanding of the concept of value capture and advise the Victorian Government on a way forward by:

- Providing a definition of value capture and associated mechanisms relevant to Victoria.
- Explaining the benefits and limitations of value capture.
- Identifying if, why and when Victoria should seek more opportunities for value capture.
- Identifying key challenges and pathways for implementation and overcoming key challenges.
- Modelling key value capture mechanisms applied to case studies or scenarios related to options considered in *Victoria's draft 30-year infrastructure strategy*, developed by Infrastructure Victoria (Draft strategy).

Consistent with Infrastructure Victoria's approach, our analysis considers a range of sectors, including transport, health, education, social housing and planning.

What this paper is not about

This paper does not provide options for user pays regimes such as public transport fares, road tolls or broader pricing regimes. Infrastructure Victoria will release a separate paper on transport network pricing that will consider the concept of 'user pays' and user charges in more detail.

This paper does not focus on current committed Victorian Government projects or provide recommendations for further value capture opportunities for these projects. While we outline how value capture is currently being applied in Victoria, our focus is on the infrastructure required in the future.

This paper does not provide detailed consideration of explicit changes to general taxation settings or broad-based levies or land taxes. However, the relationship between value capture and the current taxation system is explained in this paper.

While we have undertaken modelling for case studies or scenarios related to options considered in our Draft strategy, this modelling is indicative only. It is not implementation advice and does not replace recommendations in our Draft strategy. It illustrates potential revenue and policy outcomes using particular policy settings under a range of assumptions. In reality, the policy approach and mechanism design will be decided and set by the Victorian Government and determined on a case-by-case basis.

How to find out more

The value capture modelling included in this paper has been undertaken by Ernst & Young (EY) for Infrastructure Victoria. The EY technical appendix to this report provides further information on the value capture mechanisms applied, approach to mechanism design, key case studies, quantification methods, assumptions and results. The EY technical appendix is available on our website.

How to get involved

Infrastructure Victoria welcomes your feedback on this paper as part of the consultation process being undertaken for our draft 30-year infrastructure strategy. If you would like to provide feedback, visit www.yoursay.infrastructurevictoria.com.au. You can also provide feedback by emailing us at enquiries@infrastructurevictoria.com.au.

Summary

INDIVIDUALS AND BUSINESS OFTEN RECEIVE WINDFALL GAINS AND PRIVATELY BENEFIT FROM GOVERNMENT INFRASTRUCTURE INVESTMENT AND PLANNING DECISIONS.

VALUE CAPTURE IS A FUNDING MECHANISM.

It helps align the cost of infrastructure more directly with those that benefit from government investment or planning decisions.

VALUE CAPTURE CAN IMPROVE THE WAY WE FUND INFRASTRUCTURE.

It can improve the equity and fairness of the funding mix by capturing some of the windfall gains received by those that benefit to help pay for infrastructure.

VALUE CAPTURE IS NOT A 'SILVER BULLET' FOR FUNDING MORE INFRASTRUCTURE.

It is unlikely to fully fund a project, but it can help contribute to meeting some of the cost of projects.

IN VICTORIA WE USE VALUE CAPTURE FUNDING MECHANISMS NOW, BUT THERE ARE OPPORTUNITIES TO EXPAND THEIR USE.

Value capture needs to be considered on a case-by-case basis.

VALUE CAPTURE SHOULD NOT CHANGE PROJECT PRIORITIES.

ACTION CAN BE TAKEN NOW TO IMPROVE THE USE OF VALUE CAPTURE.

One of Infrastructure Victoria's guiding principles is promoting responsible funding and financing. Pressure is increasing on governments to deliver sustained and significant infrastructure investment programs. This means that relying on traditional funding sources (such as user pays and general government revenue that comes from increasing taxation or reducing expenditure) can only form part of the solution to meeting Victoria's future infrastructure needs.

Value capture is a form of infrastructure funding that helps align the cost of infrastructure more closely with those that benefit from government investment or planning decisions. Value capture mechanisms seek a funding contribution from individuals and/or businesses that directly or indirectly and privately benefit from government investment in public infrastructure or planning decisions.

This paper focuses on the mechanisms for capturing the indirect benefits of infrastructure decisions and planning changes. Evidence shows that when government invests in new infrastructure, significantly upgrades assets or makes some types of planning changes, major windfall gains can be realised by some private landowners and businesses (i.e. value is created).

Value capture can increase the equity and efficiency of infrastructure funding by 'sharing' or 'capturing' a portion of windfall gains to help pay for infrastructure, rather than funding projects entirely from general government revenue.

In defining value capture, we have distinguished between value capture and value creation. Value capture does not create value; it is a mechanism that captures a portion of the value created by a project, (such as a new or upgraded asset) or a planning change.

Value capture is not a 'silver bullet' for funding all the infrastructure we want. It is unlikely to fund the entire cost of a major project in Victoria, but it can make a contribution.

Victoria already uses some value capture funding mechanisms – such as developer contributions, property development, asset sales and leases to help fund transport and urban renewal projects.

We think Victoria can make greater use of value capture funding mechanisms. **The Victorian Government should consider ways to enhance current approaches, apply value capture to other sectors such as education and housing, and introduce other beneficiary charging mechanisms such as land betterment levies and major beneficiary contributions.**

We designed and applied value capture mechanisms to six future infrastructure projects or scenarios for **illustrative purposes only** (this paper does not provide implementation advice and does not replace recommendations in our Draft strategy). We found that including land betterment levies as a funding source for some major projects, such as Melbourne Metro 2, could raise significant revenue. This evaluation – and evidence from overseas – suggests that land betterment levies and major beneficiary contributions offer a way forward for generating more funds for large projects in Victoria.

This evaluation of value capture mechanisms for future projects and our research has led us to conclude that:

- Value capture is unlikely to ever fully fund a major project.
 - Alternative funding approaches such as value capture mechanisms provide an opportunity to increase funds for infrastructure and improve the fairness and efficiency of the funding mix.
 - A range of mechanisms are available to capture a share of the windfall gains realised by private landowners from infrastructure investment and planning changes.
 - Value capture needs to be assessed on a case-by-case basis and mechanisms need to be carefully designed. This includes adopting sound methods for quantifying benefits and attributing them to specific groups, considering the impacts on these groups (such as the overall tax and funding burden and people's ability to pay) and ensuring that implementation costs do not outweigh the benefits.
 - Value capture should not be used to change project priorities. Government should decide which projects are its priorities, irrespective of whether it uses value capture as a funding source.
 - Better integration and coordination of land use, transport and infrastructure planning results in increased opportunities for value capture. However, value capture should not be the only reason driving a planning change.
 - For some stakeholders a direct link between the revenue collected via value capture and the infrastructure provided is important and can help build community support. However, quarantining or 'hypothecating' revenue can reduce government's flexibility to fund other infrastructure projects and services.
- There is no single 'right answer' for what an overall Victorian value capture policy should look like. However, we can expand and make better use of existing value capture mechanisms and introduce the use of other mechanisms. In particular, the Victorian Government should consider using land betterment levies and major beneficiary contributions, which offer an opportunity to increase funding for some major Victorian projects.

Steps can be taken now to improve the way value capture is used to help contribute to funding infrastructure in Victoria. We recommend that the Victorian Government:

- **Moves towards greater use of value capture** by expanding and using existing value capture mechanisms better and more consistently, using existing powers or introducing new powers to increase the focus on 'beneficiary pays' for property development and planning or zoning changes, and by extending the use of value capture in Victoria by introducing new charges or levies to help fund major infrastructure projects.
- **Takes action to improve how value capture is used**, including developing a clear value capture policy and piloting a value capture betterment levy on a major infrastructure project such as a project in Infrastructure Victoria's final 30-year infrastructure strategy within the next five to 15 years. Developing a clear policy will help the government assess the use of value capture on a case-by-case basis.
- **Develops a process for consistently assessing and applying value capture to projects in Victoria** as part of a value capture policy which aligns with existing project planning, development and delivery processes.
- **Works with local and Commonwealth governments** to ensure value capture approaches meet local infrastructure needs and reflect that state infrastructure investment and planning changes creates economic activity that also accrues to the Commonwealth through tax revenue.
- **Builds community support for value capture**, recognising that the success of any value capture approach will rely on community understanding of the concept and its application to specific projects. Establishing a clear and transparent government value capture policy as well as targeted consultation and community engagement on the benefits of value capture for specific projects can help build support.



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1. Background

Introduction

Victoria's growth is placing pressure on infrastructure, raising the need for significant additional infrastructure investment in the future.

Government needs to explore all opportunities to fund the infrastructure needed in the future.

Infrastructure Victoria is preparing a 30-year infrastructure strategy to meet Victoria's future needs and challenges. As set out in our Draft strategy, we recognise that Victoria's infrastructure needs cannot be resolved with one simple solution and we have examined a wide range of options.

These options include changing people's behaviour to relieve pressure on particular assets and spread demand for using an asset. We have also looked at making better use of our infrastructure by sharing facilities and using technology to deliver services differently. However, Victoria will still need to expand existing assets or build new ones to meet social, economic and environmental objectives. We have also looked at promoting responsible funding and financing.

This raises the question: who pays for this future infrastructure investment? The traditional funding model where governments pay for public infrastructure mainly from general government revenue is simple and, in many cases, transparent and effective. It means all taxpayers in our community pay.

This traditional funding model is not always the most fair and efficient. General government revenue is also not limitless; we would need to reduce cash surpluses, increase taxes or reduce expenditure to fund more infrastructure. These shortcomings – and the increasing pressure on governments to meet many competing demands – have led the Productivity Commission (2014) and Infrastructure Australia (2016) to recommend that Australian governments look at other ways to increase investment in infrastructure and supplement existing funding sources.

In our Draft strategy, we outline options for funding infrastructure. We recommend exploring beneficiary charging or 'value capture' funding mechanisms to help fund some of the infrastructure we want.

Value capture funding mechanisms seek contributions from those who benefit directly or indirectly from government investment in infrastructure and planning decisions.

Value capture is attracting much attention as a funding source that could be used more widely.

People are recognising that government planning decisions and publicly-funded infrastructure can generate significant private benefits.

This is particularly the case for landowners and developers. Asking these beneficiaries to make a greater contribution could be a more equitable and potentially more efficient alternative to funding projects entirely from general government revenue.

This policy paper reflects the growing interest in value capture as a way to generate some funding for future infrastructure investment. It outlines the options, challenges and opportunities for implementing value capture in Victoria.

BOX 1: VALUE CAPTURE NATIONAL REFORM DIRECTIONS

Infrastructure Australia's 2012 *Infrastructure Finance and Funding Reform* report made a range of recommendations for reforming infrastructure funding, planning and finance markets, including that states should utilise appropriate models to drive revenue from the broader benefits delivered by major infrastructure projects, such as value capture for transport infrastructure.

The *Australian Infrastructure Plan* released in February 2016 consolidated this view, recommending that "governments should routinely consider value capture opportunities in all future public infrastructure investments" noting that value capture not only offers incremental funding opportunities, but also the case for equity – that "where investments have been made by taxpayers, there is a strong case for private owners' windfall gains to be shared with taxpayers". Considering value capture funding opportunities is embedded in Infrastructure Australia's business case assessment templates.

In April 2016, the Commonwealth released its *Smart Cities Plan*. This highlighted that state governments may need to explore value capture opportunities as a precondition for any Commonwealth infrastructure funding grants in the future.

In May 2014, the Productivity Commission concluded a major study – *Public Infrastructure* – covering issues of provision, funding, financing and costs. The recommendations included that "when the benefits from infrastructure accrue to more than users, governments should also consider value-capture initiatives – such as betterment levies and property development – so that wider beneficiaries contribute to funding."

Our approach

In developing this paper, we have spoken to a range of stakeholders with an interest in value capture, including state government agencies, other jurisdictions, industry and international experts (see Box 2 overleaf). Together with EY, we have also reviewed the literature and looked at case studies from Victoria, the rest of Australia and other countries. This literature and these case studies are outlined in the bibliography and appendices at the back of this paper. EY also provided technical analysis and modelling, outlined in the technical appendix.

Typically, value capture is considered in relation to transport infrastructure. In this paper, we have looked at opportunities for applying value capture to other sectors such as the health, education and housing sectors and planning changes as well as transport.

When thinking about how to fund infrastructure, a balance needs to be struck between raising more revenue, using our infrastructure efficiently and encouraging businesses and individuals to be productive, which helps to drive economic development. Keeping this in mind, in our Draft strategy we outlined funding principles for applying infrastructure funding mechanisms. We have applied these principles in identifying future opportunities for applying value capture. These principles are:

- Distribute the funding burden equitably and fairly.
- Implement easy and cost effective funding mechanisms.
- Ensure that the funding approach considers people's overall tax burden.
- Promote the highest and best use of infrastructure.
- Optimise the effectiveness and efficiency of infrastructure (including its maintenance) and services.
- Change behaviour and manage demand.
- Align the cost of infrastructure with users and those who privately benefit from it.

BOX 2: TALKING WITH STAKEHOLDERS

In developing this paper Infrastructure Victoria engaged with a range of stakeholders, including other government and non-government organisations with an interest in value capture. There were divergent views, but we also identified some important themes.

For example, many stakeholders noted that 'value capture' as a concept is unclear and needs to be better defined. For some, the case for value capture is also unclear, particularly for those who believe that uplift value is already captured through existing taxes and rates. While some believe that value capture provides an opportunity to generate additional funding, many think its revenue potential has been overstated and that it only represents a narrow funding opportunity of between 5 to 20 per cent of project costs. People often remarked that value capture is not a 'silver bullet', 'magic pudding' or a funding 'panacea'.

Consistently stakeholders recognised that value capture funding opportunities should be assessed and considered on a case-by-case basis for specific projects and that it will not – and should not – apply to all new infrastructure.

Finally, people are concerned about value capture mechanisms that might result in 'double taxation', have unintended impacts on development or place an unfair burden on certain groups.

We have considered these views, criticisms and other common concerns in this paper.

Who benefits from infrastructure investment and planning changes?

Infrastructure and the services it provides creates:

- **direct benefits to people who use it, infrastructure operators, businesses and employees**
- **indirect benefits for sections of the community, such as land owners, occupiers, businesses, developers and governments, particularly through increased land values, profits and tax**
- **wider benefits to the community, including productivity growth and enhanced liveability, this also helps increase the tax revenue collected to meet future infrastructure and service needs. Which also has tax benefits and benefits for the wider community.**

Using infrastructure provides many direct benefits

for Victorians. For example roads, railways and airports connect communities and provide access to jobs and services, as well as connecting businesses with their customers, workforces and supply chains. Utilities provide households and businesses with services such as water, energy and telecommunications. Hospitals, schools and universities improve the health and education of individuals, increasing their quality of life and access to opportunities – while also creating a productive, skilled and capable workforce. Science and technology facilities and infrastructure can enhance productivity and competitiveness across the economy.



Providing infrastructure also creates indirect benefits for sections of the community whether or not they use it. Infrastructure and services can increase nearby property values and economic activity. For example, private landowners benefit from increases in property values (i.e. 'land value uplift') when places become more attractive as a result of being near to schools, train stations, parks and other facilities. Infrastructure investment can also generate increased economic activity and productivity growth.

This includes economic activity generated from increased movement of people, improved access to jobs or a larger employee pool and other 'spill over' effects from increased proximity to infrastructure. Increased economic activity and productivity growth generates higher profits for businesses, increased wages and taxation revenue, resulting in benefits for the broader community.

Planning system changes can also create indirect benefits for landowners and developers. Planning changes and approvals are often required before any infrastructure investment and development activity can take place. This can include making planning scheme amendments (including re-zoning the use of land) and the provision of planning and building permits. At 'the stroke of a pen' changes to zoning or the provision of development approval for specific landholdings can generate significant windfall gains for some landowners and developers.

For example, in 2012 large value gains were created for property owners in the Fishermans Bend precinct after the decision to change the zoning from industrial to Capital City Zone.

BOX 3: HOW DO I BENEFIT FROM NEW INFRASTRUCTURE AND PLANNING DECISIONS?

When government invests and builds new infrastructure or rezones land, individuals, businesses and land-owners in the area receive direct and indirect benefits and significant financial windfall gains without making a direct contribution to the cost of the new infrastructure.

HOW DO I BENEFIT IF GOVERNMENT BUILDS A NEW TRAIN STATION IN MY AREA?

As a resident (home owner or renter) in walking distance of a new train station, I directly benefit because I can now use and access public transport quicker and easier to get to where I need to go and I can get there faster. When I use the train, I pay public transport fares but I did not make a direct contribution to the cost of building the new train station

I benefit indirectly because my area is now an attractive option for more businesses and services to relocate, increasing economic activity and the amenity of my suburb. I can now access more shops, restaurants, cafes and schools. I also have greater opportunities to access more and better paying jobs.

I also benefit because more people want to live or rent in my area and house prices and rents increase. As a home owner my wealth increases, as a landlord my wealth and rental income increase.

As a shop owner in the same area, I benefit from new customers purchasing my goods and services because there are more people using the new train station and coming to the area. I have better access to a larger pool of employees. My income and profits increase.

As a commercial business (such as a consulting firm, accountant or mechanic) I also benefit from new customers and I can trade with more businesses. I have better access to a larger pool of employees and goods. My costs reduce and my income and profits increase.

HOW DO I BENEFIT IF GOVERNMENT MAKES A PLANNING CHANGE AND REZONES MY LAND?

As a landowner, if government makes a planning change and rezones my land from industrial to residential use, the potential uses for my land may expand and increase.

If the range of land uses increases, more individuals, businesses and developers are interested in purchasing and developing my land. I receive a significant 'windfall gain' because the value of my land increases. I sell this land at a much higher price than if there had been no planning change and my wealth increases.

However, infrastructure and planning changes can also create negative impacts and costs to some parts of the community. This includes impacts such as pollution, increased noise levels and reduced amenity. Negative impacts (also known as disbenefits) should be considered in any infrastructure investment and value capture strategy.

Who pays for infrastructure?

Funds to pay for public infrastructure ultimately have to come from the community, by increasing taxation or reducing expenditure, or from users and other beneficiaries.

Traditionally, governments have invested in infrastructure as a 'public good' or something that can be used by and benefits society as a whole.

Funding for this investment has ultimately come from the community from general government revenue by reducing cash surpluses, increasing taxation, reducing expenditure or increasing or introducing user charges (such as some roads being funded fully or partly by toll revenues). Some funding has also been sourced from developer contributions, property development or asset sales. But as the demands on infrastructure increase, the pressures on government budgets are also growing.

The Victorian Government must continue to invest in infrastructure to maintain and improve living standards, support economic activity and meet growing demands for public services.

However, infrastructure costs can be significant and need to be met by government from available funds in an environment of competing demands.

While there have been efforts made in recent years to increase funding for infrastructure from other sources – such as developer charges – significant revenue shortfalls continue to exist. For example, the Ministerial Advisory Committee review of *Plan Melbourne* pointed out that in the rapidly growing municipality of Wyndham in Melbourne's west, developer charges will raise only \$1.6 billion of the \$2.4 billion needed to fund local roads, open space and other community infrastructure.

The traditional general government revenue funding model means the costs of infrastructure are borne by all taxpayers, while some of the benefits are privately received. In other words, there is often a mismatch between those who pay for, and those who gain from, infrastructure investment and planning decisions. Alternatives to this model need to be explored to supplement existing funding sources in ways that are more equitable and more efficient, and that deliver the right infrastructure to the right places at the right time.

In the Draft strategy, we outline six funding mechanisms:

- general government revenue
- user charges
- beneficiary charges (such as developer contributions, betterment levies and major beneficiary contributions)
- property development
- asset sales and long term leases and
- donations and bequests.

In this paper, we focus on beneficiary charges, property development, asset sales and leases – all of which are defined as types of value capture mechanisms that target the indirect benefits of government investment in infrastructure or planning changes, reflected most directly in land value uplift, but also in economic activity.



2. WHAT IS VALUE CAPTURE?

Defining value capture

‘Value capture’ is a form of infrastructure funding that aligns the cost of infrastructure more directly with those that benefit from government investment or planning decisions. This is also known as ‘beneficiary pays’ funding.

In this policy paper, we define ‘value capture’ as an umbrella term covering a range of funding mechanisms that have a common goal: seeking a funding contribution from individuals or business that benefit privately from government investment or planning decisions, rather than relying solely on funding by the general taxpayers. These contributions ‘capture’, ‘recover’ or ‘share’ a portion of the extra value created for individuals or business from government decisions. This helps to align the cost of infrastructure with those that benefit, whether or not they actually use the infrastructure. Value capture does not create value (see Box 4 below).

The goal of beneficiary pays funding is achieved by:

1. identifying who the major beneficiaries are
2. determining whether they are benefiting directly or indirectly
3. developing and implementing mechanisms that collect a portion of the value created or the project cost.

Value capture is not a new practice – although more attention has been paid in recent years to using value capture as a distinct way of raising revenue to fund public infrastructure. Victoria already uses various forms of value capture, including developer charges (such as the Growth Area Infrastructure Contribution (GAIC) and Places Victoria Infrastructure Recovery Charge) and the sale of development rights and leases (such as the development rights associated with Southern Cross Station and Melbourne Central Station). In the past, levies were used to partially fund the Melbourne Underground Rail Loop i.e. the ‘City Loop’ (see Box 5).

While the clearest cases for applying value capture are major transport and urban renewal initiatives, there is scope to apply value capture to other sectors on a case-by-case basis. See Appendix B for evidence of the impact of infrastructure on property prices.

BOX 4: VALUE CAPTURE DOES NOT CREATE VALUE

Value capture does not create value: it is simply the mechanism used to capture a portion of the value already created by a project, planning change or a new or upgraded asset.

Value can be created through the presence and operation of a project or asset itself (which may increase the residential or commercial potential of nearby land) or through changes to planning schemes or the granting of planning and building permits (which may generate gains for landowners and developers). Value capture is applied to this additional created value.

However, recognising and incorporating value capture in infrastructure planning can lead to a project or asset being designed in such a way that greater value is created, for example Woolwich station, built as part of the London Crossrail project. Woolwich station was not proposed as part of the original Crossrail project. The station was subsequently included recognising the potential to support adjacent land development.

BOX 5: FUNDING MELBOURNE'S CITY LOOP

The City Loop began development following a 1960 Act that established funding arrangements for the project, its inclusion in the 1969 metropolitan transport plan and an Act of Parliament in 1971 that established an authority to oversee its construction. Construction commenced in 1971 and the loop was completed progressively between 1981 and 1985.

The proposed funding scheme for the City Loop was altered numerous times between 1960 and 1983, but was based originally on value capture principles and retained some aspect of this throughout the term of the scheme. In 1970, the funding scheme established a 25-25-50 per cent of funding the cost of the project split between the Melbourne Metropolitan Board of Works (MMBW) via a city-wide levy (25 per cent), the City of Melbourne via a special council rates levy on commercial properties, and on residential properties (25 per cent), rail passengers via a ticket levy and the State government (which paid the balance of the 50 per cent not collected by the ticket levy).

The MMBW and City of Melbourne contributions were originally set to recover 50 per cent of the project costs through levies on commercial and residential properties and were capped and later reduced to 15 per cent and 10 per cent respectively. The City of Melbourne special rates levy was repealed several years early in 1995, in part due to financial difficulties resulting from the financial collapses and recession of the early 1990s.

Analysis of the funding of Melbourne's City Loop provides a number of important lessons for considering the possible application of value capture to help fund Victoria's future infrastructure needs. This includes:

- Reminding us that funding infrastructure from new land-based value capture mechanisms is not new for Victoria. The indirect benefits of infrastructure have been long recognised by policy makers and the wider community, particularly for transport infrastructure.
- Supporting the view that value capture funding may be more acceptable to the community if mechanisms are simple and broadly applied to align funding with benefits received. This ensures that mechanisms are easy to understand and comply with, and avoids having to undertake detailed assessments of land value benefits attributable to the project in an attempt to factor that into mechanism design.
- Highlighting the possible financial risks associated with relying on value capture mechanisms collected by other levels of government or corporate entities.

Sources: EY analysis undertaken for Infrastructure Victoria, SGS Economics & Planning (2012), *Long run economic and land use impacts of major infrastructure projects*, with further details sourced from *City of Melbourne Underground Railway Construction Act 1960*, *Melbourne Underground Rail Loop Act 1970*, *Transport Act 1983*, and various amendment Acts in 1963, 1975, 1976, and 1995; *Melbourne Underground Rail Loop Authority, Annual Report 1971-72*; *Metropolitan Transit Authority, Annual Report*.

Value capture is already present in Victoria

A number of value capture mechanisms are already present in the current Victorian tax and planning systems.

The existing Victorian mechanisms that capture the indirect benefits of infrastructure and planning changes are defined further in the EY technical appendix to this report and they include:

- **‘Automatic uplift’ in existing taxes** – including land-based taxes such as State land tax and stamp duty, Commonwealth Capital Gains Tax and local government rates (only where a growing revenue base is translated into higher rates through the rate-setting process); and taxes such as State payroll tax and Commonwealth income tax where infrastructure raises economic productivity and incomes.
- **Developer charges and related mechanisms** – one-off or in-kind contributions to the cost of providing infrastructure in a development area, including the GAIC (a contribution scheme designed to cover 15 per cent of State infrastructure costs in Melbourne’s growth areas), Development Contribution Plans and legal agreements under the *Planning and Environment Act 1987* for funding early, basic and essential local infrastructure, the new Victorian Infrastructure Contributions system and other charges such as Places Victoria’s Infrastructure Recovery Charge.
- **Property development, asset sales and leases** – including the sale of air rights or government-owned land around new infrastructure, and the lease of advertising rights and significant telecommunications services. These are relatively common in infrastructure provision in Victoria.

Mechanisms that capture the direct benefits of infrastructure are also present in Victoria, including:

- **User charges** – applied for the use of a specific asset each time the asset is used, in-principle providing the clearest form of value capture mechanism. Road tolls and public transport fares are common forms of user charges applied for transport in Australia. However, in Victoria public transport fares only cover a proportion of the operating costs of the infrastructure and so do not contribute to the funding of new or upgraded infrastructure.

In this paper, we focus on opportunities to introduce new or enhanced value capture mechanisms for capturing some of the indirect benefits of infrastructure and planning changes. These are defined on page 17 and in Appendix C and include:

- developer contributions
- betterment levies
- major beneficiary contributions
- property development, asset sales or leases.

As discussed in Box 6 below, given the range of existing value capture mechanisms in Victoria, some stakeholders are concerned that additional value capture mechanisms risk ‘double taxation’.

As discussed above, many different people benefit from infrastructure investment and planning changes. Individuals, businesses and developers can all benefit directly and indirectly. There are a range of mechanisms that can be used to capture some of those direct and indirect benefits.

Figure 1 overleaf summarises the range of direct and indirect beneficiaries from infrastructure and planning changes and the existing and new mechanisms that can be used to capture some of the value they receive.

BOX 6: RISK OF ‘DOUBLE TAXATION’

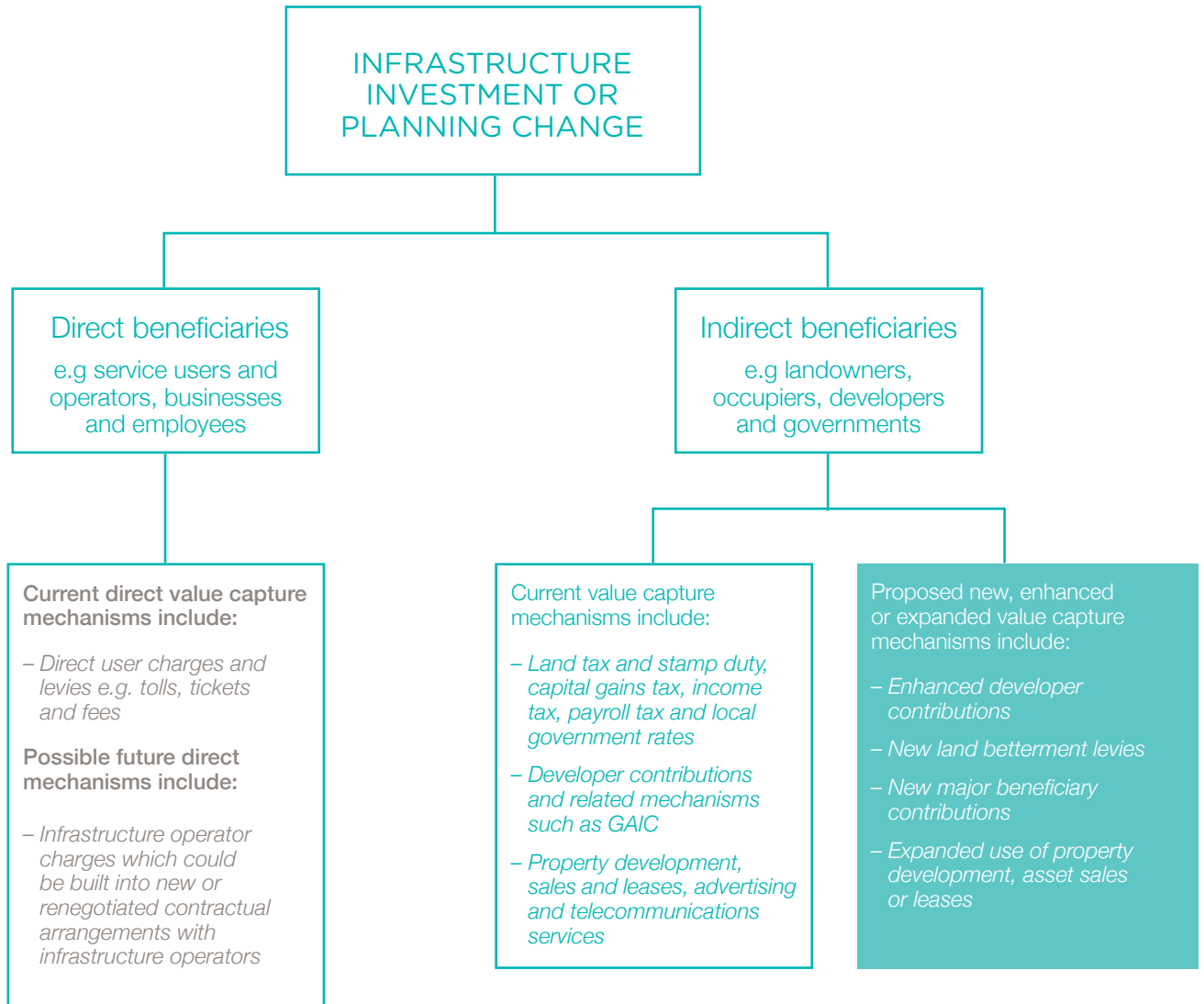
Due to the range of existing value capture mechanisms in Victoria, a number of stakeholders are concerned that introducing more value capture risks ‘double taxation’.

While property owners that benefit from planning changes and infrastructure do experience an ‘automatic’ increase in some tax liabilities, there are some considerations that support the application of well-designed value capture mechanisms that target the same underlying property value gains.

Potential property purchasers naturally take established taxes into account when considering a purchase. This means that any value uplift observed after providing beneficial infrastructure or planning changes represents how much more the location is worth in the market, after taking into account (i.e. ‘net’ of) the anticipated higher payments of existing taxes – Capital Gains Tax, rates, land tax and other property taxes. This means property value gains or windfalls arising from government planning changes or investment decisions over and above existing taxes still accrue to property owners.

Similar concerns have been raised about user charges. However, because of limitations on the application of user charges, and the lower level of charges that are typically set compared to the benefits received by users (e.g. public transport tickets), there is the potential for unpriced benefits to manifest in nearby land values. This highlights the scope to apply a value capture strategy that complements existing user charges to enhance the role of beneficiary pays funding. However, value capture mechanisms need to be designed carefully to reduce the risk of duplicating existing taxes and user charges.

Figure 1 Direct and indirect beneficiaries of infrastructure investment or planning changes – Victorian value capture mechanisms



As Figure 1 shows, different types of mechanisms that are currently used in Victoria can capture different types of benefits from different beneficiaries. Those benefiting directly may make a funding contribution through user charges (such as tolls and fees). Those who benefit indirectly may make a funding contribution through developer charges and the sale of development rights. Indirect beneficiaries may also make a funding contribution through existing taxation arrangements such as Capital Gains Tax.

This paper focuses on indirect beneficiaries and new or enhanced value capture mechanisms that can help to recoup some of the indirect benefits of infrastructure and planning changes. In particular, the windfall gains reflected in increased land values and economic activity not currently captured through existing taxes and mechanisms.

Land value uplift can represent significant windfall gains for landowners that are not captured by the current mix of taxes and value capture mechanisms currently in place in Victoria.

There is evidence that certain types of infrastructure, such as train stations and schools, increase adjacent land values and provide significant windfall gains to land owners. This is because all infrastructure has a locational dimension. A park, for instance, is more readily enjoyed by those living nearby; a train service is most beneficial for those living and working near a station. Even state-wide services, such as hospital care, are most valuable to those with ready access to them.

Because of this locational factor, project benefits become reflected in demand and rents for property in favoured locations, and these benefits (excluding user charges) will eventually be reflected or 'capitalised' into land values through the property market.

These dynamics are generally well understood. The transport sector in particular has been the subject of considerable study, where there can be noticeable and lasting impacts on the residential and commercial land values and higher densities near new transport projects.

For example, analysis of the London Crossrail project estimated that capital values in the areas around central London Crossrail stations would rise by 35 per cent for residential properties, and 27.5 per cent for offices, over and above an already-rising baseline projection. Residential values on the outer sections of the line were expected to rise a cumulative 27.5 per cent above baseline, but offices in these areas would only grow slightly faster (0.5–2.5 per cent) than baseline. In Australia, property prices increased by over 50 per cent following the opening of South Morang railway station. For roads in Australia, a study on the M7 Motorway in Sydney, EastLink in Melbourne and the M1 Motorway in Brisbane, found that commercial and industrial property values in nearby catchments grew by 1.7–5.8 per cent per annum more than similar properties in surrounding areas. Industrial property values in the EastLink catchment area were estimated to be around 27 per cent higher as a result of the project.

Analysis of other infrastructure sectors, including education and health, also suggests indirect land value gains may be material in some instances. As discussed earlier, significant windfall gains can also arise as a result of 'stroke of a pen' planning changes. Appendix B provides a summary of this selected evidence of the impact of transport, education and health infrastructure on property prices.

BOX 7: A BETTERMENT LEVY IN ACTION – LONDON CROSSRAIL BUSINESS RATE SUPPLEMENT

One example of a betterment levy that has been applied overseas is the Business Rate Supplement put in place to partly fund the £14.8 billion Crossrail project in London. The Business Rate Supplement targets businesses and other non-domestic properties in London with a rateable value of over £55,000 at 2 pence per £1 (equating to an annual contribution of £2,000 for premises valued at £100,000).

The levy will remain in place until a £4.1 billion loan is repaid, ultimately funding around one third of project costs.

Restricting the mechanisms to non-domestic properties and applying a threshold means that it excludes a large number of landowners that will benefit from the project (all residential properties and around 80 per cent of business properties are exempt). However, the design ensures that the levy is applied predominantly to higher-value commercial properties in inner London along the broader east-west Crossrail corridor.

While there are large numbers of properties in outer London that are required to pay the levy, many of these areas will benefit from reduced congestion on the broader London transport network, making it easier to do business and access customers and suppliers.

New, enhanced or expanded value capture mechanisms

Opportunities exist to enhance, expand and introduce new value capture funding mechanisms in Victoria.

We consider that the application of the following four broad mechanisms provide opportunities to capture some of the windfall gains from infrastructure investment and planning changes in Victoria, including:

- **Enhanced developer contributions** – compulsory payments made by property developers as a condition of receiving development approval or as a condition of rezoning preceding development. These payments (in cash or ‘works-in-kind’) are one-off and only apply to land undergoing development. While these are already used in Victoria, there is an opportunity to expand their application, particularly in established areas.
- **New betterment levies** – special levies or taxes paid by landowners or beneficiaries (not just on land undergoing development) in a defined area to capture a portion of land value gains or improvements that accrue to properties due to their proximity to public infrastructure or planning decisions. These are known as betterment levies because they collect some of the windfall gains people receive as a result of improvements in their land value. Betterment levies can be one-off or recurrent (such as an annual amount). See Box 7 for an example of a betterment levy in action through the London Crossrail Business Rate Supplement.
- **New major beneficiary contributions** – negotiated payments sought from private parties that will receive a major benefit from infrastructure investment (such as airport owners, major employers and specific landowners). For example, Amazon’s contribution to Seattle’s South Lake Union Streetcar project.
- **Expanded use of property development, asset sales or leases** – sale of development rights, land and leases that go hand-in-hand with the development of infrastructure and generate funding from commercial uses of government land and assets. This can include the physical integration of commercial opportunities with the infrastructure being delivered (such as new shopping centres above train stations) or using the gains from the sale of assets to fund other infrastructure and services (such as the planned use of the proceeds from leasing the Port of Melbourne for new transport infrastructure).

Some of these mechanisms are more suited to particular types of infrastructure and beneficiaries than others.

For example, large-scale, city-shaping projects suit more broadly applied mechanisms (such as betterment levies), while upgrades to local infrastructure suit more targeted mechanisms (such as the sale of property development rights).

Examples of the application of these mechanisms in Victoria and other jurisdictions are provided in Appendix C.

Some stakeholders also consider opportunities for implementing financing mechanisms such as Tax Increment Financing (TIF) and the UK City Deals model as forms of value capture.

Appendix D and Appendix E provide background information on the funding and financing mechanisms and approaches such as TIF and City Deals.

Another set of options open to government is the application of broader-based levies and taxes to fund longer term infrastructure pipelines, or a broader reform of land taxes themselves. For example, ‘Measure R’ which was an additional 0.5 cent sales tax voted in by Los Angeles County residents in 2008 to raise new funding for a 30 year transport plan (i.e. a broad based tax). These options are beyond the scope of this paper, but are nevertheless legitimate means of increasing government’s capacity to deliver infrastructure and further improve the equity and efficiency of the funding system. They should be considered as part of a longer-term approach to infrastructure funding reform and improving the overall efficiency of the tax and funding system.

Value capture should be implemented so as not to preclude broader based reform in the future.

Why use value capture?

Beneficiary pays funding approaches such as value capture can improve the equity and efficiency of infrastructure funding. While value capture cannot change the underlying merit of a project it can improve project design and create additional value and revenue for funding infrastructure.

There are a number of reasons to consider using value capture mechanisms.

Providing more equitable infrastructure funding

Value capture can help to address inequities in the current funding system, such as the cost of infrastructure being borne by all taxpayers despite providing significant windfall gains to a few. Value capture mechanisms can also be designed to discourage land speculation, land banking and tax avoidance.

Providing more efficient infrastructure funding

As the uplift in land values accrues to an asset (land) that cannot be relocated or reduced in supply, any windfall gains can potentially be taxed without distorting economic activity. This means that value capture mechanisms that tap land value gains are potentially highly efficient. These mechanisms also provide opportunities for governments to improve the overall efficiency of the tax mix when funding infrastructure by using land-based value capture rather than higher stamp duty or payroll tax.

We recognise that land based value capture mechanisms are not perfect. They may not achieve all of the same benefits of improving the efficiency of the tax mix the as broader based reforms. However, they are likely to be much more efficient than current revenue and funding options. For example, the Henry tax review assessed the loss of economic welfare from a range of current taxes and found payroll taxes, conveyancing stamp duties, and motor vehicle taxes were found to be relatively inefficient (costing 30-50 cents for every dollar raised).

BOX 8: DEFINING EQUITY AND EFFICIENCY

A beneficiary-pays funding approach, such as value capture, can be more equitable and efficient than general taxpayer funding.

When we talk about **equity** we mean the extent to which value capture mechanisms promote fairness, with taxpayer contributions varying according to their ability to pay. Value capture mechanisms support this principle to varying degrees through the choices made about the revenue base (narrow or broad based) and the rate structure (for example, the choice of a flat rate is simpler but less targeted towards the actual benefits gained from the infrastructure). Contributions from taxpayers should be more in proportion to the benefits received from spending on infrastructure and services, and that taxpayers with similar levels of benefit should be treated similarly.

When we talk about **efficiency** we mean the extent to which value capture mechanisms encourage the efficient use of resources, while not distorting economic activity. Well-designed value capture mechanisms will avoid distorting the allocation of land (such as across land uses or ownership structures), discouraging development, investment or other economic activity, or encouraging tax-avoiding behaviour.

Overcoming the limitations of the current taxation and planning systems

Current constraints in existing tax structures (such as land tax exemptions for principal places of residence) limit the taxation system's ability to capture a portion of private benefit uplift. In addition, only a low level of value capture is possible under the current planning system due to the limitations of current legislation and use of powers, with limited opportunities to capture the uplift from rezoning. The new Victorian Infrastructure Contributions system may however, provide some opportunities once fully implemented (see Appendix A for further information on the new Victorian Infrastructure Contributions system).

Generating more choices for funding infrastructure

Value capture can generate additional revenue for funding infrastructure. In effect, value capture enables planned infrastructure projects to be brought forward (or enhanced), which allows the government to move ahead with other projects more quickly. It does not change the priority of projects; rather, it can accelerate the delivery of planned projects as well as potentially enhancing the operations, outcomes and benefits of a project (for example, through property development or leases) by increasing the pool of funding available.

Improving the design of projects, creating additional value

Value capture cannot change the underlying merit or priority of a project. However, being aware of value capture options during a project's planning and development phases can encourage thinking about alternative design options that create additional value for specific beneficiaries. For example, exploring value capture mechanisms such as commercial property development early in the process can open opportunities for integrating other uses or complimentary services with public infrastructure, such as commercial and residential development. This may result in funding being available, particularly through major beneficiary contributions, to add new features to a project that also benefit the wider community, or deliver the government's broader objectives to support diverse housing, social and community outcomes.

In the context of planning changes, better integration and coordination of land use planning, transport and infrastructure result in increased opportunities for value capture. However, value capture should not be the only reason driving a planning change.

BOX 9: IMPROVING PROJECT DESIGN: LONDON CROSSRAIL - WOOLWICH STATION

Construction of a station at Woolwich was not proposed as part of the original route for London's Crossrail project. However, the potential for a station to support adjacent land development in the area was recognised and agreement reached in 2011 between a private developer and the government for a station box to be included in the project design, fully funded by a private developer owning developable land above the potential station. A funding package for a full station fit-out was subsequently agreed in 2013 and the station will open with the rest of the Crossrail line in 2018.

In this instance, government openness to a design modification funded by a major beneficiary led to an improvement in project design by adding value to complementary property development: value capture allowed re-orientation of design towards overall value creation, rather than just core transport outcomes.



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When not to use value capture

Value capture is not a ‘silver bullet’ – it is not likely to fully fund projects in Victoria.

Value capture is one of a number of funding sources for infrastructure. It should not be used:

- To raise more funds for a project – value capture can change the mix of funding, not the total amount. The benefits of value capture should remain the same irrespective of the funding raised.
- To change project priorities – value capture cannot change the merit of a project or its Benefit Cost Ratio. Sound prioritisation principles (working out which project should be delivered first) should apply irrespective of a proposal to use value capture. Value capture also should not be used to so radically change the design of a project that the original rationale is compromised.
- As a ‘one size fits all’ approach – the merits of value capture should be assessed on a project-by-project basis against a clear policy framework. It should not be considered where limited revenue potential may be outweighed by additional costs and risks.
- To fund 100 per cent of project costs for major infrastructure projects – while some international examples exist of major projects that have been funded entirely from value capture, (such as the use of property development to fund Hong Kong’s Mass Transit Railway), the relevance of these types of case studies for Victoria is often limited due to our different geography, population, and economic, social and political environment.

The limitations and risks of value capture

Value capture is not perfect, it has a number of limitations and risks which should be considered when developing value capture policies and designing and applying mechanisms:

- *Poor mechanism design* – leading to unintended consequences such as ‘over taxing’ or ‘double taxing’ certain beneficiaries, unfairly burdening certain landowners or treating people inside and outside value capture boundaries inequitably, and distorting or discouraging development activity (see Box 10).
- *Administration costs and complexity* – some value capture mechanisms will have high transaction costs and be very complex to administer, which may preclude them from being used, particularly if the cost of implementing the mechanism outweighs the revenue potential.
- *Accurately quantifying the benefits of infrastructure or planning decisions and attributing them to specific beneficiaries* – including measuring the additional value generated, identifying beneficiaries and proving the ‘nexus’ or relationship between value uplift and the investment or planning change. Another important concern is ensuring that the benefits being targeted are not simply re-distributed from one area to another, with no net benefit.

BOX 10: RISK OF UNINTENTIONAL IMPACTS ON DEVELOPMENT ACTIVITY

Several stakeholders cautioned against ‘over taxing’ or ‘double taxation’, particularly with respect to the development industry. For example, there is potential for high value capture rates to distort development activity. Property development is inherently risky and developers and the property sector already pay some charges and fees. They were concerned that adding poorly considered value capture to this environment could act as a disincentive to development.

We recognise that the design of any value capture mechanism should take into account the impacts on property owners and developers, recognising the inherent tension between cost recovery and achieving development and other economic and social outcomes. Government should ensure that the right level of analysis, consultation and stakeholder engagement is undertaken in developing value capture funding strategies so that the impacts on industry are rigorously assessed and clearly understood.

Furthermore, any value capture strategy must be transparent and communicated at the time any planning change or project is announced. This would help to minimise the risk of developers buying into an area without taking into account possible future value capture liabilities. It would also help to mitigate incentives to make special deals.

- *Project delivery risks* – such as the increased potential for poor coordination or conflicting objectives between land use, transport and project planning, and funding and financing. There is also a risk of conflicting project objectives where there is more than one level of government involved in the project.
- *Dealing with value losses and other impacts* – where the provision of infrastructure generates negative impacts for some land-owners (such as increased noise or local traffic congestion). These impacts need to be assessed on a case-by-case basis based on a clear policy framework as part of the mechanism design process.
- *Community and stakeholder concerns* – value capture is poorly understood and some people have concerns about the potential impacts on housing costs and on property owners who are ‘asset rich, but income poor’, as well as perceived ‘double taxation’ with existing user charges, fees and taxes (see Box 10).

- *Political risks* – including sub-optimal mechanism design in response to community and stakeholder pressure, as well as the risk that mechanisms are revoked over time or with a change of government.

Establishing a transparent and well-understood value capture policy framework with clear principles and objectives can mitigate many of these risks. This includes carefully mapping benefits and designing mechanisms, good governance and project management, and appropriate stakeholder and community consultation. We provide practical advice on this in the following sections.

BOX 11: THE HYPOTHECATION DEBATE: HOW SHOULD VALUE CAPTURE REVENUE BE USED?

When using value capture, consideration must be given to how the revenue captured is used. This includes determining whether the revenue captured from a project or planning decision will be used to:

- directly pay for the project’s capital, operating and financing costs from a dedicated fund, or in the case of planning changes, placed in a dedicated fund for future infrastructure investment – known as hypothecation, or
- pay for other government priorities. This includes retaining the funds raised in the government’s general pool of funds or ‘general government revenue’.

For some stakeholders having a direct link between the revenue collected and the infrastructure provided is an important feature of value capture and could help build community support.

However, hypothecation can reduce government’s flexibility in allocating its budget to address areas of highest need. This is exacerbated where a fund of hypothecated revenue contains unspent revenue that could otherwise be used to address higher government priorities. As a principle, the prospect of raising additional revenue should not change infrastructure investment priorities or decisions about how funding is spent.

Alternatively, government could still place the funds raised in general government or ‘consolidated’ revenue, rather than a dedicated fund, and use it to offset or partially offset the project costs. The government can transparently communicate the link between the revenue generated and project expenditure. This is sometimes known as soft hypothecation. This approach could also help build community support for value capture.



3. Putting value capture into practice

We have identified an approach, guiding principles and advice on design choices that could be used in applying value capture to future projects.

Adopting a systematic approach

Value capture should be applied logically and sequentially, and align with government policy, infrastructure priorities and investment management practices.

This approach should include:

- Establishing a clear value capture policy and guiding principles for applying value capture.
- Identifying value capture opportunities to fund specific projects early in the project lifecycle, including identifying the value created and who the beneficiaries are.
- Designing and developing appropriate value capture mechanisms on a case-by-case basis taking into consideration the scope of the project or planning change.
- Analysing and assessing the case for value capture including phasing and certainty of value capture income as part of the detailed business cases prepared for projects, and building stakeholder and community support.
- Implementing and administering value capture mechanisms in step with project delivery.

To begin, government should develop its value capture policy, including policy objectives. Different policy objectives can conflict and trade-offs will need to be made that also affect the choice and design of mechanisms. For example, the policy objective may be to create a fairer funding system where those that benefit most from infrastructure and planning decisions pay more. This is the approach we recommend. However, government may also wish to recoup some of the cost of infrastructure, or encourage more efficient land use. Further guidance on policy development and implementation is provided in Chapter 5.

Establishing guiding principles

Together with EY, we have identified three principles that could provide guidance in determining when and how to apply value capture mechanisms:

Principle 1: Revenue potential – the extent to which the total value captured by the mechanism maximises revenue relative to the value created by the project and its total capital cost. In the case of planning decisions the value captured relative to the value uplift.

Principle 2: Equity and efficiency – the extent to which the mechanism promotes fairness through the beneficiary pays principle, and encourages efficient use of resources while not distorting economic activity.

Principle 3: Simplicity and sustainability – the extent to which the mechanism is easy to understand, administer and comply with, minimises administrative or transaction costs, and creates a sustainable revenue stream.

These principles have been applied in designing and evaluating value capture mechanisms for future project case studies and scenarios modelled in the next chapter of this paper. For the purpose of this exercise equal weight was given to each principle. In reality government would establish its policy objectives and weight these criteria accordingly.

Quantifying the benefits

Quantifying benefits helps demonstrate the advantages of value capture, but this can be challenging.

To make the case for applying value capture to any project or planning change, and to design the appropriate value capture mechanisms, it is first necessary to quantify or measure the benefits and identify who the beneficiaries are using benefit mapping or modelling. This is one of the most challenging aspects of value capture.

Various methods can be used for benefit quantification, ranging from relatively simple to highly complex. These are illustrated in Figure 2 below, which also indicates when each approach could be applied during a project's lifecycle. Guidance could be developed on which method is used when, and the minimum standards for the level or certainty for quantifying benefits required for different types of projects at different stages in the project development lifecycle – for example, in the preliminary business case and the final business case stages.

Quantifying benefits is one of the most challenging aspects of applying value capture. In practice the decision whether to target a share of project costs or a share of value uplift may be dependent on the level of certainty of quantification of project benefits. Where there are difficulties in measuring or attributing an increase in land value uplift, or the benefits of a project are widely dispersed, it may be best to target a percentage of project costs, target a lower share of value uplift, or apply the measure across a wider group of beneficiaries at a low rate.

Figure 2 Benefit quantification methods and their application

Complexity / Accuracy	LOW	MEDIUM	HIGH	VERY HIGH
Approach	Applying pre-existing parameters from similar projects in other jurisdictions.	Before/after studies of similar infrastructure investment based on comparisons.	Economic studies of past impacts of similar infrastructure options.	Hedonic price modelling- ie econometric analysis of property price determinants.
Example (evidence base)	Commercial rents from co-locating private medical services in an upgraded hospital are used to estimate similar returns for a planned new upgrade.	A comparison of industrial land value increases in an industrial precinct that benefitted from a road project, with comparable industrial estates used to estimate impacts of similar projects.	Controlling for other variables, the changes in land values at various distances from a station on a previous train line extension are used to estimate the land value uplift of a new line extension.	Controlling for other variables, the premium attached to land within a school zone for a higher-performing state school relative to average performing schools is used to estimate land value gains of investments to improve school performance.
When to apply	Should be applied prior to detailed analysis, during preliminary business case development and feasibility studies.	Should be applied prior to detailed analysis, during preliminary business case development and feasibility studies.	Can support detailed hedonic price modelling or enhance indicative estimates. Can be used in the development of business case or earlier in a preliminary business case or feasibility studies.	Should be applied in detailed quantification of land value gains during detailed business case development and in support of detailed design of value capture mechanisms.

Choosing the right mechanisms

There are a number of value capture mechanisms available and it is important to select the right mechanisms for a specific project.

Applying value capture and choosing the right mechanism needs to be assessed against an established policy framework on a case-by-case basis.

The decision to apply value capture should be based on evidence, including case studies, comparative analysis and quantification of benefits, as outlined in Figure 2.

Table 1 below provides high-level guidance on the types of mechanisms that could be applied for specific project types in Victoria.

Table 1 Types of value capture mechanisms relevant for Victoria

Mechanism	Description	Application
Developer contributions	One-off payments by property developers as a condition of development permission or rezoning. Payments are designed to recoup costs of infrastructure related to the development	<ul style="list-style-type: none"> • Most relevant in the context of planning changes to facilitate changes in land use and development, and when it can be demonstrated that infrastructure projects will lead to a material development activity in a defined precinct • Examples of when to use this type of mechanism include rezoning of land (such as from farmland or industrial land to higher value uses), new rail station precincts and urban renewal initiatives
Betterment levies	Payments by landowners regardless of development status	<ul style="list-style-type: none"> • Applicable when planning changes or investments lead to material land value gains for all new and existing properties in a defined benefit catchment • Examples of when to use this type of mechanism include betterment levies for funding transport projects, but they could also be applied in other sectors where the impact on surrounding land values can be demonstrated
Major beneficiary contributions	Negotiated contributions from parties who will be significant beneficiaries from a project (or modifications to a project)	<ul style="list-style-type: none"> • Applicable when large single beneficiaries can be identified and funding can be negotiated prior to project delivery • Examples of when to use this type of mechanism include where large asset /landowners such as airport operators, shopping centres, and owners of commercial precincts will benefit from the project
Property development, air rights, asset sales or leases	Following completion of a project (or in conjunction with project delivery), government land is sold, development rights are granted, or commercial rights and leases are created	<ul style="list-style-type: none"> • Applicable when the delivery of infrastructure creates opportunities to commercialise the use of government land or other assets • Examples of when to use this type of mechanism include where there are integrated development opportunities, such as rail station precincts, advertising rights and telecommunications services

Source: EY analysis for Infrastructure Victoria

Designing the right mechanism

When designing value capture mechanisms a number of complex design choices need to be made and settings need to be determined.

Key issues identified in this paper include the proportion of project costs to be recovered, how much value uplift the government should capture from land owners, and the reasonableness of impacts on individuals.

Table 2 overleaf describes in broad terms some of the design choices that need to be considered in developing value capture mechanisms. This table relates to developer contributions, betterment levies, property development and major beneficiary charges, but focuses on betterment levies as they are the most complex to design and implement.

Table 2 Value capture mechanism design choices and focus

Design choice	Design focus
Extent of value capture	<ul style="list-style-type: none"> • Determining the appropriate percentage of project costs to recover, or the amount of value uplift to target, is challenging and should be determined on a case-by-case basis depending on the level and certainty of project benefits and other economic and social policy considerations. This includes considering the overall tax and funding burden placed on beneficiaries. • When determining the amount of value uplift to target, a high degree of certainty in measuring and attributing value gains helps establish a clear link between government decisions and windfall gains received by beneficiaries. A higher share of uplift could be targeted, such as a 50-50 share, when there is a strong nexus, high certainty and significant windfall gains. But it is ultimately a decision for government. • Cost recovery of around 20-30 per cent of project costs could be reasonable and in line with experience in other jurisdictions. Two key sense checks are reasonableness of the impact on individuals and the portion of value uplift captured. However, a number of stakeholders consulted for this project consider that value capture has a narrow funding scope, ranging from 5-20 per cent of a project's capital expenditure. • The extent of value capture will increase if, where appropriate, multiple mechanisms are used.
Revenue base	<ul style="list-style-type: none"> • The most efficient revenue base is the unimproved (site) value of land. This should be the base for betterment levies and developer contributions targeted at value uplift.
Land use	<ul style="list-style-type: none"> • The inclusion of different land uses in the design and application of value capture funding mechanisms should be linked to the beneficiary pays principle. • If the analysis of expected benefits can be demonstrated to materially flow to individual property classes such as commercial, industrial or residential land, then there is a strong case to include these classes in mechanism design.
Geography and setting 'boundaries' (also known as defined benefit catchments)	<p>From a tax policy perspective, using geographical boundaries is undesirable as it risks creating different tax liabilities where benefits are similar. However, boundaries are required to apply value capture mechanisms by location. As such they should be determined on a case-by-case basis, using appropriate analytical tools and design capabilities. In principle:</p> <ul style="list-style-type: none"> • Boundaries should avoid being overly complex (e.g. a time or distance-constrained catchment such as a 1km 'walk' catchment). They can also be adjusted for local factors that may affect the distribution of project benefits. • Statistical boundaries (e.g. Local Government Areas (LGAs) or suburbs) and other physical barriers (e.g. major infrastructure links, roads and/or planning buffers) can also inform boundary location.
Rate structure	<ul style="list-style-type: none"> • The choice of rate structure should reflect the selection of land uses and revenue base. • Value capture or cost recovery amounts can be allocated to different areas and property classes based on the analysis of project benefits. This can lead to the development of variable rate classes, similar to the approach taken for Victoria's Fire Services Property Levy.
Timing / frequency and payments	<ul style="list-style-type: none"> • The timing of developer charges and property sales and leases should be structured around the timing of the transactions themselves, and should be adjusted to match the development profile and ensure the right risk/reward profile. • Betterment levies can be applied from the time that benefits begin to materialise, which in many cases is from or before construction starts, with duration linked to the project financing arrangements or another pre-determined timeline. • However, there may be a mismatch between when benefits are created by government decisions, when they materialise in land values and when landowners realise the gains (which is generally only upon the sale of property). It is possible to allow payment deferrals to assist landowners and developers to manage the cash flow of value capture liabilities. For example, a levy can be designed to be paid only if and when a property is sold or transferred.
Legal instrument to use	<ul style="list-style-type: none"> • Various existing legal instruments could be used for implementing a range of value capture mechanisms. It is also possible to legislate for new area-specific levies. Selecting the right legal instrument can limit unintended consequences.
Reasonableness of impact	<ul style="list-style-type: none"> • Consideration needs to be given to whether there are negative financial consequences for landowners who may not have the capacity to pay a levy or who are 'asset rich, but income poor'. The potential impacts on businesses also need to be considered. Adjustments may need to be made to the design of the mechanism for those who cannot afford to pay.
Value losses and other impacts	<ul style="list-style-type: none"> • Consideration needs to be given to whether a compensation scheme, thresholds or exemptions should be embedded in value capture mechanisms to address value losses. However, addressing value losses and other impacts could also impact the efficiency and simplicity of mechanism design.

Source: EY analysis for Infrastructure Victoria, and Infrastructure Victoria

Evaluating mechanisms

An evaluation framework helps to assess which type of value capture mechanism should be applied when, and how different mechanisms will perform relative to each other.

The evaluation framework EY used to assess value capture mechanisms for future case studies and scenarios modeled for this paper is consistent with Infrastructure Victoria's funding principles put forward in our Draft strategy. As discussed above, together with EY, we suggest the following guiding principles, against which the proposed mechanisms modelled in the following chapter have been assessed:

- revenue potential
- equity and efficiency
- simplicity and sustainability.

A simple 'traffic light' scale has been used in the following chapter to illustrate how closely the proposed mechanisms align to the principles outlined above.


See the EY technical appendix for a more detailed quantitative and qualitative assessment of each scenario.

When applying an evaluation framework, weightings would usually be assigned to the criteria best aligned to government's stated policy objectives, and a mix of quantitative and qualitative measures should be used. For the purpose of the modelling exercise undertaken for this paper, EY assumed that all the criteria were equally weighted. Further detail on the approach to mechanism evaluation can be found in the EY technical appendix to this report. The results of the more detailed evaluation of each mechanism are also included in the technical appendix.

 Low

 Moderate

 Moderate to high

 High

Source: EY analysis for Infrastructure Victoria



4. TESTING VALUE CAPTURE FOR FUTURE SCENARIOS

Demonstrating possible mechanisms and approaches

Infrastructure Victoria engaged EY to examine value capture and test applying different mechanisms to some future projects and scenarios based on options considered in our Draft strategy to provide an illustration of the application of value capture.

Applying the principles, approach and evaluation process outlined in the previous chapter of this paper, EY assessed the revenue potential of value capture mechanisms and demonstrated possible approaches to mechanism design on a project-by-project basis.

To model these case studies a range of assumptions and choices were made about which mechanisms to apply and what mechanism design to use. Project implementation assumptions were also made about design, timing and cost which are illustrative only for the purposes of scenario analysis.

Modelling scenarios and projects in this paper does not mean that Infrastructure Victoria endorses or recommends a project or that value capture should be used. This modelling does not change our analysis, the Benefit Cost Ratios calculated for our Draft strategy or our recommendations. You can find our recommendations in the Draft strategy, available on our web-site.

The modelling exercises for this policy paper help demonstrate the impact of value capture mechanisms and their design. They are not definitive or suggested for actual project application. Further work and detailed modelling based on detailed business cases and project design on a case-by-case basis would be required to inform an investment decision.

EY's evaluation identified complementary mechanisms that could form a value capture strategy for each of the case studies or scenarios considered. These mechanisms, the estimated total of the project costs they recover and per cent of value shared are summarised in Table 3 overleaf. The results of the modelling undertaken for each project is described in the following sections, and more detail is provided in EY's technical appendix to this paper.



Table 3 Future scenarios: value capture strategy, estimated project cost recovery and share of benefits

Future scenario	Value capture strategy (package of complementary mechanisms)	Cost recovery# (%, PV)*	Share of benefits# (%, PV)*
Melbourne Metro 2	1. Developer contribution	6%	7%
	2. Betterment levy – rate on full property value in LGA corridor	25%	31%
	3. Property development, sales and leases	1%	n/a
	Total	32%	~39%
Outer Metropolitan Ring Road (OMR)	1. Developer contribution	12.5%	11%
	2. Betterment levy – rate on full property value in LGA corridor	12.5%	11%
	Total	25%	22%
Rezoning of industrial land near a train station	1. Developer contribution – share of value gains	n/a	50%
Public housing asset rationalisation and refurbishment	1. Property development – returned asset	100%	n/a
Major hospital redevelopment	1. Property development – commercial leases	<10%	n/a
Commitment to a new school in an urban growth area	1. Developer contribution – accelerated GAIC	40%	2.7%
	2. Developer contribution – uplift sharing	25%	1.8%
	Total	65%	~4%

Source: EY modelling undertaken for Infrastructure Victoria

Cost recovery refers to the share of project costs recovered by the value capture mechanism.

Share of benefits refers to the proportion of value uplift created by the project or planning decision collected by the mechanism.

* Present values were calculated using the Victorian Government's standard discount rate of 7% (real) and 9.7% (nominal, assuming 2.5% inflation).



FUTURE SCENARIO 1

MELBOURNE METRO 2

The project

Melbourne Metro 2 (MM2) would create a new Metro-style train tunnel through the Melbourne CBD connecting Clifton Hill with Newport via Parkville, Southern Cross Station and Fishermans Bend. The new Metro service would provide additional capacity between Clifton Hill and Southern Cross, allowing more services on the Mernda rail line, and new capacity between Newport and Southern Cross Station, allowing more direct Wyndham Vale (Werribee) line services.

The total capital cost of the MM2 project is estimated to be in the range of \$15-22 billion (in 2016 real dollars), for this exercise a cost of \$19 billion has been assumed. Construction is assumed to occur over 6 years, from 2034 to 2040, followed by a 50-year operational period.

This scenario is based on the Melbourne Metro 2 (MMS) option considered in the Draft strategy. However, the timing, design and costings used for the modelling in this paper are illustrative only, does not change our analysis or its benefit cost ratio, and are not recommendations.

The benefits

The project would provide significant direct benefits to public transport users along the MM2 corridor, improved access to central employment areas for people in western and northern Melbourne, and reinforce the CBD and surrounds as a premium business location.

Because MM2 would provide a mix of benefits related to new stations and service upgrades, estimating the land value gains attributable to the project requires consideration of how property values vary relative to proximity to rail stations and services offerings (e.g. frequency, journey times and reliability).

Analysis of similar rail projects in other jurisdictions shows a clear relationship between house prices and proximity to railway stations (see Appendix B) and the literature suggests that residents are willing to pay a premium to remain close to a railway station due to the higher accessibility of the location. The benefits diminish gradually and are negligible beyond around 1,000m (i.e. 1km). Studies also show that land value gains will occur from the time the project is committed to and increase through the construction and operational phases.

See overleaf for maps of the benefit catchments modelled by EY for this case study.

Total indirect land value and tax gains

Land value uplift has been estimated for a defined benefit catchment for MM2 that is 1,000m from the rail corridor. In most cases this is equal to approximately 1,000m from new railway stations along the corridor. The total land value uplift could be around \$20 billion in real terms at the time that the project is assumed to commence operations. However, it should be noted that there could also be value losses for some land owners in the corridor that have not been accounted for here, but would need to be considered by government.

Additional value gains are also likely for the Commonwealth and Victorian Governments through higher tax collections brought about by the impact of the project on wider economic productivity and incomes. For illustrative purposes, based on EY analysis of the business case for Melbourne Metro Stage 1, and depending on the level of transport benefits and economic agglomeration, driven by the project, these benefits could be in the order of 15 per cent to 35 per cent of the cost of the project in present value terms. The largest share of this is likely to flow to the Commonwealth Government.

Western and northern rail catchments

MM2 would deliver direct benefits from more frequent, reliable and direct access along the western and northern rail corridors to employment and other activities in central Melbourne.

EY estimates that properties within a catchment area of 1,000m from railway stations could experience an average uplift in land values of around 12.5 per cent in the western rail corridor and around 6.3 per cent in the northern rail corridor. This estimate means that, at the time the project opens, land values along these corridors could be almost \$8.3 billion higher in real terms.

Fishermans Bend catchment (Montague and Wirraway)

New stations at Montague and Wirraway in Fishermans Bend would provide a step-change increase in public transport connectivity for this precinct, enhancing access to labour markets across Melbourne and other key employment centres, particularly the CBD and Parkville.

EY estimates that properties within 1,000m of train stations are expected to benefit by an average increase of 17.2 per cent, in land values. Significant changes in land use and density are also anticipated. For example, it is estimated that land values in the Fishermans Bend area could increase by a total of \$7 billion in real terms by the time the project commences operations.

Central catchment (CBD, Southbank and Docklands)

These areas would experience modest increases in rail connectivity given the high levels of service already in place. With MM2, entry capacity during peak times to the CBD would increase, allowing more employees, shoppers and visitors to enter the central city, which increases commercial profitability, rents and land values. The western end of the CBD (Southern Cross/Docklands and Flagstaff) would likely benefit most. The project would also significantly improve rail connectivity for North Fitzroy. However, the extent of land value gains are likely to be relatively lower at around 6.3 per cent, given the marginal increase in services provided in these areas. It is estimated that land values in established parts of the CBD and the inner north could increase by \$4.2 billion in real terms by the time the project commences operations.

Value capture mechanisms

Eight value capture mechanisms were considered for MM2, including one developer charge, six betterment levy mechanisms and a property development mechanism. A major beneficiary contribution was not considered, as no major beneficiaries were readily identifiable.

There is a threshold issue with the design of developer contributions and betterment levies to fund major rail projects in relation to the revenue raising objective. Options include capturing a share of value gains or raising a share of project costs. For the latter option, the funding of Melbourne's City Loop and the London Crossrail project provide useful case studies. For the City Loop, revenue to be raised from land value capture was initially equivalent to 50 per cent of project costs (half from the City of Melbourne and half from the rest of Melbourne), although the mechanism was withdrawn earlier than expected. The London Crossrail project is set to raise nearly 25 per cent of project costs from businesses located across Greater London, with concentrations in locations near the rail corridor.

The appropriate setting of rates is ultimately a decision for government. If perfect information is available and the ability exists to levy mechanisms that target uplift, EY considers that seeking to share 50 per cent of value gains is a principled starting point, considering real examples of tax and value capture mechanisms where this is the stated revenue raising objective. However, in this paper a more practical approach has been taken to modelling the MM2 developer charge and betterment levies. For the developer charge, rates are based on considerations of property market yields and the potential impact of charges on different land uses. For the betterment levies, which are applied to forecasts of unimproved land values in the benefit catchments instead of uplift, the rates have been set to achieve 25 per cent cost recovery.

EY assessed the eight value capture mechanisms against the criteria of revenue potential, equity and efficiency, and simplicity and sustainability and identified four preferred mechanisms:

- **Developer contribution** – this charge aims to share value gains associated with the increased residential and commercial densities that are likely to occur as a result of the project along the rail corridor in defined benefit catchments. The rate would be applied to new residential apartments (at a flat rate of \$3,000 per apartment) and new commercial floor space (at \$30 to \$100 per square metre) developed within 1,000m from rail corridors which equates to approximately 1,000m from train stations. The mechanism would be in place for 30 years from the time of announcement.
- **Betterment levy (rate on full value of property in the defined benefit catchment)** – this levy also aims to recover 25 per cent of project costs from beneficiaries within a defined benefit catchment, applied to all residential and commercial properties within 1,000m of the rail corridor, which in most cases is approximately 1,000m from train stations. In the first year of operation, the average rate would be \$435 on residential properties and \$21 and \$10 per square metre for commercial and industrial properties respectively in real terms. The levy would be in operation for 30 years, with no deferrals or exemptions assumed.
- **Betterment levy (rate on full value of commercial and residential property in the Melbourne LGA and residential property in the other corridor LGAs)** – this levy also aims to recover a share of project costs. A fixed site value rate would be applied to commercial properties in the City of Melbourne based on recovering 12.5 per cent, and to all residential properties in LGAs that contain the MM2 alignment including the City of Melbourne, also covering 12.5 per cent of the project cost. In the first year of operation, the average rate would be \$184 on residential properties and \$6 per square metre for commercial and industrial properties. This levy would also be in operation for 30 years from the start of project construction, with no deferrals or exemptions assumed.
- **Property development, sales and leases** – to exploit commercial opportunities associated with new train station developments, air and development rights over and around the new station areas could be sold and/or commercial leases could be granted in station facilities.

Map 1: Western rail catchment



Map 3: Fishermans Bend catchment



Map 2: Northern rail catchment



Map 4: Central catchment











* These are assumed corridors for the purpose of scenario analysis and modelling only.

Evaluation results

EY identified a value capture funding strategy that implements three complementary mechanisms simultaneously – a developer charge, a betterment levy, and property development, sales and leases (Mechanisms 1, 3 and 4 in the table below) and found that this would capture 32 per cent of project costs and approximately 39 per cent of the estimated value uplift.

The results of the evaluation of the preferred value capture mechanisms are summarised in the table below. A full description of the evaluation of all eight mechanisms considered for MM2 is provided in the EY technical appendix to this paper.

Table 4 Evaluation of preferred mechanisms considered for MM2

Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Developer contribution	6% cost recovery 7% of benefits captured	 Moderate	 Moderate to high
Mechanism 2: Betterment levy – rate on full value of property in the defined benefit catchment	25% cost recovery 31% of benefits captured	 Moderate to high	 Moderate to high
Mechanism 3: Betterment levy – rate on full value of commercial and residential property in the Melbourne LGA and residential property in the other corridor LGAs	25% cost recovery 31% of benefits captured	 Moderate to high	 High
Mechanism 4: Property development, sales and leases	1% cost recovery % of benefits captured n/a	 High	 Moderate

Source: EY modelling for Infrastructure Victoria

Key findings

- The EY modelling indicates that significant revenue can still be recouped through developer charges, property development rights and leases. These mechanisms can form part of any infrastructure funding strategy that seeks to make more of value capture.
- Betterment levies are likely to generate a more substantial contribution towards project costs. However, targeted betterment levies are complex to apply. Targeting a wider catchment simplifies the design and administration of the mechanism, but reduces the direct link or ‘nexus’ between benefits and funding.
- The Mechanism 2 betterment levy was designed to recover 25 per cent of project costs through a rate on properties in defined project catchments. This could include the 1,000m catchments modelled in this study or refined catchments that reflect local characteristics along the rail lines (such as natural and physical barriers to ‘ring-fence’ value gains) and potentially result in variable rate structures, similar to the Fire Services Property Levy.
- The Mechanism 3 betterment levy may simplify the choice of boundaries to the borders of the LGAs through which the MM2 will pass. It was also designed to recover 25 per cent of project costs, with 12.5 per cent allocated to commercial properties in the City of Melbourne and the other 12.5 per cent collected from residential properties in relevant LGAs. Payments are based on shares of unimproved land values in the combined catchments. From a tax policy perspective, this mechanism performs slightly better as it greatly simplifies the selection of boundaries and broadens the tax base. As such, Mechanism 3 was included in the value capture strategy.
- Either of the betterment levy mechanisms could form part of a value capture funding mix for the MM2 (or some other major project) that also includes developer contributions, property sales and leases. This revenue could complement funding contributions from general government revenue and the application of user charging regimes

FUTURE SCENARIO 2

OUTER METROPOLITAN RING ROAD (OMR)

The project

The Outer Metropolitan Ring Road (OMR) would provide a 100km high-speed transport link from Werribee to Thomastown via Rockbank, Diggers Rest, Mickleham, Donnybrook and Epping. Current planning for the corridor provides options for a freeway standard road carrying up to four lanes of traffic in each direction and capable of ultimately becoming a six-lane freeway standard road elsewhere. Ultimately, this would enable the road to include freeway-to-freeway and freeway-to-arterial road access points at grade-separated interchanges.

The OMR project is estimated to cost in the range of \$9-13 billion (in 2016 real dollars). For this exercise, the assumed cost is \$11 billion, with construction taking 4 years and operations commencing in 2035.

This scenario is based on the Outer Metropolitan Ring Road (OMR) option considered in the Draft strategy. However, the timing, design and costings used for the modelling in this paper are illustrative only, does not change our analysis or its benefit cost ratio, and are not recommendations.

The benefits

Once complete, the OMR will improve links between residential areas and employment centres and corridors in the north and west of Melbourne, including the fast growing municipalities of Hume, Melton, Whittlesea and Wyndham.

It would also provide economic and social benefits to Melbourne's outer northern and western regions by reducing travel times, improving the efficient movement of freight and increasing access to key transport nodes, freight gateways and employment and activity centres in the middle and outer metropolitan suburbs. Key beneficiaries would include existing commercial and industrial properties across the project's catchment. Other landowners with good access to the OMR would also benefit as the project would be a major catalyst for the activation of residential, commercial and industrial land along the corridor, following similar patterns of development that have occurred alongside the M80 and EastLink (see Appendix B).

EY estimates that if price gains were to materialise in the broader catchment for the OMR similar to those that occurred for EastLink and other major roads in Sydney and Brisbane, then land value gains at the time of opening would be in the order of \$3.6 billion in real terms (2016 dollars).

As land is activated along the corridor, land values are particularly likely to rise in locations near the major radial arterials that would cross the OMR. To evaluate this potential benefit, EY has identified a benefit catchment that fits within a 2km radius of the OMR, which is consistent with the Melbourne urban growth boundary and aligns broadly with observed development around the M80 and EastLink.

Using the Victorian Government's detailed population and employment forecasts, EY estimate that along the corridor an additional 55.5 million m² could be made available for residential use, 940,000m² for commercial and 510,000m² for industrial from 2028 to 2060. This is equivalent to \$24 billion in additional land value in real terms, based on the difference in developable and englobo land values* that are projected to rise in line with forecasts of nominal Gross Domestic Product (GDP), with benefits flowing to current landowners, with the timing of the benefit along the corridor subject to planning changes and market demand.

Value capture mechanisms

Two mechanisms were modelled for the OMR example:

- **Developer contribution on beneficiaries within the 2km radius of the OMR** – noting that while much of the land in the area directly surrounding the OMR may be subject to the GAIC on the basis of scheduled rates, there is merit in considering an additional mechanism that targets value gains realised at the time the land is developed given the significant benefits of the OMR, including land activated for residential, commercial and industrial uses. The mechanism EY applied in this analysis is based on recovering 12.5 per cent of the project costs within a defined project area (in line with the cost recovery rate applied for the betterment levy below), with the catchment set at 2km from the OMR for those sections inside the urban growth boundary. For modelling purposes a levy based on a lower proportion of project costs was adopted to better reflect the lower average land values and capacity to pay in other areas. This reflects the need to consider value capture on a case-by-case basis.
Average annual rates paid under this mechanism in real terms would be \$61 per square metre for residential properties and \$72 and \$18 per square metre for commercial and industrial properties respectively.
- **A betterment levy (rate on full value of property in LGA corridor)** – which would aim to recover 12.5 per cent of project costs from all commercial and industrial landowners in the local government areas of Whittlesea, Hume, Melton and Wyndham (the beneficiaries across the broader catchment that could expect to receive significant land value gains). It applies a fixed single rate (based on a share of site value) levied for 30 years from the start of project construction. For the betterment levy, the annual rate would be \$8 per square metre for commercial and industrial properties only.





* Englobo land is land that is undeveloped (or has minimal development) and is largely unserviced, but that has been zoned to allow for subdivision into smaller parcels. The term usually refers to large parcels of land that could be subdivided into at least five lots.

A lower cost recovery rate was modelled for the OMR than Melbourne Metro 2 and other case studies to reflect the lower average land values in growth areas and other outer suburban areas. Applying a higher rate would risk capturing revenue amounts that are higher than benefits received, creating an unfair burden on beneficiaries.

Evaluation results

The results of the evaluation of these mechanisms are summarised in the table below. A full description of the evaluation of this option is provided in the EY technical appendix to this paper.

Table 5 Summary of evaluation results for the Outer Metropolitan Ring Road

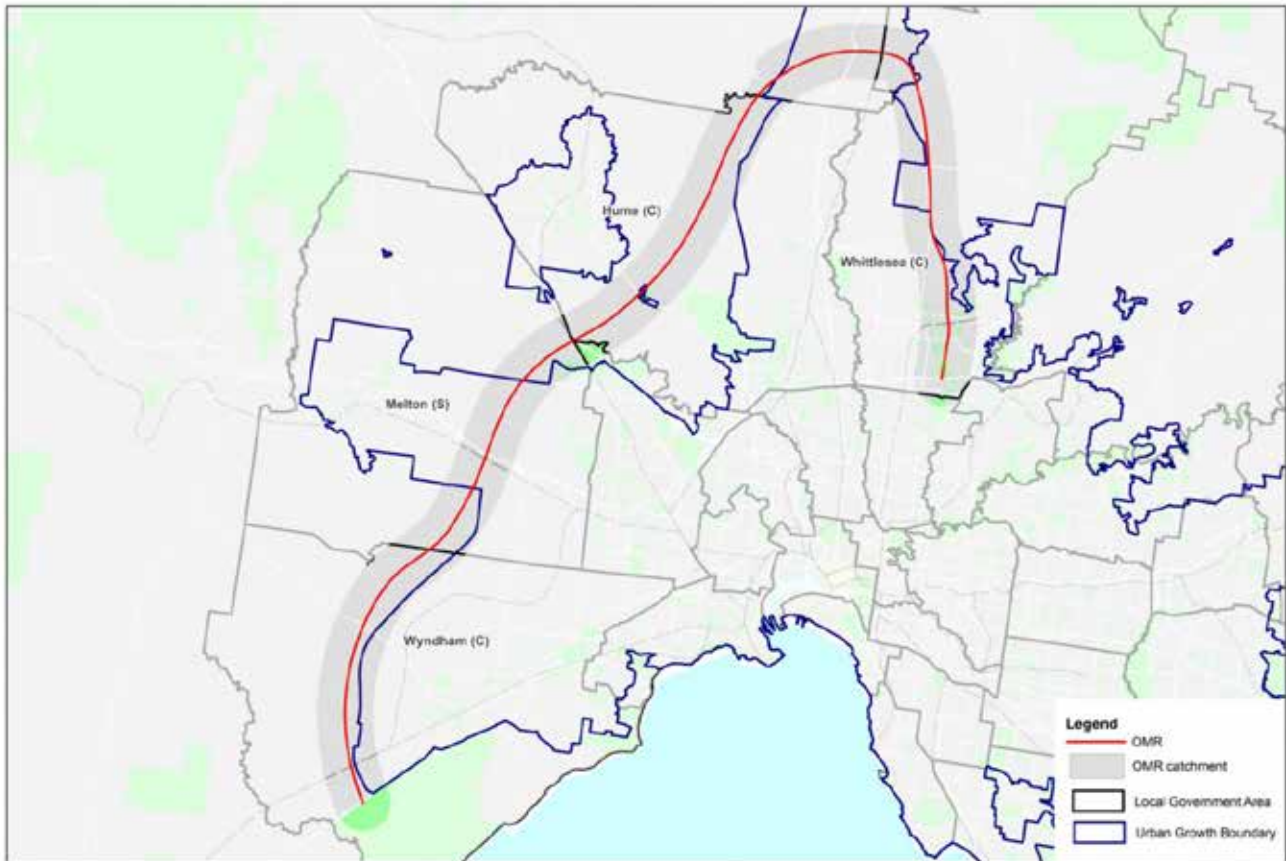
Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Developer contribution	12.5% cost recovery 11% of benefits captured	 Moderate to high	 Moderate to high
Mechanism 2: Betterment levy – rate on full value of property	12.5% cost recovery 11% of benefits captured	 Moderate to high	 High

Source: EY modelling for Infrastructure Victoria

Key findings

- Both mechanisms have merit and warrant further consideration for funding the project or other similar major road investments. The developer contribution would target the largest value gains for land subsequently developed, but involves the use of a defined project area that may create boundary issues. The betterment levy is simple as it would apply to a broad catchment to keep rates low – but it means that beneficiaries receiving the largest value gains only pay a small percentage of those gains and those who only receive very low or zero benefits are required to pay. As such, this option is more like a sub-regional land tax.
- A suggested value capture funding approach could include both mechanisms, where the area subject to the developer charge could be excluded from the betterment levy area to avoid doubling up payments. This complementary value capture strategy would yield nominal revenue equivalent to 25 per cent of project costs in present value terms and a 22 per cent share of benefits.
- This evaluation suggests that value capture mechanisms may offer an opportunity to raise significantly more than would be raised in similar conditions under the GAIC. This is the result of targeting a level of cost recovery for the OMR instead of adhering to prescribed GAIC rates that are set to notionally recover 15 per cent of projected state infrastructure costs.

Map 5 OMR/E6 transit corridor catchment



* This is an assumed corridor for the purpose of scenario analysis and modelling only.



FUTURE SCENARIO 3

REZONING OF INDUSTRIAL LAND NEAR A TRAIN STATION

The planning change

This is a hypothetical scenario that considers changes to planning regulations to enable 'highest and best use' development for an industrial precinct located along the Dandenong rail corridor.

The precinct comprises 70 hectares of industrial zoned land around rail stations near the Monash National Employment Cluster. For the purposes of this evaluation, EY has assumed a steady change from industrial use to mixed use development over a period of around 20 years – from announcement in 2020 to completion in 2039. This scenario is based on the Strategic transit-oriented centres and corridors (STO) option considered in the Draft strategy. Transit-oriented development is the intensification of housing and businesses around existing (or proposed) major public transport infrastructure. Any such changes to planning controls should be based on sound planning policy and principles, not revenue raising. The scenario modelled in this paper is hypothetical only, for illustrative purposes and is not a recommendation.

The benefits

The benefits of this option relate almost entirely to increases in land value due to the rezoning of industrial land to commercial land. These increases are realised by existing landowners selling land to developers or by self-developing and selling/leasing land to the ultimate users of that land.

Property values are partly controlled by government decisions in relation to land use regulation. Changing the permitted use of land to a higher value use will benefit property owners by the difference in the market value of land between the lower and higher value use. This can have a significant bearing on land values. For example, based on the analysis of observable market rates within an established area such as Clayton, commercially zoned land is approximately 67 per cent higher than equivalent industrial zoned land (around \$5,000/m² for commercial land versus \$3,000/m² for industrial land).

Based on development trends across similar precincts in Melbourne, we estimate that the decision to rezone land from industrial to commercial use would lead to the land being converted to commercial use over a period of 20 years.

Overall, EY has estimated that an uplift in land values of approximately \$2.7 billion in real terms would be generated by the time this occurs (noting that this estimate assumes underlying land value growth in line with nominal GDP).

Value capture mechanisms



These value gains can be captured through a betterment levy over time or through a developer charge at the time of development. However, for this assessment, EY chose to apply a **developer contribution** because it is relatively straightforward, closely matches the timing of benefits and does not require the creation of a project-specific mechanism that would need to be in place over a longer timeframe.

The mechanism applied by EY in this analysis is based on capturing 50 per cent of value gains in a defined project area, payable by the developer (according to the usual triggers under the Victorian planning system). This approach is based on sharing the gains on values which accrue to individuals and developers from planning changes. In effect, this approach would reduce the price that developers can pay the original landowners, with the remainder of the uplift returned to the state.

Evaluation results

The results of the evaluation of this mechanism are summarised in the table below. A full description of the evaluation of this option is provided in the technical appendix to this paper.

Table 6 Summary of evaluation results for rezoning of industrial land near a train station

Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Developer contribution – share of value gains	% of project costs n/a 50% of benefits captured	 High	 Moderate to high

Source: EY modelling for Infrastructure Victoria

Key findings

- This option demonstrates there is considerable merit in applying value capture mechanisms to recoup the value transferred to landowners by rezoning, due to the differential in industrial and commercial land values.
- Significant windfall gains can be created when property is rezoned. Applying a developer contribution mechanism to capture a portion of this value would raise significant revenue for the state in a way that is fair and efficient, and not overly complex to administer.
- This mechanism would not impact adversely on economic efficiency if it is communicated upfront as part of the rezoning initiative.
- If a planning change was to be coupled with major infrastructure investment or upgrade the value created would also increase thereby providing greater value capture potential.

FUTURE SCENARIO 4

PUBLIC HOUSING ASSET RATIONALISATION AND REFURBISHMENT

The project

At a number of social housing sites in Victoria, the housing takes up only a small proportion of the land with the remainder of the site being significantly underutilised. However, we note that we do not consider the use of land for playgrounds, community activities and sports as poor utilisation of the land. The scenario modelled here examines increasing and improving the asset base of an existing public housing estate through an alternative asset development model. This scenario is based on the Public housing asset rationalisation and refurbishment (SHA) option considered in the Draft strategy. However, the scenario modelled in this paper is hypothetical only, for illustrative purposes and is not necessarily how IV's draft recommendation on SHA should be implemented.

The benefits

By transferring the rights of the surplus or underutilised land to developers, the landowners (in this instance, the government department responsible for social housing) benefit from the windfall due to increased land values and integrated delivery. This would enable the department to meet growing demand for social housing, with the option to redirect other funds to the refurbishment of the high-rise public housing tower.

This assessment considers how the underlying value of surplus department-owned land could be developed in partnership with a registered community housing provider to fund the delivery of new community housing stock. The project assumes that 30,000m² of surplus land is made available to community housing providers who license a developer to deliver new social housing stock on half the site (15,000m²) with an allowance for private housing on the balance of the site (15,000m²). The underlying value of the land captured by the registered community housing provider funds the construction of new and improved social housing stock at no extra cost to the state.

The state retains ownership of the new social housing stock and land with the community housing provider managing the stock and tenants.

Development capacity of the estate is estimated to be around 450 new social housing dwellings on half (15,000m²) of the surplus land at a construction value of \$72 million, with the remainder of the site (15,000m²) developed for private use.

Through this arrangement, the delivery of new social housing stock is fully funded by private unit sales, noting that the transaction process for the land would be subject to approval from the Government Land Monitor and independent valuation by the Valuer General. While this removes the option to use this land for other purposes in the future, it creates a funding stream to accelerate the delivery of new social housing assets.

However, depending on the situation, the value of this option therefore depends on the value of the land sold and to costs and risks faced by the developer.

Value capture mechanisms

One mechanism was considered for this scenario:



- **Property development (returned asset)**
 - to fund additional social housing through unlocking the site's full potential. Half the site (15,000m²) is to be sold for private use, with 450 new social housing dwellings also returned to the state.

This could be implemented using a range of different procurement approaches, including a Public Private Partnership (PPP) model, which have not been explored in this modelling.

Evaluation results

The results of the evaluation of this mechanism are summarised in the table below. A full description of the evaluation of this option is provided in the technical appendix to this paper.

Table 7 Summary of evaluation results for public housing asset rationalisation and refurbishment

Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Property development – returned asset	100% of project costs % of benefits captured n/a	 High	 High

Source: EY modelling for Infrastructure Victoria

Key findings

- This option highlights the potential significant benefits that could be generated from integrating public and private housing stock and leveraging underused assets to fund infrastructure upgrades.
- Applying a property development mechanism in this situation would save the state considerable expenditures on social housing and improve the use of social housing land and assets. It would achieve greater integration of social housing with general residential and other land uses, as well as increasing the use of available land in central Melbourne.
- Embedding this type of commercial approach to asset investment and management could yield benefits across the Victorian Government’s portfolio of social services.

FUTURE SCENARIO 5

MAJOR HOSPITAL REDEVELOPMENT

The project

In the future inner Melbourne's major hospital facilities will need to provide for increased demand due to statewide population growth and also from new inner city residential development areas, such as Fishermans Bend. To meet this demand, this scenario assumes a \$500 million expansion to a major inner city hospital accommodated in 50,000 square metres of new development. Construction is assumed to start in 2035 and be completed by 2040.

This scenario is based on the Major hospital redevelopments (THR) option considered in the Draft strategy. THR provides for major public sector hospital development projects over the next 30-year period. However, the scenario modelled in this paper is hypothetical only, for illustrative purposes and is not a recommendation.

The benefits

When a new hospital is built or an existing hospital expands, the surrounding area often changes as new businesses – such as private clinics, consulting suites and medical supply companies – move into the area to take advantage of the increase in demand for goods and services generated by the growth in hospital-related activity. This increases the demand for land near the hospital, as surrounding commercial land values increase and developers move quickly to provide new commercial space.

For the purposes of this example, EY identified commercial land parcels with main road frontages in the area surrounding the hospital as likely candidates for potential uplift – an area of around 24 hectares.

While there is evidence of a significant premium for commercial land near major health facilities (50 per cent or more in some places – see Appendix B), a challenge with this option is that existing land values already reflect a large portion of the potential uplift due to the existence of the hospital before the upgrade.

Rather than estimate a precise uplift, EY has assumed conservatively that the expanded hospital could provide a further 5 per cent increase in land value. In real terms, this is equivalent to \$120 million (2016 dollars) in 2040 when the upgrade is completed.

Commercial value can also be created within new hospital developments through leasing to commercial parties. This can also help to attract and retain services that benefit from co-locating at the hospital and increase the services offered at the hospital. For this study, EY assumed that the hospital project includes 6,000m² of available floor space for lease.

Value capture mechanisms





Two mechanisms were considered:

- **A betterment levy (rate on full value of property)** – set to capture 50 per cent of the value uplift within the defined catchment area. EY considered that this approach was more appropriate than attempting to recover a share of project costs, given the relatively small catchment area and the lower level of land value benefits that are expected to flow to nearby commercial properties relative to project costs. Payments are based on a rate calculated on underlying site values, with the levy assumed to commence in 2035 and operate for 30 years until 2064.
- **Property development** – in this instance, leasing the entire development to commercial parties, based on current market data.

Evaluation results

The results of the evaluation of these mechanisms are summarised in the table below. A full description of the evaluation of this option is provided in the technical appendix to this paper.

Table 8 Summary of evaluation results for major hospital redevelopment

Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Betterment levy – rate on full value of property	10% of project costs 50% of benefits captured	 Moderate to high	 Moderate
Mechanism 2: Property development – commercial leases	Less than 10% of project costs % of benefits captured n/a	 Moderate to high	 Moderate to high

Source: EY modelling for Infrastructure Victoria

Key findings

- In this option, both value capture mechanisms are likely to make only a very small contribution to a project.
- While the revenue potential of the betterment levy is higher than the commercial leases, this mechanism may be challenging to implement because of the issues associated with demonstrating clear land benefit uplift.
- The commercial lease raises a much smaller level of revenue, but also delivers benefits in relation to attracting private hospital and support services to co-locate at a public health facility and therefore is the preferred strategy in this scenario. This mechanism carries risks related to the delivery and feasibility of the development, but these could be readily identified and managed as commercial lease arrangements are common practice.

FUTURE SCENARIO 6

COMMITMENT TO A NEW SCHOOL IN AN URBAN GROWTH AREA

The project

In this hypothetical scenario EY assumed that a new school has been committed to in the Clyde North urban growth area in south-east Melbourne. The school catchment area is 100 hectares servicing 8,750 new homes. Development and construction costs for the school are estimated to be \$20 million over five years.

This hypothetical scenario is based on the School infrastructure funding certainty (SIF) option considered in the Draft strategy. The SIF option would require the government to publish a proposed plan for school capital works (new and upgrades). However, the scenario modelled in this paper is hypothetical only, for illustrative purposes and is not a recommendation.

The benefits

In newly developing areas, a committed new school has been shown to improve the attractiveness of residential properties within the school's catchment areas and the value of residential properties (see Appendix B). This suggests that providing greater certainty and bringing forward school investments will increase the present value of developer investment.

To calculate the value created by a new school in the Clyde North urban growth area, EY has assumed that the upfront delivery of a primary school would lead to an accelerated rate of lot sales and an accelerated rate of supplementary levy income (relative to a base case).

Using this approach delivers a timing benefit by bringing forward GAIC/developer contributions (around \$5,000 per lot), worth around \$4 million in present value terms.

The value that could be created if the provision of the school increases the value of residential lots was also considered, with a premium of \$50,000 for a standard housing lot assumed as a conservative approach. This translates to additional value created of \$350 million in real terms.

Value capture mechanisms





Two mechanisms were considered for this scenario:

- In this scenario, the gains will be realised by developers or those holding the land in anticipation of future development. This means that the most relevant mechanism is a **developer contribution, which would already be in place through the GAIC**. Putting forward plans and funding in place for a new school would support the acceleration of residential property sales, which provides a revenue timing benefit for the State. This will happen automatically under the GAIC.
- **Developer contribution** – this would share the value gains associated with the provision of school infrastructure in residential growth areas. To test this mechanism, we have targeted the contributions to capture 25 per cent of the costs of the school.

Evaluation results

The results of the evaluation of these mechanisms are summarised in the table below. A full description of these results is provided in the technical appendix to this paper.

Table 9 Summary of evaluation results for commitment to a new school in an urban growth area

Mechanism	Evaluation results		
	Revenue potential (% , PV)	Equity and efficiency	Simplicity and sustainability
Mechanism 1: Developer contribution – accelerated GAIC	40% of project costs 2.7% of benefits captured	 Moderate	 High
Mechanism 2: Developer contribution – share of value gains	25% of project costs 1.8% of benefits captured	 High	 Moderate to high

Source: EY modelling for Infrastructure Victoria

Key findings

- Revenue benefits can be automatically generated by improved upfront planning and infrastructure delivery coordinated with residential development in growth areas. In this case, 40 per cent of the infrastructure cost could be recouped through this timing benefit.
- More significant value gains are possible through the design and application of revenue mechanisms that are targeted at increases in surrounding land values as a result of new infrastructure (in this case, a school). While the design and administration of such a mechanism is not overly complex, it would require establishing new revenue-raising arrangements in the context of the GAIC and other contributions.
- If designed carefully, these mechanisms may offer an opportunity to generate additional revenue for vital infrastructure such as schools, parks and community facilities, especially in high growth areas.

SUMMARY OF RESULTS

Overall, the results of the evaluation of the modelling undertaken by EY indicate that:

- A mix of mechanisms could be suited to the future scenarios. Additional benefits could come from packaging a number of different complementary mechanisms in the value capture strategy for a project.
- While developer contributions were assessed as being able to make a significant contribution to project funding, these could be enhanced by better targeting value gains due to planning changes and infrastructure provision where the benefits can be clearly demonstrated (for example, in greenfield areas).
- The application of betterment levies for major infrastructure projects, such as Melbourne Metro 2, significantly increases value capture's funding potential, with the recovery of up to around 25 per cent of project costs modelled in the betterment levies designed for this evaluation for illustrative purposes. It should be noted that the level of cost recovery or uplift sharing is a mechanism design consideration and ultimately a matter for government to determine on a case-by-case basis.
- Property development and other commercial opportunities can also make a positive contribution while enhancing project outcomes, although their revenue potential is relatively limited.

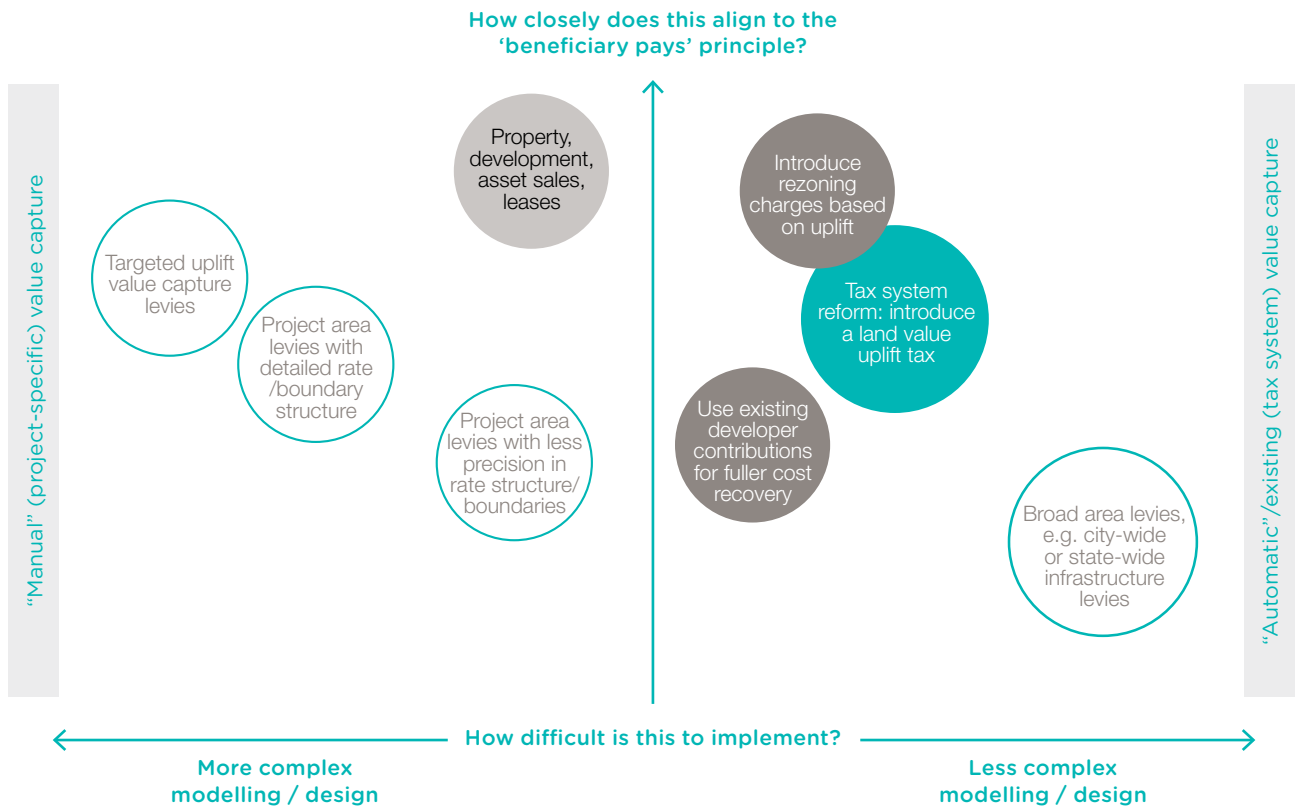
OUR FINDINGS

Our research and the results of EY's testing of value capture mechanisms for future projects and scenarios has led us to the following conclusions:

- The increasing pressure on governments to deliver sustained and significant infrastructure investment programs means that relying on traditional funding sources (such as user pays and direct government funding contributions) can only form part of the funding solution.
- An alternative funding approach such as **value capture provides an opportunity for governments to increase their capacity to deliver infrastructure and improve the fairness and efficiency of the funding mix.**
- A range of mechanisms are available to capture the windfall gains realised by private landowners from infrastructure investment and planning changes, potentially increasing the funds available for infrastructure projects and boosting economic activity.
- Value capture mechanisms need to be designed carefully and tailored for each project.
- **Greater use could be made of value capture mechanisms in Victoria.** There is no single 'right answer' for what an overall value capture policy for Victoria should look like: that is ultimately a question for Government. However, more can be done with currently available value capture mechanism as well as exploring new mechanisms.
- In particular, **land betterment levies offer the opportunity to generate increased funds for major projects in Victoria**, and opportunities for major beneficiary contributions should also be explored.

The evaluation of future projects undertaken for this paper indicates that selecting the right mechanism for the specific project and then making the best design choices for that mechanism will depend upon a number of factors. But it is important to recognise that value capture mechanisms applied to specific projects require more complex modelling and more carefully considered design than 'automatic' or broader-based mechanisms, as illustrated in the figure below. This means that **having access to accurate data is particularly critical to the successful implementation of these mechanisms.**

Figure 3 Implementing value capture mechanisms



5. PRACTICAL NEXT STEPS FOR VICTORIA

Move towards greater use of value capture

A spectrum of options is available for increasing the use of value capture. This includes ‘business as usual’ through to broader tax reform.

As you move along the spectrum, these options have increasing degrees of commitment to the beneficiary-pays funding principle and involve different goals and ways to capture value. They are illustrated in Figure 4 below and further details are provided in Table 10.

We recommend that the Victorian Government consider Options 2, 3 and 4 to help fund future infrastructure and improve the equity and efficiency of the funding mix. This includes enhancing value capture by using currently available mechanisms more often (Option 2) to going further by adopting a ‘beneficiary pays principle’ approach when applying and enhancing developer contributions and property development (Option 3). Option 4 extends value capture and the ‘beneficiary pays principle’ in Victoria by introducing land betterment levies and major beneficiary contributions.

Our research has not assessed in detail the more extensive changes to the tax and funding system in Options 5 and 6. They are still legitimate ways to increase government’s capacity to deliver infrastructure and further improve the equity and efficiency of the funding system. The government could consider these options further as part of a long-term approach to infrastructure funding and tax reform.

In designing any future value capture mechanisms such as betterment levies, a key consideration is how the new measures will work with broader tax reforms that may be pursued in the future. This should be considered when considering value capture mechanism design and legislation or other implementation tools used to enact new levies or charges.

Figure 4 Spectrum of value capture implementation options for government

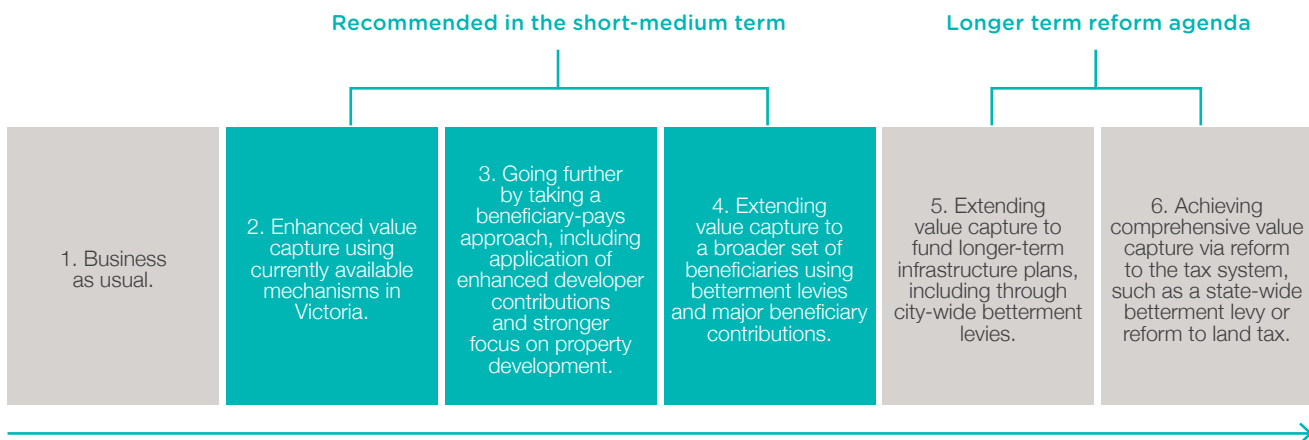


Table 10 Description of value capture implementation options for government

Option	Analysis
1 Business as usual	<p>This involves continuing to fund infrastructure via a mix of general government revenue and other sources with no change to applying existing value capture mechanism such as developer contributions (particularly GAIC), property development for some projects and asset sales.</p> <p>This approach does not address the current mismatch between private benefits and infrastructure investment, and will not raise additional revenue for infrastructure.</p>
2 Enhanced value capture using currently available mechanisms in Victoria	<p>Continuing to apply value capture mechanisms on a cost recovery basis but making better use of existing mechanisms by using them more often and consistently (without changing legislation). This could generate additional funds to support infrastructure. For example, the Victorian Government could:</p> <ul style="list-style-type: none"> • define and communicate an enhanced role for value capture funding using mechanisms already available • improve the coordination of infrastructure planning and delivery, including joined-up delivery of multi-purpose infrastructure assets • make greater use of developer contributions for funding infrastructure, focusing on well-designed and transparent developer contribution regimes that are put in place before projects are committed to and announced.
3 Going further by taking a beneficiary-pays approach, including application of enhanced developer contributions and stronger focus on property development	<p>Use existing powers or create new powers to move away from the conventional cost recovery approach for developer charges and instead focus on a 'beneficiary-pays principle' when applying value capture mechanisms, such as property development and general zoning changes.</p> <p>This approach aligns more closely with the taxation 'beneficiary-pays principle' in areas where development activity is the main driver of infrastructure investment and planning changes. It helps capture some of the large and readily quantifiable windfall gains that can flow to landowners who benefit from planning and zoning changes.</p>
4 Extending value capture to a broader set of beneficiaries using betterment levies and major beneficiary contributions	<p>Extend the application of value capture in Victoria by introducing new charges or levies (through existing powers or new legislation) to help fund major infrastructure projects, including the use of betterment levies and major beneficiary contributions. Implementing well-designed betterment levies would also reduce funding inequities and increase revenue to help fund infrastructure.</p> <p>Betterment levies could be designed in different ways. This will depend on the policy settings chosen and the ability to model and reliably estimate indirect land value gains. Betterment levies could involve broad boundaries and simplified rate structures (with features more like general revenue raising mechanisms) or detailed boundaries and complex rate structures to capture specific benefits by location (a targeted value capture approach).</p>

Option

Analysis

5. Extending value capture to fund longer-term infrastructure plans including through city-wide betterment levies

Applying a city-wide betterment levy to fund longer-term infrastructure plans overcomes some of the limitations of value capture linked to specific projects, particularly in relation to boundary setting, the ability to fund multiple infrastructure sectors and revenue sustainability. However, the nexus between infrastructure investment and benefits received is weakened. This could involve creating a general infrastructure fund to support projects in the area where the levies are applied.

This broader approach to fund a longer-term plan would require appropriate governance arrangements, transparency in collection, allocation and spending investment rules. The alignment between investment benefits and funding allocation would need to be managed to achieve a balance of outcomes across the community. These complexities mean that further analysis – and consultation with the Victorian community – would be required before this option is implemented.

We calculated that if a levy of about \$100 per household per year was charged for the next 30 years, it would only raise about \$10 billion. This amount is extremely small relative to historical government spending of about \$5 billion a year on infrastructure.

6 Achieving comprehensive value capture via reform to the tax system, such as a state-wide betterment levy or reform to land tax

This approach extends the role of value capture beyond a project, program or longer term plan and instead applies it uniformly across cities, regions or the state, and integrates it in to the tax system.

Changing tax settings can efficiently increase revenue. The Henry tax review recommended that Australian states replace their stamp duties on land transfers with a broad-based land tax – effectively a state-wide betterment levy through which value capture would happen automatically. Victoria's tax system includes stamp duty and land tax. Primary places of residence are exempt from land tax. Victoria could consider the Henry tax review recommendation as part of a longer term approach to infrastructure funding reform. In the meantime, value capture should be implemented in a manner so as it does not preclude broader-based reform in the future.



Take action to improve how value capture is used

Action can be taken now to improve the way value capture is used to help fund infrastructure in Victoria.

Action 1: Develop a clear value capture policy for Victoria

A critical first step is developing a clear value capture policy for Victoria and embedding this policy in project planning, development and delivery across government. This policy could be adopted across multiple sectors. The policy would help guide decision-makers and government agencies, and inform the community and developers about the principles and approach to be adopted in applying value capture to infrastructure projects in Victoria.

This will help:

- provide clarity to all stakeholders
- improve consistency of decision making by providing a framework for assessing when to apply value capture funding mechanisms to projects on a case-by-case basis
- mitigate incentives to lobby for special deals.

The policy could set out a transparent framework for when value capture could be considered. For example, this could include outlining the focuses of value capture only for major projects, considering value capture from the outset and determining and communicating the value capture approach when announcing planning changes or projects. The policy should also outline when value capture will not be considered.

Action 2: Build value capture capability and establish good governance

Enhancing the role of value capture in planning and infrastructure delivery requires strong commercial, policy and stakeholder skills and capabilities within government, as well as good governance structures during project development and delivery. Due to the complexity of value capture funding mechanisms good governance is required for successful implementation of value capture plans. Governance arrangements need to be flexible and integrated to facilitate coordinated decision-making of planning, project development and commercial arrangements.

Action 3: Identify and enhance data gathering and quantification approaches to support value capture

Justifying and designing the use of value capture mechanisms require a clear understanding of project beneficiaries. The data and tools for this benefit mapping need to be clearly identified and made available to project planners and decision-makers, along with guidance on how and when to apply them.

Action 4: Pilot a value capture betterment levy on a major infrastructure project

Based on the result of the project evaluations conducted for this paper, a pilot value capture strategy including a land betterment levy could be applied to a major infrastructure project such as a project recommended in Infrastructure Victoria's 30-year infrastructure strategy within the next five to 15 years. The pilot would provide the basis for refining the supporting elements outlined above and designing a tailored betterment levy for Victorian conditions. Key learnings could then be applied to future projects.



Develop a consistent approach

As part of a value capture policy, a process should be developed for consistently assessing and applying value capture to projects on a case-by-case basis. This process should align with existing project planning, development and delivery processes.

Figure 5 below outlines a possible approach, based on the findings of the evaluation of future projects undertaken for this paper.

Consider the best design choices for Victoria

Careful design of value capture mechanisms such as land and betterment levies can improve the funding mix for major infrastructure projects.

Deciding when to use and implement any value capture mechanism is important.

Considering and deciding to use any value capture mechanisms and making design choices early in the planning and project lifecycle is important. It can result in better design and implementation of projects, planning decisions and value capture mechanisms, which can lead to better outcomes. For example, it increases the opportunity to improve the design of projects and value capture mechanisms which can help maximise the value created and captured.

On the other hand, choosing to use value capture in later stages of project life cycle (such as during procurement or implementation) risks making projects or planning changes more difficult to implement. It can also make it more challenging to design value capture mechanisms. This applies to all types of value capture mechanisms including property development, developer contributions and betterment levies.

As noted in Action 4, we are recommending to pilot a betterment levy for a major infrastructure project in Victoria. This mechanism will need to be designed carefully to best suit Victorian conditions and the specific project selected.

When choosing to apply betterment levies, a number of important design choices need to be made. These choices could have a significant impact on the success and community acceptance of a proposed levy. The modelling exercise undertaken for this paper identified some of these key design choices, which are outlined in Table 11 over leaf.

In particular, any announcement about a major planning change or infrastructure project can result in an immediate increase in land values. Value capture mechanisms for betterment levies and developer contributions should be announced at the same time to prevent speculation and distortion of land prices and value. It also helps to determine a clear base line or benchmark for measuring value.

Figure 5 Suggested approach for applying value capture

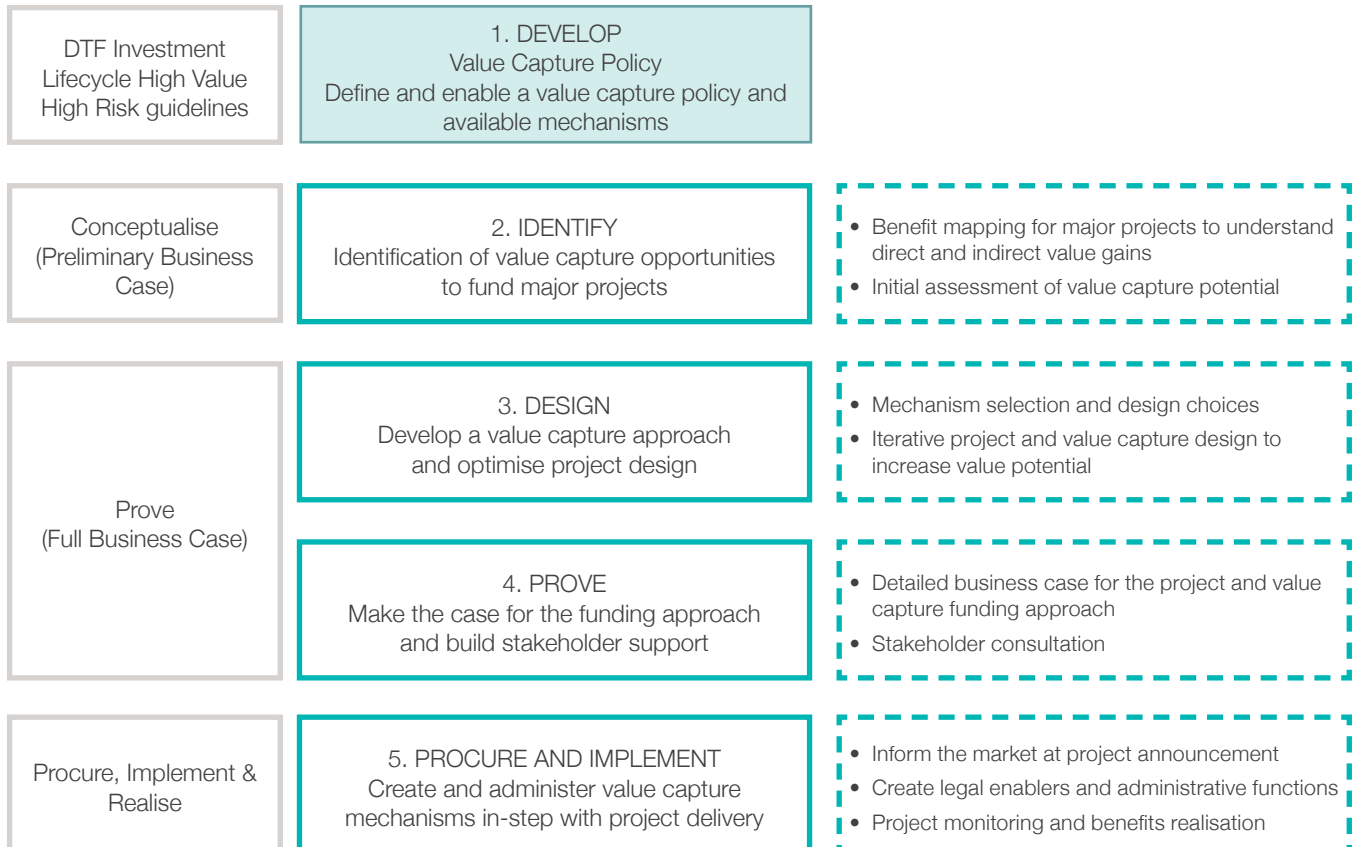


Table 11 Key choices when designing land betterment levies

<p>How much value to capture?</p>	<p>What should the revenue target be based on:</p> <ul style="list-style-type: none"> • a percentage of the cost of the infrastructure? • a percentage of the increase in land value? 	<p>For the purposes of modelling in this paper, betterment levies were set to capture 50 per cent of land value uplift in uplift-sharing mechanisms, and either 12.5 or 25 per cent of project costs where these are targeted. This reflects the need for settings to be considered on a case-by-case basis based on considerations such as the amount of uplift expected in the various property classes and the level of certainty of quantification of project benefits. Where there are difficulties in measuring or attributing the increase in land value it may be best to underestimate the value uplift or target a percentage of project costs instead.</p>
<p>Timing of collection of payments</p>	<p>Should payments be collected:</p> <ul style="list-style-type: none"> • upfront, as with developer contributions made before the infrastructure is built? • annually, as with an increment to local government rates? • at the time of property sale, as with Capital Gains Tax or stamp duty? 	<p>Consideration should be given to whether there are negative financial consequences for landowners who may not have the capacity to pay a levy or who are 'asset rich but income poor'. Government could consider only requiring the levy to be paid when a property is sold or transferred. It can also make adjustments for those who can't afford to pay.</p> <p>Impacts on businesses and economic activity also need to be considered.</p>
<p>Who to levy?</p>	<p>Different land classes owned by:</p> <ul style="list-style-type: none"> • developers? • commercial landowners? • residential landowners? 	<p>This should be decided based on the beneficiary-pays principle. This means that, if it can be demonstrated that material benefits will flow to specific types of property owners, then there is a strong case to include them in the mechanism design.</p>
<p>Where should the levy apply or what boundaries should be set?</p>	<p>Should the levy be:</p> <ul style="list-style-type: none"> • broad based, for example city-wide (these types of mechanisms have not been considered in detail in this paper, but are a valid form of value capture)? • time- or distance-based relative to the infrastructure (such as within a 1km walking catchment)? • based on statistical boundaries (such as LGA, suburb or other measures of statistical area)? • relative to physical boundaries or geographical features that cause severance (such as a major road, or planning buffer)? 	<p>For the purpose of modelling in this paper, EY used a 1,000m (1km) walking catchment for new train stations. This modelling is indicative only. In practice, boundaries should be determined on a case-by-case basis, using appropriate analytical tools and benefit quantification methods.</p>
<p>What rate should apply?</p>	<p>The choice of rate structure should reflect the choice of who to tax and the revenue base selected. If it can be demonstrated that material benefits will flow to specific areas and property classes, then variable rate classes can be applied similar to the approach taken for Victoria's Fire Services Property Levy.</p>	
<p>When should a new levy be announced?</p>	<p>A new levy should be announced at the same time as a proposed government investment is announced or a planning change is mooted. This should occur as early as possible in the project development lifecycle – before speculation and land transactions can occur. The more likely the investment becomes, the greater the increase in property value. Announcing as early as possible can also help to establish a clear baseline for measuring value uplift.</p>	
<p>What legal instrument to use?</p>	<p>Various existing legal instruments are available in Victoria that could be used for the purpose of value capture. Alternatively, it would be possible to legislate for new area-specific levies associated with an infrastructure project or planning change. Selecting the right legal instrument can limit unintended consequences.</p>	

Work with local councils and the Commonwealth Government

The projects and scenarios modelled in this report, particularly those involving enhanced use of value capture mechanisms with a development and planning focus, are likely to require the active cooperation of local councils.

Alongside the suggested actions outlined above, the government could engage local governments about their local infrastructure needs and how value capture could help to meet these needs and benefit their municipalities. This includes opportunities for well targeted property development value capture.

There are examples from overseas of where value capture mechanisms have been used to increase funds available for infrastructure delivery by local governments. There is also the potential to develop new value capture mechanisms that involve the collection of revenue by local governments. However, these options need to be considered carefully and explored in collaboration with local councils and community stakeholders.

There is also an opportunity to collaborate with the Commonwealth Government in developing value capture strategies that recognise the impacts of productivity-enhancing state infrastructure on Commonwealth tax revenue.

This could follow examples overseas where the national government creates revenue-sharing incentives to encourage investment in projects that increase local productivity and employment (see Appendix E for a discussion on the UK's City Deals model).

Build community support for value capture

The success of any value capture approach relies strongly on building broader community understanding of the concept, as well as support for its application to specific projects.

However, value capture is not widely understood. In particular there are concerns regarding the potential impacts of betterment levies and developer contributions on housing costs and 'double dipping' with existing taxes or user charges.

There is strong evidence that value capture can help fund projects in a fairer way than traditional models and generate revenue, while still leaving beneficiaries in a better position compared to the baseline or 'no project' situation. Despite the application of new revenue-raising measures, property owners can be better off than otherwise would be the case because value capture enables investments that create land value gains. Without value capture, these investments would not be made and no land value gain would occur. Box 12 overleaf outlines what the introduction of value capture mechanisms would mean for the community.

Well-designed value capture mechanisms that are applied and communicated through a transparent policy framework also minimise the possibility of increasing housing costs. Value capture done well is not about taxing development. Rather, it is about reducing windfall gains for existing property owners by putting mechanisms in place to ensure developers and other purchasers of property take into account future value capture payments.

Building community understanding of these benefits and issues is an important aspect of extending the use of value capture in Victoria. Provision also needs to be made for targeted consultation and community engagement on the benefits of value capture in relation to individual projects.

BOX 12: WHAT WOULD INTRODUCTION OF A BETTERMENT LEVY IN MY SUBURB MEAN FOR ME?

If government imposes a betterment levy on the new train station it builds in my suburb, as a land owner or business I have to pay an extra charge or make a proportional contribution to the project. However, I am still better off.

As a land owner, I get to work faster and can access more employment opportunities and services. This better access is valued by others and so my land or property value increases. Despite the proportional contribution I make to the project, the value of my property still increases.

As a shop owner, I benefit from new customers and sales as a result of the increased movement of people around the train station. I have better access to a larger pool of employees. Despite the proportional contribution I make to the project, my sales revenue and income still increase.

As a commercial business owner such as a consulting firm, accountant, or mechanic I also benefit from new customers and trade with more businesses. I am also able to access a larger pool of employees and goods. Despite the proportional contribution I make to the project my costs reduce and my income increases.

The additional revenue raised from the contribution I make helps contribute to the cost of providing infrastructure. This helps government to fund and provide the infrastructure which may have not been possible at all, or provided it sooner without the additional revenue.

If I did not make a contribution the project may not be built or would be delivered much later and I do not receive any benefit. The need for the train station in my area instead grows, congestion gets worse and it takes me longer to get to work or access jobs and business costs increase. Alternatively, government funds the project from existing tax revenue. This means individuals and business in other suburbs or regional Victoria contribute to funding the train station even though they do not benefit from it. It also means that less infrastructure can be built in other areas.

WHAT WOULD HAPPEN IF GOVERNMENT IMPOSED A DEVELOPER CONTRIBUTION ON MY LAND?

If government imposes a developer contribution on my land when it rezones my land from industrial to residential use, the developers I sell to have to make a contribution or pay a charge, I do not have to pay an extra charge. The price I am likely to receive from developers is less than if government did not impose the charge. However, I still receive extra income or 'windfall gain' when I sell my land to developers because government rezoned my land. I am still better off than if the rezoning did not occur.

Even after paying a charge or making an in-kind contribution (like building a local road) developers still make money from selling or leasing premises they can now build. Their developments create and increase the need for public infrastructure and services. However, imposing the charge on developers raises additional revenue for government which helps to fund new infrastructure needed because of these developments. Alternatively, the in-kind contribution from developers reduces the amount of infrastructure state and local governments need to fund and deliver.

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Appendices

APPENDIX A: CASE STUDIES AND VALUE CAPTURE TOOLS

Table 12 Value capture case studies considered

Victorian examples		
Name	Description	Value capture mechanism
Melbourne Underground Rail Loop (i.e. the City Loop)	13km of rail tunnels constructed to provide rail services to the eastern and northern parts of Melbourne's CBD. Construction on the tunnels and related projects occurred from 1971 to 1985.	<p>In 1970 a scheme established a 25-25-50 per cent split of funding for the cost of the City Loop project between the Melbourne Metropolitan Board of Works (MMBW) via a city-wide levy (25 per cent), the City of Melbourne (CoM) via a special council rates levy on commercial properties (25 per cent), and rail passengers via a ticket levy and the state government (which paid the balance of the 50 per cent not collected by the ticket levy).</p> <p>The MMBW and CoM contributions were capped and later reduced to 15 per cent and 10 per cent respectively, with the CoM special levy repealed several years early in 1995, in part due to financial difficulties resulting from the financial collapses and recession of the early 1990s.</p> <p>Analysis by SGS Economics calculated that the City Loop added between \$10.42 billion and \$3.18 billion in gross value added for metropolitan Melbourne (ranging from optimistic to conservative estimates). House values in metropolitan Melbourne were calculated to have increased by \$13.2 billion as a result of the project by 2009.</p>
Southern Cross Station redevelopment	Redevelopment of one of Melbourne's second busiest stations to provide a high quality transport interchange and provide commercial development including car parking, office space and retail. The redevelopment was completed in 2006.	<p>The state government-owned authority responsible for the station re-development provided concessions to a developer to construct and operate the new station. These concessions included:</p> <ul style="list-style-type: none"> • a 99-year lease for air rights above the station • a 50-year lease for air rights above the bus interchange • retail rights within the station for 30 years, and • advertising rights within the station.
Melbourne Central City Built Form Review	Planning policy changes to improve the urban amenity impacts of development in central Melbourne.	The draft policy allows for discretion on mandatory controls regarding base floor area to height ratios if an appropriate public benefit is provided as part of the development. Public benefits could include public open space, laneways, office space, public space internal to the building, and social housing in the building. 10 per cent of the additional value to developers from exceeding the mandatory controls must be spent on the public benefit measures.
VicTrack property development	Glen Waverley, Jewell and Hampton train stations.	<p>VicTrack has sold surplus land at various train station sites across Melbourne to raise revenue and fund upgrades to the areas surrounding those stations.</p> <p>\$1.8 million from the development at Glen Waverly train station was invested in an improved public realm and increased accessibility into the train station.</p> <p>At Jewell train station surplus land was sold for property development, which will also deliver an upgraded public realm including improved accessibility to the station and an upgraded shared path alongside the development.</p> <p>At Hampton train station surplus VicTrack land will be sold for property development. VicTrack is partnering with the Department of Health and Human Services, which owns social housing adjacent to the VicTrack land, to deliver upgraded social housing as part of the development. Other upgrades yet to be finalised could include an upgraded car park, improved public realm and reconfigured bus interchange.</p>

Victorian examples

Name	Description	Value capture mechanism
Level Crossing Removal Property Development	Exploration of property development opportunities at specific level crossing removal sites	<p>The Level Crossing Removal Authority is currently investigating integrated development opportunities across its portfolio over the eight year program. This aims to ensure integrated outcomes between transport infrastructure and urban renewal within level crossing removal precincts. Community and stakeholder feedback is a key part of this process.</p> <p>As part of the revitalisation of the Gardiner station precinct, a portion of the land was enhanced to enable property development opportunities. Property development opportunities are also being explored at other sites, such as St Albans train station.</p>
Melbourne Central Station	The development of Melbourne Central shopping centre and office buildings following the completion of Melbourne Central train station (then Museum station).	After the completion of Melbourne's Underground City Loop in 1981, the government sought to sell the land above the then new Museum train station for property development. In 1985 the site was sold and developers invested \$1.2 billion in a large-scale retail and office development with direct access to the train station beneath it renamed Melbourne Central station.
New Victorian Infrastructure Contributions System	Government is currently implementing a new developer contributions system, the Victorian Infrastructure Contributions system.	This reform provides a new system for levying infrastructure contributions through a Standard Levy and a Supplementary Levy, as well as aiming to clarify and streamline the process. The Supplementary Levy is an optional levy for use when the Standard Levy cannot adequately fund the required local infrastructure or where additional infrastructure is required to unlock the growth capacity of the area. The Supplementary Levy may also be used to fund state infrastructure in growth areas where the Growth Areas Infrastructure Contribution does not apply.
Developer Contribution Plans	A development contribution plan (DCP) is a mechanism used in the Victorian planning system to levy new development for contributions to planned infrastructure needed by the future community.	<p>DCPs are a mechanism that capture some of the value created by the granting of a planning permit. The captured value is hypothecated into the DCP to cover some of the costs of the infrastructure needs arising from the development.</p> <p>A council collects the development contribution from new development through an approved DCP. An approved DCP is a DCP that forms part of a planning scheme. The Minister for Planning must approve an amendment to the planning scheme in order to incorporate a DCP.</p>
Voluntary contribution (Section 173 agreements)	There is an opportunity within the Victorian planning system for landowners, the council and other parties to freely negotiate agreements for the provision of infrastructure, at the time a development proposal is considered.	<p>Voluntary contributions could capture value by entering into an agreement to place an obligation on the parties to provide infrastructure, and/or pay for infrastructure.</p> <p>Entering into an agreement for development contributions requires all parties to voluntarily agree to commit to their obligations, as set out in the agreement. Therefore, the establishment of a voluntary agreement cannot be a requirement of a planning scheme amendment or planning permit. Section 173 of the Planning and Environment Act 1987 provides a mechanism for formalising a voluntary agreement between the responsible authority, a landowner, and other parties. The authority that administers the planning scheme is called the responsible authority. It is usually the council.</p>

Victorian examples

Name	Description	Value capture mechanism
Growth Areas Infrastructure Contribution (GAIC)	The Growth Areas Infrastructure Contribution, or GAIC, is a charge designed to contribute to the funding of essential state infrastructure in Melbourne's growth areas.	<p>GAIC captures some of the value created by the extension of the urban growth boundary in Melbourne. The collected funds are hypothecated to cover approximately 15 per cent of state infrastructure costs of new development.</p> <p>Rates for GAIC for the 2016-17 financial year ranged from \$91,850-\$109,080 per hectare.</p> <p>Four events trigger a GAIC liability on affected land:</p> <ol style="list-style-type: none"> 1. Transfers of title 2. Subdivisions 3. Building permits 4. Significant acquisitions <p>GAIC is imposed when the first of these events takes place and affects the land until it is paid. Once it is fully paid, the GAIC recording over the title to the land is removed and the contribution will not apply to any subsequent GAIC events.</p>
Melbourne Metropolitan Parks Charge	The Melbourne Metropolitan Parks Charge is collected once every year. Funds raised go to Parks Victoria, Zoos Victoria, the Royal Botanic Gardens and the Shrine of Remembrance for the development, management and maintenance of metropolitan parks, gardens, trails, waterways, and zoos.	<p>The Parks charge captures some of the value Melbourne's parks provide to residents and businesses.</p> <p>The valuation by local council determines the level of the charge. State government concessions are determined by the Department of Human Services and at present there is no concession on the Parks Charge.</p>
Melbourne Water waterways and drainage charge	The waterways and drainage charge funds a range of programs to protect and improve the health of rivers and creeks, and provide regional drainage services, flood protection and flood warning systems throughout the Port Phillip and Westernport region.	<p>The waterways and drainage charge captures some of the value that healthy waterways and effective drainage provides to Melbourne's residents and businesses.</p> <p>The residential waterways and drainage charge is billed to all residential properties located with the Urban Growth Boundary (UGB) including any extensions made to the UGB from 2010. About 1.7 million residential property owners currently pay the Waterways and Drainage Charge, which has existed since the 1920s (it was previously called the Drainage Rate).</p> <p>The residential charge is \$96.80 per year. Non-residential properties pay a minimum charge of \$117.40 per year. Rural properties pay a charge of \$53.20 per year.</p>
<i>Local Government Act 1989 (Vic) Section 163: Special rate and special charge.</i>	Councils in Victoria can raise special rates and charges for any purposes consistent with a council's objectives.	These special rates and charges are levied on properties which stand to benefit from the funding raised by the charge. These charges are raised for purposes such as the promotion of a retail strip, the promotion of a retail business precinct, the construction of a road, the construction of a footpath, and the provision of drainage.
Melbourne's congestion levy	A levy on off-street car parking in inner Melbourne introduced in 2005 to reduce congestion and increase use of public transport.	The congestion levy acts as a value capture mechanism by capturing some of the value placed on access to job-rich areas of inner Melbourne. The levy raised \$111 million in Victoria in the 2014-15 financial year.

Australian examples outside Victoria

Name	Description	Value capture mechanism
Gold Coast rapid transit project	13km light rail corridor between Gold Coast University Hospital and Broadbeach, linking a number of principal, major and specialist centres of the city. Services commenced in July 2014.	The City of Gold Coast adopted a transport levy for the 2004–05 financial year and set the rate at \$15 per rateable property. In 2012 the rate was increased to \$111 per rateable property in order to raise funding for the city's \$120 million contribution to the first stage of the light rail project. For the 2014–15 financial year the rate was increased to \$117 per rateable property and was raised again for the 2016–17 year to \$123. It is unclear how much funding the city intends to raise from the levy, though a further \$48 million from the city will be spent on the second stage of the light rail project, which commenced construction in July 2016.
New South Wales Voluntary Planning Agreements	Planning policies that will require monetary contributions following planning decisions that provide an unearned increase in land value.	A number of NSW councils are introducing policies for the use of planning agreements to capture a share of uplift in land value occurring as a result of planning decisions that improve the development potential of a site, through rezoning or change in development controls. The councils are aiming to capture 50 per cent of the land value uplift from their decisions on behalf of the community.
Chatswood train station, Sydney	Major upgrade to Chatswood train station to accommodate new rail connection.	Government contributed \$64 million to the \$157 million contract. The public-private partnership agreement provided private partners with the rights to lease retail space integrated into the station precinct and the rights to develop a large retail complex and three residential towers of about 500 units with underground car parking.
Lease variation charge, Australian Capital Territory (ACT)	A change to how leases are charged based on increased value of that lease following changes such as subdivisions, redevelopment, urban regeneration projects, and variations in development rights.	In the ACT land is 'owned' through a leasehold system. Land is leased from the government for 99 years. When government leases land it receives a payment based on the conditions of the lease at that point in time. The variation charge aims for government to capture 75 percent of the increased value of the lease following any change to the lease that increases its value.

International examples

Name	Description	Value capture mechanism
London Crossrail, UK	42km new east-west rail line across Greater London providing 10 new train stations and 30 upgraded stations.	<p>Over a third of the £14.8 billion project cost is derived from land-based value capture charges. These include:</p> <ul style="list-style-type: none"> • A business rate supplement paid annually by non-domestic properties in Greater London with a rateable value of over £55,000. Rate is set at 2 per cent and remains in place until a £3.5 billion loan is repaid. • A community infrastructure levy paid by developers on all new development across Greater London, expected to raise £0.3 billion. • An additional developer charge using an existing mechanism is expected to raise £0.3 billion. • Development rights through the sale of surplus land and air rights at some stations. • Contributions by major beneficiaries including Canary Wharf Group, BAA (owner of Heathrow Airport) and Berkeley Homes.
Transbay Transit Center, USA	The Transbay Transit Centre is a US\$4.5 billion transport, housing and urban renewal project in San Francisco, California.	<p>Originally envisaged solely as a transport project to replace the former Transbay Terminal, where 11 transportation systems connect in the centre of San Francisco, but significant value capture and urban enhancement elements were added to the project scope. It includes:</p> <ul style="list-style-type: none"> • Land sales for property development were equal to US\$429 million (Western United States' tallest building will be constructed on the site). • A US\$171 million Federal loan was secured against future property tax revenues (tax increment finance). • US\$100 million of local sales tax is being dedicated to the project in recognition of the benefits of the project to businesses. • US\$200 million of toll revenue from Bay Area bridges will also be dedicated to the project.
East Point Georgia, USA	The development and enhancement of a new part of East Point, Georgia.	<p>The City of East Point borrowed US\$22 million to build the enabling infrastructure to settle Camp Creek, a previously undeveloped part of its municipality. The loan was part of a tax increment finance arrangement where the tax revenue generated by new development was used to repay the debt. A second similar arrangement was initiated five years later to pay for US\$98 million of improvement works to Camp Creek.</p>
Hong Kong Mass Transit Railway	Construction of new train lines in Hong Kong.	<p>MTR is the owner and operator of Hong Kong's railways. As part of its construction of new railway lines, it develops the land above and surrounding its new train stations, which generates profits through sales and leases that fully fund all of its costs.</p> <p>IN 2015, MTR generated an operating profit of HKD\$29 billion (A\$3.2 billion). This included HKD\$5 billion from commercial businesses at train stations, HKD\$4 billion from property rental and management businesses, and HKD\$3 billion from property development.</p>
UK City Deals: Cardiff capital region	£1.2 billion investment in extra space over 20 years for the Cardiff capital region to spur economic development.	<p>£500 million of contributions from both the Welsh and UK governments respectively, £120 million from 10 local councils and £100 million from the European Union.</p> <p>Funding from the UK and Welsh governments is conditional on periodic assessment of economic performance of the investments made under the City Deal to that point. The investments must meet key objectives and contribute to national growth</p> <p>The aim of investment is to increase the gross value added of the Cardiff capital region by at least 5 per cent.</p>
UK City Deals: Aberdeen	£250 million investment over 10 years to unlock the economic potential of the Aberdeen city region.	<p>£250 million committed from the UK and Scottish governments jointly to address supply-side issues constraining the region's ability to capture its economic opportunities from the gas and oil sector.</p>

International examples

Name	Description	Value capture mechanism
Porto Maravilha Urban Operation	The urban regeneration of Porto Maravilha, a key waterfront area of Rio de Janeiro.	Bonds were issued by the municipality that gave rights to development within Porto Maravilha. All proceeds from the sale of those bonds had to be reinvested in the area. In 2011 a state-owned financial institution bought all of the bonds for approximately \$2 billion. The bonds were sold at a profit to developers and proceeds invested in upgrades to the area including utilities, landscaping and transport.
Israel's uplift based betterment levies	A land appreciation tax is paid on the sale of land to capture value uplift since the time of purchase.	The tax rate is set in line with personal tax rates up to 25 per cent. Local planning commissions can also levy up to 50 per cent of land value uplift attributable to its decisions. The funds raised cover administration costs and local infrastructure and services.
South Lake Union streetcar, Seattle	2.1km streetcar line in Seattle's South Lake Union district completed in 2007 at a cost of US\$56.4 million.	US\$25 million was paid by property owners alongside the streetcar's route. The payments were made by a local 'Improvement District Tax'. Of the 750 affected property owners, only 12 formally objected to the new tax. In 2011, due to the popularity of the service, major beneficiary businesses including Amazon underwrote the purchase of a third streetcar. In late 2012, in preparation of building a new high-rise campus near the streetcar route, Amazon provided the City of Seattle with US\$5.5 million in funding to buy a fourth streetcar to increase service provision and pay for operating costs for 10 years. A valuation of the 35-block area surrounding the streetcar line showed an increase in property prices from US\$535 million in 2001 to US\$2.3 billion in 2011, with an estimated increase of over 15,000 jobs and US\$1.1 billion in private investment.
Measure R – Los Angeles County transport plan	A new sales tax was voted in by Los Angeles County residents in 2008 to raise new funding and for a 30-year transport plan.	The new tax sees an additional 0.5 cents collected for every dollar spent in Los Angeles County on sales tax eligible items. The US\$40 billion in funding raised will partly fund the infrastructure plan and the new tax will be collected for the 30 years of the transport plan. In 2012, Measure J went to the voters, which proposed to increase the timeframe of the increased sales tax for an additional 30 years. It was voted for by 66.1 per cent of the population; however, a two-thirds majority was required (66.7 per cent). In November 2016, LA residents will be asked to vote on Measure R2, another sales tax increase of 0.5 per cent that is forecast to raise an additional US\$120 billion.
New York Avenue Station, Washington DC	Washington Metropolitan Area Transit Authority's first infill station on its Metro system. It opened in 2004.	In 1999 major property owners surrounding the new proposed station made an in-principle agreement to contribute US\$25 million of the US\$84 million total cost. This \$25 million was paid only by commercial properties within a 1.5-mile zone of the new station through special tax assessments.
Portland Cascade station and airport light rail	Portland's airport light rail was delivered as part of deal that granted property development rights and lease concessions at Cascade Station, a potential development site.	Betchel Enterprises approached the City of Portland and other relevant government agencies in 1997 with a proposal to deliver the airport light rail and Cascade Station, a 120-acre plot of land on the light rail route to the airport. In 1999 a deal was signed that gave Betchel Enterprises exclusive rights to build the US\$125 million light rail extension and an 85 year lease to develop the Cascade Station site. Betchel funded \$28.2 million of the build cost with the remaining funding coming from government (\$69.3 million) and the Port of Portland (\$28.3 million), the owner of the airport. The Port of Portland recouped this funding by charging \$3 per passenger for boarding at Portland Airport (PDX). The airport light rail opened in September 2001.

Source: Infrastructure Victoria and EY research undertaken for Infrastructure Victoria

APPENDIX B: IMPACT OF INFRASTRUCTURE ON PROPERTY PRICES

1. Transport infrastructure

There is strong evidence that improved accessibility provided by major transport infrastructure projects has an impact on land values. The table below summarises the evidence from selected studies in Victoria, Australia and overseas.

Table 13 Selected evidence of the impact of transport infrastructure on property prices

Victorian evidence	
Selected studies	Key findings
SGS Economics and Planning (2012) Long run economic and land use impacts of major infrastructure projects, consultant's report prepared for the Victorian Department of Transport, Planning and Local Infrastructure, Melbourne	<p>The City Link road connects freeways between Melbourne's south-east, west and north. The project included major tunnelling beneath Melbourne's Domain parklands and the Yarra River. It was completed in 1999.</p> <p>Value capture mechanisms were not used for this project but analysis by SGS Economics showed that the project increased median house prices across Melbourne by \$25,400. In 2009 this equalled an additional \$19.3 billion in added value to house prices. SGS Economics also demonstrated how the construction of the road caused an increase in residential and commercial development in proximity to the new road.</p>
	<p>The Western Ring Road is an orbital freeway that connects three of Melbourne's major freeways and provides a continuous road link between the south-west and north-east of Melbourne. It was built in stages between 1992 and 1999.</p> <p>Value capture mechanisms were not used for this project but analysis by SGS Economics calculated that the Western Ring Road provided \$2.68 billion in gross value added to metropolitan Melbourne in 2011 and had increased house values by \$9.18 billion across Metropolitan Melbourne by 2009.</p>
	<p>Box Hill Central Activity Area development: in mid-1970s the Box Hill Modal Interchange project was launched. The project removed a level crossing, built a new train station, integrated public transport and taxi services within the upgraded precinct, provided extensive commuter car parking and granted development rights above the new train station.</p> <p>Value capture mechanisms were not used for this project but analysis by SGS Economics calculated that the Box Hill Activity Centre provided \$586.7 million in gross value added to metropolitan Melbourne in 2011.</p>
Regression analysis conducted by EY for this paper around South Morang rail station	<p>Analysis of land value gains around South Morang rail station undertaken for this study takes into account other value drivers such as property characteristics (i.e. numbers of bedrooms and bathrooms, car parking, land size, etc.), timing of sale and distance from infrastructure.(e.g. house, unit, land and commercial).</p> <p>The results of this analysis shows that the existence of rail stations can have large impacts on land values in growth area suburbs, with values increasing by over 50 per cent. The analysis also shows the areas across which the increases were measurable, with the rail station benefit catchment being around 6km. Regression suggests the announcement of the station had little to no impact on property prices.</p> <p>Key findings:</p> <ul style="list-style-type: none"> • During the construction period property prices are 49 per cent higher • After opening, property prices are 52 per cent higher • The impact of the value uplift reduces as you move further away from the station. Beyond a radius of 6km, there are no longer any value uplift impacts (i.e. a 2.2 per cent reduction every 250m).

Australian evidence	
<p>Review of Historic Urban Land Value Growth – East Coast Capital Cities</p> <p>Urbis for Infrastructure Australia (2013)</p>	<p>This study was to support Infrastructure Australia in its aim of improving inter-governmental approaches to the identification and protection of infrastructure corridors.</p> <p>The study examined the long-term land value growth trends for certain property classes within the inner, middle and outer bands of Sydney, Melbourne and Brisbane. The study also explored three case studies related to recently delivered motorways in each city, including the M7 Motorway in Sydney, EastLink in Melbourne and the M1 Motorway in Brisbane.</p> <p>Using data over 13-20 years, the study found that commercial and industrial property values in nearby catchments grew by 1.7-5.8 per cent per annum more than similar properties in surrounding areas. It also found that land values increased by 20-50 per cent from the time of route identification to operations. Industrial property values in the EastLink catchment were estimated to be around 27 per cent higher as a result of the project.</p>
International evidence	
<p>Crossrail studies (various)</p>	<p>The Crossrail <i>Property Impact Study</i> (2012) estimated that capital values in the areas around central London Crossrail stations would rise by 35 per cent for residential properties, and 27.5 per cent for office properties, over and above an already-rising baseline projection. Whereas residential values on the outer sections of the line were expected to rise a cumulative 27.5 per cent above baseline, but office values to grow only slightly faster (0.5–2.5 per cent) than baseline.</p>
<p><i>London homebuyers pay a significant premium to live close to a tube or train station</i></p> <p>Nationwide (UK, 2013)</p>	<p>Using the Nationwide House Price Model, Nationwide assessed how property prices in the Greater London region vary in relation to the distance to the nearest tube or train station. The research isolated the specific impact this has over and above other property characteristics such as property type, size and local neighbourhood factors.</p> <p>The research suggests that a property located 500m from a station would attract a 7 per cent price premium over an otherwise identical property located 1,500m from a station.</p> <p>The research also revealed that the marginal impact on price diminishes as the distance from the nearest station increases. For example, the price difference between properties located between 500m and 1,000m from the nearest station is 3.7 per cent. This compares to 3.4 per cent for properties located 1,000m and 1,500m from the nearest station and 3.1 per cent when comparing properties 1,500m to 2,000m away.</p> <p>The research suggests that while homebuyers would prefer to live close to a station, it becomes less important once outside easy walking distance.</p>
<p><i>The impact of railway stations on residential and commercial property value</i></p> <p>G. Debrezion, E. Pels and P. Rietveld (2004)</p>	<p>The Debrezion study collated the results of a wide range of other studies through a meta-analysis and regression model. It found that:</p> <ul style="list-style-type: none"> • Commuter railway stations have a significantly higher impact on property values. • After opening, property prices are 19.4 per cent higher for a commuter station, and 5.3 per cent higher for a heavy rail/metro station. • The impact of the value uplift reduces as you move further away from the station. Beyond a radius of 3.2km, there are no longer any value uplift impacts.

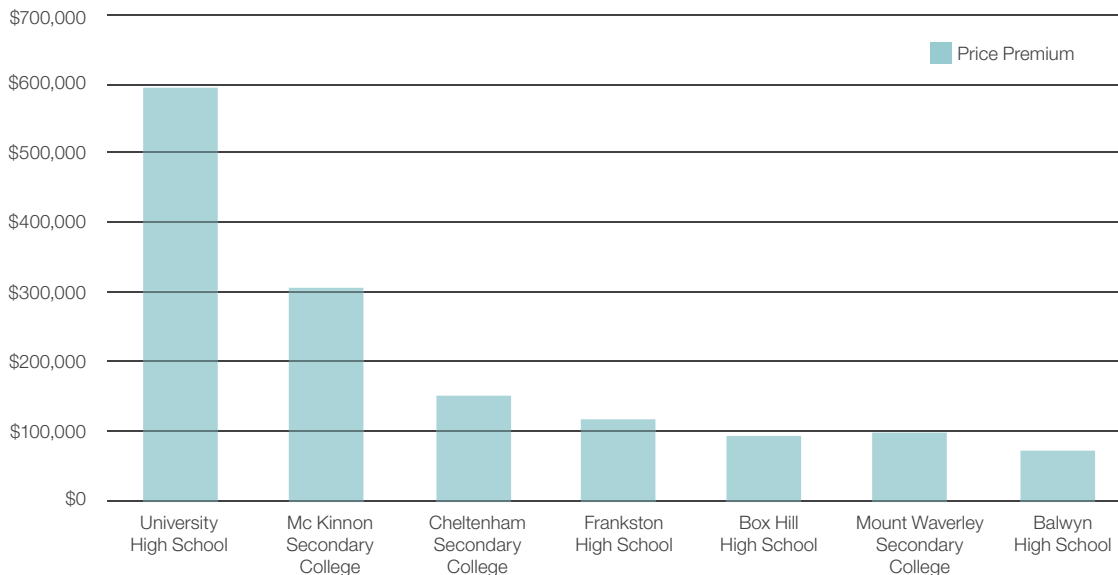
Source: EY analysis for Infrastructure Victoria

2. Education infrastructure

It is well established that there is a correlation between property values and being located in a school catchment area. Property owners located within a school zone (particularly high-performing schools) can indirectly benefit being located near the social infrastructure through increased property values.

Access to high quality amenities and services, in particular schooling and education, is a key driver for growth in property values across Melbourne. A 12-month analysis undertaken by the Real Estate Institute of Victoria Ltd (REIV) shows that homes located within the catchment area for some of Melbourne's best public secondary schools are fetching close to a \$60,000 to \$300,000 premium compared to those bordering the zone. However it should be noted that other factors may be at play and we suggest excluding University High School, where the \$600,000 premium is highly likely to reflect a range of other factors given the location of the zone in the Parkville precinct.

Figure 6 Property prices in school zones



Source: EY, adapted from REIV, 'Top of the class: school zones boost prices in 2016', 27 June 2016

Similarly, a regression analysis of property sales near Kororoit Creek Primary School in Melbourne's north-west (conducted by EY for this paper) found that nearby property prices were up to 37 per cent higher after the announcement of the school and up to 68 per cent higher after the school opened. These impacts are similar to impacts in other prominent school zones across Melbourne, highlighting the material value that the construction of a new school can have on property prices.

3. Health infrastructure

When a new hospital or health facility is built – or an existing one expands – there is likely to be increased demand for land near the hospital from new businesses seeking to take advantage of the growth in health-related goods and services. These businesses may include private clinics, consulting suites, medical supply companies and highly specialised medical services. Existing local businesses, such as cafes and retail, also benefit from an increased customer base of patients, staff and visitors.

There is evidence that this results in higher commercial land values within or near the hospital precinct. For example, during a valuation of a large parcel of land near a major hospital facility in outer Melbourne, an analysis by EY of confidential valuations data found that a nearby property transaction showed a premium of approximately 70 per cent. Similar results were found when analysing recent transactions near a major hospital facility in New South Wales, where it was observed that adjacent sites were selling at a premium in the order of 50 per cent or more to be co-located near the private hospital.

APPENDIX C: EXAMPLES OF VALUE CAPTURE MECHANISMS

Table 14 Value capture mechanisms: examples and variations

Mechanism	Description	Examples	Variations
Developer contributions	<p>One-off payments by property developers as a condition of development permission or rezoning.</p> <p>Payments are usually designed to recoup costs of infrastructure related to the development.</p>	<ul style="list-style-type: none"> Local Government Area (LGA) Development Contributions Plan system LGA Voluntary Planning Agreements NSW Special Infrastructure Contribution ACT Lease Variation Charge Victorian Growth Areas Infrastructure Contribution Crossrail (London) Community Infrastructure Levy 	<ul style="list-style-type: none"> May be designed to recoup costs of infrastructure related to the development (cost-recovery focus), or may be linked to gains from rezoning / permission (benefit-capture focus) Trigger: subdivision, rezoning or development application /approval Funding: a specific project or a general funding pool Amount: \$/ha, \$/sqm floor space, \$/dwelling, % of development value, etc.
Betterment levies	<p>Recurrent payments by landowners regardless of development status.</p>	<ul style="list-style-type: none"> Crossrail (London) Business Rate Supplement (BRS) Gold Coast Rapid Transit levy Metropolitan Melbourne parks charge Congestion levy on off-street car parking in inner Melbourne (Vic) Commonwealth Capital Gains Tax (the closest existing precedent) Local Government Act 1989 (Vic) 'special rating' powers 	<ul style="list-style-type: none"> May be based on land or property value, be at a flat rate or area rate, or be based on land value uplift Limited in time or revenue collected (e.g. BRS), or ongoing Funding: could be project-specific (e.g. gains in a defined area and time period), or general Payment: could be on transaction, or recurrent based on official valuations Uplift levy could be based on growth in land value either since last transaction or above some base value
Property development air rights, asset sales, or leases	<p>Following completion of a project (or in conjunction with project delivery), government land is sold, development rights are granted, or commercial leases are created.</p>	<ul style="list-style-type: none"> Hong Kong Mass Transit Railway Southern Cross Station redevelopment Level Crossing Removal integrated development Portland Cascade station and airport light rail 	<ul style="list-style-type: none"> Land may either be already owned, or be acquired at pre-project values Development rights may be packaged with project delivery or contracted separately
Major beneficiary contributions	<p>Negotiated contributions from parties who will be significant beneficiaries from a project (or modifications to it)</p>	<ul style="list-style-type: none"> Crossrail (London) – contributions by Canary Wharf Group, Heathrow Airport, and Berkeley Homes Special payments from toll road concessionaires, airports, public transport operators, etc. 	<ul style="list-style-type: none"> Contributions could be financial or in-kind. Contributions could be linked to increase in activity/turnover, or expected cost reductions.

Source: EY analysis for Infrastructure Victoria

APPENDIX D: FUNDING VS FINANCING – TAX INCREMENT FINANCING

Funding and financing are separate but related concepts. They are often used interchangeably, but there is a difference.

Funding represents all the revenue needed to pay for infrastructure. It ultimately comes from the community by increasing government revenue (through increasing taxation or user charges) or reducing expenditure. Like general taxation and user charges value capture mechanisms can raise revenue, and are an alternative funding source for infrastructure investment.

Financing, affects when we pay for infrastructure. It refers to the set of arrangements (capital or debt) put in place up front to meet future project costs at a point in time. In the long run financing still needs to be serviced. When we borrow, the costs associated with debt such as interest expenses and repayments need to be paid using funding sources.

Some mechanisms referred to as ‘value capture’ also have a direct role in the financing of projects. The best known of these, the Tax Increment Financing (TIF) model, involves repayments of a project loan from growth in tax revenues above a pre-project baseline. As with other financing mechanisms (such as loans and Public Private Partnerships), this shifts the timing of the funding task and can also change risk allocation. In general terms, it allows a government to take revenues derived from increases in property values within a prescribed development area and use these ‘incremental’ tax revenues to fund the infrastructure and renewal projects that have significantly contributed to this property appreciation.

The manner in which TIF is implemented is varied, and different jurisdictions have adopted different methodologies. The application of TIF mechanisms has been particularly widespread in the US over a number of decades, where they are typically administered at the local government level through the operation of urban renewal areas or ‘TIF districts’. TIF schemes in the US are deployed to support the delivery of a range of community infrastructure assets and development opportunities, although there is mixed evidence about the benefits of TIF and its role in increasing property values in TIF districts.

In the US, the Federal Government provides additional assistance through financing mechanisms such as the Transport Infrastructure Finance and Innovation Act (TIFIA) program. TIFIA provides Federal credit assistance in the form of direct loans, loan guarantees and standby lines of credit to finance surface transportation projects of national and regional significance. These loans must be repayable, in whole or in part, from tolls, user charges or other dedicated revenue sources such as special assessments and tax increment revenues from land sold and developed. The program has provided a mechanism by which project proponents have been able to develop beneficiary-pays funding strategies for projects, and leverage the revenues to raise finance to meet construction cost obligations.

More recently, the Scottish Parliament has moved to support the application of TIF as a means of funding public sector investment infrastructure judged to be necessary to unlock regeneration in an area, and which may otherwise be unaffordable to local authorities. The parliament has agreed to support up to six pilot schemes to explore the utility of TIF and use a ‘But-For’ test that specifies that the infrastructure required to unlock development in the area can only be delivered through the creation of the TIF mechanism and would not otherwise be deliverable by finance from the private sector and/or alternative public sector funding.

Approaches to financing such as TIF can be efficient and equitable where the funding source underpinning borrowings does not create a market distortion or disincentive to land developers, and is directly linked to wealth gains created by the project. There is also the potential for positive or negative treatment by credit agencies if the revenue stream can be clearly separated from traditional borrowing. However, challenges remain. In particular, in developing a TIF model for each project, care must be taken to avoid capturing natural, or background, taxation revenue. Studies show that this is often the case in the US, where poorly designed TIF schemes that effectively hypothecate existing revenues to urban renewal projects can undermine the ability of governments to fund service delivery and manage assets.

Although various interest groups have promoted TIF, it has not yet been adopted in Australia. Ultimately, the development of a financing strategy for any project will be bespoke and likely driven by the appetite and capacity of both government and private investors to finance the project, and the nature, risks, quantum and profile of the funding options taken forward.

APPENDIX E: CITY DEALS – A MODEL FOR CAPTURING ‘AUTOMATIC UPLIFT’

In the UK, a model for capturing automatic uplift accruing to other levels of government has been implemented in the form of ‘City Deals’. Under these agreements, growth in central government tax revenue attributable to investments by sub-national authorities is estimated and a portion returned to these parties, with this ‘earn back model’ helping to establish a rolling fund for infrastructure delivery by local governments. Essentially a codified contract between an economic region and the central government, City Deals have become important tools to support the UK Government’s devolution agenda and the growing role it creates for regional governments in infrastructure and service delivery in significant population and economic centres.

Each City Deal identifies a list of priority infrastructure projects to be delivered along with benchmarks of economic and productivity growth to be achieved. The recent Cardiff City Deals provides a good case study, as outlined below.

Benefits of the City Deals initiative include its focus on productivity and liveability, and its enhanced governance framework that sees greater collaboration and accountability between stakeholders, including shared local decision-making. It also relies more on growing efficient revenue sources and creating improved investment accountability by increasing transparency and sharing contributions to infrastructure funding in exchange for a share of any increase in tax receipts realised by the higher tiers of the government.

A relevant question is whether similar arrangements could work in Australia given its different allocation of revenue raising powers and delivery responsibilities across the three levels of government. While these possibilities are worthy of consideration, it is clear that a similar approach would be less effective as part of a state-based value capture policy, especially as the largest share of indirect tax gains linked to wider productivity growth underpinned by infrastructure investment flow to the Commonwealth Government. For similar arrangements to work in Australia, both state and Commonwealth governments would be required to participate.

This paper focuses on actions within the power of the state. Mechanisms for recouping a portion of tax revenue by agreement with the Commonwealth are therefore not discussed. However, betterment levies (which are discussed in this paper) are effectively a state-based uplift tax mechanism that would function much like Capital Gains Tax and tap broadly the same tax base.

Cardiff Capital Region City Deal

The Cardiff Capital Region, made up of 10 local authorities across southeast Wales, is the largest city region in Wales. It accounts for around half of all Welsh employment and gross value added (GVA) – a key measure of economic output. Despite this, the region’s GVA is lower than all but one of the largest English city regions. There are also challenges in enabling communities in the region to access economic opportunities.

The Cardiff Capital Region City Deal was agreed in March 2016. It has been allocated a £1.2 billion investment fund over a 20-year period, from which £734 million will be spent on the Metro project and Valleys line electrification.

Both the UK and Welsh Governments are contributing £500 million to this fund. The Welsh Government funding will be provided over the first seven years of the Investment Fund, from 2016/17 to 2022/23. The 10 local authorities in the Cardiff Capital Region will contribute a minimum of £120 million over the 20-year period of the Fund. In addition, over £100 million from the European Regional Development Fund has been committed to delivering the City Deal.

To receive the remainder of the funding, the Cardiff Capital Region will have to demonstrate, via an independent assessment every five years, that the investments have met key objectives and contributed to Welsh and UK economic growth. This remaining element could fund other schemes to support economic growth, including investment in further transport projects, housing and employment sites, or research and innovation facilities. The City Deal also aims to attract £4 billion of additional private sector investment, creating 25,000 new jobs and increasing the region’s GVA by at least 5 per cent over the investment period.

Source: Gareth Thomas, Andrew Minnis and Elfyn Henderson 2016, Growth in south-east Wales, National Assembly for Wales Research Service, 7 June 2016
<<https://assemblyinbrief.wordpress.com/tag/city-deal/>>



About us

Infrastructure Victoria is an independent advisory body, which began operating on 1 October 2015 under the *Infrastructure Victoria Act 2015*.


It has three main functions:

- preparing a 30-year infrastructure strategy for Victoria, to be refreshed every three to five years
- providing written advice to government on specific infrastructure matters
- publishing research on infrastructure-related issues

Infrastructure Victoria will also support the development of sectoral infrastructure plans by government departments and agencies.

The aim of Infrastructure Victoria is to take a long-term, evidence-based view of infrastructure planning and raise the level of community debate about infrastructure provision.

Infrastructure Victoria will not directly oversee or fund infrastructure projects.



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