
Value creation and capture

Using value creation and
value capture to fund the
infrastructure our cities
and regions need

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Value capture can reform the way we fund and finance the infrastructure we need



In April, we published our perspective on why we needed to introduce the concept of value capture and how it works. Here, we're going a step further to understand value capture through the benefits, beneficiaries, how it is created and captured.

Why do we need new approaches?

It is imperative for our regions' future sustainability, prosperity and well-being of their citizens that Central and Local Government meet the demand for transport and other public infrastructure.

Current trajectories in our high growth cities and regions is testing public sector capacity to deliver the required pipeline of projects. For example, Infrastructure New Zealand estimated Auckland's infrastructure funding gap at \$12 billion or \$400 million per annum for the next 30 years. This gap is now being recognised as a New Zealand problem, not just an Auckland one.

The value of value capture

Value capture is not a new concept – it has been used in various forms since the late 1800s for many city-shaping projects and is being actively considered now by the public sector.

At the moment, some groups who directly benefit from public investment in infrastructure are not required to contribute. Instead, the burden generally falls to taxpayers, ratepayers and direct users. Value capture can reform the way we fund and finance the infrastructure we need by extending the potential funding of projects beyond service users and current tax/ratepayers.



Funding infrastructure increases social and economic value to make our cities and regions more liveable



How does value capture occur?

Value capture occurs when revenues collected by governments can be linked to the direct benefits received by those who benefit from new, improved or replacement investment.

Value capture seeks to identify and quantify those revenue streams that can contribute towards project funding and the mechanisms that might be used to collect those revenues.

Value capture can occur because direct value is created by investments in infrastructure and this specific change in value can be directly assessed and validated.

Benefits of a value capture framework

What value capture achieves is to shift the funding focus from the narrower 'user pays', to a broader 'beneficiary pays' approach.

By focusing on beneficiaries, the scope of a value capture project can also consider more than just land value change, to other benefits and beneficiaries.

This enables the creation of a more equitable funding model, weighted towards those who benefit most from infrastructure delivery.

Challenges

For value capture to be an acceptable and viable policy option for the public sector, it must be able to provide long term sustainable revenue streams that can fund a pipeline of infrastructure projects.

Key methodological issues include:

- measuring the direct change in land values so there are minimal variations
- separating out the effects of the intended infrastructure from other factors affecting value
- defining an appropriate catchment around the infrastructure investment
- consideration of transport network hierarchies
- timing between when an uplift in value occurs and when the value is realised, potentially leading to complexities and fluctuations in revenue.



Benefits can be quantified to provide a value



What benefits will be created?

Opportunities and benefits: the starting points for value capture

Benefits are generated by opportunities. Each opportunity can deliver one or more benefits.

Value capture ‘opportunities’ are initiatives that can be created and delivered as part of or alongside the proposed infrastructure to meet the service need. For example, a new railway station and a shared pedestrian/cycle path are opportunities that could be delivered as part of a new rail alignment. Residential apartments or commercial development adjacent to the infrastructure are examples of opportunities that may be leveraged from the investment in rail.

A ‘benefit’ is an enhancement to amenity, to connectivity or to community outcomes and services related to an opportunity. It is a measure of outcomes arising from infrastructure not previously available that will generate positive or negative value.

Benefits and value

Value is the quantification or monetisation of the benefit that accrues to a beneficiary.

Direct value occurs when there is a demonstrable and material linkage between new infrastructure and the benefits arising for beneficiaries, as well as the time over which these benefits are delivered.

These potential benefits are identified, measured and valued through comprehensive data and modelling, including market surveys.

Beneficiary

A beneficiary is a segment of the population whose position improves because of the infrastructure investment. To be a beneficiary, you do not need to use the infrastructure. However, a beneficiary must have a direct physical or spatial relationship to the proposed infrastructure.

Beneficiaries of an infrastructure project may include:

- developers
- property owners (residential, commercial, retail, industrial)
- employers
- businesses
- public transport operators/users
- road users



In general, the benefits are highest where the infrastructure is delivered and progressively diminish



Where will benefits occur and when?

The benefits associated with infrastructure delivery would result from:

On-site at infrastructure – direct benefits associated with or physically connected to the design, procurement and delivery of the infrastructure. This could take the form of land value created by or within a project boundary or other services that could be delivered as part of a project.

Proximal to each area of infrastructure delivery – property within the approximate area (but not part of the project) that receives a benefit from the infrastructure being delivered.

This benefit can and often does accrue in increasing value during the time that the infrastructure is proposed, planned and then delivered.

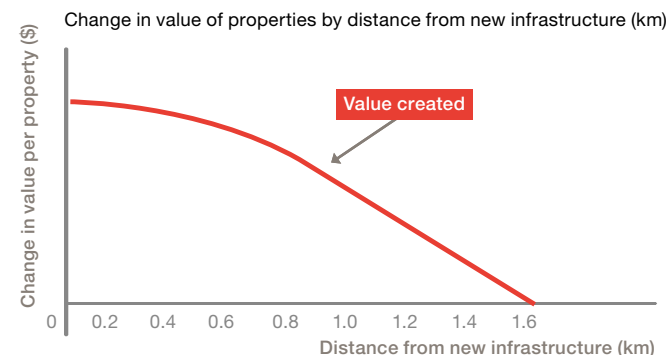
This includes benefits relating to indirect accessibility improvements such as railway station redevelopments, new scheduling for train timetables, longer trains, etc.

Within the city or region of each area of infrastructure delivery – benefits which arise to the wider municipal area surrounding the infrastructure from accessibility improvements, for example, reductions of congestion in peak travel times on other roads as a result of the new infrastructure delivered.

Value models need to be scalable to address both localised or site-specific opportunities as well as opportunities within projects of a larger scale, such as an urban precinct, or a metropolitan region.

Determining the boundaries for a value capture project – the accessibility or walkability index has a direct influence on the value individuals receive from new infrastructure. Many studies globally confirm that accessibility to infrastructure is based on a 10 minute walkable distance or approximately 800m.

We are able to demonstrate that values from infrastructure are, in general, highest at the location where the infrastructure is delivered, and progressively diminish. That is, the potential area of influence of an opportunity is approximately 1,600m from the core project.



NB. Graph used for illustrative purposes only.



By knowing what is valued, decision-makers are better placed to assess infrastructure options



How much value will be created?

Analysing and quantifying the potential value created from infrastructure is fundamental to a value capture project. Value is the quantification of the benefit that accrues to a beneficiary.

Calculating value uplift

To calculate the direct value created by infrastructure, the first step is to understand what constitutes value.

PwC has established robust models that are able to unbundle and measure the value contribution of the many attributes that add together to build the change in value in a given location. By measuring the value contribution of a broad set of demographic and property attributes, and then predicting how those attributes will move as the result of a project, we can arrive at the change in value.

The methodology assesses the direct value created from infrastructure, amenity and services over a specified geographic area starting at the individual dwelling or property level. Modelling can be limited to the site itself or can extend by defined radial increments.

Designing value capture so there are no unintended consequences

Increasing the amenity and connectivity for properties that are located near a value capture project increases the number of possible beneficiaries.

This would increase the potential value a project could capture, while also enhancing the viability of the project.

A key feature of any successful value creation and value capture project should be to ensure that beneficiaries are willing to pay the costs so that there are no unintended consequences.

Optimising value

By understanding what is valued, decision-makers are better placed to assess infrastructure options to optimise capital allocation.

For individual infrastructure initiatives, our models are able to refine the scope of a project to optimise the opportunities and benefits, and hence the value that could be captured. The impact on different beneficiaries (such as investors, developers, land owners, existing businesses) can be assessed to maximise the value capture from a project.

The value created/captured will depend on:

- the number and type of opportunities identified
- the location of the opportunity relative to the infrastructure
- the period of time assessed
- the availability of one or more value determinants used to assess the value change from each opportunity
- and whether the value change is positive or negative.



The wide range of mechanisms used ensures the most equitable spread in capturing value from all beneficiaries



What value can be captured and when?

An assessment of value created does not necessarily mean the value can be captured. This is because:

- Firstly, there may not be an appropriate mechanism that can be used to capture the value.
- Secondly, beneficiaries may not accept that the assessment of the value created is valid and verifiable.

Value capture mechanisms

Mechanisms form the core element of a value capture project, and different types of projects may require different mechanisms. The most flexible option is to pursue a menu, or cocktail, of mechanisms. These could include benefit levies, charges on development and user charges.

New mechanisms can be designed specific to a value capture project or more broadly for a type of infrastructure.

To uphold the principle of ‘beneficiary pays’ it is important that there is an identifiable nexus that can be measured with a high level of precision, between the benefit, the beneficiary and the mechanism. It’s also important that beneficiaries aren’t charged twice

Features of mechanisms

The following features of mechanisms are critical to their validity:

- the timing of when it applies and whether it is a one-off or ongoing charge
- the geographic scale it applies to
- transparency and ease of implementation – includes administrative, legislative and compliance environment.

It is important to understand any potential incentives created by a mechanism that may negatively impact land use or transport choices.

Willingness to pay

Factors affecting a beneficiary’s ‘willingness to pay’ may include:

1. the portion of the value created is to be retained by the beneficiary
2. when payment becomes due
3. whether there is an equitable spread in capturing value from all beneficiaries.

On the grounds of equity it is advisable that at least 50 per cent of the value created is retained by the beneficiary, and that value capture does not occur before the infrastructure is operational. To accommodate individual circumstances, beneficiaries could be provided with a choice of when payment is made to accommodate their particular circumstances.

The PwC approach

Our end-to-end infrastructure and commercial planning offering is helping businesses and governments make the big decisions shaping the future of infrastructure. We evaluate options, optimise trade-offs, and produce bankable quality revenue forecasts. This leads to better decision-making ability and realisation of benefits for multiple beneficiaries and stakeholders. Our bespoke methodology leverages our industry expertise, access to best practice experts across the entire project lifecycle and our deep understanding of the process to drive strategic, evidence based decision-making.

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