



10 May 2019

Independent Pricing and Regulatory Tribunal  
2-24 Rawson Place  
SYDNEY NSW 2000

Dear Sir/Madam

**Review of Indexation of Contribution Rates**

Thank you for the opportunity to comment on the Discussion Paper concerning the Review of Indexation of Contribution Rates.

Please find enclosed a submission prepared by GLN Planning that represents Council's views on this matter.

It also recommends a review of the situation where the NSW Government Threshold on non IPART plans has not been indexed for a number of years, reducing the ability of Council's to levy for provision of reasonable services.

If you have any further questions on the submission please contact Allan Shooter on [REDACTED] or Kyou Won Rhee on [REDACTED]

Yours sincerely

[REDACTED]

Mitchell Noble  
Manager Spatial Planning



# IPART REVIEW OF INDEXATION OF CONTRIBUTION RATES

## SUBMISSION

**Canterbury-Bankstown Council**

GLN Planning Pty Ltd Trading as GLN Planning  
ABN 39 585 269 237

A Level 10, 70 Pitt Street Sydney NSW 2000  
P GPO Box 5013, Sydney NSW 2001  
E [info@glnplanning.com.au](mailto:info@glnplanning.com.au)  
T (02) 9249 4109 F (02) 9249 4111

[glnplanning.com.au](http://glnplanning.com.au)



# IPART Review of Indexation of Contribution Rates

Submission

May 2019

**Prepared for**

Canterbury-Bankstown Council

**By**



ABN 39 585 262 237  
A Level 10, 70 Pitt Street, Sydney 2000  
P GPO Box 5013, Sydney NSW 2001  
T (02) 9249 4100 F (02) 2949 4111  
E info@glnplanning.com.au





## Table of Contents

<b>Summary of recommendations for IPART to consider</b>	<b>1</b>
<b>Introduction</b>	<b>2</b>
City of Canterbury-Bankstown’s interest in this review	2
<b>Responses to IPART indexation questions</b>	<b>4</b>
An alternative indexation approach to CPI and development context approaches	4
Appropriate indexes to adjust the cost of works or land in a plan	8
Indexing the cost of works	8
Indexing the cost of land	9
Reasonable Land Value Index (LVI) methodologies	11
<b>Other issues – regular plan review and cashflow management</b>	<b>13</b>
Indexing the IPART threshold	13
Regular reviews of contributions plans	13
Cashflow management and timing of land acquisitions	13

## Figures

Figure 1	CPI vs Established House Price Index (Sydney), quarterly % change
Figure 2	CPI vs Established House Price Index (Sydney), through the year % change
Figure 3	Comparison of CPI and various ABS NSW PPIs

## Summary of recommendations for IPART to consider

**Recommendation 1:** The use of CPI is a widely accepted and understood indexing method and can be a suitable method for some circumstances. It is usually not the most cost reflective approach in the context of cost estimates in a plan but it has the advantage of being consistent with the only method allowed under the EP&A Regulation for indexing the costs of facilities provided in advance of development (i.e. recoupment of existing facility costs).

**Recommendation 2:** An index, by definition, reflects the change in the price of a product or service from one period to the next. Therefore, the change in the price of land or the price of infrastructure works is not usually associated with an infill or greenfield sites – the change is market driven – and so an approach which seeks to limit different approaches to different development contexts (e.g. greenfield vs infill or metropolitan vs non-metropolitan areas) is not appropriate and may result in unreasonable contributions.

**Recommendation 3:** Councils should be allowed to apply any published or readily available index to the contribution rates in a contributions plan provided that it is broadly representative of the costs in the plan to be incurred over time. This may include multiple indexes being applied to different infrastructure cost groups, such as the Producer Price Indexes that were recommended by IPART in 2014.

**Recommendation 4:** The use of CPI is often not the most appropriate method for indexing future land acquisition costs, particularly for contributions plans in the Sydney metropolitan area. Indexes that would be appropriate for adjusting land acquisition costs need to be broadly representative of the relevant land area in a plan. The type of indexes which are appropriate to apply to land costs include:

- (a) the Established House Price Index (EHPI) for Sydney infill areas
- (b) land value indexes constructed based on periodical land valuations or LGA sales data for any area
- (c) 'off the shelf' products such as indexes provided by Residex, based on localised property sales data; and once again, this can be applied to any area
- (d) an 'adjusted cost indexing' approach like that described in **Appendix A**.

**Recommendation 5:** It is reasonable for councils to construct land value index using independent land valuations and, ideally, the index should be as site-specific as possible and can be weighted for different land uses (but council resources can still preclude this from being a viable option).

**Recommendation 6:** That the State Government index the contribution rate thresholds for referral of contributions plans to IPART from the date on which those thresholds were introduced, so that councils can continue to afford to provide a reasonable level of services.

**Recommendation 7:** Indexing contribution rates as a contributions plan administration function needs to be put in its proper context. It is only ever an interim measure to address price escalation between plan reviews and is not a substitute for a council regularly reviewing the projected cost of facilities in its contributions plans.

## Introduction

IPART is seeking stakeholder views on how councils should index contribution rates between the adoption of a local infrastructure contribution plan, and the revision of the contributions plan. In particular, it is seeking feedback on different approaches to indexing contribution rates to account for changing land costs.

Canterbury-Bankstown Council is keen to contribute to this review given the importance of the appropriate indexation of infrastructure costs and contributions rates in the City's contributions plans. GLN Planning has been commissioned to prepare this submission on Council's behalf.

Council wishes to emphasise our view that it is important to allow flexibility regarding the indexation of estimated infrastructure costs and contributions rates, consistent with the *Environmental Planning & Environment (EP&A) Act 1979* (EP&A) legislation. So long as the index is at least broadly representative of the relevant price inflation, all councils should be allowed discretion to determine the most appropriate index approach in the context of a contributions plan and its broader contributions framework, with consideration of both cost recovery and administrative implications.

Below we provide some context to the City of Canterbury-Bankstown's development contributions framework and associated interests in this review and responses to the stakeholder questions posed in IPART's discussion paper of 11 April 2019.

### City of Canterbury-Bankstown's interest in this review

The City of Canterbury-Bankstown is NSW's largest local government area (LGA) by population being home to an estimated 381,212 people in 2019.<sup>1</sup>

The City is forecast to continue to grow strongly over the next 20 years with an estimated growth of 1.2% per annum. It is forecast that the population will reach 463,311 by 2036, an increase of just over 100,000 people in two decades. To cater for this growth, an extra 40,000 dwellings will be required.<sup>2</sup>

A large portion of the forecast population and dwelling growth is expected to be around the main activity centres of Bankstown CBD, Campsie train station and other centres along the new metro line. Dwelling growth is expected to be largely medium to high density developments.<sup>3</sup>

Local jobs growth in the next 20 years is projected to be in the order of 23-25,000. Sectors projected to experience the strongest job growth are those related to serving residential needs including health care and social assistance, education and training and construction.<sup>4</sup>

With such significant growth anticipated, residential and non-residential development will both contribute to the demand for new or upgraded infrastructure in the City of Canterbury-Bankstown. It is therefore critical for Council to continue to utilise the developer contribution mechanisms under EP&A Act (s7.11 or s7.12) so that it can collect enough revenue to fund the infrastructure needed to

---

<sup>1</sup> Forecast .id (<https://forecast.id.com.au/canterbury-bankstown>).

<sup>2</sup> Prepared by .id the population experts, *City of Canterbury Bankstown – Economic Profile*, August 2018, p 54.

<sup>3</sup> Prepared by .id the population experts, *City of Canterbury Bankstown – Economic Profile*, August 2018, p 55.

<sup>4</sup> Prepared by .id the population experts, *City of Canterbury Bankstown – Economic Profile*, August 2018, pp 56-57.

support growth, including land requirements. As part of these plans, it is also important for Council to be able to index costs and rates in the plan, as appropriate, to ensure that the revenue receipts at any stage in its lifespan are not diminished in real terms by the impact of inflation.

Canterbury-Bankstown Council currently administers three contributions plans:

- *Section 94A Development Contributions Plan - Bankstown (amendment no. 4)* – originally adopted by the former Bankstown City Council on 26 May 2009 and the last amendment was adopted on 27 June 2017.
- *Canterbury Town Centre and Riverfront Precinct Development Contributions Plan* - originally adopted by the former City of Canterbury Council on 11 August 2011.
- *Canterbury Development Contributions Plan 2013* – originally commenced by the former City of Canterbury Council on 1 October 2013 and the last amendment was adopted on 27 June 2017.

The latter two s7.11 plans both include clauses for CPI indexation of the contributions rates and Council publishes the updated rates periodically on its website. The plans do not apply a land value index however land acquisition costs do make up significant shares of the work schedules in the Bankstown s94A (now effectively a s7.12) plan (with around \$16.1m in estimated land acquisition costs) and the 2013 Canterbury s7.11 plan (with around \$22.9m in estimated land acquisition costs).<sup>5</sup>

Council is currently reviewing the Bankstown area s94A plan because the effective rates that apply to residential development in the former Bankstown LGA (i.e. they do not exceed 1% of development costs) are much lower than the rates that apply to similar developments in the former Canterbury LGA, which are subject to s7.11 contribution rates up to the Minister's cap of \$20,000 per dwelling.

The new Bankstown area plan is likely to include both s7.11 and s7.12 mechanisms, and the schedules are likely to include significant land acquisition costs.

Council therefore has a significant interest in IPART's ultimate recommendations in terms of indexation of contributions.

---

<sup>5</sup> These estimates are based on the values in the plan and are not indexed to current dollars. There is also \$720,000 in land acquisition costs in the Canterbury Town Centre and Riverfront Precinct plan.

## Responses to IPART indexation questions

### An alternative indexation approach to CPI and development context approaches

#### **Q1. In what circumstances should contributions plans adopt an index other than the CPI (All Groups) for Sydney to adjust contribution rates?**

The EP&A legislation allows contributions plans to collect reasonable contributions for infrastructure works and land costs (s7.11 of the EP&A Act). It also allows the contributions to be indexed, without a plan amendment, quarterly or annually by readily accessible index figures adopted by the plan (such as the CPI) or index figures prepared by or on behalf of the council, also specifically adopted by the plan (cl32(3)(b)(i)(ii) of the EP&A Regulation).

The EP&A Regulation (cl 25I) also states that where costs need to be recouped (e.g. for land already acquired or works completed), these costs can only be indexed by the CPI.

Hence, the legislation explicitly provides for flexibility regarding how the estimates of costs not yet incurred, as reflected by the quantum of the contributions in a plan, are indexed, so long as the contributions are still reasonable. Councils have discretion to consider how cost reflective an index is and other administrative implications specific to the plan, in deciding on an appropriate index to adopt.

Many councils, such as Canterbury-Bankstown apply only the CPI to the indexation of contributions rates in a plan. This has the main benefit of being administratively simple to implement and understand. It also ensures that contributions rates are relatively smooth over the period of the plan and that there is blanket indexation of any costs to be recouped in the plan by CPI, which is consistent with cl 25I of the EP&A Regulation.

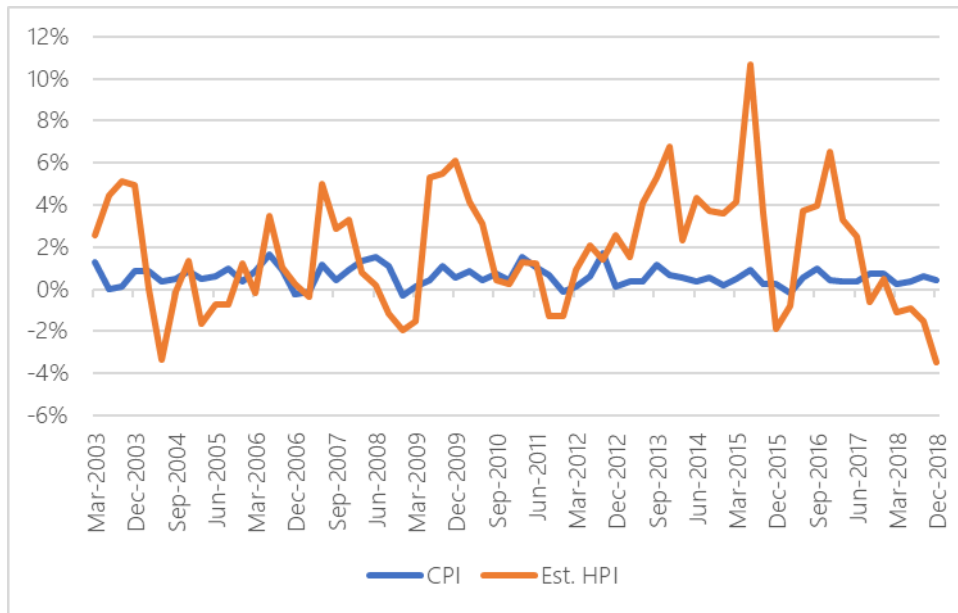
However, it is also becoming increasingly common practice for councils to apply other indexes than the CPI to contributions rates in a plan, particularly forms of land price or land value indexes. The main reason is because land value growth in NSW, and particularly in Sydney, has far outpaced the rate of consumer price inflation captured by the CPI. In the 10 years to December 2018, CPI growth was 25% or an average of 2.5% per annum compared with growth in the Established House Price Index for Sydney of 94% or average annual growth of 9.4%.

**Figures 1 and 2** below compare the percentage growth of CPI (All groups, Sydney) and the Established House Price Index for Sydney over the last 15 years and demonstrate how house price growth has consistently exceeded CPI growth over this period.

The figures also show how property price growth is more volatile, particularly from quarter to quarter. The quarterly growth illustrated in **Figure 1** is much more volatile than the smoother 'through the year' growth evident in **Figure 2** but periods of property price growth are still inevitably followed by declining values, even if for shorter time periods.

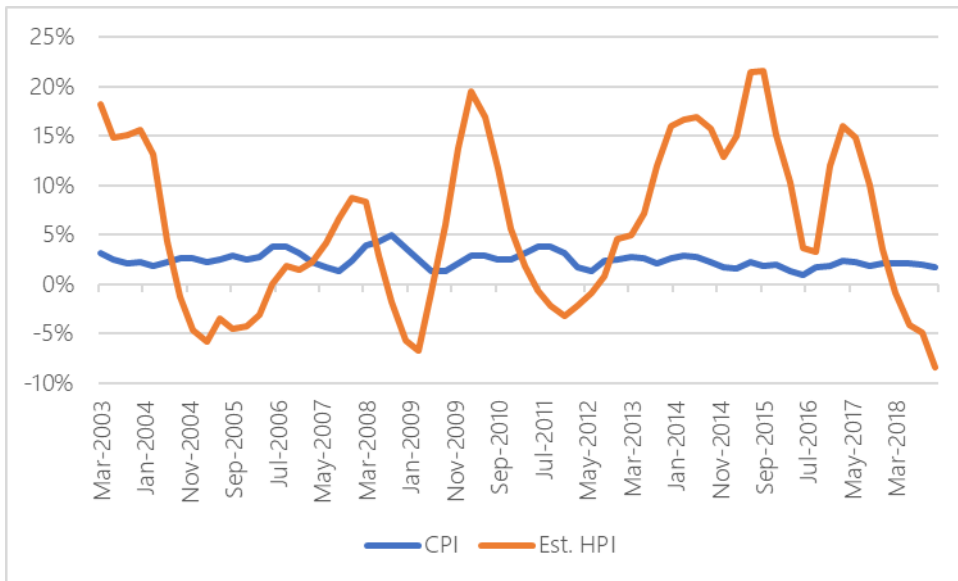


Figure 1 CPI vs Established House Price Index (Sydney), quarterly % change, Mar03-Dec18



Source (and for Figure 2): ABS CPI (All groups) Sydney (no. 6401) and Established House Price Index (Sydney) (no. 6416).

Figure 2 CPI vs Established House Price Index (Sydney), through the year % change, Mar03-Dec18



The market spikes in property price values and subsequent increases in land acquisition costs can pose considerable financial risk to a council in a contributions plan. Risks in the plan are increased when high value land acquisitions are concentrated within a period of rapid land price growth, and at times, this is unavoidable. For example, a land owner might demand that their land be acquired immediately for hardship reasons, or a land acquisition might be critical to allow key enabling infrastructure to be provided in a new release area.

Likewise, significant and sudden property market declines will not flow through to contribution rates without the application of a land price index, until the plan is reviewed.

Reactive plan reviews at any time are unlikely to be practical for a council within the implementation of its broader contributions framework, and so the risk of over recovering revenue in this scenario increases without the adoption of a land value index.

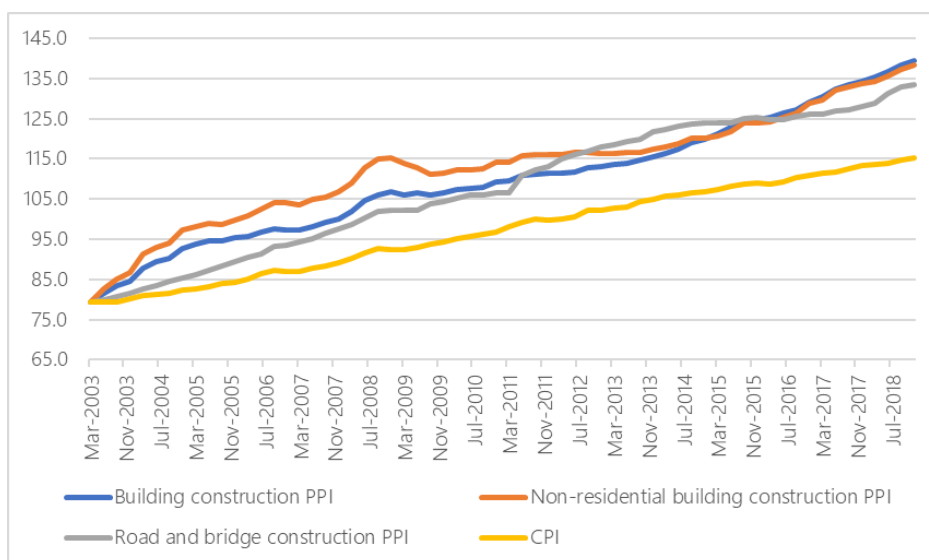
If significant contributions are already collected before a plan review (when the original cost estimates can be amended), then it can be difficult for councils to adjust contributions to establish the necessary revenue for the costs of the land acquisitions. The adoption of a land value index certainly mitigates this risk.

Assuming an upward trend in house prices over the longer term, a contributions plan which adjusts land cost contributions only by the CPI will usually result in lower revenue to a council, all else being equal, than a plan which adjusts these contributions by a land value index. And councils should have flexibility to ensure that a plan can generate the funds it needs for infrastructure requirements.

When a land price index is implemented, the plan should initially isolate land acquisition costs from other costs in the plan and apply the selected land value index to this component of costs only.

Certain infrastructure construction prices have also tended to track higher than the CPI historically, as shown in **Figure 3**. This figure compares a range of producer price indexes (PPIs) for NSW construction categories rebased to the CPI for Sydney from March 2003.

**Figure 3 Comparison of CPI and various ABS NSW PPIs (rebased), Mar03-Sep18**



Source: ABS PPI Road and Bridge Construction Index for NSW (no. 3101), ABS PPI Non-Residential Building Construction Index for NSW (no. 3020) and ABS PPI Building Construction Index for NSW (no. 30).

The growth in the PPIs is generally much less than the property price growth for Sydney over this period.

However, PPI growth is still generally higher than the CPI growth and this might provide a reason for some councils to consider that the additional administrative complexity still warrants the application of a PPI approach in a contributions plan. Compared with 45% CPI growth from March 2003 to December 2018, growth in the PPIs has amounted to:

- 75% for the Building Construction (NSW) PPI recommended by IPART to index community facilities costs

- 74% for the Non-residential building construction (NSW) PPI recommended by IPART to index open space facilities costs, and
- 68% for the Road and bridge construction (NSW) PPI recommended by IPART to index roadwork and stormwater facilities costs.<sup>6</sup>

It might also be a preferred approach because the PPIs are much less volatile than the Established House Price Index from quarter to quarter, which provides for smoother contribution rate changes.

Another issue to consider is whether an alternative index choice to the CPI for contributions rates is still reasonable when all cost estimates for works not yet completed and land yet to be acquired will eventually become actual works or land costs to be recouped in a plan (as cl 25I of the EP&A Regulation specifies that only CPI can be used to index recoupment costs). If a plan is not reviewed, the original cost estimates will continue to be indexed by the relevant index adopted by the plan, regardless of the timing of infrastructure provision and actual cost outcomes.

We understand that there is no apparent precedent in the legal system to test how the legislation would be interpreted on this issue concerning alternative indexes (to CPI) and cost recoupment.

The intent of the EP&A legislation regarding contributions mechanisms is for reasonableness of the contributions to prevail given that there will be inevitable 'overs' and 'unders' in estimating the cost of providing infrastructure facilities. An index might over or under recover contributions for a certain number of periods, just as the original cost estimates might over or under recover contributions because the actual costs are different to the estimate, and the legislation is apparently based on the fact that those differences should more or less balance out over time.

If an index is reasonable in that it is broadly representative of the costs in the plan to be incurred over time, and it is applied to enough cost estimates in the plan to warrant the application of the index (relative to actual costs to be recouped), then it should be permitted to be applied by a council.

The onus is on a council then to review a plan when the costs in a plan are no longer adequate or reasonable, in the context of actual cost outcomes. We have discussed the importance of regular reviews of plans later in this submission.

**Recommendation 1:** The use of CPI is a widely accepted and understood indexing method and can be a suitable method for some circumstances. It is usually not the most cost reflective approach in the context of cost estimates in a plan but it has the advantage of being consistent with the only method allowed under the EP&A Regulation for indexing the costs of facilities provided in advance of development (i.e. recoupment of existing facility costs).

---

<sup>6</sup> PPIs are recommended in IPART, *Local Infrastructure Benchmark Costs – Costing Infrastructure in Local Infrastructure Plans - Final Report*, April 2014 (IPART benchmark report), pp 68-69 and various IPART contributions plan assessments.

**Q1. Part 2: Is there a need for different approaches in different contexts (e.g. greenfield vs infill or metro vs non-metro)?**

An index, by definition, reflects the change in the price of a product or service from one period to the next. Therefore, the change in the price of land or the price of infrastructure works is not usually associated with an infill or greenfield sites – the change is market driven – and so an approach which seeks to limit different approaches to different development contexts (e.g. greenfield vs infill or metropolitan vs non-metropolitan areas) would not be appropriate as a guiding principle.

It would also be inconsistent with the intent of the legislation, since it provides councils with the flexibility to choose the appropriate index for the circumstances of the plan.

While greenfield plans will generally incorporate relatively high land acquisition costs, infill plans can still include significant land acquisition costs at times, which might warrant the need to adopt a land price index. If the index is broadly representative of the relevant costs (prices) in the plan, then it would still be reasonable.

Different indexation approaches will still be adopted by councils due to the nature of the development contributions framework, the available resources to implement the framework and the extent of financial risk the council might face in funding local infrastructure for growth. Smaller, regional councils will have fewer resources than a large metropolitan council to implement a land value index which requires periodic, site-specific land valuations for example, and so might prefer a less expensive index approach (e.g. such as an off-the-shelf product based on sales data).

Also, in regional areas, market shifts in land values might be much more muted than in Greater Sydney, and so in that situation the application of the CPI to index both land and works costs would be administratively simple and effective outcome.

**Recommendation 2:** An index, by definition, reflects the change in the price of a product or service from one period to the next. Therefore, the change in the price of land or the price of infrastructure works is not usually associated with an infill or greenfield sites – the change is market driven – and so an approach which seeks to limit different approaches to different development contexts (e.g. greenfield vs infill or metropolitan vs non-metropolitan areas) is not appropriate and may result in unreasonable contributions.

## Appropriate indexes to adjust the cost of works or land in a plan

**Q2. What indexes, other than CPI, might be appropriate for adjusting:**

- **Contributions for the cost of works (i.e., construction of transport and stormwater management infrastructure and open space embellishment)?**
- **Contributions for the cost of land required for local infrastructure?**

### Indexing the cost of works

As mentioned, IPART already recommends the use of ABS producer price indexes (PPIs) instead of the CPI to escalate works cost estimates to current dollars in a plan.

It accepts that an industry-specific index that captures cost movements for the relevant infrastructure category is likely to better reflect changes in councils' costs of delivering infrastructure than the CPI.

It recommended the use of ABS PPIs over the privately produced indices because they are:

- specific to the building or road construction industry in NSW (constructed for each state or territory)
- publicly available and transparent
- published quarterly, and
- not too costly or complex to obtain and administer.<sup>7</sup>

Therefore, these PPIs could also be suitable to index contributions for the cost of works yet to be undertaken in a plan, with the possibility of a tailored index (combining multiple indexes with appropriate weightings) to apply to the relevant base costs for different infrastructure facilities.

**Recommendation 3:** Councils should be allowed to apply any published or readily available index to the contribution rates in a contributions plan provided that it is broadly representative of the costs in the plan to be incurred over time. This may include multiple indexes being applied to different infrastructure cost groups, such as the Producer Price Indexes that were recommended by IPART in 2014.

### Indexing the cost of land

Indexes that would be appropriate for adjusting land acquisition costs need to be broadly representative of the relevant land area in a plan.

The type of indexes which are appropriate include:

- The Established House Price Index (EHPI) for Sydney infill areas
- Land value indexes (LVIs) constructed based on periodical land valuations or LGA sales data for any area. In particular, the lack of readily available data on land values in greenfield areas might require a registered land valuer to provide reliable estimates of the land cost rate(s), and the additional costs involved. There can also be different statistical approaches which utilise land valuation data, as discussed later in this submission.
- Off the shelf products such as indexes provided by Residex, based on localised property sales data; and once again, this can be applied to any area.

In IPART's assessment of the *Camden Growth Areas Contributions Plan (2018)*, it endorsed, in principle the approach advised by Camden Council (see Box 9.2 extract from the IPART assessment report over page).<sup>8</sup>

---

<sup>7</sup> IPART benchmark report, p 69.

<sup>8</sup> In its land costs information paper (April 2018), IPART has not endorsed any particular LVI approach but suggests that LVIs can constitute reasonable indexes to be adopted by a plan to index land contributions.

This indexation approach appears to take the sum of the revised estimated costs over the original estimated costs in the plan, thus seeking to account for actual land purchases each period.

The formula is as follows:

$$\frac{\text{Estimated cost of land to be acquired (indexed by LVI)} + \text{Cost of land acquired (indexed by CPI)}}{\text{Original estimated cost of land to be acquired in the plan}}$$

The main benefits of this approach are that:

- It adjusts for actual purchase costs and indexes these costs by the CPI in accordance with the EP&A Regulation.
- It also allows acquisition costs to be indexed by a market-based LVI.

### **Box 9.2 Council's method for calculating the land value index**

The Land Value Index (LVI) for a given period is calculated as follows:

1. Council engages a qualified valuer to prepare a valuation report with estimated average market values (\$/sqm) for each category of land use in the precinct.
2. Council recalculates the total cost of acquiring land in the contributions plan.
  - a) Council identifies all land in the plan that it has acquired. It adds together the purchase price for all acquisitions (indexed by the CPI All Groups for Sydney) to derive the total **cost of land already acquired**.
  - b) Council applies the updated average market values (from step 1) to the remaining land in the same way it did when preparing the plan to derive the total **cost of land yet to acquire**.
  - c) Council adds the total cost of land already acquired (2a) to the total cost of land yet to acquire 2(b) to obtain the **revised estimated cost of land in the plan**
3. Council compares the **revised estimated cost of land** to the estimated cost of land in the base period of the plan to calculate the LVI.

**Source:** IPART based on correspondence with Camden Council.

The main downside is that, because it essentially calculates a new average contribution over the life of the plan, assuming prices increases are positive, earlier contributions received will always be lower than in the current period. Therefore, the average rate applied in the latest period would generally under-recover the revenue needs for the plan, overall. **This under-recovery of costs would occur even if all land acquisition costs were as estimated in a plan.**

We note that a variation of this average cost indexation approach could be an index which adjusts the rates for the actual cost of acquisitions in the plan as suggested in **Appendix A**. It is likely to provide for better cost recovery in a rising property market than the average cost indexation approach. Some flexibility or discretion in application is still required. For most councils, the complexity of this approach is likely to outweigh the cost reflective nature of the index, and for this reason, we still recommend the list of indexes as noted above, without automatic adjustment for actual costs incurred.

**Recommendation 4:** The use of CPI is often not the most appropriate method for indexing future land acquisition costs, particularly for contributions plans in the Sydney metropolitan area. Indexes that would be appropriate for adjusting land acquisition costs need to be broadly representative of the relevant land area in a plan. The type of indexes which are appropriate to apply to land costs include:

- (a) the Established House Price Index (EHPI) for Sydney infill areas
- (b) land value indexes constructed based on periodical land valuations or LGA sales data for any area
- (c) 'off the shelf' products such as indexes provided by Residex, based on localised property sales data; and once again, this can be applied to any area
- (d) an 'adjusted cost indexing' approach like that described in **Appendix A**.

### Reasonable Land Value Index (LVI) methodologies

#### **Q3. If a plan adopts a land value index (LVI):**

- **Is it reasonable for councils to construct the LVI using independent land valuations?**
- **Should the LVI be specific to the composition of land in the plan's catchment area (precinct specific), the local government area (LGA) or a broader region (e.g., Greater Sydney house prices)?**

It is reasonable for councils to construct LVI using independent land valuations. This can provide the most site-specific estimate available of the land value(s). In greenfield sites, this can be one way to ensure that the index is as cost reflective as possible. It can also be important in infill sites where there may be fewer, but significantly high cost, land acquisition sites included in the plan.

Liverpool City Council provides an example of a council which is currently adopting a market-based indexation approach for its suite of greenfield contributions plans and incorporating periodic land valuations to construct the quarterly indexes tailored to each plan area.

Ideally, an LVI will be as site-specific as possible as in the Liverpool case. The Valuer General's recent report on land values in NSW indicated that in the 12 months to 1 July 2018, there was no single residential market trend, with mixed outcomes in land value movements across the state and across the Greater Sydney area. Different locations were impacted by different social, geographic and economic factors leading to increases and decreases specific to those locations.<sup>9</sup>

Residential land values in the Sydney Central region (which includes Canterbury-Bankstown) recorded an increase of 2.1%, the Sydney East region increased by 3.2% and the Sydney West region had a 3.8% increase.

However, should a council not wish to incur the cost of regular land valuations, it should also have the flexibility to adopt a different land price indexation approach. It must weigh the administrative cost of specificity against the simplicity and cost benefits of a broader approach which might incorporate readily available indexes (in the case of the EHPI for a Sydney infill area) or a tailored

---

<sup>9</sup> NSW Valuer General, Valuer General's report on NSW land values at 1 July 2018, 8 January 2019.

product by a private provider (which is generally LGA-based). There are currently limited options for LGA-based LVIs which are already publicly available.

Councils only receive new land values for rating from the Valuer Generals at least every three years and other publicly available property sales data would still require specialist expertise to adapt to a suitable index. One of the benefits of commissioning a private provider to construct a customised index based on localised sales data is that it can be weighted for different land uses, since commercial, industrial and residential land prices can have different growth paths.

Ultimately, LGA or regional based LVIs, even if residential based only, are still going to be more cost-reflective than the CPI which tracks consumer price inflation, not land prices.

**Recommendation 5:** It is reasonable for councils to construct land value index using independent land valuations and, ideally, the index should be as site-specific as possible and can be weighted for different land uses (but council resources can still preclude this from being a viable option).



## Other issues – regular plan review and cashflow management

### Indexing the IPART threshold

While this review concentrates on indexing contribution rates in contributions plans, serious consideration also needs to be given to the retrospective and ongoing indexing of the contribution rate threshold for referral of plans to IPART that was set by the State Government.

The current s7.11 cap of \$20,000 per residential lot or dwelling for infill areas – which also acts as the threshold for referral of plans to IPART – has not altered since its introduction in 2010.

While councils can index the contribution rates in their plans, this practice is confined by this threshold, which limits the extent to which councils can provide a reasonable level of services.

It is inconsistent to allow contribution rates to be indexed on the one hand, but on the other hand not adjust the IPART threshold in line with an inflation index, such as Sydney CPI.

**Recommendation 6:** That the State Government index the contribution rate thresholds for referral of contributions plans to IPART from the date on which those thresholds were introduced, so that councils can continue to afford to provide a reasonable level of services.

### Regular reviews of contributions plans

As far as adjustment of contribution rates in a contributions plan is concerned, indexing is an *interim measure to address price escalation between plan reviews* and is not a substitute for a council regularly reviewing the projected cost of facilities in its contributions plans.

Regular review of the estimated cost of each item of local infrastructure in a contributions plan (say on an annual basis) should be done as the evolving cost of an item from concept to detailed design (particularly for expensive items) often has greater impacts on the financial sustainability of a contributions plan than general inflation effects.

That is, the goal of contribution rates in contributions plans keeping pace with project costs is best achieved through use of **BOTH** a simple and appropriate indexing methodology (to address price escalation on a short term / quarterly basis) and the regular review of all estimated project costs by staff, quantity surveyors and other relevant professionals (to re-calibrate costs through the often longer term design phase).

**Recommendation 7:** Indexing contribution rates as a contributions plan administration function needs to be put in its proper context. It is only ever an interim measure to address price escalation between plan reviews and is not a substitute for a council regularly reviewing the projected cost of facilities in its contributions plans.

### Cashflow management and timing of land acquisitions

Cashflow management and the timing of land acquisitions or infrastructure construction is also important for councils in implementing a contributions system. Even a market-based approach to land cost indexation cannot avoid mismatches that can sometimes occur between the timing of the

receipt of contributions revenues and infrastructure costs incurred. This is demonstrated by the example in the box below.

Consider an example where there are only two periods in a plan and 20% of land acquisitions occur by the end of the first period but 50% of contributions are collected at \$1,000 per lot (on say, 500 of 1,000 lots).

If the cost of land is originally \$1m for 10,000 sqm of land (so, \$100/sqm) and the market value of land increases by 10% at the start of the second period, then the loss on the remaining 80% of land acquisition (8,000 sqm) would be \$30,000.

This occurs even with the application of the 10% increase in land values to the contribution rate in the second period  $((500 * \$1,000 + 500 * \$1,100) - (2,000 * \$100 + 8,000 * \$110))$ .

Councils can adopt a Net Present Value (NPV) model in its contributions plan, which requires forecasting the timing of cashflows. This approach recognizes that councils usually acquire land (and deliver works) at different rates in a plan to the annual development yield achieved. It addresses the timing mismatch between expenditure and revenue with the application of a discount rate to net cashflows. The Hills Shire Council adopts this approach. It also incorporates different indexes to the CPI to forecast future costs in its model.

However, many councils are reluctant to adopt an NPV model approach because of the need to forecast cashflow timing and future price changes (in a nominal model), and the complexity and added administrative burden involved. In the absence of an NPV approach, prudent cashflow management of the timing of acquisitions relative to the timing of contributions revenue will help to ensure that a council has enough funds for its acquisition needs.

# APPENDIX A: AN ADJUSTED LVI APPROACH



## An 'Adjusted LVI' approach

We have formulated an 'Adjusted LVI approach' which seeks to address some of the shortcomings of the other LVI approaches, including the average cost indexation approach, such that it can:

- Index contributions rates at levels which provide enough revenue to meet actual acquisition costs, but which are still fair and reasonable in any given period in the overall context of the plan.
- Account for the actual purchase costs by a council in the indexed contributions rate as they occur (and any variations from estimated costs), for consistency with the principle of cost recoupment in the EP&A Regulation.
- Maximise revenue in real terms by applying the CPI to purchase costs from the date of acquisition, as permitted by the Regulation.

Our suggested 'Adjusted LVI' approach essentially takes the actual average acquisition costs experienced in the plan and any (appropriately indexed) differences from the original base cost as the main basis for the indexation moving forward. This is the reason why it matches the actual revenue needs in the plan – because it is constantly adjusting for the actual costs realized in the plan in accordance with the status of acquisitions.

The steps involved in the 'Adjusted LVI' approach are as follows:

1. Until any land is acquired, index costs and contributions by a Market-based LVI (e.g. as per the Liverpool approach) in each period. This should reflect the change in the average market-based cost rate estimate for the land for the period over the original estimated average rate in the base period.
2. Once a land acquisition does occur, calculate the Adjusted LVI for the period (n) based on the formulas below:

$$\text{Adjusted LVI (n)} = \frac{\text{Adjusted average cost rate estimate for LA(n)} * 100}{\text{Original average cost rate estimate for LA (base period)}}$$

Where:

$$\text{Adjusted average cost rate for land LA(n)} = \frac{\sum \text{The weighted cost difference between the actual cost of LPs and the estimated cost of the LPs in the same period (n), and the estimated cost of LA (n)}}{\text{LA area (sqm) (n)}}$$

And:

LP = Land purchase (\$) where each actual purchase cost is indexed by the CPI from the purchase date to the current period.

LA = Land still to be acquired (sqm).

The estimated cost of LAs (\$) = LA in current period (n)\* Estimated average cost of land (\$) per sqm based on the Adjusted LVI in the previous period (n-1).

Weighted cost difference = The difference in costs is weighted by the: % of LA / Total land area (as costed) in plan.

Note that the formula to apply to a contribution (C) at payment from the date of consent is:

$$C_{\text{payment}} = C_{\text{consent}} + C_{\text{consent}} (\text{Adjusted LVI}_{\text{payment}} / \text{Adjusted LVI}_{\text{consent}})$$

3. Thereafter, in each period up until the final land acquisition period, apply the Adjusted LVI to land costs and the status of acquisitions in the plan to calculate the new Adjusted LVI.
4. In the final period of land acquisition, the average rate moving forward can no longer be calculated because the denominator (land still to be acquired) in the equation becomes zero. The Adjusted LVI could be based either on the average estimated cost rate for the final acquisition item (based on the 'Adjusted LVI' to date), or the change in the 'Market-based LVI' alone. If a council advises in its published information that it will adjust the contribution by no more than the larger of either approach in this year, this gives the council some flexibility to ensure that there is both appropriate cost recovery and reasonable contributions at this late stage in the plan.
5. When there is no new land acquired in a period, and no land left to acquire at all, contributions can then be indexed by the CPI or remain constant in each indexation period.

This 'Adjusted LVI' approach might be preferred to the Average Land Cost Index and Market Based LVI approaches because:

- It can provide for more accurate cost recovery and so can reduce funding shortfalls experienced by a council on land acquisitions. The other approaches can usually provide for cost recovery (or relatively close cost recovery) based on the net cashflow position of acquisitions (assuming the timing of acquisitions is carefully managed). However, this approach tends to reduce the under-recovery of revenue for a council based on the value of the cost incurred being maintained in real terms over time (with indexation applied to purchase costs).
- The approach should generally result in contribution rates which are relatively linear (usually increasing) and smooth with lower volatility from year to year (particularly compared with the Market Based LVI). Therefore, it can help to ensure that development which occurs at later stages in the plan, when much of the land and infrastructure is already provided and there is much lower development risk, pays a share of land costs to reflect that lower risk. Note that contributions will usually be higher in the latter stages of the plan as CPI increases are captured cumulatively.

- Land valuations by a registered valuer are not needed past the initial land acquisition date, which can reduce administrative costs for a council. This is because the 'Adjusted LVI' method (after the first acquisition) is based on the average actual cost of land based on acquisitions in the plan to that date.

On the downside, there is still a risk of over or under recovery of revenue needs when significant acquisition costs are markedly different than they were initially estimated to be, in the later stages of the plan. This 'Adjusted LVI' approach would best adjust the contributions rate to suit the revenue needs when land acquisitions occur earlier or mid-stage in the plan life, rather than very late in the plan. However, late acquisition cost surprises would expose a council to risk under the other two approaches also, especially if most contributions revenue is already collected by then. And this approach has a much greater risk of over-recovering rather than under-recovering revenue.

The 'Adjusted LVI' approach might also be considered more complex to administer or explain to stakeholders than the simpler unadjusted 'Market-based' LVI approach.

However, once appropriate systems or a land register for indexation are established, the calculation of the index can become much more streamlined, and costs (of valuers) then reduced. The approach could be best explained to stakeholders as one which is correcting for the land price changes in the plan itself, and still apportioning the updated estimate of required contributions among all developments equally at any particular point in time (since the weighting which occurs in the formula is based on land acquisition area and a sharing of cost differences among all acquisition area, not the proportion of lots developed and contributions received).

## Example to compare different approaches

Consider the following baseline assumptions and land costs in a hypothetical contributions plan over a 10-year period (over the page). The land acquisitions are relatively evenly spread over the life of the plan in this example and acquisitions are generally (but not always) different to the estimated LVI cost.

The darker yellow cells denote the actual purchase cost of the land item (as assumed). The estimates of land up until the purchase period are based on the base period cost escalated by the Market-based LVI. After the purchase date, the costs are indexed by the CPI. The total costs for land in the plan equate to \$18.13m.

Below the costs table is a comparison of the revenue generated by the different index approaches.

This shows that the 'Adjusted LVI' approach generates sufficient revenue (\$18.18m) for the costs incurred by the Council in this scenario, whereas the other approaches result in funding shortfalls (of some \$1.4 to \$1.8m or 8 to 10%).

The 'Market-based LVI' approach would generate almost enough funds to break even only if cashflows are compared without the application of CPI to land purchase costs (and the actual costs are instead aggregated, unindexed).<sup>1</sup> However, this is a second-best assessment of the net financial impact of an LVI approach since the value of costs incurred by a council will erode over time due to inflation.

Changes to the 'Market-based LVI' and/or acquisition costs and timing, including in the first year of the plan, will still usually result in the 'Adjusted LVI' achieving more accurate cost recovery than the other methods.

---

<sup>1</sup> The revenue loss would still be \$65,400 in this example.

But there could be circumstances where the 'Adjusted LVI' approach under or over recovers costs in a plan e.g. significantly higher than estimated land acquisition occurs right at the end of the plan when there are insufficient lots left to develop to recover the costs.

Note that in the scenario below, if the last three acquisitions were all significantly below the market estimate, the 'Market-based LVI' would recover an amount more aligned with Council's revenue needs (because it sets lower contributions over these periods, in this example). The 'Adjusted LVI' would then over-recover revenue needs. In most cases, the 'Adjusted LVI' results in the revenue risk in the council's favor, since if the opposite were true and acquisition costs were much higher than market estimates late in the plan, this approach would recover more of the revenue loss than the other two approaches.

If there are enough lots still to be developed late in the plan's life, the contribution amount at that stage is very important in shaping the revenue outcome for a council. It's a reason why allowing some flexibility in indexation in the final year(s) of acquisition in a plan is important in this approach e.g. Council might decide to index by CPI in situations of much lower than anticipated costs right at the end of the plan. The risk of this outcome would presumably be reduced with prudent timing of land acquisitions in a plan and plan review when necessary.



BASELINE ASSUMPTIONS		grey cells														
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10				
	CPI		102.5	105.0	107.5	110.0	112.5	115.0	117.5	120.0	122.5	125.0				
	Market-based LVI		105.0	105.0	115.0	122.0	125.0	140.0	135.0	140.0	148.0	160.0				
	Lots pa		500	500	500	500	500	500	500	500	500	500				sum: 5000

Item in plan	Land area (sqm)	Base period cost	Assume different actual costs of purchase (LVI assumed to year of purchase), then increases by CPI thereafter. This reflects actual nominal costs to Council.													
P1	2,000	\$ 500,000	\$ 525,000	\$ 525,000	\$ 750,000	\$ 767,442	\$ 784,884	\$ 802,326	\$ 819,767	\$ 837,209	\$ 854,651	\$ 872,093				
P2	1,000	\$ 300,000	\$ 315,000	\$ 315,000	\$ 345,000	\$ 370,000	\$ 378,409	\$ 386,818	\$ 395,227	\$ 403,636	\$ 412,045	\$ 420,455				
P3	3,500	\$ 1,000,000	\$ 1,050,000	\$ 1,050,000	\$ 1,150,000	\$ 1,176,744	\$ 1,203,488	\$ 1,230,233	\$ 1,256,977	\$ 1,283,721	\$ 1,310,465	\$ 1,337,209				
P4	5,000	\$ 1,500,000	\$ 1,575,000	\$ 1,575,000	\$ 1,725,000	\$ 1,830,000	\$ 2,000,000	\$ 2,044,444	\$ 2,088,889	\$ 2,133,333	\$ 2,177,778	\$ 2,222,222				
P5	3,000	\$ 800,000	\$ 900,000	\$ 921,951	\$ 943,902	\$ 965,854	\$ 987,805	\$ 1,009,756	\$ 1,031,707	\$ 1,053,659	\$ 1,075,610	\$ 1,097,561				
P6	500	\$ 150,000	\$ 157,500	\$ 157,500	\$ 172,500	\$ 183,000	\$ 187,500	\$ 200,000	\$ 204,348	\$ 208,696	\$ 213,043	\$ 217,391				
P7	500	\$ 150,000	\$ 157,500	\$ 157,500	\$ 172,500	\$ 183,000	\$ 187,500	\$ 210,000	\$ 275,000	\$ 280,851	\$ 286,702	\$ 292,553				
P8	10,000	\$ 3,200,000	\$ 3,360,000	\$ 3,360,000	\$ 3,680,000	\$ 3,904,000	\$ 4,000,000	\$ 4,480,000	\$ 4,320,000	\$ 3,500,000	\$ 3,572,917	\$ 3,645,833				
P9	14,000	\$ 4,300,000	\$ 4,515,000	\$ 4,515,000	\$ 4,945,000	\$ 5,246,000	\$ 5,375,000	\$ 6,020,000	\$ 6,100,000	\$ 6,229,787	\$ 6,359,574	\$ 6,489,362				
P10	3,000	\$ 980,000	\$ 1,029,000	\$ 1,029,000	\$ 1,127,000	\$ 1,195,600	\$ 1,225,000	\$ 1,372,000	\$ 1,323,000	\$ 1,372,000	\$ 1,500,000	\$ 1,530,612				
<b>Total</b>	<b>42,500</b>	<b>\$ 12,880,000</b>	<b>\$ 13,584,000</b>	<b>\$ 13,605,951</b>	<b>\$ 15,010,902</b>	<b>\$ 15,821,640</b>	<b>\$ 16,329,586</b>	<b>\$ 17,755,577</b>	<b>\$ 17,814,915</b>	<b>\$ 17,302,892</b>	<b>\$ 17,762,786</b>	<b>\$ 18,125,292</b>	<b>Total costs</b>			

Rate indexed by CPI where land acquisitions completed.

<b>\$rate if indexed by rec Adjusted LVI</b>		2576.0	2741.5	2782.9	2939.3	3112.1	3363.2	3610.5	4050.7	4331.8	4669.2	4764.5
\$ contributions pa		\$ 1,370,734	\$ 1,391,431	\$ 1,469,660	\$ 1,556,026	\$ 1,681,601	\$ 1,805,229	\$ 2,025,354	\$ 2,165,877	\$ 2,334,596	\$ 2,382,240	
\$ cumulative		\$ 1,370,734	\$ 2,762,165	\$ 4,231,824	\$ 5,787,851	\$ 7,469,452	\$ 9,274,681	\$ 11,300,035	\$ 13,465,911	\$ 15,800,507	\$ 18,182,747	
<b>Average Cost Index</b>		100.0	105.5	105.6	116.5	122.8	126.8	137.9	138.3	134.3	137.9	140.7
<b>\$rate if indexed by Average Cost Index</b>	\$	2,576	2,717	2,721	3,002	3,164	3,266	3,551	3,563	3,461	3,553	3,625
\$ contributions pa	\$	-	1,358,400	1,360,595	1,501,090	1,582,164	1,632,959	1,775,558	1,781,492	1,730,289	1,776,279	1,812,529
\$ cumulative	\$	-	1,358,400	2,718,995	4,220,085	5,802,249	7,435,208	9,210,766	10,992,257	12,722,546	14,498,825	16,311,354
<b>\$rate if indexed by LVI only</b>	\$	2,705	2,705	2,962	3,143	3,220	3,606	3,478	3,606	3,812	4,122	
\$ contributions pa	\$	-	1,352,400	1,352,400	1,481,200	1,571,360	1,610,000	1,803,200	1,738,800	1,803,200	1,906,240	2,060,800
\$ cumulative	\$	-	1,352,400	2,704,800	4,186,000	5,757,360	7,367,360	9,170,560	10,909,360	12,712,560	14,618,800	16,679,600

This is not a cost incurred by Council – it’s shown here to represent the estimated costs each year by the Adjusted LVI, which is only used for calculating the ‘Adjusted LVI’ (to derive the weighted portion of the cumulative cost differential based on these estimates).

Further workings for the ‘Adjusted LVI’:

Item in plan	Land area (sqm)	Base period cost	Assume the adjusted LVI (from previous yr) is applied to cost estimates in plan to year of purchase (first year is the LVI); thereafter no application of CPI (these are the new 'estimates')										
P1	2,000	\$ 500,000	\$ 525,000	\$ 532,117	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152	\$ 540,152
P2	1,000	\$ 300,000	\$ 315,000	\$ 319,270	\$ 345,000	\$ 366,000	\$ 366,000	\$ 366,000	\$ 366,000	\$ 366,000	\$ 366,000	\$ 366,000	\$ 366,000
P3	3,500	\$ 1,000,000	\$ 1,050,000	\$ 1,064,235	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303	\$ 1,080,303
P4	5,000	\$ 1,500,000	\$ 1,575,000	\$ 1,596,352	\$ 1,620,455	\$ 1,711,560	\$ 1,812,142	\$ 1,812,142	\$ 1,812,142	\$ 1,812,142	\$ 1,812,142	\$ 1,812,142	\$ 1,812,142
P5	3,000	\$ 800,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000	\$ 840,000
P6	500	\$ 150,000	\$ 157,500	\$ 159,635	\$ 162,045	\$ 171,156	\$ 181,214	\$ 195,839	\$ 195,839	\$ 195,839	\$ 195,839	\$ 195,839	\$ 195,839
P7	500	\$ 150,000	\$ 157,500	\$ 159,635	\$ 162,045	\$ 171,156	\$ 181,214	\$ 195,839	\$ 210,236	\$ 210,236	\$ 210,236	\$ 210,236	\$ 210,236
P8	10,000	\$ 3,200,000	\$ 3,360,000	\$ 3,405,551	\$ 3,456,971	\$ 3,651,328	\$ 3,865,904	\$ 4,177,891	\$ 4,485,041	\$ 5,031,935	\$ 5,031,935	\$ 5,031,935	\$ 5,031,935
P9	14,000	\$ 4,300,000	\$ 4,515,000	\$ 4,576,209	\$ 4,645,304	\$ 4,906,472	\$ 5,194,808	\$ 5,614,041	\$ 6,026,774	\$ 6,026,774	\$ 6,026,774	\$ 6,026,774	\$ 6,026,774
P10	3,000	\$ 980,000	\$ 1,029,000	\$ 1,042,950	\$ 1,058,697	\$ 1,118,219	\$ 1,183,933	\$ 1,279,479	\$ 1,373,544	\$ 1,541,030	\$ 1,647,950	\$ 1,647,950	\$ 1,647,950
<b>Total</b>	<b>42,500</b>	<b>\$ 12,880,000</b>	<b>\$ 13,524,000</b>	<b>\$ 13,695,954</b>	<b>\$ 13,910,973</b>	<b>\$ 14,556,346</b>	<b>\$ 15,245,671</b>	<b>\$ 16,101,686</b>	<b>\$ 16,930,032</b>	<b>\$ 17,644,411</b>	<b>\$ 17,751,331</b>	<b>\$ 17,751,331</b>	<b>Indicative</b>
<b>Land area assumptions</b>													
Land acquired (sqm) - annual			3,000	-	5,500	1,000	5,000	500	14,500	10,000	3,000	-	
Land acquired (sqm) - cumulative			-	3,000	3,000	8,500	9,500	14,500	15,000	29,500	39,500	42,500	42,500
Land still to be acquired (sqm)		42,500	39,500	39,500	34,000	33,000	28,000	27,500	13,000	3,000	-	-	
<b>Workings for Adjusted LVI</b>													
Cost of land purchased (inc CPI adj.)			900,000	921,951	2,843,902	3,280,040	5,354,586	5,473,706	12,171,915	15,930,892	17,762,786	18,125,292	
Difference from cost estimated			60,000	81,951	383,447	453,585	715,989	639,270	1,100,469	-172,489	11,455	373,961	
Weighted difference from cost estimated			55,765	76,166	306,758	352,195	471,710	413,645	336,614	-12,176	0	0	
Est. cost of land still to be acquired	\$ 12,880,000	\$ 12,684,000	\$ 12,855,954	\$ 11,450,518	\$ 11,729,891	\$ 10,607,074	\$ 11,267,250	\$ 5,858,585	\$ 1,541,030	\$ -	\$ -	\$ -	
Ave cost rate (\$/sqm)	\$ 303	322.53	327.40	345.80	366.12	395.67	424.76	476.55	509.62	549.32	549.32	n/a	
<b>Adjusted LV Index</b>		<b>100.0</b>	<b>106.4</b>	<b>108.0</b>	<b>114.1</b>	<b>120.8</b>	<b>130.6</b>	<b>140.2</b>	<b>157.2</b>	<b>168.2</b>	<b>181.3</b>	<b>n/a</b>	

Ave cost rate is based on final acquisition/estimated rate (based on Adjusted LVI) for the last acquisition. If it was based on the “Market-based LVI” instead, there would be a marginal shortfall in revenue needs over the life of the plan of some \$33,000. The guidelines (as per the Adjusted LVI steps) suggest flexibility be maintained around this option.

The first figure below shows land costs vs revenue under the different approaches in the above example.

The second figure shows the contribution rates for land costs over the life of the plan and how the annual contribution under an 'Adjusted LVI' is more linear than the other approaches – in the same example.

The Market-based LVI can lead to 'lumpy' contribution rates period on period, even declines in some periods if it is negative.

The 'Average cost' index will generally decline and/or be relatively flat in later stages of plan, assuming land is purchased in earlier stages of the plan and the land prices increase over time. The lower contribution under this approach (from year 6 in particular) is consistent with the lower revenue generated by this approach.

