



30 October 2025

Independent Pricing and Regulatory Tribunal  
Via Email: [ipart@ipart.nsw.gov.au](mailto:ipart@ipart.nsw.gov.au)

Dear Sir / Madam,

**Review of IPART's Local Government Discount Rate Methodology**

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Thank you for the opportunity to provide feedback on *Review of IPART's discount rate for local government infrastructure contributions*.

The submission outlines Council's experience in implementing contributions plans and presents practical observations on how the discount rate methodology affects the financial sustainability of infrastructure delivery. Council's submission addressing each of IPART's questions is provided as Attachment 1.

The comments provided herein are from a Council officer perspective and have not been considered or endorsed by the elected Council. This approach is consistent with Council policy regarding submissions to external reviews. If you have any questions and would like further discussion or clarification of the matters raised in our submission, please contact Kiko Sun, Principal Coordinator Forward Planning on [REDACTED].

Yours faithfully,

[REDACTED]

**Chandi Saba**  
**Group Manager Finance and Corporate Strategy**

Attachment 1: Council's response to Review of IPART's Local Government Discount Rate Methodology  
Attachment 2: Council's simple working example comparing the formal and current NPV models

## **Response to Review of IPART's Local Government Discount Rate Methodology**

Key concerns and observations as they relate to IPART's review of discount rate are provided below.

- The current discount rate is too low and does not adequately reflect the risks associated with contributions planning.
- The existing cost of debt method is preferred over the cost of equity method in the discount rate methodology. An alternative approach is suggested to account for the cost of debt which may provide a more balanced way to recognise contributions planning risks.
- Detailed responses are provided to IPART's consultation questions.

### **Risks of Contributions Plans**

Councils face a range of risks in the funding and delivery of infrastructure through contributions plans. Some of these risks include:

- Timing mismatch of revenues and expenditure: This can often arise from factors that are beyond Councils' control, such as a Council's lack of power to control timing of land acquisitions under the Just Terms Compensation Act, prevailing population and housing market trends which could be slower or less than forecast and other uncontrollable/third-party factors that may delay construction.
- Land acquisition risk: in many cases, Council is required to purchase land from a large number of individual landowners. Unlike a single consolidated landholding, the fragmented landholding creates more challenges such as negotiation complexity, statutory and process delays. Council often needs to act early to secure key parcels before adjoining land is developed, even when contributions funds are not yet available.
- Cost escalation risk: costs of land and construction can increase significantly over time. For the past decade, costs have escalated faster than the index rates used in contributions plans.
- Policy risk: State government policy changes can alter development patterns, or infrastructure requirements which impacts on revenue and expenditure. Historic Government Policy of capping of developer contributions has also had a significant impact on Council's cashflow.
- Market risk: Broader economic conditions can affect interest rates and house market demands, which may delay development and revenue collection.
- Funding gap exists in the current NPV approach: the latest technical paper published by IPART for NPV framework suggests that when revising an existing contributions plan, a funding gap may exist as the revenue from contribution rates no longer matches the revised estimate of the cost of servicing that development. This funding gap is a significant issue for Council as it has limited capability to raise funds for contributions plans as discussed below.

These risks collectively mean that contributions planning carries a higher level of financial exposure than Councils' usual operations and should be recognised when determining the discount rate.

### **Raising Funds for Contributions Plans and Cost of Equity**

Councils face significant statutory and practical constraints in raising funding for local infrastructure covered in contributions plans, aside from debt, such as:

- Special Rate Variation (SRV) to the contributions plan area: Council would need to go through the application process with IPART, with no guarantee of approval. IPART will require Council to assess against a list of assessment criteria such as reasonableness and affordability of impact on ratepayers, with consideration also given to the social and economic indexes for the area. The SRV option is likely to be contentious as landowners were not aware of the need to pay higher rates when they made the decision to purchase land. The increased complexity of the rating system adds additional administrative burden for Council. A high-level analysis currently indicates that if Council is to recover \$207 million of funding gap through a SRV over 7 years on Box Hill properties (noting that while 7 years is the maximum number of years permitted under the Local Government Act for the SRV, IPART generally expects the SRV to be up to 4 years), the general rates in the suburb would need to rise by about 450%.
- SRV to the whole Shire: There is some uncertainty as to whether this would be possible under the rating legislation. It is clearly an unreasonable outcome. Funding contributions plans' infrastructure across a broader rate base is completely contrary to the 'user-pays' principle underpinning the contributions system and re-taxes a community that has already paid for its essential works. This population is also unlikely to use the infrastructure that it would be funding in the contributions plan area. Furthermore, IPART requires the Council to engage and consult with the community regarding the need and the purpose of the SRV, the impact to ratepayers, and the benefit of the SRV. It is also unlikely that the Council would gain support for an SRV over the entire Shire that solely funds infrastructure in the contributions plan precinct.
- The SRV process also considers the overall financial position of a Council. If a Council has demonstrated sound financial management and prudently accumulated funds for future asset renewal and replacement, this can reduce the likelihood of SRV approval.
- Some Councils are reluctant to pursue an SRV due to the political sensitivities involved. Seeking an SRV can attract community concern or opposition as it is often perceived as a rate increase, even when it is necessary to maintain financial sustainability or address infrastructure funding shortfalls.
- Sell assets: Selling assets classified as "Operational Land" would be an unacceptable outcome as Council would be weakening its strategic position. For Council to be forced into pursuing this option and financially subsidise a plan that ought to be funding the essential infrastructure within its work program, would be completely counter to the user pays principle and the broader principles of nexus, reasonableness and apportionment that underpin the contributions framework in NSW. Furthermore, the State Government and local communities require councils to be financial stable.
- Equity-raising is not possible: unlike private firms, Councils cannot issue equity or attract private capital to fund public infrastructure
- Grant dependency: Council continues to seek grant funding whenever opportunities become available, with a particular focus on grant funding which will assist in addressing the existing funding gap. Grants from State or Federal Government are competitive, sporadic, uncertain and can be politically driven.
- Borrowing externally to fund the shortfall is against Council's adopted Financial Charter. The Charter only permits borrowing to fund projects that can generate an income at least to service the debt service costs. This is not the case for contributions plan items if a shortfall exists. For example, with Contribution Plan No.15 – Box Hill Precinct, if Council was to take out an Amortising (principal and interest) loan of \$207 million from TCorp on a maximum term of 20 years, the annual repayment will be \$17.5 million per annum over 20 years, including interest averaging at \$7.1 million per annum. This is calculated based on a current indicative TCorp interest rate of 5.75% per annum for a 20-year fixed rate amortising loan with quarterly repayments. Incurring this level of recurrent expenditure would require Council to cut existing

services by almost \$18 million per annum to service the loan in the absence of other revenue streams.

- Borrowing from other contributions plans: Although this may be an option, funds are limited as there is an obligation to deliver the essential infrastructure in those plans. This option is generally only viable when there is a certainty around the collection of sufficient income over the longer term to 'reimburse' the plans from which the money was borrowed. This will therefore not be viable in funding the shortfall as it would simply defer the issue onto other plans where Council would then not be able to deliver the essential infrastructure identified for those precincts.

Councils have very limited alternatives for raising funds for local infrastructure under contributions plans. Therefore, it is important and necessary to make sure development contributions plans are planned and calculated to generate sufficient funds for Council to fund essential infrastructure that will be built over a very long period of time (20-30 years or more) to complete. This is also the main purpose of an NPV model.

Unlike private organisations, Councils cannot realise or sell their infrastructure assets, as these assets are almost entirely provided for public use and access. Councils also cannot raise funds through issuing shares to shareholders.

Under current accounting standards, Councils are not permitted to recognise the future liabilities associated with delivering infrastructure under contributions plans. As a result, Council balance sheets typically present a strong equity position, largely made up of community property, plant, and equipment. However, these assets are not disposable and not realisable, meaning they cannot be used to offset financial obligations or funding gaps. In this context, a Council's report equity can be "misleading", as it primarily reflects the replacement value of community infrastructure while excluding the liabilities that arise from contributions plan commitments. For this reason, referencing equity in the calculation of the discount rate may not be appropriate or justifiable, since it does not reflect the financial realities of Councils' restricted operations or their true capacity to manage contributions related risks.

## Impact of Discount Rate

The discount rate has a material impact on contributions plans and funding shortfalls. For example, in Council's Contribution Plan No.15 - Box Hill Precinct, reviewed by IPART in July 2025:

- Using the discount rate of 3.5% (February 2025), the plan showed an estimated funding gap of \$207 million.
- With the updated 3.9% discount rate (August 2025), the funding gap fell to \$201 million, a reduction of around 3%.
- If the discount rate were adjusted to align with Council's proposed alternative cost of debt approach (around 4.9%), the funding gap would reduce further to \$188 million, a reduction of 9% compared to the February setting.
- If the discount rate were adjusted to align with Council's externally borrowing rate at 5.75% (current borrowing Rate for local government from TCorp for 20 years), the funding gap would reduce to \$177m, a reduction of 14% compared to the approved version.

The table below demonstrates the sensitivity of both the funding gap and contribution rates to the discount rate:

| Discount Rate | Funding Gap | Funding Gap Change % | KCP Dwelling House Rate | Contribution Rate Change % |
|---------------|-------------|----------------------|-------------------------|----------------------------|
| 3.5% (Feb 25) | \$207m      | -                    | \$77,388                | -                          |

| Discount Rate | Funding Gap | Funding Gap Change % | KCP Dwelling House Rate | Contribution Rate Change % |
|---------------|-------------|----------------------|-------------------------|----------------------------|
| 3.9% (Aug 25) | \$201m      | -3%                  | \$77,805                | +0.5%                      |
| 4.9%          | \$188m      | -9%                  | \$78,804                | +1.8%                      |
| 5.75% (TCorp) | \$177m      | -14%                 | \$79,603                | +2.9%                      |

This example shows how sensitive contributions plans are to the discount rate. The current IPART discount rate remains below Council's actual cost of debt, which means that debt-funded (internally or externally) infrastructure carries interest costs that are not recoverable through contributions. Combined with long-term uncertainties in revenue timing, this increases the risk of structural funding gaps.

A methodology that better reflects contributions-specific risks would support councils to sustainably deliver infrastructure and avoid cost shifting to existing communities.

### Alternative Cost of Debt Method for IPART's Consideration

The current cost of debt method is considered an appropriate method incorporating bond yield references that are more balanced between the long and short term. However, Council suggests IPART could consider an adjustment to its credit rating assumptions to better reflect the risks of contributions planning by:

- Use the risk-free rate as a base (no change to existing method),
- Add the full spread between the risk-free rate and A rated corporate bonds,
- Add half the spread between A rated and BBB rated corporate bonds, and
- Include the standard 12.5 basis point allowance for debt raising costs.

The calculation is detailed in the table below:

| Discount rate component                            | IPART current methodology (%) | The Hills Shire Council proposed methodology (%) |
|----------------------------------------------------|-------------------------------|--------------------------------------------------|
| <b>Commonwealth 10-year bond yield (risk free)</b> |                               |                                                  |
| Risk free rate (current)                           | 3.5                           | 3.5                                              |
| Risk free rate (long term)                         | 2.7                           | 2.7                                              |
| Mid-point                                          | 3.1                           | 3.1                                              |
| <b>Corporate A rated 10-year bond debt margins</b> |                               |                                                  |
| Debt margin (current)                              | 1.3                           | 1.3                                              |
| Debt margin (long term)                            | 1.3                           | 1.3                                              |
| Mid-point                                          | 1.3                           | 1.3                                              |
| <b>Corporate A rated 10-year bond yield</b>        |                               |                                                  |
| Current                                            | 4.8                           | 4.8                                              |
| Long term                                          | 4.0                           | 4.0                                              |
| Mid-point                                          | 4.4                           | 4.4                                              |
| <b>Corporate BBB rated 10-year bond yield</b>      |                               |                                                  |
| Debt margin (current)                              | N/A                           | 1.9                                              |
| Debt margin (long term)                            | N/A                           | 2.0                                              |
| Mid-point                                          | N/A                           | 1.95                                             |
| <b>Corporate BBB rated 10-year bond yield</b>      |                               |                                                  |
| Current                                            | N/A                           | 5.4                                              |
| Long term                                          | N/A                           | 4.7                                              |
| Mid-point                                          | N/A                           | 5.05                                             |

| Discount rate component                            | IPART current methodology (%)     | The Hills Shire Council proposed methodology (%) |
|----------------------------------------------------|-----------------------------------|--------------------------------------------------|
| <b>Risk premium (excluding debt raising costs)</b> | <b>0.65</b><br>=1.3/2             | <b>1.625</b><br>=1.3+ (1.95-1.3)/2               |
| Debt raising costs                                 | 0.125                             | 0.125                                            |
| <b>Nominal discount rate</b>                       | <b>3.875</b><br>=3.1+ 0.65+ 0.125 | <b>4.85</b><br>=3.1+ 1.625+ 0.125                |

In the methodology presented in the table, a more conservative risk premium is suggested and that is because contributions plans are typically not based on detailed designs for the infrastructure which introduces a higher risk. Although contingency allowances are included to address design uncertainty, this alone does not fully capture the risks involved. It remains extremely difficult to accurately forecast when all necessary land acquisitions cannot be completed, particularly when land is fragmented among multiple individual owners. Until these acquisitions occur, councils often cannot confirm key land attributes or commence concept and detailed designs. Further uncertainty arises from the timing of development itself. The pace of subdivision and housing delivery is affected by market conditions, planning approvals, and external economic factors. Together, these challenges make it impossible to precisely determine a contribution rate that will fully fund the required infrastructure over time.

All of these risks are directly linked to the time value of money, and therefore should be recognised in the discount rate. Council considers it essential that the discount rate incorporate a risk adjustment that reflects these real world uncertainties, which are not adequately accounted for in the current development contribution models.

Council agrees that regular review and update of contributions plans would allow Councils to correct future contributions in response to changes in assumptions and forecast drivers. However, this does not address the time lag between when changes in assumptions arise and when a Council is finally able to levy revised Contribution rates. The process of revising contributions plans requires at least a minimum of 9 -12 months as the plan would require some time to prepare, need to be placed on public exhibition, be reviewed by IPART, be endorsed by the Minister for Planning and Public Spaces (or their delegate) and be adopted by Council. The timeframe is determined by legislation and on third party review, and it can often take longer than the minimum time noted above. Before a revised plan is finally in place and revised Contribution rates are levied, Councils would need to continue to fund any revenue shortfalls (especially due to changes in population assumptions) and until the revised plan is in place, some revenues may be permanently forgone. Council believes the risk of permanent revenue mismatch/loss is not sufficiently factored into Contribution models and any revenue shortfalls may in turn have adverse impact on a Council's financial position.

In addition, while Council agrees that 'A' credit rating is generally reflective of Councils' day-to-day financial activities, it is not an accurate reflection of risk for the purpose of giving a methodology and only for contributions planning. Therefore, a solution half way between 'A' and 'BBB' would seem a more reasonable measure of risk. The significant expenditure (and liabilities) of works involved in contributions plans are beyond the Council's day-to-day financial activities and are not included on a Council's balance sheet. The risks involved in the delivery of infrastructure under these plans are much larger than its day-to-day operations. As noted above any revenue shortfalls in contributions plans could have significant impacts on a Council's financial position. If the discount rate is too low, from the very inception of a contributions plan, a deficit begins to emerge, even when plans are reviewed and updated regularly.

For these reasons Council proposes that half the spread between the 'A' and 'BBB' credit rated corporate bonds be added to the discount rate, in addition to the full spread between the 'A' credit rated corporate bond and the risk free bond.

### **Other Issues With NPV Model**

Each draft of Contribution Plan No.15 – Box Hill Precinct submitted to IPART over the first 4 occasions, as well as all other Contributions Plan reviewed before, has followed the Net Present Value formula outlined in the Department's 2019 Contributions Plan Practice Note. This formula states that "Present Value of Cost = Present Value of Revenue", implying a breakeven position within the Plan. However, IPART's modelling allocates the plan's total cost across the total expected population, disregarding the actual development that has already taken place and the remaining development that is still subject to new contributions. Instead of allocating the total remaining cost to the remaining development population that can be levied, this approach reduces the FY22/23 calculated rate to change from \$95,139 (Council endorsed) to \$66,318. As a result, the plan ends with a further deficit, requiring alternative funding sources outside the contributions plan.

Council has prepared a simple working example comparing the former "breakeven" approach, where the Present Value of Costs equals the Present Value of Revenues with the current NPV model suggested by IPART (Attachment 2). Under identical assumptions for costs, revenues, and timing, the example demonstrates that the current NPV methodology inherently produces a funding gap once the plan is reviewed halfway through its delivery period. This working example illustrates that the current NPV methodology structurally embeds a deficit as soon as a plan is made, making it impossible to maintain a breakeven despite regular updates. It highlights the need to reconsider how the NPV model treats timing, discounting, and preciously collected contributions to ensure financial sustainability for Councils.

It is argued that it would be unfair to charge future populations for the funding gap that has accumulated from earlier stages of development. However, Council holds a different view that early residents move into areas with limited or no infrastructure, while later residents benefit from the infrastructure that has already been delivered, including roads, drainage and open space that enable a fully functioning neighbourhood. Hence, it is reasonable that later developers contribute a more reasonable share of the overall cost, including part of the funding gap, as they directly benefit from the infrastructure built ahead of their arrival and from land acquisitions that were made earlier at lower prices before Council collected sufficient contributions to build infrastructure. This approach ensures that the burden of infrastructure funding is distributed fairly among all who benefit from it over time.

In practice, this issue is compounded by the timing of payments and approvals.

- Developers can lock in contribution rates at the time of lodging a development application (only subject to indexation at 2.5% in the future).
- Some contributions are not paid for many years after approval. In some cases, it takes more than 10 years to collect the contributions.
- When contribution rates are later revised to reflect updated indices and cost estimates, Council faces a funding gap not only from paid developments, but also from those approved but unpaid developments at the older and lower rate.

Together, these factors demonstrate that the NPV model as currently applied does not achieve a true breakeven outcome for councils and increases the long-term funding risks associated with infrastructure delivery. More importantly, there is no feasible solution to resolve the funding gap.

## **Additional Matters for IPART's Consideration**

Along with the review of the discount rate, Council would like IPART to consider the following matters, which would assist in reducing structural funding gaps and improving the long term financial sustainability of contributions plans.

### **1. Index contribution rates by actual Consumer Price Index (CPI) rather than 2.5%**

Council proposes that annual contribution rate be indexed by the actual CPI rather than the fixed 2.5% escalation rate currently used in the NPV model.

The 2.5% escalation rate represents the midpoint of Reserve Bank of Australia's (RBA) target CPI, which is between 2% and 3%. Cost estimates for infrastructure are typically indexed using 15 year's average Producer Price Index (PPI) for capital works. In practice, all infrastructure delivery costs will eventually be updated in real terms reflecting actual market movements.

To maintain consistency and fairness between cost and revenue assumptions, contribution revenues should also be indexed using actual CPI after a plan is adopted. This would ensure that contribution rates keep pace with real world inflation, preserve the plan's purchasing power, and help reduce the funding gap that arises when costs escalate faster than the assumed PPI in the model.

### **2. Introduce a streamlined administrative update pathway**

If the current NPV methodology is retained, Council requests IPART consider a streamlined administrative update pathway for contributions plans using an NPV model that allows councils to update a limited set of numerical inputs, including CPI/PPI construction indices, agreed land value indices and IPART's published discount rate, on an annual basis without requiring a full IPART re-approval. Such updates would be constrained so they do not alter plan scope, catchments, or apportionment methodology. This mechanism would materially reduce timing and indexation risk, help keep contribution rates aligned with market conditions, and reduce the likelihood of structural funding gaps, while retaining appropriate public accountability.

Council's more detailed responses to IPART's questions as outlined in the Discussion Paper are provided below.

## **Q1 - Q4 Use of NPV Models**

Council has been using the NPV approach for ten years and will continue to use this approach as per IPART's direction. Council would welcome practice guidance, including a spreadsheet models and examples provided by IPART to further enhance our approach.

The main barriers to using an NPV approach is the complexity of the model, which include resourcing, technical expertise and uncertainty in forecasting development and cashflow timing. Our Finance team is heavily involved in the process.

Council does not use an NPV approach officially in other areas.

## **Q5 – Q7 Cost of Capital**

A council is not a corporation that can raise equity from external parties by selling shares or issuing more shares. For this reason, IPART's historical position has been that a council's cost of capital is its cost of debt (i.e. cost of borrowing). It is considered an appropriate method to measure the cost of capital.

However, it is considered that the cost of debt must be adjusted to reflect the risks of the contributions plan. Council's activity of developing involves materially higher risks than Council's daily operations. Therefore, using the cost of capital for the council as a whole would understate the risk. Contributions plans should have its own cost of capital that recognise the plan specific risks.

### **Q8 Methodology Parameters**

It is believed that the credit rating assumptions should be adjusted to reflect contributions plan risks. It is considered that an alternative approach to taking half the spread between the non-financial corporate bond with 'A' rating and the risk free bond yield as debt margin for Councils is needed. It is suggested that the debt margin be based on the full spread between yields of that 10-year non-financial corporate bond with 'A' credit rating and the risk free bond plus half the spread between yields of the same 'A' credit rated bond and the 10-year non-financial corporate bond with 'BBB' credit. The detailed calculation is discussed in the "Alternative Cost of Debt Method for IPART's Consideration" section above.

### **Q9 – 10 Opportunity Costs and Discount Rate**

In simple terms, the effective opportunity cost for Council to fund local infrastructure is the foregone interest on the safe investment, and the loss of capacity to use the funds for other Council services. Contributions balances are restricted, and Council is not able to use the funds on any activities other than capital activities allowed in contributions plans. The balances attract interest income. In recent periods Council has achieved investment returns above 3.6% due to higher interest rate settings. However, this does not mean the discount rate should be tied to Councils' short-term reinvestment returns. The discount rate should be set to reflect risk in contributions planning.

### **Q11 Raising Funding**

This is discussed in the "Raising Funds for Contributions Plans" section above.

### **Q12 Cost of Equity**

Whether cost of equity should be added to the discount methodology is ultimately a matter for IPART in determining the most appropriate methodology. From Council's perspective, developer contributions are restricted in their use and cannot be applied to alternative purposes that might warrant an equity-style return. Councils also do not have the capability to raise equity to fund contributions plans. The main financial risks Councils face in contributions planning is the management of debt and the risks associated with timing, escalation, and revenue recovery. For this reason, Council has proposed an alternative approach for IPART to consider. Council considers this to be a reasonable midpoint.

### **Q13 Risks**

Risks are discussed in the "Risks of Contributions Plans" section above.

### **Q14 – Q15 Proxy Firms**

There are no listed companies that provide a perfect proxy for Councils' role in providing local infrastructure. Councils are regulated, non-profit organisations which differ fundamentally from listed companies.

Some utilities and infrastructure operators share some similarities, but their WACC includes equity components that do not align with Councils. Is it considered that the current debt-based approach adjusted for risk is more suitable.

#### **Q16 Use of Debt**

The current IPART discount rate is lower than Council's interest rate if a debt is taken to fund infrastructure. This means that the cost of borrowing cannot be fully recovered through contributions plans, creating an automatic funding shortfall. Together with the long-term uncertainties embedded in the NPV model (such as slower development path and cost escalation), the funding gap is expected to be larger, with no clear solution available under current settings.

For these reasons, Council generally avoids borrowing funds to fund infrastructure development ahead of receipt of contributions revenue. Under the current contributions framework, Council is unlikely to significantly increase borrowings to deliver infrastructure given that it is uncertain that it will be able to fully recoup the funds.

In practice, land acquisition timing presents a major challenge. Land values have increased significantly over the past decade, and it is the best practice to purchase land early ahead of capital works to secure lower costs and reduce long-term financial exposure. Due to the nature of contributions plans, there are usually insufficient funds available in early stages when a plan is first adopted. Council has been borrowing internally from other contributions plans to fund early stage land acquisitions.

#### **Q17 Development Path**

Development timing is variable and is dependent on many factors. In some periods, lots have been developed quicker than expected during strong market conditions. However, development has been generally slower than expected over the long term.

- Slower development: this can be due to various factors such as macro economic cycles, higher interest rates, quiet housing market, and policy changes.
- Occasional faster periods: During periods of strong market demand, development may be faster than expected, but the surge is usually not long-term.

When the development is slower, contribution revenue is delayed, widening funding gaps and increasing risks for contribution funding and infrastructure delivery.

#### **Q18 Tax**

There is no tax impacts to be included in the setting of contribution rates. All contributions plans are prepared and reviewed on a pre-tax basis.

#### **Q19 Impact of Discount Rate**

Impacts are discussed in the "Impact of Discount Rate" section above.

#### **Q20 Other issues**

Other issues with the NPV model is discussed in the section above.

| Assumptions                                                                                      |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
|--------------------------------------------------------------------------------------------------|----------------------------------|--------------|----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|----------------|
| Capital Cost                                                                                     | -                                | 1,000,000    |                |            | Old methodology NPV model                                                                                                                                             |            |            |            |            |                |
| Construction Time                                                                                |                                  | 7 years      |                |            | This method allows the plan to stike a contribution rate that is breakeven at each revision of the plan.                                                              |            |            |            |            |                |
| Discount Rate                                                                                    |                                  | 4.00%        |                |            | New methodology NPV model                                                                                                                                             |            |            |            |            |                |
|                                                                                                  |                                  |              |                |            | Assume all the approved people pay the new rate, whereas in reality they pay only the rate that was locked at the time of approval, thus creating a large funding gap |            |            |            |            |                |
| PPI Indexation                                                                                   |                                  | 5.00%        |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Annual Revenue Indexation                                                                        |                                  | 2.50%        |                |            | .                                                                                                                                                                     |            |            |            |            |                |
| Development Path                                                                                 |                                  | 50           | People         |            |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| First contributin plan                                                                           |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Calculated contribution rate per person                                                          |                                  |              |                | 22,891.93  | 23,464.22                                                                                                                                                             | 24,050.83  | 24,652.10  | 25,268.40  | 25,900.11  | 26,547.62      |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Year                                                                                             | PV                               | Total        |                | 1          | 2                                                                                                                                                                     | 3          | 4          | 5          | 6          | 7              |
| Development path                                                                                 |                                  | 50           |                | 10         | 10                                                                                                                                                                    | 10         | 10         | 10         | 0          | 0              |
| Revenue                                                                                          |                                  | 1,069,280.68 | 1,203,274.85   | 228,919.26 | 234,642.25                                                                                                                                                            | 240,508.30 | 246,521.01 | 252,684.03 | -          | -              |
| Cost                                                                                             | -                                | 1,069,280.68 | - 1,407,100.42 | -          | -                                                                                                                                                                     | -          | -          | -          | -          | - 1,407,100.42 |
| Net                                                                                              |                                  | -            | - 203,825.57   | 228,919.26 | 234,642.25                                                                                                                                                            | 240,508.30 | 246,521.01 | 252,684.03 | -          | - 1,407,100.42 |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Scenario 1: Poplulation came in slower than expected. Review in Year 3, only 10 people approved. |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Old methodology NPV Model - breakeven position                                                   |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Calculated contribution rate per person                                                          |                                  |              |                | 22,891.93  | 23,464.22                                                                                                                                                             | 24,852.48  | 25,473.79  | 26,110.63  | 26,763.40  | 27,432.48      |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Year                                                                                             | PV                               | Total        |                | 1          | 2                                                                                                                                                                     | 3          | 4          | 5          | 6          | 7              |
| Development path                                                                                 |                                  | 50           |                | 0          | 10                                                                                                                                                                    | 0          | 10         | 10         | 10         | 10             |
| Revenue                                                                                          |                                  | 1,156,533.98 | 1,292,445.27   | -          | 234,642.25                                                                                                                                                            | -          | 254,737.88 | 261,106.33 | 267,633.99 | 274,324.83     |
| Cost                                                                                             | -                                | 1,156,533.98 | - 1,407,100.42 | -          | -                                                                                                                                                                     | -          | -          | -          | -          | - 1,407,100.42 |
| Net                                                                                              |                                  | -            | - 114,655.15   | -          | 234,642.25                                                                                                                                                            | -          | 254,737.88 | 261,106.33 | 267,633.99 | - 1,132,775.59 |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  | Approved people paid             |              |                | 234,642.25 |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  | NPV model assumed revenue        |              |                | 234,642.25 |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  | Funding Gap from approved people |              |                | -          |                                                                                                                                                                       |            |            |            |            |                |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Current methodology NPV Model - with funding gap                                                 |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Calculated contribution rate per person                                                          |                                  |              |                | 22,891.93  | 23,464.22                                                                                                                                                             | 24,600.67  | 25,215.68  | 25,846.08  | 26,492.23  | 27,154.53      |
|                                                                                                  |                                  |              |                |            |                                                                                                                                                                       |            |            |            |            |                |
| Year                                                                                             | PV                               | Total        |                | 1          | 2                                                                                                                                                                     | 3          | 4          | 5          | 6          | 7              |
| Development path                                                                                 |                                  | 50           |                | 0          | 10                                                                                                                                                                    | 0          | 10         | 10         | 10         | 10             |
| Revenue                                                                                          |                                  | 1,156,533.98 | 1,293,091.90   | -          | 234,642.25                                                                                                                                                            | -          | 252,156.84 | 258,460.76 | 264,922.28 | 282,909.77     |
| Cost                                                                                             | -                                | 1,156,533.98 | - 1,407,100.42 | -          | -                                                                                                                                                                     | -          | -          | -          | -          | - 1,407,100.42 |
| Net                                                                                              |                                  | -            | - 114,008.52   | -          | 234,642.25                                                                                                                                                            | -          | 252,156.84 | 258,460.76 | 264,922.28 | - 1,124,190.66 |

|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|----------------------------------------------------------------------------------------------------|----------------------------------|----------------|-------------|------------|-----------|------------|-----------|-----------|----------------|
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|                                                                                                    | Approved people paid             |                | 234,642.25  |            |           |            |           |           |                |
|                                                                                                    | NPV model assumed revenue        |                | 246,006.67  |            |           |            |           |           |                |
|                                                                                                    | Funding Gap from approved people |                | - 11,364.43 |            |           |            |           |           |                |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
| Senario 2: Poplulation came in faster than expected. Review in Year 3, 40 people already approved. |                                  |                |             |            |           |            |           |           |                |
| Old methodology NPV Model - breakeven position                                                     |                                  |                |             |            |           |            |           |           |                |
| Calculated contribution rate per person                                                            |                                  |                | 22,891.93   | 23,464.22  | 24,207.89 | 24,813.09  | 25,433.42 | 26,069.25 | 26,720.98      |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
| Year                                                                                               | PV                               | Total          | 1           | 2          | 3         | 4          | 5         | 6         | 7              |
| Development path                                                                                   |                                  | 50             | 20          | 20         | 0         | 10         | 0         | 0         | 0              |
| Revenue                                                                                            | 1,156,533.98                     | 1,175,253.91   | 457,838.53  | 469,284.49 | -         | 248,130.90 | -         | -         | -              |
| Cost                                                                                               | - 1,156,533.98                   | - 1,407,100.42 | -           | -          | -         | -          | -         | -         | - 1,407,100.42 |
| Net                                                                                                | -                                | - 231,846.51   | 457,838.53  | 469,284.49 | -         | 248,130.90 | -         | -         | - 1,407,100.42 |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|                                                                                                    | Approved people paid             |                | 927,123.02  |            |           |            |           |           |                |
|                                                                                                    | NPV model assumed revenue        |                | 927,123.02  |            |           |            |           |           |                |
|                                                                                                    | Funding Gap from approved people |                | -           |            |           |            |           |           |                |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
| Current methodology NPV Model - with funding gap                                                   |                                  |                |             |            |           |            |           |           |                |
| Calculated contribution rate per person                                                            |                                  |                | 22,891.93   | 23,464.22  | 23,408.50 | 23,993.71  | 24,593.55 | 25,208.39 | 25,838.60      |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
| Year                                                                                               | PV                               | Total          | 1           | 2          | 3         | 4          | 5         | 6         | 7              |
| Development path                                                                                   |                                  | 50             | 0           | 40         | 0         | 10         | 0         | 0         | 0              |
| Revenue                                                                                            | 1,156,533.98                     | 1,176,277.02   | -           | 927,123.02 | -         | 239,937.10 | -         | -         | 9,216.90       |
| Cost                                                                                               | - 1,156,533.98                   | - 1,407,100.42 | -           | -          | -         | -          | -         | -         | - 1,407,100.42 |
| Net                                                                                                | -                                | - 230,823.40   | -           | 927,123.02 | -         | 239,937.10 | -         | -         | - 1,397,883.52 |
|                                                                                                    |                                  |                |             |            |           |            |           |           |                |
|                                                                                                    | Approved people paid             |                | 927,123.02  |            |           |            |           |           |                |
|                                                                                                    | NPV model assumed revenue        |                | 936,339.92  |            |           |            |           |           |                |
|                                                                                                    | Funding Gap from approved people |                | - 9,216.90  |            |           |            |           |           |                |