Modelling exercise: Affordable inner city residential accommodation for the poor

Financial Model Report

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Prepared for:

Urban LandMark

Submitted by:

Sagitta Financial Consulting (Pty) Ltd

12 Lurgan Road, Parkview, 2193
PO Box 95057, Grant Park, 2051
Tel. +27 11 646-1829; Fax. +27 11 646-1829
Email. arennie@sagitta.co.za

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1 INTRODUCTION

The Urban Land Markets Programme ('Urban LandMark') has commissioned Sagitta Financial Consulting ('Sagitta') to undertake a modelling exercise of selected formal residential accommodation options for the poor in Johannesburg. This financial model report is the third deliverable in terms of the work plan agreed between the parties. This report describes in detail the financial model that has been developed for the assignment that reflects the selected housing options that target the poor. This report is based on the Model Parameter Report dated 15 April 2008, and incorporates feedback from the Urban LandMark from the Financial Model Report Draft of the 15th July 2008.

2 OBJECTIVES OF MODEL

The objective of the model is to establish what is required from a financial perspective, to accommodate the poor in various housing options identified. The model establishes the financial viability of the various housing options identified under the sets of assumptions described below as 'cases'. Where the case is not shown to be viable, measures have been identified and modelled to improve the viability.

Viability is measured in terms of whole-life cycle cash flows in the form of a project Internal Rate of Return (IRR), as well as a minimum Debt Service Cover Ratio in the cases where there is debt.

3 STRUCTURE OF MODEL

3.1 Introduction

The model has been constructed on an electronic spreadsheet using Microsoft Excel. It comprises cash-flows over a 24-month negotiation (six months), planning (six months) and construction (twelve months) period, and 18-year operation period. The total model term will, therefore, be twenty years. The cash flows have a timing profile, with forecasted costs recorded in the year in which they are planned to occur. These costs have been escalated to take inflation into account. The model comprises several spreadsheets each with the same annual timeline. All numbers are in May 2008 terms.

3.2 Cases

There are 18 different cases that cover the three housing options and that have been modelled, each with its own set of assumptions and inputs. The model reflects the workings for one of these cases at a time, but stores a set of results for each one for comparative and illustrative purposes. The three categories of housing options comprise:

- 6. City-led affordable rental for low income (cases 1 to 4).
- 7. Private sector and SHI-led rental for low income (cases 5 to 10).
- 8. Inclusionary housing (cases 11 to 18).

The currently active case can be selected in the 'Inputs – General' sheet in cell B132.

3.3 Sensitivity analysis

Each case that is modelled (referred to as the base case), is analysed through a sensitivity analysis. This is to test the sensitivity of the results to changes in the following variables:

- Operating costs;

- Capital Costs;
- Services Costs;
- Time savings;
- Concessions;
- Inflation;
- % Income spent on rent;
- Area of rooms;
- Market rent;
- Tax and VAT;
- Product Mix.

The currently active scenario can be selected in the 'Inputs – General' sheet in cell B257.

3.4 City of Johannesburg Concession Sheet

The model includes a worksheet where various potential contributions from the City of Johannesburg have been identified. These include:

- City of Johannesburg Rent Subsidy;
- City of Johannesburg Capital Contribution;
- Cost of land (including transfer duties and conveyancing);
- Assessment rates rebate on a permanent basis;
- Assessment rates rebate for the first 18 months of a project;
- Plan approval costs;
- Service connection fees;
- Consent use costs;
- Rezoning costs.

The model can be adjusted to allow the City to waiver these costs, and to see the effect this might have on the results of the model.

3.5 Inputs

Various inputs have been gathered for each case modelled. These include:

3.5.1 Project sizes

Typical project sizes, in terms of units per building, have been established for each case. This has been based on an average of actual similar projects that have been concluded in the CBD.

For new build projects, an average size of 240 units per building has been assumed based on the following analysis:

Newbuilds:

Project	Developer	no of units		
Carr Gardens	JHC	211		
Elangeni	JHC	168		
Jeppe Oval	JHC	240		
Brickfields	JHC	345		
Brickfields north	JHC	280		
Phumulani	JHC	178		
Legae	JHC	219		
Troyeville	Cope	120		
Tribunal gardens	JHC	174		
Newtown co-op	Cope HA	351		
Dzulani 1	JHC	267		
Dzulani 2	JHC	267		
Dzulani 3	JHC	266		
	Average	**237.4**	**Rounded**	**240**

For Conversions, an average size of 150 units per building has been assumed based on the following analysis:

Conversions:

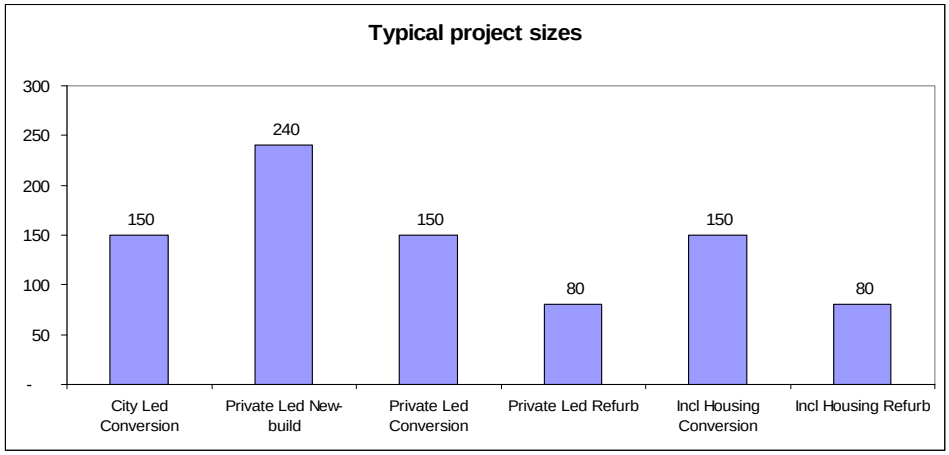
Towerhill Mansions	JHC	174		
Landrost hotel	JHC	240		
Badiri House	BHA	120		
El Kero	MHA	168		
BG Alexander	MHA	82		
Chelsea Hotel	Joshco	120		
	Average	**150.7**	**Rounded**	**150**

For Refurbishments, an average size of 80 units per building has been assumed based on the following analysis:

Refurbishments:

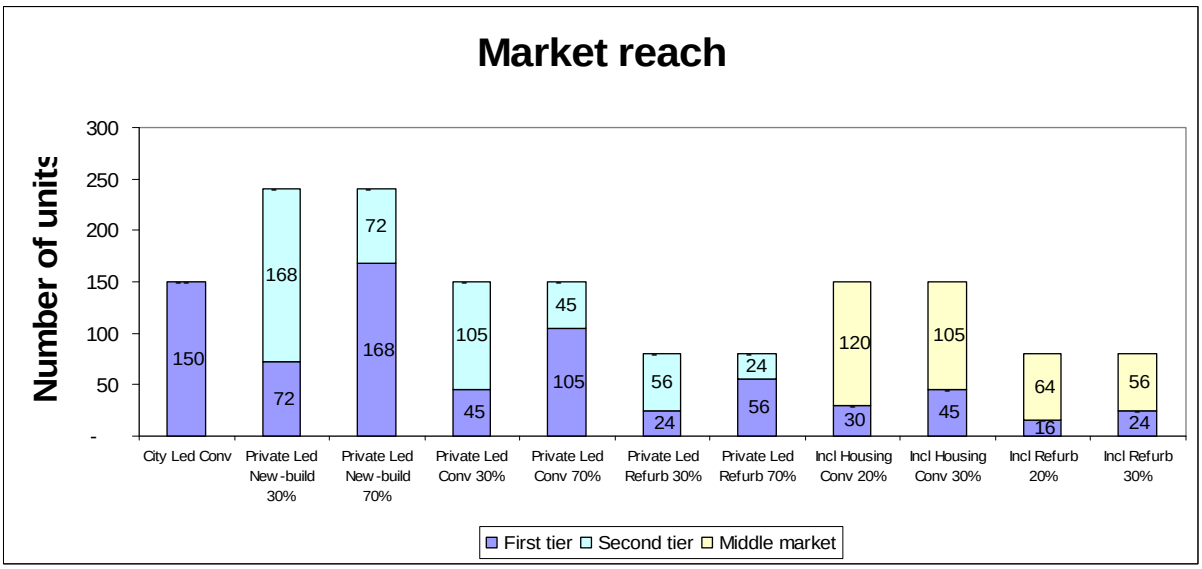
New Hampstead	JHC	32		
Parkzicht	JHC	26		
Rondebosch	JHC	78		
San Martin	JHC	49		
Smitshof	JHC	115		
Stanhope	JHC	180		
Sylvadale	JHC	107		
Tasnim	JHC	25		
Cresthill	JHC	157		
Garden	JHC	23		
Lake Success	JHC	145		
	Average	85.2		
9 Better buildings	Various	78		
	Average	**82.0**	**Rounded**	**80.0**

The following graph illustrates the project sizes that have been used across the different housing options to be modelled:



3.5.2 Market reach

The various cases that have been modelled assume various degrees of market reach. The following graph demonstrates the targeted income bands that have been assumed for each case:



The income bands are described in more detail later in this paper.

3.5.3 Capital Costs

These have been estimated on a per-unit basis, translated into a per-square-meter basis. These have been estimated by a qualified quantity surveyor, Mr Jacus Pienaar, who has a great deal of experience in the sector. He has used a number of buildings in the CBD to compile these estimates. The capital costs have been established from first principles, and compared to actual costs from recent relevant projects. The following projects were used for this purpose:

Project	Developer	No of units	Type	Area
Projects in JHB inner City:				
El Kero	Madulamoho	168	Conversion	JHB inner city
Europa House	Madulamoho	68	Refurb	Hillbrow
BG Alexander	Madulamoho	82	Conversion	Hillbrow
Troyeville	Cope	120	Newbuild	Troyeville
City Deep	Joshco	250	Conversion	City Deep

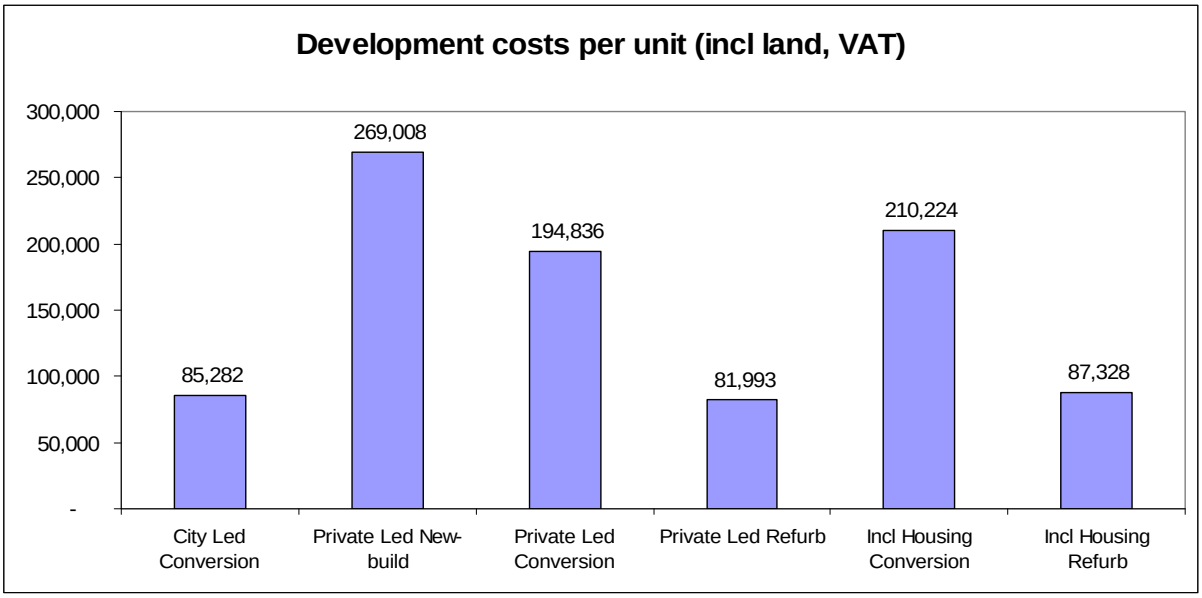
As supplementary sources (projects not in JHB CBD but comparable, once adjusted for regional cost differences and differences in scale):

Project	Developer	No of units	Type	Area
Roodepoort SH	Joshco	426	Newbuild	Roodepoort CBD
Lindar House	SOHCO	201	Conversion	Durban CBD

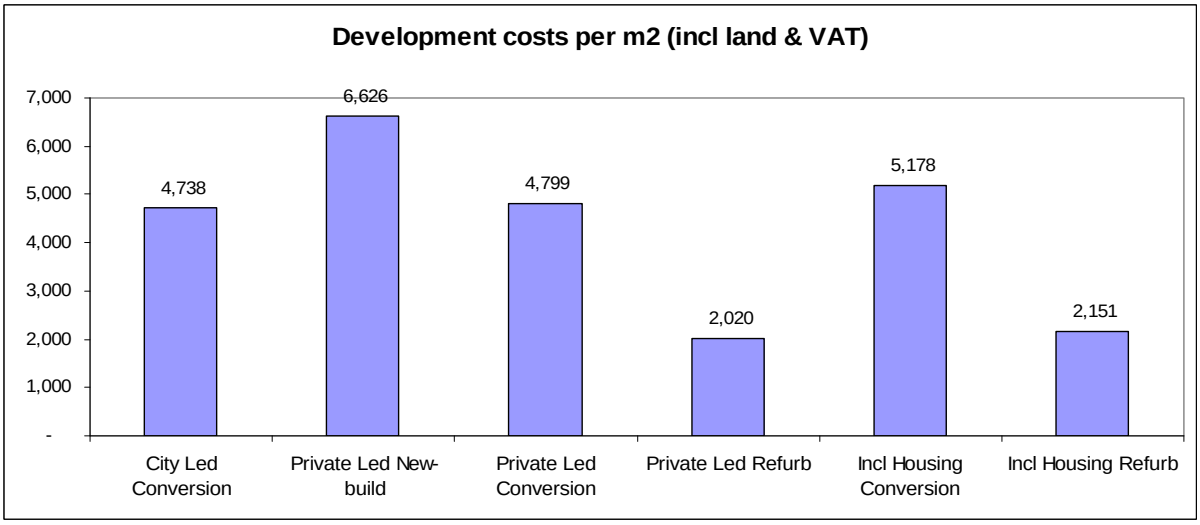
In addition, costs of 19 social housing projects submitted for the Interim Social Housing Programme (ISHP) funding in 2007 and 2008 were used as a check.

Costs include VAT and are on a fixed-price contract basis, meaning that any price escalations during the construction period have been built into the costs.

The following graphs illustrate the different development costs that have been used for each of the housing options modelled. They are average costs per unit assuming varying product mixes. These costs are described in further detail later in the paper. The first graph is average development costs per unit:



The second graph is average development costs per square metre:



3.5.4 Operating Costs

The quantity surveyor has also established operating costs for each case. There is a relationship between these costs and the type of building and product mix. These estimates have been based on the following set of similar projects in the Johannesburg CBD:

Project	Developer / manager	No of units	Type	Area
El Kero	MHA	168	Conversion	JHB inner city
BG Alexander	MHA	82	Conversion	JHB inner city
Roodepoort SH	Joshco	426	Newbuild	Roodepoort CBD
City deep	Joshco	250	Conversion	City Deep
Ridge Plaza	Trafalgar	115	Existing	Berea
Golan Heights	Trafalgar	12	Existing	Jeppestown
King Bruce	Trafalgar	96	Existing	Hillbrow
Helderberg	Trafalgar	268	Existing	Berea
Constantine	Trafalgar	165	Existing	Hospital Hill
Colette Court	Trafalgar	20	Existing	Berea
Burlington Court	Trafalgar	45	Existing	Hillbrow
Kopanong	Yeast	62	Newbuild	Pretoria CBD

In addition, costs of 19 social housing projects submitted for the Interim Social Housing Programme (ISHP) funding in 2007 and 2008 were used as a check.

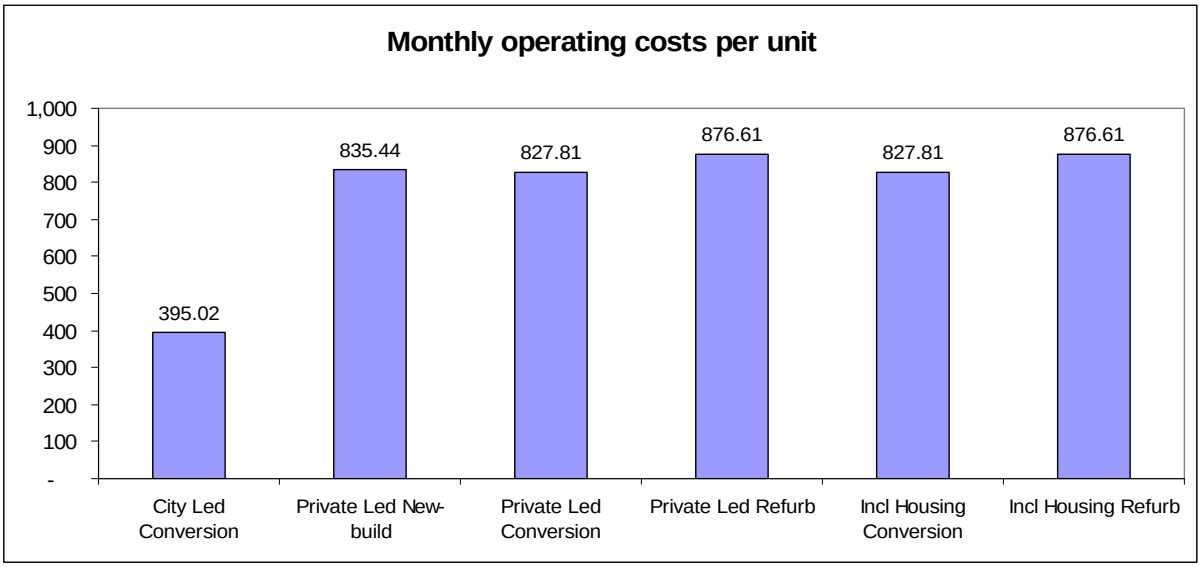
The monthly operating costs have been calculated on a per-unit basis, as opposed to a meterage basis, as there appears to be a stronger correlation between the number of units and the operating cost than between the area and the operating cost.

Maintenance costs will be based on the nature and amount of the capital costs of the building.

Costs include VAT and are in May 2008 terms. They are split between:

- Forecast Monthly Variable Operating Costs. These include maintenance costs.
- Forecast Monthly Fixed Operating Costs including administrative overheads directly related to the project but excluding overheads relating to an organisation's existing stock.

The following graph illustrates the different operating costs that have been used for each of the housing options modelled. These costs are described in further detail below.



3.5.5 Services Costs

The quantity surveyor has estimated services costs from the same set of projects in the Johannesburg CBD described above in the section on operating costs. These costs are assumed to be passed on to the tenants. The monthly services costs have been calculated on a per-unit basis. Costs include any applicable VAT and are in May 2008 terms.

These costs include the following:

- Electricity and gas
- Water
- Refuse removal
- Effluent
- Assessment rates

3.5.6 Finance Costs

Finance costs depend on the financial structure and the risk of the project. Where debt or equity is to be utilized, the following terms have been assumed:

Debt:

- Term of debt: 20 years
- Reference rate is assumed to be the Prime overdraft rate, which is 15.5% as at 9 July 2008.
- Margin over Prime on senior debt during construction: 1.5%
- Margin over Prime on senior debt during operations: 1.5%
- Arranging and underwriting fees: 0%
- Commitment fees: 0.5% of undrawn balance
- Bank costs: 0.3%
- Interest grace period from Financial Close in years: 1
- Principal grace period from Financial Close in years: 1
- Minimum Debt Service Cover Ratio: 1.3 times

Equity:

- Arranging and underwriting fees: 0%
- Term of any prohibition on repayment of equity: 2 years
- Whether equity is to be drawn prior to debt: Pro rata

3.5.7 Escalation Rates

Rentals have been assumed to escalate over the 18-year operating period at the same rate as the operating costs. This is assumed to be the mid-point of the South African Reserve Bank target bands for CPIX, which is 4.5% per annum.

3.6 General assumptions

Certain general assumptions have been made regarding the cases to be modelled, and are common to all. These include the following:

3.6.1 Utility Cost Recovery Rate

The utility cost recovery rate will be assumed to be 100% for those services consumed directly by tenants. Services used in common areas and for the administration of the building, are included in operating costs.

3.6.2 Taxation

It is assumed that the base-case implementing organisation does not qualify as a Public Benefit Organisation (PBO), and is subject to the normal corporate tax at of [28%]. This is due to the fact that presently most housing institutions engage in activities that have some commercial aspect to them, and not all their developments have units falling in the subsidised income bands.

In terms of the tax write-off of the capital costs of the buildings, it is assumed that the institution qualifies for Section 13(ii) of the South African Tax Act that allows an annual residential building allowance equal to 2% of the cost to the taxpayer of any residential unit erected by the taxpayer under a housing project, and a residential building initial allowance equal to 10% of the cost to the taxpayer of the residential unit, which may be deducted in the year in which the residential unit is let or occupied for the first time. It is assumed that the institution does not, however, qualify for Section 13(iv) whereby they qualify for an accelerated depreciation schedule.

The project IRR is not affected by any changes to the tax assumptions, as it is a pre-tax IRR. These assumptions do, however, have an effect on the after-tax cash flows such as retained cash balances, and any distributions to shareholders, should there be any equity in the project.

In terms of VAT, the base case assumes that VAT is not charged on residential income, and is not reclaimable from expenses and capital costs incurred.

3.6.3 Funding

Where loan funding is assumed, it is regarded as floating rate debt linked to the Prime overdraft rate. The rate at the date of the final model will be used as an estimate for the remainder of the model's term. The Prime rate will of course change over time, and could go up or down over the years. This interest rate risk is a real risk to the financial viability of an institution. It is very expensive to hedge this type of risk over a longer term, and not really affordable.

The funding mix and cost of funding do not have an effect on a project's IRR, as this measure is a pre-funding indicator of viability.

3.6.4 Commercial income

No commercial income from shops or parking is assumed. This is to ensure that the model is robust, as commercial income assumptions are less easy to be assured of than residential housing incomes.

Similarly, no residual value of the land or buildings at the end of the term is assumed.

3.6.5 Smaller Units are the Affordable Ones

It is assumed that where a portion of the development's units are to charge targeted low rentals, they comprise the smaller of the units in terms of the product mix. While this may not be ideal from a social perspective, it makes sense commercially, since the smaller units are cheaper to build, and more returns can be gained from the larger units in the open market.

3.7 Outputs

Each case produces a summary page of outputs. These comprise:

- A summary of key project parameters:
    - City-led, Private Sector-led, or Inclusionary Housing
    - Building typology
    - Number of units in project
    - Number of Community Residential Units (CRU) and Social Housing Units assumed.
    - Floor area of the project, per unit and per square metre.
    - Monthly rental (in May 2008 terms) total, per unit and per square metre. This is then further broken down into averages per unit for the different targeted rental tiers.
    - Monthly rent subsidy (in May 2008 terms, if appropriate) total, per unit and per square metre.
    - Monthly operating costs (May 2008 terms) total, per unit and per square metre.
    - Monthly services costs (May 2008 terms) total, per unit and per square metre.
    - The service cost recovery rate.
    - The cost to income ratio, both excluding and including any rent subsidy.
    - All inclusive development costs in total and average per unit and per square metre.
- A summary of the funding sources for the development costs in total and an average per unit and per square metre. These sources include one or more of the following:
    - Provincial contribution or Institutional Subsidy
    - City of Johannesburg capital contribution
    - CRU fixed subsidy
    - CRU variable subsidy
    - Social Housing Restructuring Capital Grant
    - Debt
    - Equity
- A summary of key project results:
    - Project Internal Rate of Return (IRR) on a pre-tax, post-grant basis.
    - The minimum hurdle project IRR (in the absence of a weighted average cost of capital).
    - Initial yield on total capital cost (including any rent subsidy) both including and excluding grant funding.
    - Grants as a percentage of total funding mix.
    - Minimum debt service cover ratio compared to the minimum threshold.
    - Return on equity (RoE)
- A breakdown of monthly operating and services costs to tenants per category. This information is graphed.

3.8 Outcomes

The financial viability of an option can be broken down into two aspects:

3.8.1 The funding of the development costs.

The development costs can be funded from a number of sources depending on the housing option being modelled. These amounts are generally capped amounts. For example:

- A Provincial contribution or Institutional Subsidy is capped per unit, and is only available under certain conditions. Theoretically this subsidy is only available to units of at least 30 square metres each, but in practice it is being utilized for smaller units.

- The CRU subsidies are capped at a fixed amount per project, and an amount per square metre of the development. They are also only available under certain conditions, and to municipal entities.

- The Social Housing Restructuring Capital Grant is capped according to a formula, and is only available under certain conditions. The Grant is only available to projects that provide social housing. Units qualify as social housing projects if the rentals they charge fall below R2,250 per month. At least 30% of the units in the development must qualify as primary target market units, meaning the average monthly rentals they charge must fall below R750. The units must be at least 30 square metres in size. The amount of the grant varies depending on the percentage of units achieving what is termed the 'Primary Target Market'.

- Debt funding is limited in size by the amount of cash the project is forecast to generate on an annual basis. A ratio called the Debt Service Cover Ratio (DSCR) is used to determine the maximum size that a project can support. The DSCR is the number of times the cash generated in any year can cover the interest and principal repayments to the lender. The minimum ratio that is often used is 1.3 times.

- Equity funding is also limited by the amount of cash the project is forecast to generate over its life. Shareholders will not want to invest in a project unless they are likely to get a return commensurate with the risk of the project. This return is greater than that for the lenders. The amount of equity, therefore, is also limited and dictated by the forecasted cash flows of the project.

This means that if there is a gap between the development costs of the project, and the total source of funds identified above, there needs to be a mechanism that fills that gap. This model assumes that where such a gap exists, the City of Johannesburg would inject a capital contribution to ensure the costs of building the project are met. This is the variable that changes when other assumptions change.

3.8.2 The ongoing financial sustainability of operations

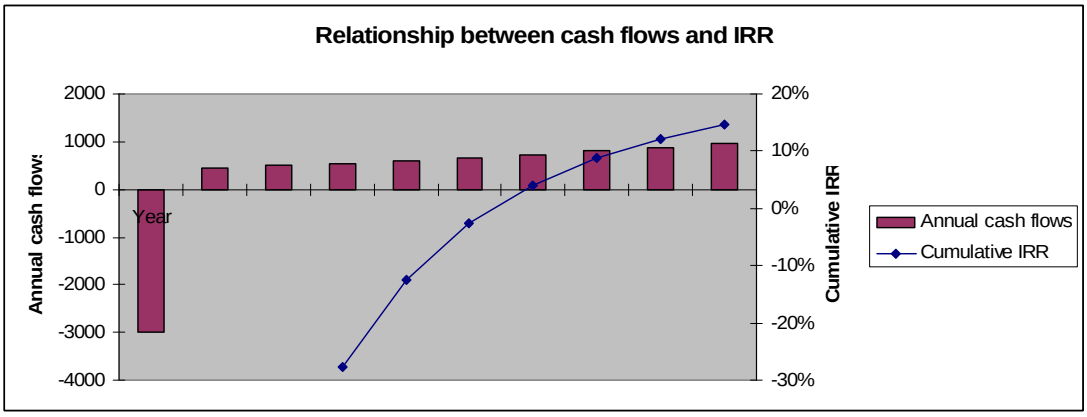
There are several ways of measuring the ongoing financial sustainability of a project. These include the following:

- **An initial yield.** This is the return a project generates in its first year of operations, divided by the cost of the development. This percentage obviously needs to be positive, and needs to be greater than the cost of servicing any debt in that year. The advantage of using this measure is that it is simple and easy to calculate. The first year of operations is generally when cash flow is under the greatest strain, and if this initial year can pass the test, subsequent years generally do better. The disadvantage of using this measure is that it does not take into account the whole life cycle costs of the project and ensure that the returns from the project over its life are great enough to justify the capital contribution.

- **Annual cash cover ratios** such as Loan Cover Ratios , Cost to Income Ratios, and Debt Service Cover Ratio. These measures look at the cash generated by the project on an annual basis, and compare it to income or to the cost of funding the debt. The advantage of these measures is that they do look at the minimum ratio over the whole project's life, but ignore the elements of funding other than debt.

- **Project Internal Rate of Return (IRR).** This measure determines whether the forecast operating cash flows of the project over its full life, are adequate to pay for the capital and running costs of the development. The following graph illustrates the relationship between a series of annual cash flows over time, and the cumulative IRR. In this example, the project IRR is positive at the end of the forecast period. The purple bars illustrate the annual project cash flows. As can be seen, the cash flows for the building of the project in year one are negative and relatively large. The cash flows are then positive from year two when rental income is received and is greater than operating costs. Over time with inflation, these cash flows gradually grow. The cumulative project IRR starts off as deeply negative, and ends up at a positive

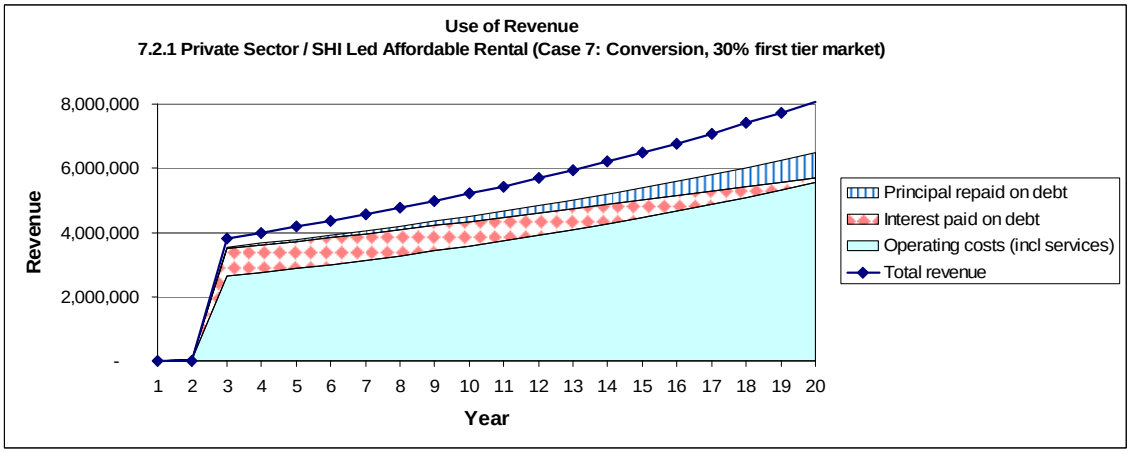
number at the end of the forecast. The cash flows at the beginning, middle and end of the project are all incorporated into the IRR indicator.



The IRR needs to cover the cost of debt, and provide a return to shareholders.

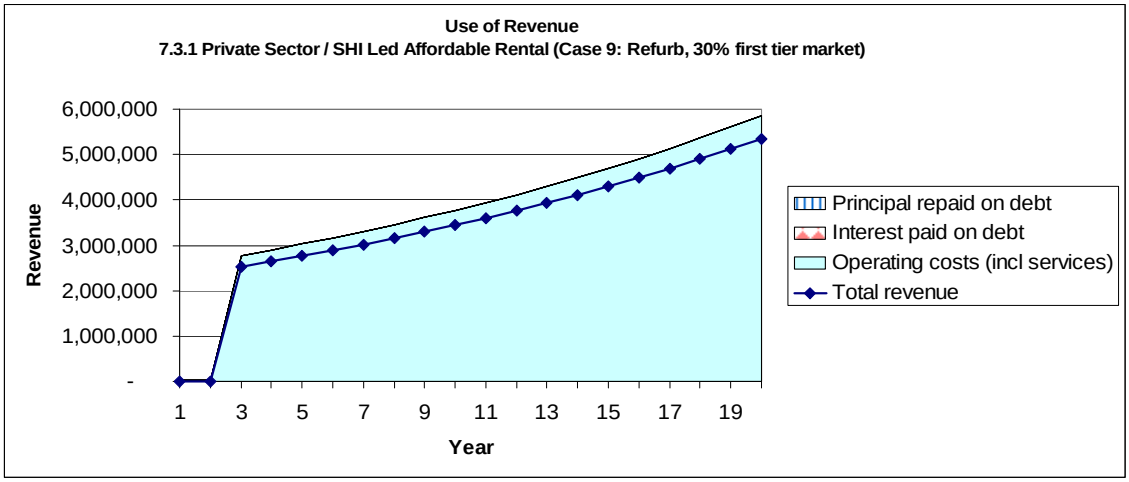
There are some limitations to the use of an IRR, including the fact that it can be difficult to calculate if the project's cumulative cash flows cross over the zero axis more than once. This is unlikely to happen in a housing project forecast as typically there is an initial investment and a relatively predictable income stream thereafter.

The following graph illustrates the use of cash in one of the cases. There is a gap between total revenue and operating costs, but this is used partly to service debt, and partly to buffer the institution from unexpected costs like rising interest rates, or to build up its own reserves.



The role of capital subsidies should not theoretically be to fund any operating shortfall (i.e. where revenue is less than operating costs). A subsidy will, however, reduce the amount of debt and/or equity that is needed to fund the capital costs of a project, and thus reduce the monthly debt service. This has the effect of allowing the clear space in the graph between revenue and debt service, to grow over time. Without a subsidy, the debt service would be much higher, and the revenue line would be below the top of the debt principal line, meaning the institution would not be able to repay its debt or shareholders.

If the IRR is the same as the cost of debt, the revenue line would be at the top of the debt service line. If the IRR is 0%, the revenue line would be at the top of the operating cost line. If the IRR is below 0%, the revenue line would be below the operating costs line as in the graph below.



The objective of the model is to ensure that the capital costs of the project are funded, but also that the projects are financially sustainable. For this reason, where the operating costs are below revenue, there may be a need for a rent subsidy. This is assumed to come from the City of Johannesburg. It is an amount that brings the total revenue equal to total operating costs - i.e. the project IRR - to zero. This will allow operations to continue, but will not allow for any debt service, shareholder participation, build-up of the organization's reserves, or investments in new projects.

3.9 Macros

The model makes use of a number of macros. These are for the following purposes:

3.9.1 Goal Seek Macros

Each time an assumption or input variable is changed in the model, it is necessary to calculate what any funding or operating shortfall is to achieve a financially viable project. These shortfalls will need to be bridged in the form of support from the City of Johannesburg. A macro has been written to calculate what the contribution needs to be. There are a number of Goal Seek macros that can be run in the model, including:

- The button on the 'Inputs – General' sheet to Goal Seek all cases using the base case sensitivity scenario.
- The buttons on the 'Inputs – General' sheet to Goal Seek the currently active case using the currently active sensitivity scenario.

3.9.2 Case Comparison Macro

This macro runs the Goal Seek macro for all cases using the base case sensitivity scenario, and then stores the results of all 18 cases in the sheet "Case Storage". The results are then used for the sheet of graphs comparing and illustrating the 18 cases in the sheet "Case Graphs". This macro can be run from the button at the top of each one of these sheets.

3.9.3 Sensitivity Analysis Macro

This macro runs a sensitivity analysis for the currently active case. It stores a set of results for each scenario in the 'Sensitivity Storage' sheet which are used for the graphs in the 'Sensitivity Analysis' sheet. This macro can be run from the button at the top of each one of these sheets.

4 Option 6: City-led affordable rental for low income

4.1 Cases

The following four cases were identified for this housing option, and have been costed and modelled:

Option	**6.1.1**	**6.1.2**	**6.2.1**	**6.2.1**
Typology	Conversion	Conversion	Conversion	Conversion
Affordability (rentals per unit per month)				
Minimum	200.00	200.00	200.00	200.00
Maximum	600.00	600.00	600.00	600.00
Average	400.00	400.00	400.00	400.00
Units in affordable range	100%	100%	100%	100%
Product mix	Single room, shared ablutions	Single room, shared ablutions	Single room, shared ablutions	Single room, shared ablutions
Bad buildings	Yes	Yes	Yes	Yes
Area per room	18m²	18m²	18m²	18m²
Funding	CRU	CRU	Institutional Subsidy	Institutional Subsidy
	City contribution	City contribution	City contribution	City contribution
Maintenance costs	Funded from operations	Funded from operations	Funded from operations	Funded from operations
Operating costs				
Rent subsidy	No	Yes	No	Yes
Rates rebates & free basic services	No	No	No	No

As can be seen, most of the assumptions are common for all four cases. The differences are that in the former two, some funding is assumed to come from the Community Residential Units (CRU) programme. In the latter two, some funding is assumed to come from the Institutional Subsidy. The Institutional subsidy is not available for units that receive the CRU subsidy, and is not theoretically available to units smaller than 30 square metres in size. In practice, however, this subsidy is currently being used for small communal units.

CRU funding is only available where the stock is owned by the state, and is made available as rental stock. The subsidy is not intended to reach the individual.

It was originally thought in the Model Parameters report, that the Social Housing Restructuring Capital Grant may be used for this housing option, but it is not available to units below 30 square metres in size, and units must have their own ablution facilities.

It was also thought in the Model Parameters report that there would be a CRU maintenance subsidy available to those projects that qualify for CRU funding. This maintenance allowance has subsequently become unlikely to be agreed to by the National Treasury, and has been removed from the model.

The other difference between the cases is that in cases 6.1.1 and 6.1.3 there is assumed to be no rent subsidy, but in 6.1.2 and 6.1.4 there is assumed to be such a rent subsidy.

This case was intended to model Madulamoho's Europa project cost structures as a way to understanding how to gear up such a model. The Madulamoho model, however, is slightly different from this option in that it does not consider itself to be 'city led', and does not like to have 100% communal units. They support the concept of mixing communal units with emergency shelter, transitional housing and social housing. They have historically made use of the Institutional Subsidy and low-interest bearing debt to fund their conversions.

4.2 Typology

The typology for this option is one of conversion from office buildings, hotels and residences to communal ablution facilities, and rented single rooms.

The buildings suitable for this typology will be the city's 'bad buildings', and as such this option is not suited to new-build.

As previously mentioned, the average number of units for this case has been assumed to be 150 units.

4.3 Affordability levels

The Reference Group has decided that the rental levels for this option are to be set at between R200 and R600 per unit per month in May 2008 terms. Assuming a base case of 30% of income spent on rental, it means this option is targeting an income range of between R667 and R2,000 per unit per month.

4.4 Product mixes

The product mix for this option is restricted to single-room accommodation with shared ablutions. This means that only single rooms will be modelled. The area per room is assumed to be 18 square metres.

4.5 Costs

Typical capital costs, operating costs, and maintenance costs have been estimated by the quantity surveyor as follows:

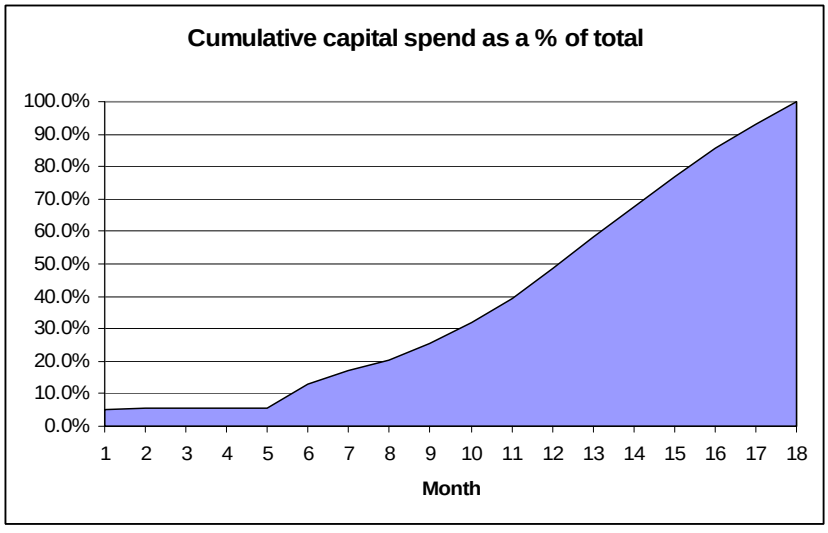
4.5.1 Capital costs per unit

The following table describes the assumed capital costs per unit for this housing option:

Land/property acquisition	21,500
Transfer duty	1,376
Conveyancing	340
Geotech survey	-
Service connections	1,250
Contributions	-
Current building cost	38,345
Pre-tender escalation	3,221
Post tender escalation	2,883
Contingency	4,445
Final building cost	48,894
Professional fees (construction)	5,997
Plan approval fees	115
Consent use fees, (to council and town planner)	1,173
Rezoning fees	290
Subsidy administration	220
Overhead during construction	2,970
Sub-Total	84,125
NHBRC enrolment	1,055
Total before finance	85,180

This compares to an estimated cost per unit for Madulamoho of R80,000 per unit.
Assumptions:

- Although presumably in many cases the city would already own the property and there would be no cost of acquisition, such cost was nevertheless allowed for, as in the case of private conversion, to cater for the eventuality where buildings would have to be purchased.
- Transfer duty is assumed to be 6.4% of the cost of the land.
- Contingency is assumed to be 10% of escalated building costs.
- Professional fees are assumed to be 14.9% of escalated building costs (including plan approval and consent use fees). This compares to 8% of Madulamoho where the CEO actively negotiates these fees down due to his own expertise and experience.
- NHBRC fees are assumed to be 1.3% of the costs of the unit.
- The timing of the capital spend over a six-month planning and twelve-month construction period will commence after a six-month negotiation period, and looks as follows:



This rolls up into the following sub-totals:

Cost of land per unit - incl VAT or transfer duties.	23,216
Cost of buildings per unit - incl professional fees & overheads	61,964
Cost of development per unit - incl land, VAT	85,180

This gives an average cost of development of R4,732 per square metre, and a cost for a typical conversion project of 150 units of R12.7 million.

4.5.2 Operating costs per unit

Variable monthly operating costs per unit

The following table describes the assumed variable monthly operating costs per unit in May 2008 terms:

Cleaning expenses	8
Fire safety certification	2
Insurance (home 0wner's)	14
Keys and locks - replace	1
Maintenance manager	14
Meter reading services	3
Provision for bad debts / defaults	12
Rates & taxes and other services	4
Repairs & maintenance - building	10
Repairs & maintenance - Equipment, etc	1
Repairs & maintenance - Electrical	7
Repairs & maintenance - fire service	3
Repairs & maintenance - glass & window	12
Repairs & maintenance - Plumbing	14
Repairs & maintenance - Paint	3
Repairs and maintenance - pest control	1
Repairs & maintenance - Gardens	9
Repairs & maintenance - lifts	14
Repairs and maintenance - stoves	1
Repairs & maintenance - Other	25
Repairs & maintenance - long term preventative	27
Security expenses, including caretaker	4
Site based office costs	5
Water & electricity common areas	3
Total	198

Fixed Operating Costs per unit

The following table describes the assumed fixed monthly operating costs per unit in May 2008 terms:

Accounting services	0
Admin fee	5
Advertising & promotions	4
Annual report	3
Audit fees	9
Bank charges	7
Collection commission	2
Communications-cell phones	3
Communications-internet conn	2
Communications-Telkom	6
Company secretarial	3
Computer maintenance	2
Computer sotware support	3
Consultants fees	6
Depreciation	18
Directors' fees	9
Directors airfares	0
Directors car rental & parking	0
Directors hotel and subsistence	0
Donations	0
Employment costs-salaries	29
Employment costs - casual wages	9
Employment costs - uniforms	7
Employment costs-UIF	1
Employment costs-SDL	1
Employment costs-staff recruitment	3
Employment costs staff training	5
Employment costs staff welfare	2
Entertainment	1
Equipment hire	1
Financial management services	6
Fire safety certification	2
Guarantee facility costs	0
Institute member fees	0
Insurance	3
Lease charges	8
Legal expenses	6
Marketing	0
Motor vehicles-licenses	1
Motor vehicles-repairs and maintenance	4
Motor vehicles-Fuel	4
Motor vehicles-other	0
Payroll expenses	0
Postage & courier services	2
Printing & stationery	4
Refreshments and catering	0
Rent & parking premises	8
Research, development & feasibility studies	0
RSC levies	1
Subscriptions	0
Sundry expenses	0
Temporary staff & casual labour	0
Tenant training & credit checks	2
Travelling-air fares	0
Travelling-car rental & parking	0
Travelling-Hotel & subsistence	0
Travelling allowance	0
Water & electricty overhead	5
Total	197

The sum of the fixed and variable costs per unit comes to R395 per month. This compares to Madulamoho's estimate of R450 per month that includes a flat R100 per month overhead charge.

4.5.3 Services costs per unit

The following table describes the assumed monthly services costs per unit that are not already included in the fixed and variable costs of the organisation. These costs are related to services consumed by the tenants, and are assumed to be measurable and 100% recoverable.

Electricity and gas	122
Water	77
Refuse removal	23
Effluent	28
Assessment rates	7
Total	257

The base case assumes the following with regard to service charges:

- 100% recovery rate.
- No assessment rates rebate.
- No free basic services.
- No free 6kl of water per unit.

4.6 Potential funding sources

4.6.1 Capital cost funding:

- This option is suitable for the provincial Community Residential Units (CRU) programme and as such it should be able to gain access to these subsidies. The CRU programme does not allow for the costs of land or building acquisition. This would suggest that buildings from the Better Buildings Programme are a necessity for this option to be viable. This will be explored further in the financial model. The CRU programme allows for the conversion of office buildings, hotels, and residences. The programme requires a feasibility study to be completed as part of the application process. The CRU grant assumed here is the one for Complex Conversion of Inner City Buildings. This comprises:
  - A fixed amount of R410,400 plus a variable amount of R27.36 per sq metre for the cost of a feasibility study (including VAT) for the project.
  - A fixed amount of R82,080 and a variable amount of R18.24 per sq metre for the cost of community facilitation (including VAT) for the project.
  - A variable amount per sq metre of
    - R34.20 for temporary relocation;
    - R23.94 for tenant regularization;
    - R3,613.80 for the cost of works (including contingencies and escalations);
    - R581.40 for professional fees.

- Where the CRU programme is not used or applicable, this option should hopefully be able to gain access to the provincial institutional subsidy amounts. The possibility of getting both the CRU and the Institutional Subsidy concurrently is not an option.

- The City is expected to contribute to any shortfall in the capital costs of converting a project, after all the subsidies and grants have been taken into account.

4.6.2 Operating cost funding:

- Operating costs are expected to be recovered by rental revenue. Any operating shortfalls will need to be funded.
- Services and rates will affect the all-in costs to the end user. This raises the possibility of applying for rates rebates and free basic services. The effect of these measures is considered in the sensitivity analysis.

4.6.3 Maintenance cost funding:

- Maintenance is funded from operations.

4.7 Results

4.7.1 Results of case 6.1.1 – City-led Affordable Rental using CRU funding with no rent subsidy

The results from this case can be summarized in the following table:

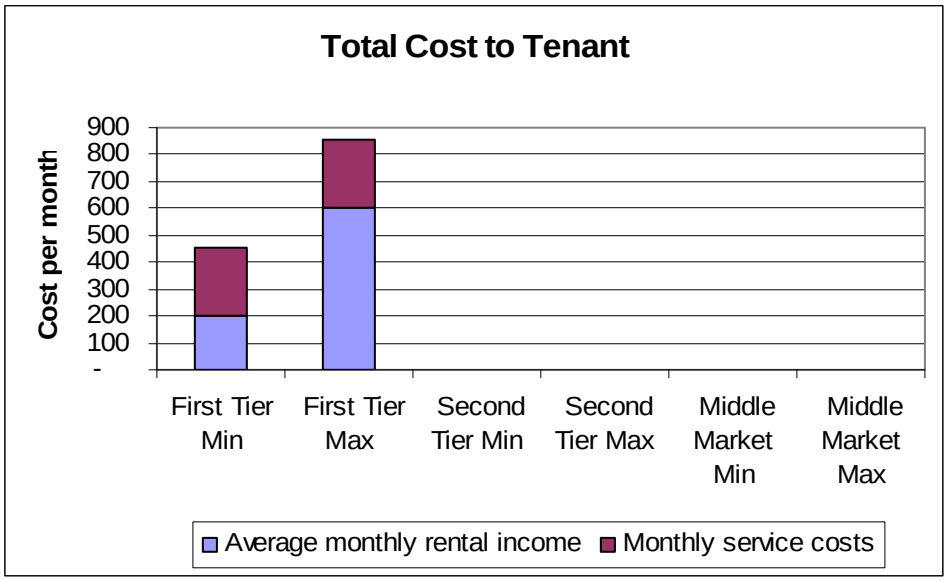
6.1.1
City led affordable rental
Base Case

01 May 2008

	Total	**Average**	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	150		
Number of second tier units	0		
Number of middle market units	0		
Floor space (in sq m)	2,700	18.0	
Average monthly rental income	60,000	400	22.2
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	59,253	395	21.9
Monthly service costs	38,550	257	14.3
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	99%		
Cost to income ratio (excl services, incl rent subsidy)	99%		
Development costs (all inclusive) nominal terms	12,792,371	85,282	4,738
Funding sources			
Provincial contribution or Institutional Subsidy	-	-	-
City of Johannesburg capital contribution	692,753	4,618	256.6
CRU fixed subsidy	492,480	3,283	182
CRU variable subsidy	11,607,138	77,381	4,299
Social Housing Restructuring Capital Grant	-	-	-
Debt	-	-	-
Equity	-	-	-
Total sources of funds	12,792,371	85,282	4,738
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	0.00%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	0.07%		
Initial yield on capital cost less grants	n/a		
Grants as a % of (grants + debt)	100.0%		
Minimum Debt Service Cover Ratio	-		
Target minimum Debt Service Cover Ratio	1.3		

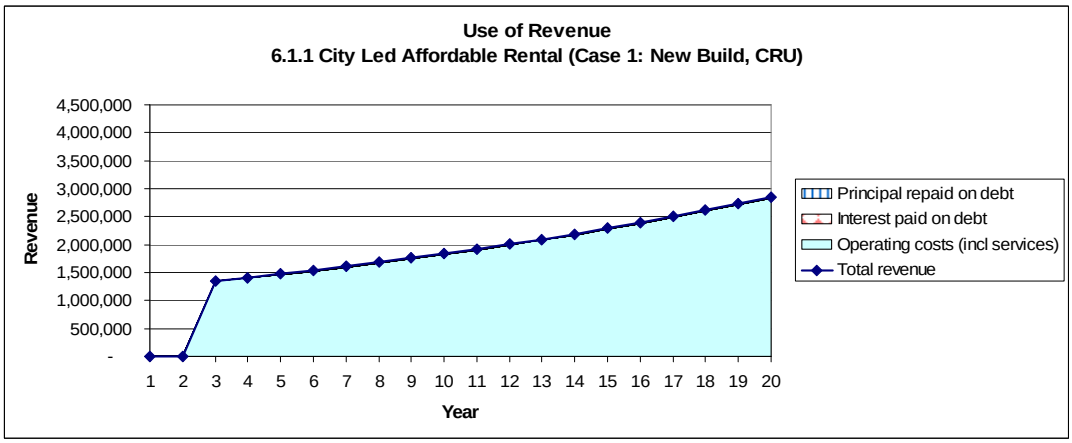
Monthly costs to tenants:

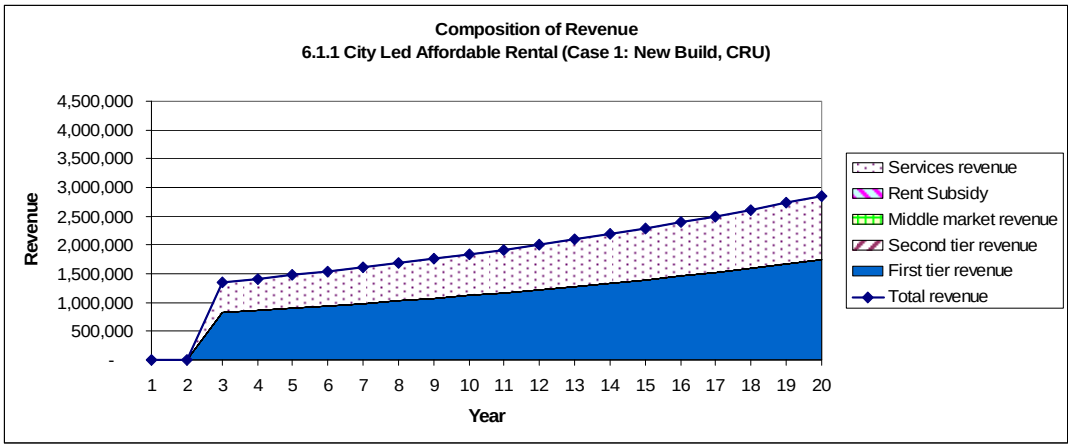
The total costs to tenants, including services costs, varies between R457 and R857 per unit per month. This gives an average of R657 per unit per month. The following graph illustrates the costs to tenants:



Project Parameters:

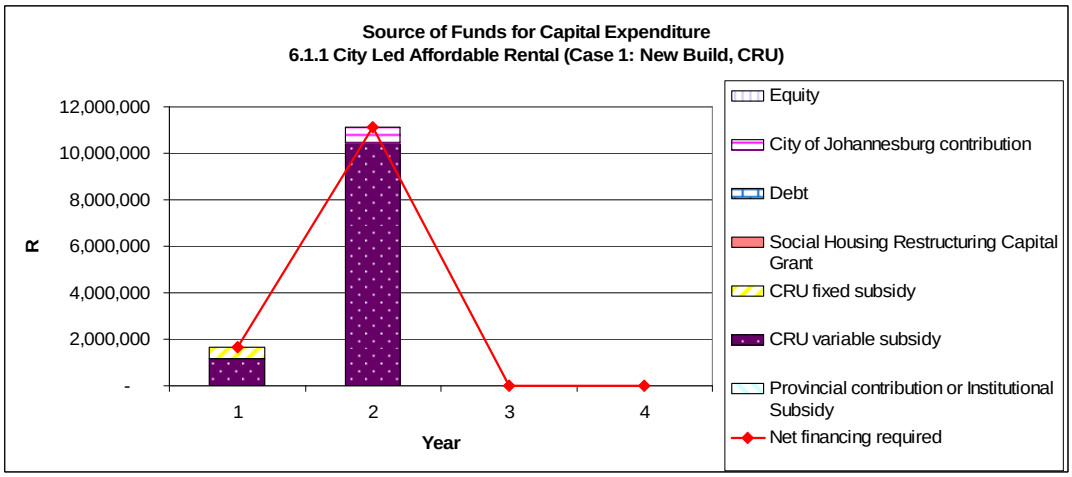
The key project parameters summarise the inputs described in the sections above. All of the 150 units for a typical project under this case would qualify for the CRU programme. The cost to income ratio of R395 versus R400 per month is equal to 99%. This means that revenue is just covering operating and maintenance costs, thereby implying that this option is not very robust, and vulnerable to changes in the environment. There is no surplus operating revenue to service any debt or equity – meaning the capital costs of the project must be fully funded. This is illustrated in the following two graphs. The first shows the use of revenue by the project over the 20-year period, and the second shows the composition of that revenue.





Funding Sources:

The total development costs of building 150 units of R85,282 each is R12.79 million. In this case it is funded from the CRU programme through the R492,480 fixed amount, and R11.6 million variable subsidy. The funding shortfall is equivalent to R692,753 or R4,618 per unit. This can be illustrated in the following graph:



As can be seen, R1.66 million is required in year one, and is funded by the CRU programme. R11.1 million is needed in year two, and is funded mainly by the CRU programme, but a small portion of R692,753 needs to be funded by the City.

Project Results:

- The project IRR is 0% as no operating cash surplus is generated.
- The initial yield is barely perceptible but is positive at 0.07%.
- Grants fund 100% of the capital requirements of the project.
- There is no debt so the DSCR is not calculated.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure did not change, but the option became unsustainable for both cases of higher operating costs due to the costs now being higher than revenue.

- Capital costs were varied by -20%, -10%, +10% and +20%. There is no capital contribution from the City for the former two cases, but for the latter two scenarios the City

of Johannesburg's capital contribution increases to R2 million and R3.2 million respectively. The outcome of this case is very sensitive to this variable.

- Services costs were varied by -20% and +20%. This did not affect the financial sustainability of the scenario as it is assumed these costs will be passed on to the tenants. Tenants end up paying an average of R206 and R308 per month respectively instead of R257 per month. It does change the amount of funding slightly (R4,000) due to assessment rates being payable prior to tenant occupancy.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. The effect on the funding of the project is not dramatic as the funding is all grant funding, and there are no interest charges or savings. The timing of the grants is simply changed. This would have an opportunity cost to the institution making the grant.

- Concessions.
    - Rates rebate. Where a permanent assessment rates rebate as well as an 18-month rates rebate is assumed, the cost of funding the project is reduced by the amount of rates payable (R20,000) prior to tenant occupancy. The effect on the tenants will be beneficial (cost reduces from R257 to R250 per month for a permanent rebate), but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants.
    - Free basic services. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. The effect on tenants is that average monthly services costs decrease from R257 per month to:
        - R250 under free basic services;
        - R257 under free basic services for first 18 months;
        - R207 under free 6lk of water;
        - R0 under a rates rebate and free basic services permanently.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the funding of the project as it is assumed to be a fixed-price contract. It does not affect the long-term financial sustainability of the project as there is no debt or equity, and rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the case becomes financially unsustainable as revenue drops below operating costs. At 40%, the cost to income ratio drops to 74%, making the project far more robust.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes in direct proportion, but so does the variable CRU subsidy. This means that the City's capital contribution changes to R459,775; R576,264; R809,252 and R 925,731 respectively.

- Tax and VAT.
    - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the financial sustainability of the project as it is not making profits anyway.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution is reduced to R273,760, and the cost to income ratio drops to 85%.
    - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, the City's contribution decreases to R273,760.

The cost to income ratio stays at 99% as operating costs decrease, but so does net revenue.

- Product mix. The assumption that all units are communal units is changed to assume the following product mixes:
  - All 30 sq metre bachelor units. This increases the development costs to R24 million, and the City's contribution to R4.3 million as the CRU programme picks up the difference due to the larger rooms. The cost to income ratio changes to 175% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.
  - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R29 million, and the City's contribution to R2.4 million as the CRU programme picks up the difference due to the larger rooms. The cost to income ratio changes to 209% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.
  - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R28 million, and the City's contribution to R2.8 million as the CRU programme picks up the difference due to the larger rooms. The cost to income ratio changes to 202% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.

4.7.2 Results of case 6.1.2 – City-led Affordable Rental using CRU funding with a rent subsidy

The base case results are exactly the same as those for case 6.1.1 where CRU funding is also assumed. In Case 6.1.2, however, a rent subsidy is assumed to be available where required. The instances where a rent subsidy is needed are under some of the sensitivity scenarios. It was felt that it would be difficult to justify paying the project a rent subsidy to justify debt or equity funding, and so the rent subsidy has been limited to ensure that operating costs are covered. The calculation of the subsidy does not result in any funding structures other than grant funding, and does not allow any accumulation of cash reserves within the housing organisation. The cost to income ratio is set at 99% to determine the required rent subsidy.

A rent subsidy is assumed to be a temporary subsidy, and decreases on a straight-line basis at 10% per year.

Sensitivity Analysis:

The following scenarios were found to require a rent subsidy to achieve a cost to income ratio of 99%:

- High operating costs. In the scenarios where operating costs are varied by +10% and +20%, a rent subsidy is required. This equates to R5,829 per month (R39 per unit per month) and R11,819 per month (R79 per unit per month) respectively.

- % Income spent on rent. Where the base case of 30% is varied to 25%, a rent subsidy of R9,825 (R66 per unit) per month is required.

- Product Mix. Where the unit mix assumption is changed:
  - All 30 sq metre bachelor units. This has a dramatic effect on a rent subsidy as operating costs are higher than for communal units. A rent subsidy of R46,150 (R308 per unit) per month is required.
  - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This requires a rent subsidy of R66,776 (R445 per unit) per month.

- A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This requires a rent subsidy of R62,249 (R415 per unit) per month.

4.7.3 Results of case 6.2.1 – City-led Affordable Rental using Institutional Subsidy funding with no rent subsidy.

The results from this case can be summarized in the following table:

6.2.1
City led affordable rental
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	150		
Number of second tier units	0		
Number of middle market units	0		
Floor space (in sq m)	2,700	18.0	
Average monthly rental income	60,000	400	22.2
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	59,253	395	21.9
Monthly service costs	38,550	257	14.3
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	99%		
Cost to income ratio (excl services, incl rent subsidy)	99%		
Development costs (all inclusive) nominal terms	12,792,371	85,282	4,738
Funding sources			
Provincial contribution or Institutional Subsidy	6,525,900	43,506	2,417
City of Johannesburg capital contribution	6,266,471	41,776	2,320.9
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	-	-	-
Debt	-	-	-
Equity	-	-	-
Total sources of funds	12,792,371	85,282	4,738
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	0.00%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	0.07%		
Initial yield on capital cost less grants	n/a		
Grants as a % of (grants + debt)	100.0%		
Minimum Debt Service Cover Ratio	-		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

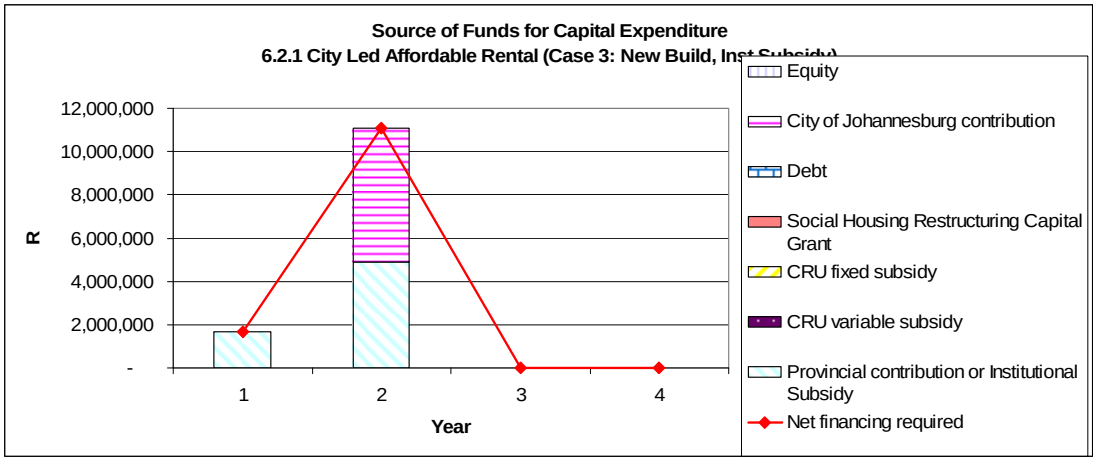
These are the same as under Case 6.1.1 above.

Project Parameters:

The key project parameters summarise the inputs described in section 3.5. These are the same as under Case 6.1.1. The only difference is that CRU funding is not assumed, but access to the provincial institutional subsidy is. The cost to income ratio of R395 versus R400 per month is equal to 99%. This means that revenue is just covering operating and maintenance costs. What this means is that there is no surplus operating revenue to service any debt or equity – meaning the capital costs of the project must be fully funded.

Funding Sources:

The total development costs of building 150 units is still R85,282 each equaling R12.79 million. In this case it is partially funded from the provincial institutional subsidy of R6.5 million of the project, or R43,506 per unit. This is a contentious assumption, as the subsidy, in theory, is not available to units below 30 square metres in size. The funding shortfall is equivalent to R6.27 million for the project or R41,776 per unit. This can be illustrated in the following graph:



As can be seen, R1.65 million is required in year one, and is funded by the institutional subsidy. R11.1 million is needed in year two, and is funded partly by the institutional subsidy (R4.9 million) and partly by the City (R6.27 million).

Project Results:

- The project IRR is 0% as no operating cash surplus is generated.
- The initial yield is barely perceptible but is positive at 0.07%.
- Grants fund 100% of the capital requirements of the project.
- There is no debt so the DSCR is not calculated.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure did not change, but the option became unsustainable for both cases of higher operating costs due to the costs now being higher than revenue.

- Capital costs were varied by -20%, -10%, +10% and +20%. The City of Johannesburg's capital contribution changes to R3.7 million, R5 million, R7.5 million and R8.8 million respectively. The outcome of this case is very sensitive to this variable.

- Services costs were varied by -20% and +20%. This did not affect the financial sustainability of the scenario as it is assumed these costs will be passed on to the tenants. It does change the amount of funding slightly (-R4,000 and +R4,000 respectively) due to

assessment rates being payable prior to tenant occupancy. The effect on tenants is the same as under case 6.1.1.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. The effect on the funding of the project is not dramatic as the funding is all grant funding, and there are no interest charges or savings. The timing of the grants is simply changed. This would have an opportunity cost to the institution making the grant.

- Concessions.
    - Rates rebate. Where a permanent assessment rates rebate as well as an 18-month rates rebate is assumed, the cost of funding the project is reduced by R20,000 - the amount of rates payable prior to tenant occupancy. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. This effect is the same as under case 6.1.1.
    - Free basic services. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. This effect is the same as under case 6.1.1.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the funding of the project as it is assumed to be a fixed-price contract. It does not affect the long-term financial sustainability of the project as there is no debt or equity, and rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the case becomes financially unsustainable as revenue drops below operating costs. At 40%, the cost to income ratio drops to 74%, making the project far more robust.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes in direct proportion, but the institutional subsidy amount remains constant. This means that the City's capital contribution changes to R3.7 million, R5 million, R7.5 million, and R8 million respectively.

- Tax and VAT.
    - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the financial sustainability of the project as it is not making profits anyway.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution is reduced to R5.8 million (R417,718 saving), and the cost to income ratio drops to 85%.
    - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, the City's contribution is reduced to R5.8 million. The cost to income ratio stays at 99% as operating costs decrease but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This increases the development costs to R24 million, and the City's contribution to R17.6 million. The cost to income ratio changes to 175% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R29 million, and the City's

contribution to R22.8 million. The cost to income ratio changes to 209% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.

- A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R28 million, and the City's contribution to R21.8 million. The cost to income ratio changes to 202% as operating costs increase but rentals are assumed to be the same. This is not a financially sustainable scenario.

4.7.4 Results of case 6.2.2 – City-led Affordable Rental using Institutional Subsidy funding with a rent subsidy

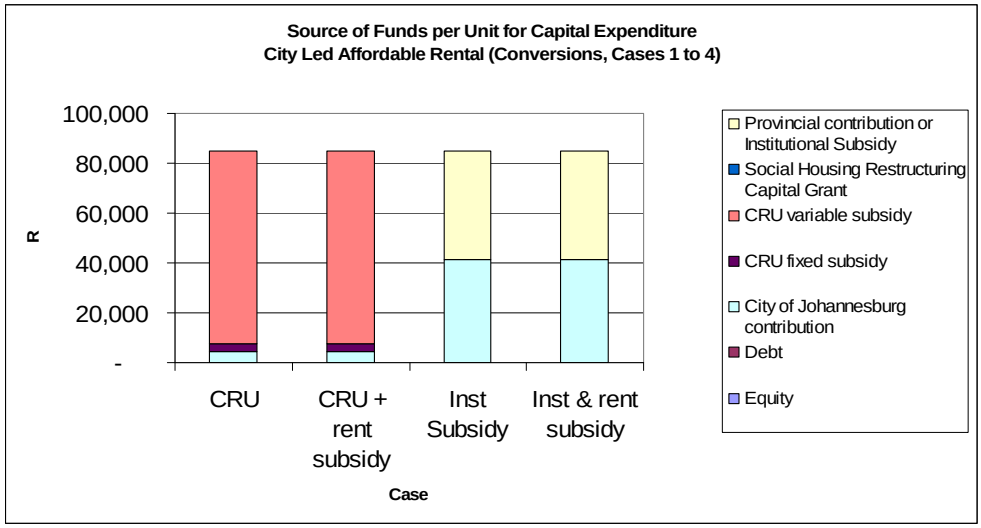
The base case results are exactly the same as those for case 6.2.1 where provincial institutional subsidy funding is also assumed. In Case 6.2.2, however, a rent subsidy is assumed to be available where required. The instances where a rent subsidy is needed are under some of the sensitivity scenarios, exactly the same as under Case 6.1.2. The rent subsidy has been set to ensure that operating costs are covered, and decreases on a straight-line basis over 10 years. The calculation of the subsidy does not result in any funding structures other than grant funding, and does not allow any accumulation of cash reserves within the housing organisation. The cost to income ratio is set at 99% to determine the required rent subsidy.

Sensitivity Analysis:

The impact of the sensitivity analysis on a rent subsidy is the same under Cases 6.1.2 and 6.2.2.

4.7.5 Comparison of Cases 1 to 4:

The four cases described above are all based on the same capital and operating costs, and the same rentals. The only variable is the source of funding, and whether there is a rent subsidy to ensure financial sustainability. The following graph illustrates the difference in the source of funding across the four cases. As can be seen, it is far more beneficial for the City to see if it can fund the conversions using the CRU programme instead of relying on a provincial institutional subsidy.



In all instances, the project becomes financially unsustainable without a rent subsidy when:

- There are higher than assumed operating costs (R395 per unit per month);
- When only 25% of income is spent on rent (as opposed to 30%);

- When the assumption of using communal units of 18 square metres each is changed to that where the units are self-contained and vary by size.

4.8 Other Issues

- There is limited management capacity in the sector, raising the issue of how this option will be scaled up.
- There have also been problems in accessing appropriate buildings from the City.

5 Option 7: Private sector and SHI-led rental for low income

5.1 Cases

The following six cases have been identified for this housing option, and have been costed and modelled:

Option	7.1.1	7.1.2	7.2.1	7.2.2	7.3.1	7.3.2
Typology	New-build	New-build	Conversion	Conversion	Refurbishment	Refurbishment
Affordability (rentals per unit per month)						
Minimum	600.00	600.00	600.00	600.00	600.00	600.00
Maximum	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00
Average	1,425.00	1,425.00	1,425.00	1,425.00	1,425.00	1,425.00
Units in affordable range	30%	70%	30%	70%	30%	70%
Maximum rental level of balance	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00
Product mix	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed
Area per room	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52
Funding	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant
	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy
	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity
Maintenance costs	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations
Operating costs	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations
Rent subsidy	No	No	No	No	No	No
Rates rebates & free basic services	No	No	No	No	No	No

5.2 Typology

Three different private sector-led or SHI building typologies have been modelled, namely:

- New-build (options 7.1.1 and 7.1.2),
- Conversion to residential from hotels or office buildings (options 7.2.1 and 7.2.2), and
- Refurbishment of existing residential buildings (options 7.3.1 and 7.3.2).

These all have different capital, operating and maintenance costs. As previously mentioned, the average number of units per project for each of these typologies are as follows:
- New-build 240 units,
- Conversion to residential 150 units,
- Refurbishment of existing residential buildings 80 units.

5.3 Affordability levels

Two tiers of rentals have been assumed for the six cases:
- First tier:
  - Income levels between R2,000 and R3,500 per unit per month.
  - 30% of income spent on rentals resulting in rentals between R600 and R1,050 per unit per month. The average rental for this tier must be below R750 to qualify as 'Primary Target Market Units' for the Social Housing Restructuring Capital Grant.
- Second tier:
  - Income levels between R3,500 and R7,500 per unit per month.
  - 30% of income spent on rentals resulting in rentals between R1,050 and R2,250 per unit per month. At the base case product mix with the smaller units being the most affordable, this results in the average for this tier being R1,764 per unit per month. The maximum rental for this tier must be below R2,250 to qualify for the Social Housing Restructuring Capital Grant.

The Social Housing Policy has a varying quantum to the Restructuring Grant depending on the number of units in a development that qualify as Primary Target Market Social Housing Units. The cases modelled include cases where the percentage of Primary Target Market Units is equal to
- 30% of the total (options 7.1.1, 7.2.1 and 7.3.1), and
- 70% of the total (options 7.1.2, 7.2.2 and 7.3.2).

5.4 Product mixes

The typology mix for this model includes various combinations of bachelor flats, one-, two-, and three-bedroom units. Ideally, there should be a good mix of these units, with the majority being two-bedroom units as these are the most popular in the City. In reality, however, there is more likely to be more of the smaller units and less of the larger units due to the financial incentive to reduce capital costs. The Reference Group has decided to use the following mix as the base case:

- 10% bachelor units of 30 square meters each;
- 45% one-bedroom units of 37 square meters each;
- 35% two-bedroom units of 45 square meters each;
- 10% three-bedroom units of 52 square meters each.

This mix may not be ideal for refurbishments and conversions, but has been assumed and costed for comparative purposes.

5.5 Costs

Social housing developments in South Africa have been and will continue to be very diverse in terms of their design, social issues, construction costs, operating requirements and constraints, market rentals, vacancy and default rates, etc. An estimate of a typical South African social housing development cannot include all the various issues and costs that are peculiar to a region or

development. The model, therefore, assumes that all projects have certain basic costs associated with them.

Typical capital costs, operating costs, and maintenance costs have been estimated by the quantity surveyor as follows:

5.5.1 Capital costs per unit

The following table describes the assumed capital costs per unit for these housing options:

5.5.1.1 New-build:

Number of units per typical project			240	
Floor area per typical unit	30	37	45	52
	A1: Bachelor	**A2: One bedroom**	**A3: Two bedroom**	**A4: Three bedroom**
Line-items				
Land/property acquisition	10,400	10,400	10,400	10,400
Transfer duty	603	582	582	582
Conveyancing	148	148	148	148
Geotech survey	136	136	136	136
Service connections	2,840	2,840	2,840	2,840
Contributions	-	-	-	-
Current building cost	141,100	165,362	192,042	216,564
Pre-tender escalation	11,852	13,890	16,132	18,191
Post tender escalation	10,609	12,433	14,439	16,283
Contingency	8,178	9,584	11,131	12,552
Final building cost	171,739	201,270	233,743	263,590
Professional fees (construction)	21,249	24,893	28,899	32,583
Plan approval fees	219	266	319	366
Consent use fees, (to council and town planner)	4,122	4,830	5,610	6,326
Rezoning fees	-	-	-	-
Subsidy administration	220	220	220	220
Overhead during construction	2,970	2,970	2,970	2,970
Sub-Total	214,646	248,555	285,867	320,161
NHBRC enrolment	2,752	3,193	3,678	4,123
Total before finance	217,397	251,748	289,545	324,285

Assumptions:

- Transfer duty is assumed to be 5.6% of the cost of the land.
- Contingency is assumed to be 5% of escalated building costs.
- Professional fees costs (including plan approval fees) are assumed to be 12.5% of escalated building.
- Consent use fees are 2.4% of building costs.
- NHBRC fees are assumed to be 1.3% of the costs of the unit.
- The timing of the capital spend over a six-month planning and twelve-month construction period is the same as for Cases 6.1.1 to 6.2.2 above.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two bedroom units and 10% three-bedroom units, the total new-build development costs for a 240 unit project come to the following:

Avg cost of land per unit - incl VAT or transfer duties.	11,132
Avg cost of buildings per unit - incl professional fees & overheads	257,663
Avg cost of development per unit - incl land, VAT	268,795
Avg cost of development per m2 - incl land, VAT	6,621
Cost of development	64,510,899

5.5.1.2 Conversions:

Number of units per typical project	150			
Floor area per typical unit	30	37	45	52
	C2: Bachelor	**C3: One bedroom**	**C4: Two bedroom**	**C5: Three bedroom**
Line-items				
Land/property acquisition	21,500	21,500	21,500	21,500
Transfer duty	1,376	1,376	1,376	1,376
Conveyancing	340	340	340	340
Geotech survey	-	-	-	-
Service connections	1,250	1,250	1,250	1,250
Contributions	-	-	-	-
Current building cost	89,467	104,700	121,250	135,680
Pre-tender escalation	7,515	8,795	10,185	11,397
Post tender escalation	6,727	7,872	9,116	10,201
Contingency	10,371	12,137	14,055	15,728
Final building cost	114,080	133,503	154,606	173,006
Professional fees (construction)	13,992	16,374	18,962	21,219
Plan approval fees	268	314	364	407
Consent use fees, (to council and town planner)	2,738	3,204	3,711	4,152
Rezoning fees	290	290	290	290
Subsidy administration	220	220	220	220
Overhead during construction	2,970	2,970	2,970	2,970
Sub-Total	159,024	181,341	205,589	226,730
NHBRC enrolment	2,029	2,319	2,634	2,909
Total before finance	161,052	183,660	208,223	229,639

Assumptions:

- Transfer duty is assumed to be 6.4% of the cost of the land.
- Contingency is assumed to be 10% of escalated building costs.
- Professional fees (including plan approval fees) are assumed to be 12.5% of escalated building costs.
- Consent use fees are 2.4% of building costs.
- NHBRC fees are assumed to be 1.3% of the costs of the unit.
- The timing of the capital spend over a six-month planning and twelve-month construction period is the same as for Cases 6.1.1 to 6.2.2 above.
- In the many examples analysed by the QS, cost of both acquisition and conversion varied considerably from project to project, depending on factors such as condition and configuration of the existing property, the number of rooms per shared facility in the converted layout, etc. The estimates are, therefore, not averages, but rather the mean of the largest cluster of reasonably similar costs.
- In some instances buildings could be obtained from the better buildings programme at very little cost, or even leased from the city at nominal annual rental, but because of the apparent difficulty in sometimes acquiring buildings through that programme, the assumption has been made that in most cases buildings will have to be purchased in the market place.
- It has been assumed that properties will already have the required zoning and rights for the conversion, and no allowance has therefore been made for re-zoning and development contributions to council.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total conversion development costs for a 150-unit project come to the following:

Avg cost of land per unit - incl VAT or transfer duties.	23,216
Avg cost of buildings per unit - incl professional fees & overheads	171,378
Avg cost of development per unit - incl land, VAT	194,594
Avg cost of development per m2 - incl land, VAT	4,793
Cost of development	29,189,144

5.5.1.3 Refurbishments:

Number of units per typical project			80	
Floor area per typical unit	30	37	45	52
	E2: Bachelor	**E3: One bedroom**	**E4: Two bedroom**	**E5: Three bedroom**
Line-items				
Land/property acquisition	26,240	26,240	26,240	26,240
Transfer duty	1,758	1,758	1,758	1,758
Conveyancing	380	380	380	380
Geotech survey	-	-	-	-
Service connections	780	780	780	780
Contributions	-	-	-	-
Current building cost	26,100	30,414	36,540	41,756
Pre-tender escalation	2,192	2,555	3,069	3,508
Post tender escalation	1,962	2,287	2,747	3,139
Contingency	3,025	3,526	4,236	4,840
Final building cost	33,280	38,781	46,592	53,243
Professional fees (construction)	4,082	4,756	5,714	6,530
Plan approval fees	78	91	110	125
Consent use fees, (to council and town planner)	499	582	699	799
Rezoning fees	-	-	-	-
Subsidy administration	220	220	220	220
Overhead during construction	2,970	2,970	2,970	2,970
Sub-Total	70,288	76,558	85,463	93,045
NHBRC enrolment	875	957	1,072	1,171
Total before finance	71,163	77,515	86,536	94,216

Assumptions:

- Transfer duty is assumed to be 6.7% of the cost of the land.
- Contingency is assumed to be 10% of escalated building costs.
- Professional fees (including plan approval fees) are assumed to be 12.5% of escalated building costs.
- Consent use fees are 1.5% of building costs.
- NHBRC fees are assumed to be 1.3% of the costs of the unit.
- The timing of the capital spend over a six-month planning and twelve-month construction period is the same as for Cases 6.1.1 to 6.2.2 above.
- Refurbishment of existing residential buildings, (i.e. no change of use) physically does not create new residential stock that was not there before, but it does in many cases make such stock habitable again where perhaps it had become uninhabitable.
- In the many examples analysed by the QS, cost of both acquisition and refurbishment varied considerably from project to project, depending on factors such as condition of the existing property, the unit sizes and mix, etc. The cost assumptions are, therefore, not averages, but rather the mean of the largest cluster of reasonably similar costs.
- In some instances buildings could be obtained from the better buildings programme at very little cost, or even leased from the city at nominal annual rental, but because of the

apparent difficulty in sometimes acquiring buildings through that programme, the assumption is that in most cases buildings will have to be purchased in the marketplace.

- As no change in use applies, no allowance has been made for re-zoning and development contributions to council.
- Unit sizes and mixes varied widely from property to property, with average around 38 square metres being the most common.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total refurbishment development costs for an 80-unit project come to the following:

Avg cost of land per unit - incl VAT or transfer duties.	28,378
Avg cost of buildings per unit - incl professional fees & overheads	53,329
Avg cost of development per unit - incl land, VAT	81,707
Avg cost of development per m2 - incl land, VAT	2,012
Cost of development	6,536,575

5.5.2 Operating costs per unit

5.5.2.1 New-build:

Variable monthly operating costs per unit

The following table describes the assumed variable monthly operating costs per unit in May 2008 terms:

Source: Jacus Pienaar QS	Bachelor 30m2 - per unit	One bedroom 37m2 per unit per	Two bedroom 45m2 per unit	Three bedroom
	New	New	New	New
Cleaning expenses	18	22	27	31
Fire safety certification	5	5	5	5
Insurance (home 0wner's)	30	37	45	55
Keys and locks - replace	2	2	2	2
Maintenance manager	42	42	42	42
Meter reading services	8	8	8	8
Provision for bad debts / defaults	36	36	36	36
Rates & taxes and other services	12	12	12	12
Repairs & maintenance - building	23	28	34	41
Repairs & maintenance - Equipment, etc	3	4	5	5
Repairs & maintenance - Electrical	16	19	24	29
Repairs & maintenance - fire service	6	7	9	11
Repairs & maintenance - glass & window	27	33	41	49
Repairs & maintenance - Plumbing	31	38	46	56
Repairs & maintenance - Paint	6	7	9	11
Repairs and maintenance - pest control	3	4	5	5
Repairs & maintenance - Gardens	20	24	29	36
Repairs & maintenance - lifts	32	39	47	57
Repairs and maintenance - stoves	3	4	5	5
Repairs & maintenance - Other	54	67	81	99
Repairs & maintenance - long term preventative	60	74	90	109
Security expenses, including caretaker	12	12	12	12
Site based office costs	15	15	15	15
Water & electricity common areas	8	8	8	8
Total	470	547	635	740

Fixed Operating Costs per unit

The following table describes the assumed fixed monthly operating costs per unit in May 2008 terms:

Source: Jacus Pienaar QS	Bachelor 30m2 - per unit	One bedroom 37m2 per unit per	Two bedroom 45m2 per unit	Three bedroom
	New	New	New	New
Accounting services	0	0	0	0
Admin fee	5	5	5	5
Advertising & promotions	4	4	4	4
Annual report	3	3	3	3
Audit fees	9	9	9	9
Bank charges	7	7	7	7
Collection commission	2	2	2	2
Communications-cell phones	3	3	3	3
Communications-internet conn	2	2	2	2
Communications-Telkom	6	6	6	6
Company secretarial	3	3	3	3
Computer maintenance	2	2	2	2
Computer sotware support	3	3	3	3
Consultants fees	6	6	6	6
Depreciation	24	24	24	24
Directors' fees	17	17	17	17
Directors airfares	0	0	0	0
Directors car rental & parking	0	0	0	0
Directors hotel and subsistence	0	0	0	0
Donations	0	0	0	0
Employment costs-salaries	48	48	48	48
Employment costs - casual wages	12	12	12	12
Employment costs - uniforms	11	11	11	11
Employment costs-UIF	1	1	1	1
Employment costs-SDL	1	1	1	1
Employment costs-staff recruitment	5	5	5	5
Employment costs staff training	8	8	8	8
Employment costs staff welfare	2	2	2	2
Entertainment	1	1	1	1
Equipment hire	1	1	1	1
Financial management services	10	10	10	10
Fire safety certification	2	2	2	2
Guarantee facility costs	0	0	0	0
Institute member fees	0	0	0	0
Insurance	3	3	3	3
Lease charges	8	8	8	8
Legal expenses	6	6	6	6
Marketing	0	0	0	0
Motor vehicles-licenses	1	1	1	1
Motor vehicles-repairs and maintenance	4	4	4	4
Motor vehicles-Fuel	4	4	4	4
Motor vehicles-other	0	0	0	0
Payroll expenses	0	0	0	0
Postage & courier services	2	2	2	2
Printing & stationery	4	4	4	4
Refreshments and catering	0	0	0	0
Rent & parking premises	8	8	8	8
Research, development & feasibility studies	0	0	0	0
RSC levies	1	1	1	1
Subscriptions	0	0	0	0
Sundry expenses	0	0	0	0
Temporary staff & casual labour	0	0	0	0
Tenant training & credit checks	2	2	2	2
Travelling-air fares	0	0	0	0
Travelling-car rental & parking	0	0	0	0
Travelling-Hotel & subsistence	0	0	0	0
Travelling allowance	0	0	0	0
Water & electricty overhead	5	5	5	5
Total	246	246	246	246

Total monthly operating costs:

The sum of the fixed and variable costs per unit per month come to:

Source: Jacus Pienaar QS	Bachelor 30m2 - per unit	One bedroom 37m2 per unit per	Two bedroom 45m2 per unit	Three bedroom
	New	New	New	New
Variable direct operating costs	470	547	635	740
Fixed overhead costs	246	246	246	246
Total cost recovery (to rental)	716	793	881	986

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly operating costs for a 240-unit new-build development are:

	SUMMARY - New build (Average project size 240 units) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Variable direct operating costs	141,465	589	15
Fixed overhead costs	59,040	246	6
Total cost recovery (to rental)	200,505	835	21

5.5.2.2 Conversions:

Variable monthly operating costs per unit

The following table describes the assumed variable monthly operating costs per unit in May 2008 terms:

	Conversion 18m2 communal unit per unit per month	Bachelor 30m2 - per unit	One bedroom 37m2 per unit	Two bedroom 45m2 per unit	Three bedroom 52m2 per unit per
		Conv	Conv	Conv	Conv
Cleaning expenses	8	19	24	29	33
Fire safety certification	2	5	5	5	5
Insurance (home 0wner's)	14	32	39	48	58
Keys and locks - replace	1	2	2	2	2
Maintenance manager	14	45	45	45	45
Meter reading services	3	8	8	8	8
Provision for bad debts / defaults	12	38	38	38	38
Rates & taxes and other services	4	13	13	13	13
Repairs & maintenance - building	10	24	29	36	44
Repairs & maintenance - Equipment, etc	1	3	4	5	6
Repairs & maintenance - Electrical	7	17	21	25	30
Repairs & maintenance - fire service	3	6	8	10	12
Repairs & maintenance - glass & window	12	29	35	43	52
Repairs & maintenance - Plumbing	14	33	40	49	59
Repairs & maintenance - Paint	3	6	8	10	12
Repairs and maintenance - pest control	1	3	4	5	6
Repairs & maintenance - Gardens	9	21	25	31	38
Repairs & maintenance - lifts	14	33	41	50	61
Repairs and maintenance - stoves	1	3	4	5	6
Repairs & maintenance - Other	25	57	71	86	104
Repairs & maintenance - long term preventative	27	64	78	95	116
Security expenses, including caretaker	4	13	13	13	13
Site based office costs	5	16	16	16	16
Water & electricity common areas	3	8	8	8	8
Total	198	498	580	673	785

Fixed Operating Costs per unit

The following table describes the assumed fixed monthly operating costs per unit in May 2008 terms:

	Conversion 18m2 communal unit per unit per month	Bachelor 30m2 - per unit	One bedroom 37m2 per unit	Two bedroom 45m2 per unit	Three bedroom 52m2 per unit per
		Conv	Conv	Conv	Conv
Accounting services	0	0	0	0	0
Admin fee	5	5	5	5	5
Advertising & promotions	4	4	4	4	4
Annual report	3	3	3	3	3
Audit fees	9	9	9	9	9
Bank charges	7	7	7	7	7
Collection commission	2	2	2	2	2
Communications-cell phones	3	3	3	3	3
Communications-internet conn	2	2	2	2	2
Communications-Telkom	6	6	6	6	6
Company secretarial	3	3	3	3	3
Computer maintenance	2	2	2	2	2
Computer sotware support	3	3	3	3	3
Consultants fees	6	6	6	6	6
Depreciation	18	24	24	24	24
Directors' fees	9	9	9	9	9
Directors airfares	0	0	0	0	0
Directors car rental & parking	0	0	0	0	0
Directors hotel and subsistence	0	0	0	0	0
Donations	0	0	0	0	0
Employment costs-salaries	29	29	29	29	29
Employment costs - casual wages	9	9	9	9	9
Employment costs - uniforms	7	7	7	7	7
Employment costs-UIF	1	1	1	1	1
Employment costs-SDL	1	1	1	1	1
Employment costs-staff recruitment	3	3	3	3	3
Employment costs staff training	5	5	5	5	5
Employment costs staff welfare	2	2	2	2	2
Entertainment	1	1	1	1	1
Equipment hire	1	1	1	1	1
Financial management services	6	6	6	6	6
Fire safety certification	2	2	2	2	2
Guarantee facility costs	0	0	0	0	0
Institute member fees	0	0	0	0	0
Insurance	3	3	3	3	3
Lease charges	8	8	8	8	8
Legal expenses	6	6	6	6	6
Marketing	0	0	0	0	0
Motor vehicles-licenses	1	1	1	1	1
Motor vehicles-repairs and maintenance	4	4	4	4	4
Motor vehicles-Fuel	4	4	4	4	4
Motor vehicles-other	0	0	0	0	0
Payroll expenses	0	0	0	0	0
Postage & courier services	2	2	2	2	2
Printing & stationery	4	4	4	4	4
Refreshments and catering	0	0	0	0	0
Rent & parking premises	8	8	8	8	8
Research, development & feasibility studies	0	0	0	0	0
RSC levies	1	1	1	1	1
Subscriptions	0	0	0	0	0
Sundry expenses	0	0	0	0	0
Temporary staff & casual labour	0	0	0	0	0
Tenant training & credit checks	2	2	2	2	2
Travelling-air fares	0	0	0	0	0
Travelling-car rental & parking	0	0	0	0	0
Travelling-Hotel & subsistence	0	0	0	0	0
Travelling allowance	0	0	0	0	0
Water & electricty overhead	5	5	5	5	5
Total	197	203	203	203	203

Total monthly operating costs:

The sum of the fixed and variable costs per unit per month come to:

	Conversion 18m2 communal unit per unit per month	Bachelor 30m2 - per unit Conv	One bedroom 37m2 per unit Conv	Two bedroom 45m2 per unit Conv	Three bedroom 52m2 per unit per Conv
Variable direct operating costs	198	498	580	673	785
Fixed overhead costs	197	203	203	203	203
Total cost recovery (to rental)	395	701	783	876	988

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly operating costs for a 150-unit conversion are:

	SUMMARY - Conversion (150 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Variable direct operating costs	93,721	625	15.4
Fixed overhead costs	30,450	203	5.0
Total cost recovery (to rental)	124,171	828	20.4

5.5.2.3 Refurbishments:

Variable monthly operating costs per unit

The following table describes the assumed variable monthly operating costs per unit in May 2008 terms:

	Refurb 38m2 average unit (variable mix) per unit per month	Bachelor 30m2 - per Refurb	One bedroom 37m2 per unit Refurb	Two bedroom Refurb	Three bedroom 52m2 per unit per Refurb
Cleaning expenses	21	20	24	29	34
Fire safety certification	4	5	5	5	5
Insurance (home 0wner's)	34	33	40	49	60
Keys and locks - replace	2	2	2	2	2
Maintenance manager	36	46	46	46	46
Meter reading services	7	9	9	9	9
Provision for bad debts / defaults	31	39	39	39	39
Rates & taxes and other services	10	13	13	13	13
Repairs & maintenance - building	26	25	30	37	45
Repairs & maintenance - Equipment, etc	3	3	4	5	6
Repairs & maintenance - Electrical	18	17	21	26	31
Repairs & maintenance - fire service	7	7	8	10	12
Repairs & maintenance - glass & window	31	29	36	44	54
Repairs & maintenance - Plumbing	35	34	41	50	61
Repairs & maintenance - Paint	7	7	8	10	12
Repairs and maintenance - pest control	3	3	4	5	6
Repairs & maintenance - Gardens	22	21	26	32	39
Repairs & maintenance - lifts	36	34	42	52	63
Repairs and maintenance - stoves	3	3	4	5	6
Repairs & maintenance - Other	62	59	73	88	107
Repairs & maintenance - long term preventative	68	65	81	98	119
Security expenses, including caretaker	10	13	13	13	13
Site based office costs	13	16	16	16	16
Water & electricity common areas	7	9	9	9	9
Total	495	512	596	692	807

Fixed Operating Costs per unit

The following table describes the assumed fixed monthly operating costs per unit in May 2008 terms:

	Refurb 38m2 average unit (variable mix) per unit per month	Bachelor 30m2 - per Refurb	One bedroom 37m2 per unit Refurb	Two bedroom Refurb	Three bedroom 52m2 per unit per Refurb
Accounting services	0	0	0	0	0
Admin fee	5	5	5	5	5
Advertising & promotions	4	4	4	4	4
Annual report	3	3	3	3	3
Audit fees	9	9	9	9	9
Bank charges	7	7	7	7	7
Collection commission	2	2	2	2	2
Communications-cell phones	3	3	3	3	3
Communications-internet conn	2	2	2	2	2
Communications-Telkom	6	6	6	6	6
Company secretarial	3	3	3	3	3
Computer maintenance	2	2	2	2	2
Computer sotware support	3	3	3	3	3
Consultants fees	6	6	6	6	6
Depreciation	24	24	24	24	24
Directors' fees	17	17	17	17	17
Directors airfares	0	0	0	0	0
Directors car rental & parking	0	0	0	0	0
Directors hotel and subsistence	0	0	0	0	0
Donations	0	0	0	0	0
Employment costs-salaries	41	41	41	41	41
Employment costs - casual wages	10	10	10	10	10
Employment costs - uniforms	9	9	9	9	9
Employment costs-UIF	1	1	1	1	1
Employment costs-SDL	1	1	1	1	1
Employment costs-staff recruitment	4	4	4	4	4
Employment costs staff training	7	7	7	7	7
Employment costs staff welfare	2	2	2	2	2
Entertainment	1	1	1	1	1
Equipment hire	1	1	1	1	1
Financial management services	10	10	10	10	10
Fire safety certification	2	2	2	2	2
Guarantee facility costs	0	0	0	0	0
Institute member fees	0	0	0	0	0
Insurance	3	3	3	3	3
Lease charges	8	8	8	8	8
Legal expenses	6	6	6	6	6
Marketing	0	0	0	0	0
Motor vehicles-licenses	1	1	1	1	1
Motor vehicles-repairs and maintenance	4	4	4	4	4
Motor vehicles-Fuel	4	4	4	4	4
Motor vehicles-other	0	0	0	0	0
Payroll expenses	0	0	0	0	0
Postage & courier services	2	2	2	2	2
Printing & stationery	4	4	4	4	4
Refreshments and catering	0	0	0	0	0
Rent & parking premises	8	8	8	8	8
Research, development & feasibility studies	0	0	0	0	0
RSC levies	1	1	1	1	1
Subscriptions	0	0	0	0	0
Sundry expenses	0	0	0	0	0
Temporary staff & casual labour	0	0	0	0	0
Tenant training & credit checks	2	2	2	2	2
Travelling-air fares	0	0	0	0	0
Travelling-car rental & parking	0	0	0	0	0
Travelling-Hotel & subsistence	0	0	0	0	0
Travelling allowance	0	0	0	0	0
Water & electricty overhead	5	5	5	5	5
Total	234	234	234	234	234

The sum of the fixed and variable costs per unit per month come to:

	Refurb 38m2 average unit (variable mix) per unit per month	Bachelor 30m2 - per Refurb	One bedroom 37m2 per unit Refurb	Two bedroom Refurb	Three bedroom 52m2 per unit per Refurb
Variable direct operating costs	495	512	596	692	807
Fixed overhead costs	234	234	234	234	234
Total cost recovery (to rental)	729	746	830	926	1,041

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly operating costs for an 80-unit refurbishment are:

	SUMMARY - Refurb (80 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Variable direct operating costs	51,399	642	16
Fixed overhead costs	18,730	234	6
Total cost recovery (to rental)	70,129	877	22

5.5.3 Services costs per unit

The following tables describe the assumed monthly services costs per unit that are not already included in the fixed and variable costs of the organisation. These costs are related to services consumed by the tenants, and are assumed to be measurable and 100% recoverable.

The base case assumes the following with regard to service charges:

- 100% recovery rate.
- No assessment rates rebate.
- No free basic services.
- No free 6kl of water per unit.

5.5.3.1 New-build:

Source: Jacus Pienaar QS	Bachelor 30m2 - per unit New	One bedroom 37m2 per unit per New	Two bedroom 45m2 per unit New	Three bedroom New
Electricity and gas	126	189	253	475
Water	80	120	160	300
Refuse removal	36	54	48	90
Effluent	44	66	59	110
Assessment rates	11	14	20	20
Total	297	443	540	995

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly services costs for tenants for a 240-unit new-build project are:

	SUMMARY - New build (Average project size 240 units) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Electricity and gas	56,088	234	5.8
Water	35,520	148	3.6
Refuse removal	12,888	54	1.3
Effluent	15,780	66	1.6
Assessment rates	3,936	16	0.4
Total	124,212	518	12.7

5.5.3.2 Conversions:

Services costs-passed on to tenants					
Electricity and gas	122	126	189	253	475
Water	77	80	120	160	300
Water if first 6kl free	27	30	72	112	252
Refuse removal	23	36	54	48	90
Effluent	28	44	66	59	110
Assessment rates	7	11	14	20	20
Total	257	297	443	540	995

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly services costs for tenants for a 150-unit conversion project are:

	SUMMARY - Conversion (150 unit project) 10:45:35:10 mix		
Services costs-passed on to tenants			
Electricity and gas	35,055	234	5.8
Water	22,200	148	3.6
Water if first 6kl free	14,970	100	2.5
Refuse removal	8,055	54	1.3
Effluent	9,863	66	1.6
Assessment rates	2,460	16	0.4
Total	77,633	518	12.7

5.5.3.3 Refurbishments:

	Refurb 38m2 average unit (variable mix) per unit per month	**Bachelor 30m2 - per Refurb**	**One bedroom 37m2 per unit Refurb**	**Two bedroom Refurb**	**Three bedroom 52m2 per unit per Refurb**
Electricity and gas	190	126	190	253	475
Water	120	80	120	160	300
Refuse removal	36	36	54	48	90
Effluent	44	44	66	59	110
Assessment rates	15	11	14	20	20
Total	405	297	444	540	995

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly services costs for tenants for an 80-unit refurbishment project are:

	SUMMARY - Refurb (80 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Electricity and gas	18,732	234	5.8
Water	11,840	148	3.6
Refuse removal	4,296	54	1.3
Effluent	5,260	66	1.6
Assessment rates	1,312	16	0.4
Total	41,440	518	12.8

5.6 Potential funding sources

5.6.1 Capital cost funding:

- Some of the projects in this category should fall within the proposed restructuring zone for Johannesburg City. The model assumes that the projects qualify for the Restructuring Capital Grant.
- This option should also be able to gain access to the provincial institutional subsidy amounts.
- A portion of the funding is assumed to be met from debt and / or equity. The servicing of these funding sources is paid from rental revenues from the project over time, and the model determines the size of this funding based on minimum cash returns and cover ratios that funders will usually insist on.
- The shortfall between capital costs and the sum of the subsidies and debt and equity funding, is assumed to be funded by the City of Johannesburg in the form of a capital subsidy.

5.6.2 Operating cost funding:

- Operating costs are expected to be recovered by rental revenue. Any operating shortfalls will need to be funded.
- Services and rates will affect the all-in costs to the end user. This raises the possibility of applying for rates rebates and free basic services. The effect of these measures is considered in the sensitivity analysis.

5.6.3 Maintenance cost funding:

- Maintenance is funded from the rental revenues from the project.

5.7 Results

5.7.1 Results of case 7.1.1 – Private Sector or SHI-led Affordable Rental – New-build with 30% of units in first tier rental target

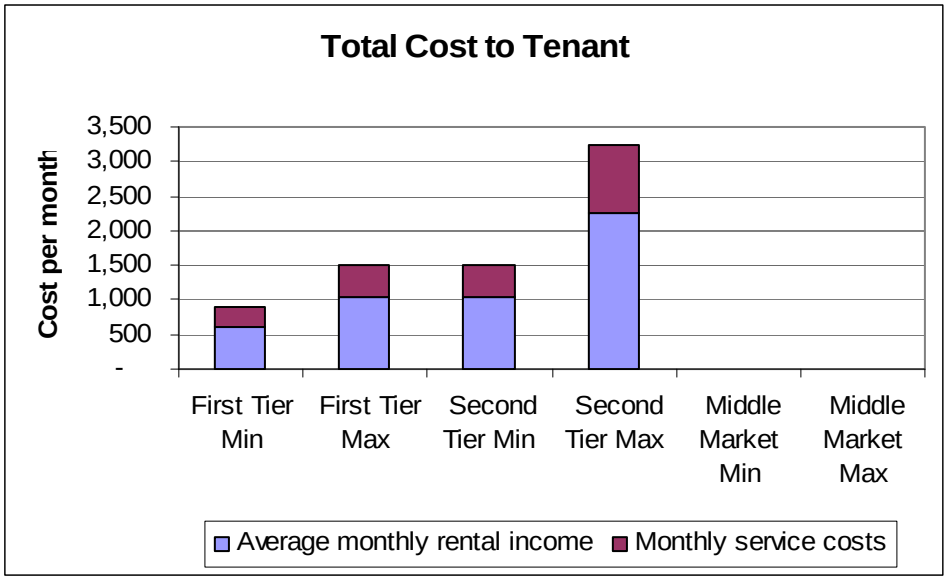
The results from this case can be summarized in the following table:

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	New Build		
Total number of units	240		
Number of first tier units	72		
Number of second tier units	168		
Number of middle market units	0		
Floor space (in sq m)	9,744	40.6	
Average monthly rental income	346,800	1,445	35.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	200,505	835	20.6
Monthly service costs	124,212	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	58%		
Cost to income ratio (excl services, incl rent subsidy)	58%		
Development costs (all inclusive) nominal terms	64,561,975	269,008	6,626
Funding sources			
Provincial contribution or Institutional Subsidy	10,441,440	43,506	1,072
City of Johannesburg capital contribution	15,927,394	66,364	1,634.6
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	30,147,600	125,615	523
Debt	8,045,541	33,523	826
Equity	-	-	-
Total sources of funds	64,561,975	269,008	6,626
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	27.80%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	2.72%		
Initial yield on capital cost less grants	21.8%		
Grants as a % of (grants + debt)	87.5%		
Minimum Debt Service Cover Ratio	1.30		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

The total costs to tenants including services costs, varies between R897 and R1,493 for first-tier tenants, and between R1,493 and R3,245 for second-tier tenants. This gives an average of R1,963 per unit per month (R1,445 excluding services). The following graph illustrates the costs to tenants:



Project Parameters:

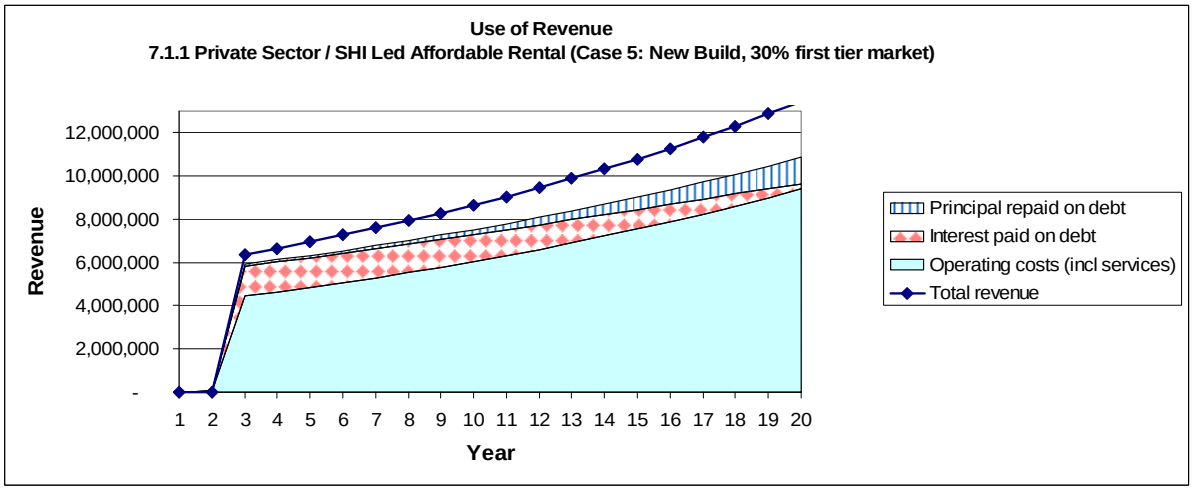
The key project parameters summarise the inputs in May 2008 terms, that were described in the sections above detailing new-build projects. A typical project is made up of 240 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

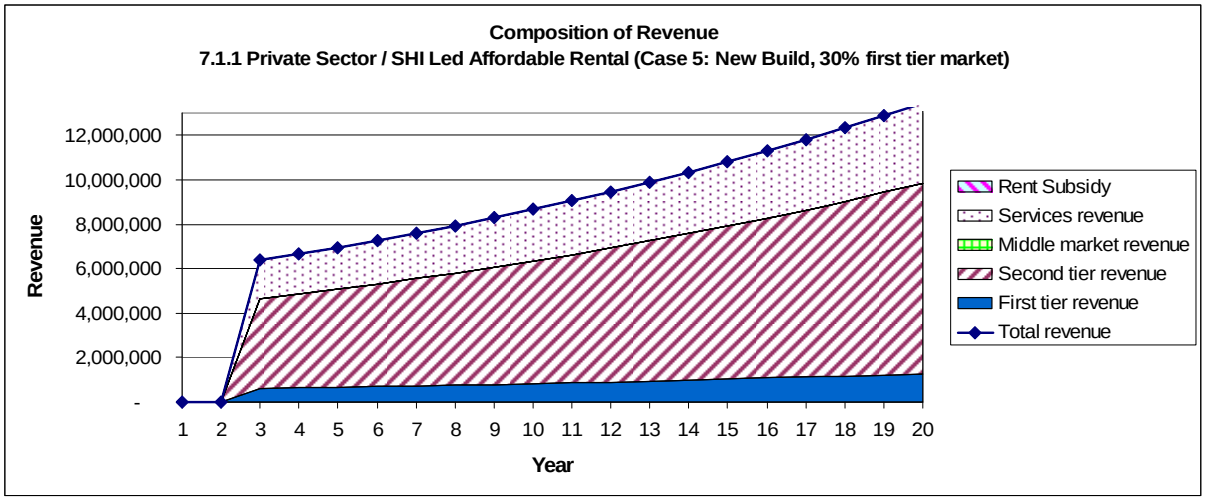
- 30% of the total being first tier, averaging R700 per month.
- 70% of the total being second tier, averaging R1,764 per month.
- Total average rental per unit per month is R1,445.

The cost to income ratio of R835 versus R1,445 per month is equal to 58%. This means that there should be some cash available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

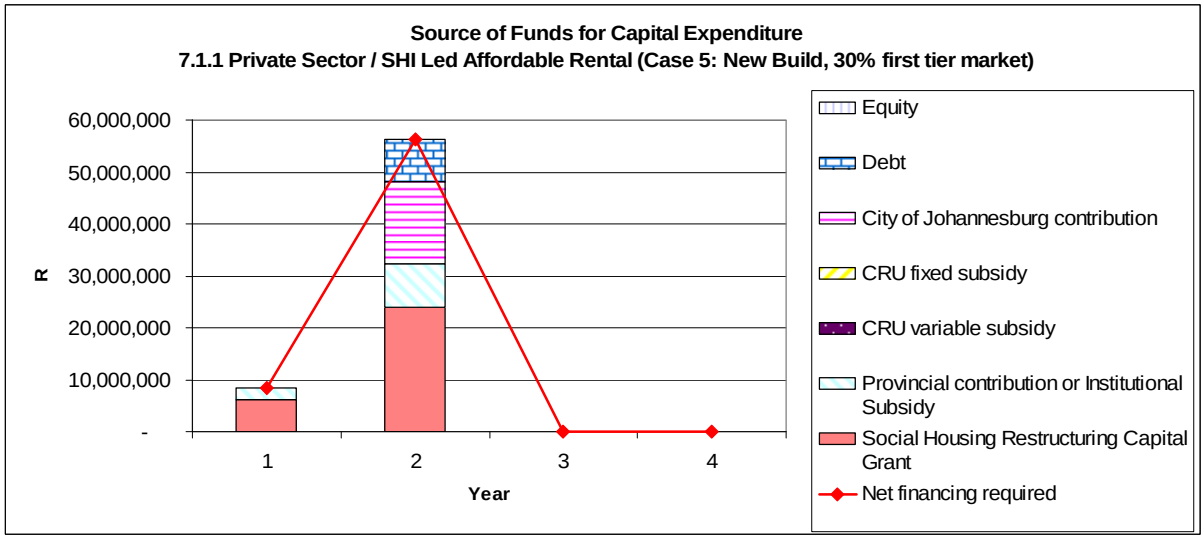




Funding Sources:

The total development costs of building 240 new-build units of R269,008 each is R64.6 million. In this case it is funded from:

- The Social Housing Restructuring Capital Grant of R30.1 million (R6.2 million in year one, R23.9 million in year two);
- The provincial institutional subsidy of R10.4 million (R2.1 million in year one, R8.3 million in year two);
- Debt of R8 million in year two;
- The funding shortfall to be met by a capital contribution from the City is equivalent to R16 million in year two, or R66,364 per unit. This can be illustrated in the following graph:



Project Results:

- The project IRR is 27.8%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 21.8%. This is indicative of a healthy project.
- Grants fund 87.5% of the capital requirements of the project.

- The minimum Debt Service Cover Ratio (DSCR) is 1.3, meaning the funders should theoretically be comfortable lending to such a project.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure does change due to this variation as the size of the debt funding will increase if the operating costs are lower due to more cash being available to service debt. Similarly, if operating costs are higher, debt will be lower due to less cash being available to service debt. The City's capital contribution is R13.6m, R14.8m, R17.1m and R18.3m for the four scenarios respectively.

- Capital Costs were varied by -20%, -10%, +10% and +20%. The Restructuring Grant and the institutional subsidy do not decrease, nor does the size of the debt, so the City's capital contribution is very sensitive to this variable, and varies to R3m, R9.5m, R22.4m and R28.9m respectively.

- Services Costs were varied by -20% and +20%. This did not affect the financial sustainability of the scenario as it is assumed these costs will be passed on to the tenants. Tenants end up paying an average of R414 and R621 per month respectively instead of R518 per month. It does change the amount of funding, and therefore the City's contribution, slightly (R15,258) due to assessment rates being payable prior to tenant occupancy.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since most of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
    - Rates rebate. Where a permanent assessment rates rebate as well as an 18-month rates rebate is assumed, the cost of funding the project is reduced by the amount of rates payable (R76,287) prior to tenant occupancy. The effect on the tenants will be beneficial (cost decreases from R518 to R501 per month for a permanent rebate), but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants.
    - Free basic services. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. The effect on tenants is that average monthly services costs decrease from R518 per month to:
        - R16.40 under free basic services;
        - R469 under free 6lk of water;
        - R0 under a rates rebate and free basic services permanently.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the development costs of the project as it is assumed to be a fixed-price contract. It does, however, affect the cost of debt as interest rates are linked to the inflation rate. As forecast inflation and thus interest rates go up, the size of debt must come down to achieve the same minimum cover ratios. This means the City's capital contribution must swell to fill the funding gap. The City's capital contribution decreases by R0.46m and increases by R0.48m and R1m respectively for the three scenarios. The variable does not affect the long-term financial sustainability of the project other than this as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the City's capital contribution must increase by R0.42m, and at 40% it must decrease by R0.85m.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes in direct proportion, but the grants and debt do not change. This means that the City's capital contribution changes to R3m; R9.5m; R22.4m and R 28.9m respectively. It is not, however, realistic to assume the projects would qualify for the Restructuring Grant if unit sizes were smaller than the base case.

- Tax and VAT.
    - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution is reduced by R5.2m to R10.7m, and the cost to income ratio drops to 50%.
    - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, the City's contribution is reduced by R2.7m to R13.3m. The cost to income ratio stays at 58% as operating costs decrease; however, so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This decreases the development costs to R52.2 million, and the City's contribution to R9.2 million. The cost to income ratio changes to 78%. This is still a financially sustainable scenario, but not necessarily a socially ideal one.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R65 million, and the City's contribution to R15.7m. The cost to income ratio changes to 56%.
    - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This decreases the development costs to R62.5 million, and the City's contribution to R14.2 million. The cost to income ratio is also 58%.

5.7.2 Results of case 7.1.2 – Private Sector or SHI-led Affordable Rental – New-build with 70% of units in first tier rental target

The only difference between this case and the previous case is that now 70% of the units in the development are to fall within the first-tier rental target. The results from this case can be summarized in the following table:

01 May 2008

Project parameters	Total	Average Per Unit	Average Per sq m
Building typology	New Build		
Total number of units	240		
Number of first tier units	168		
Number of second tier units	72		
Number of middle market units	0		
Floor space (in sq m)	9,744	40.6	
Average monthly rental income	268,800	1,120	27.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	200,505	835	20.6
Monthly service costs	124,212	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	75%		
Cost to income ratio (excl services, incl rent subsidy)	75%		
Development costs (all inclusive) nominal terms	64,561,975	269,008	6,626
Funding sources			
Provincial contribution or Institutional Subsidy	10,441,440	43,506	1,072
City of Johannesburg capital contribution	13,756,703	57,320	1,411.8
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	37,336,080	155,567	648
Debt	3,027,753	12,616	311
Equity	-	-	-
Total sources of funds	64,561,975	269,008	6,626
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	27.80%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	1.27%		
Initial yield on capital cost less grants	27.0%		
Grants as a % of (grants + debt)	95.3%		
Minimum Debt Service Cover Ratio	1.30		
Target minimum Debt Service Cover Ratio	1.3		

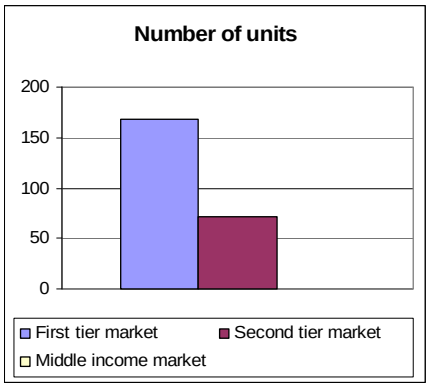
Monthly costs to tenants:

The total costs to tenants including services costs, varies between R880 and R1,493 for first-tier tenants, and between R1,493 and R3,245 for second-tier tenants. This gives an average of R1,638 per unit per month (R1,120 excluding services).

Project Parameters:

The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing new-build projects. A typical project is made up of 240 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

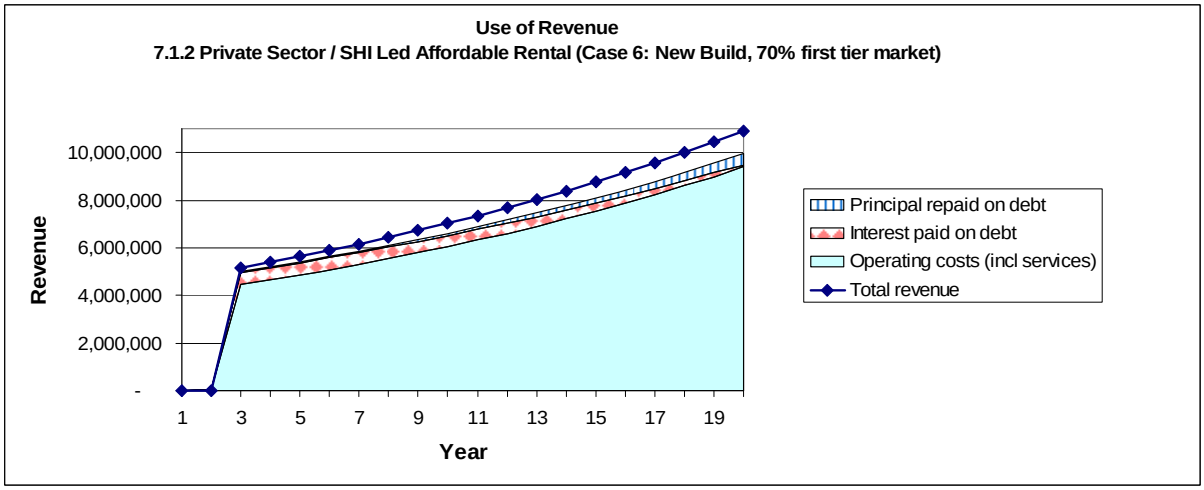
- 70% of the total being first tier, averaging R750 per month.
- 30% of the total being second tier, averaging R1,983 per month.
- Total average rental per unit per month is R1,120.

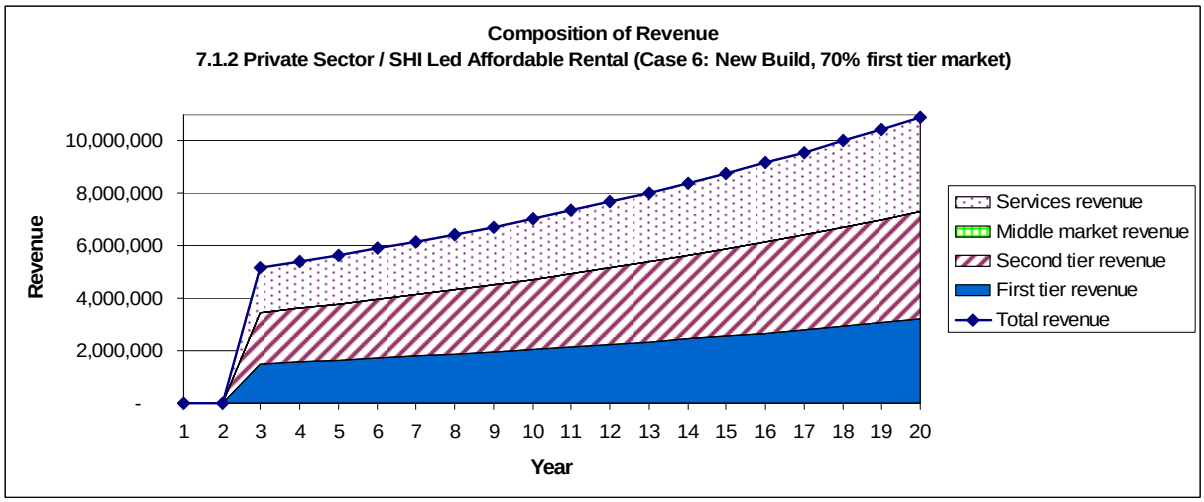


The cost to income ratio of R835 versus R1,120 per month is equal to 75%. This means that there should be some cash available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.



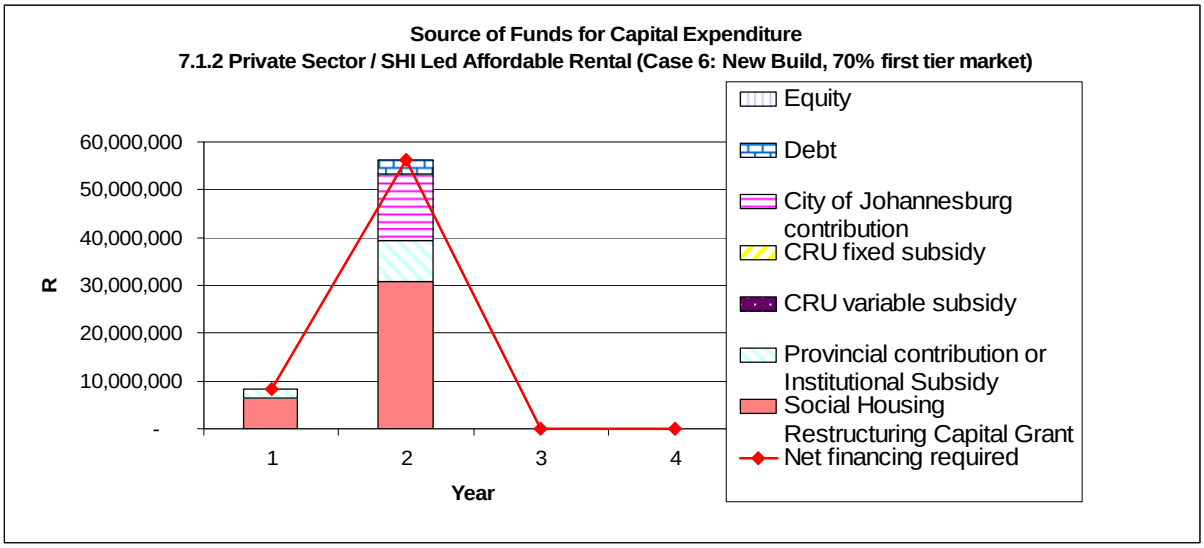


As can be seen, there is less revenue and therefore less debt and debt service in this case versus case 7.1.1.

<u>Funding Sources:</u>

The total development costs of building 240 new-build units of R269,008 each is still R64.6 million. In this case it is funded from:

- The Social Housing Restructuring Capital Grant of R37.3 million (R6.5 million in year one, R30.8 million in year two);
- The provincial institutional subsidy of R10.4 million (R1.8 million in year one, R8.6 million in year two);
- Debt of R3 million in year two;
- The funding shortfall to be met by a capital contribution from the City is equivalent to R13.8million in year two, or R57,320 per unit. This can be illustrated in the following graph:



Project Results:

- The project IRR is 27.8%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 27%. This is higher than case 7.1.1 due to the higher grant funding.
- Grants fund 95.3% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 1.3 meaning the funders should theoretically be comfortable lending to such a project.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure does change due to this variation as the size of the debt funding will increase if the operating costs are lower due to more cash being available to service debt. Similarly, if operating costs are higher, debt will be lower due to less cash being available to service debt. The City's capital contribution is R11.5m, R12.6m, R14.9m and R16.1m for the four scenarios respectively.
- Capital Costs were varied by -20%, -10%, +10% and +20%. The Restructuring Grant and the institutional subsidy do not decrease, nor does the size of the debt, so the City's capital contribution is very sensitive to this variable, and varies to R0.9m, R7.3m, R20.2m and R26.7m respectively.

- Services Costs were varied by -20% and +20%. The results are the same as under Case 7.1.1.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since most of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
  The results are the same as under Case 7.1.1.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the development costs of the project as it is assumed to be a fixed-price contract. It does, however, affect the cost of debt as interest rates are linked to the inflation rate. As forecast inflation and thus interest rates go up, the size of debt must come down to achieve the same minimum cover ratios. This means the City's capital contribution must swell to fill the funding gap. The City's capital contribution decreases by R0.28m and increases by R0.3m and by R0.6m respectively for the three scenarios. The variable does not affect the long-term financial sustainability of the project other than this as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the City's capital contribution must increase by R1.1m, and at 40% it must decrease by R2.1m.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes in direct proportion, but the grants and debt do not change. This means that the City's capital contribution changes to R0.9m; R7.3m; R20.2m and R 26.7m respectively. It is not, however, realistic to assume the projects would qualify for the Restructuring Grant if unit sizes were smaller than the base case.

- Tax and VAT.
  - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
  - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution is reduced by R5.2m to R8.6m, and the cost to income ratio drops to 64%.
  - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, the City's contribution is reduced by R3m to R10.7m. The cost to income ratio only decreases to 74% as operating costs decrease, but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
  - All 30 sq metre bachelor units. This decreases the development costs to R52.2 million, and the City's contribution to R4.4 million. The cost to income ratio changes to 99%.
  - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R65 million, and the City's contribution to R13.7m. The cost to income ratio changes to 72%.
  - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This decreases the development costs to R62.5 million, and the City's contribution to R11.9 million. The cost to income ratio is also 75%.

5.7.3 Results of case 7.2.1 – Private Sector or SHI-led Affordable Rental – Conversions with 30% of units in first-tier rental target.

The results from this case can be summarized in the following table:

7.2.1
Private sector / SHI led affordable rental
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	45		
Number of second tier units	105		
Number of middle market units	0		
Floor space (in sq m)	6,090	40.6	
Average monthly rental income	216,750	1,445	35.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	124,171	828	20.4
Monthly service costs	77,633	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	57%		
Cost to income ratio (excl services, incl rent subsidy)	57%		
Development costs (all inclusive) nominal terms	29,225,412	194,836	4,799
Funding sources			
Provincial contribution or Institutional Subsidy	6,525,900	43,506	1,072
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	18,842,250	125,615	837
Debt	3,857,262	25,715	633
Equity	-	-	-
Total sources of funds	29,225,412	194,836	4,799
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	35.74%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	3.80%		
Initial yield on capital cost less grants	28.8%		
Grants as a % of (grants + debt)	86.8%		
Minimum Debt Service Cover Ratio	1.72		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

These are the same as under Case 7.1.1 and 7.1.2 above.

Project Parameters:

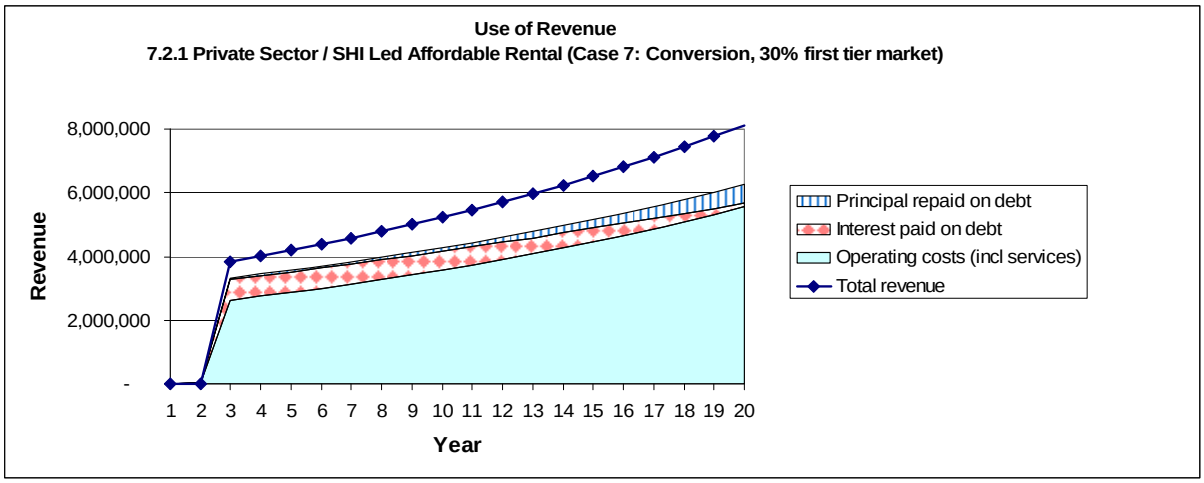
The key project parameters summarise the inputs in May 2008 terms described in the sections above detailing conversion projects. A typical project is made up of 150 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

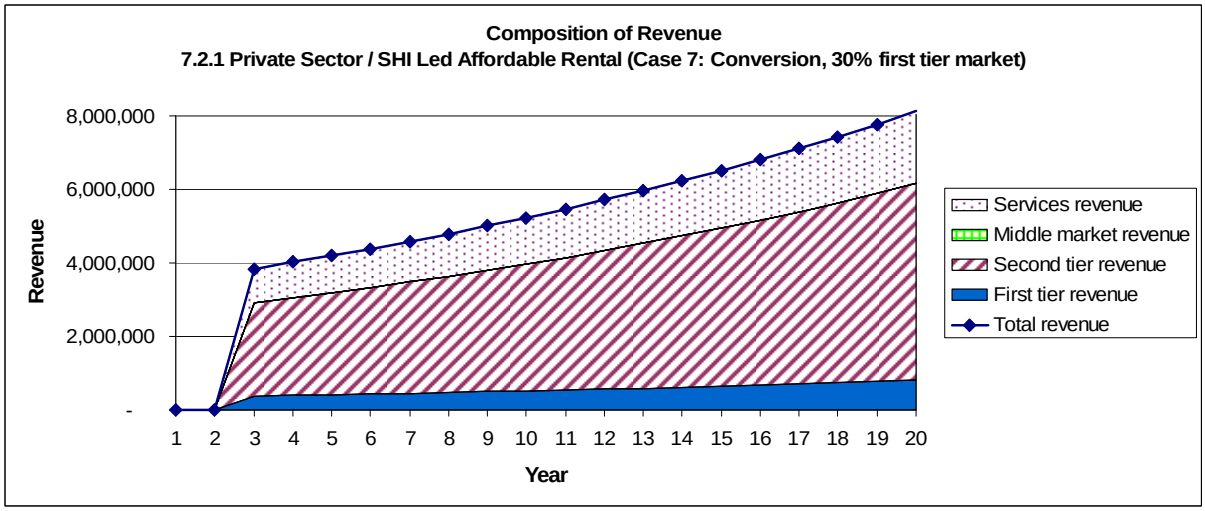
- 30% of the total being first tier, averaging R700 per month.
- 70% of the total being second tier, averaging R1,764 per month.
- Total average rental per unit per month is R1,445.

The cost to income ratio of R828 versus R1,445 per month is equal to 57%. This means that some cash should be available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

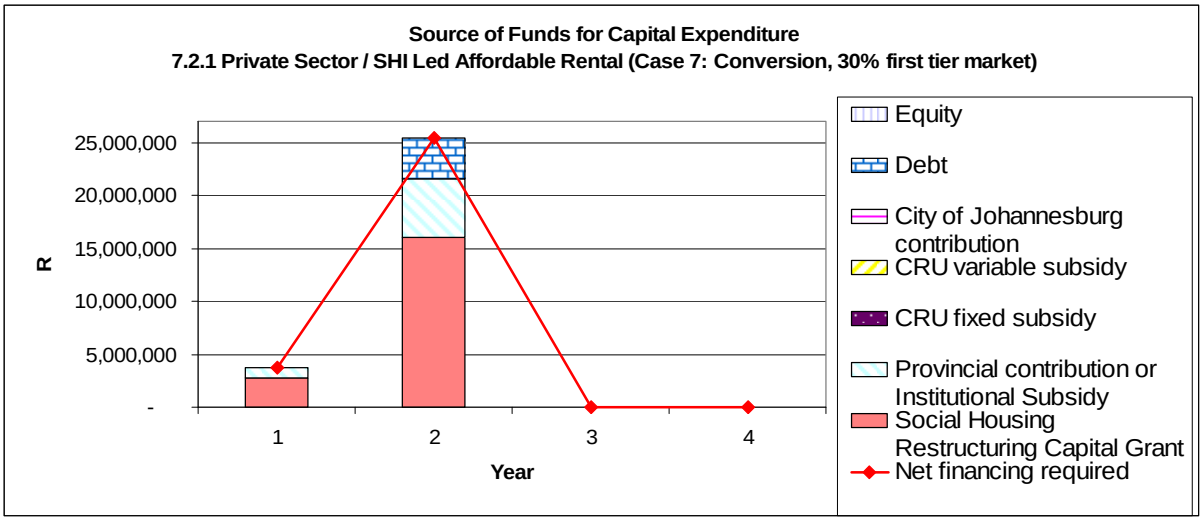




Funding Sources:

The total development costs of building 150 conversion units of R194,618 each is R29.2 million. In this case it is funded from:

- The Social Housing Restructuring Capital Grant of R18.8 million (R2.8 million in year one, R16 million in year two);
- The provincial institutional subsidy of R6.5 million (R1 million in year one, R5.5 million in year two);
- Debt of R3.9 million in year two;
- There is no funding shortfall to be met by a capital contribution from the City. This can be illustrated in the following graph:



Project Results:

- The project IRR is 36%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 29%. This is indicative of a healthy project.
- Grants fund 86.9% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 1.72, well clear of the minimum of 1.3. This means the funders should theoretically be comfortable lending to such a project.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The City's capital contribution is already zero, so the size of debt need not increase as operating costs decrease. The effect of this variable on the results is a change in the minimum DSCR from the base case of 1.73 to 2.22; 1.97; 1.49 and 1.3 respectively. Where operating costs increase by 20%, there is a need for a capital contribution from the City of R157,744.

- Capital Costs were varied by -20%, -10%, +10% and +20%. At -20% there is no need for any debt. At -10% the minimum DSCR is 7 times for R0.9m worth of debt. At +10% there is a need for a R1.6m capital contribution from the City. At +20% the City's contribution increases to R4.6m.

- Services Costs were varied by -20% and +20%. The results are the same as under 7.1.1 and 7.1.2 above.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since most of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
  The results are the same as under Case 7.1.1. and 7.1.2 above.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. The variable does not affect the long-term financial sustainability of the project as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the minimum DSCR comes down to 1.63 but there is still no need for a contribution from the

City. At 40% the cost to income ratio is reduced to 55% and the minimum DSCR improves to 1.90 – definitely no need for the City to contribute.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes in direct proportion, but the grants and debt do not change. This means that at -20% there is no need for any debt or City contribution. At -10% the minimum DSCR is 7 times for R0.9m worth of debt. At +10% there is a need for a R1.6m capital contribution from the City. At +20% the City's contribution increases to R4.6m.

- Tax and VAT.
  - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
  - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's is not required to make a contribution as development costs reduce to R28.3 million. The cost to income ratio drops to 49%.
  - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, there is still no need for a City contribution. The cost to income ratio stays at 57% as operating costs decrease, but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
  - All 30 sq metre bachelor units. This decreases the development costs to R13.5 million, with no contribution from the City. The cost to income ratio changes to 77%.
  - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R29.3 million, no City contribution. The cost to income ratio changes to 56%.
  - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This changes the development costs to R28.3 million, no City contribution. The cost to income ratio is also 58%.

5.7.4 Results of case 7.2.2 – Private Sector or SHI-led Affordable Rental – Conversions with 70% of units in first tier rental target

The results from this case can be summarized in the following table:

7.2.2
Private sector / SHI led affordable rental
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	105		
Number of second tier units	45		
Number of middle market units	0		
Floor space (in sq m)	6,090	40.6	
Average monthly rental income	168,000	1,120	27.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	124,171	828	20.4
Monthly service costs	77,633	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	74%		
Cost to income ratio (excl services, incl rent subsidy)	74%		
Development costs (all inclusive) nominal terms	29,225,412	194,836	4,799
Funding sources			
Provincial contribution or Institutional Subsidy	6,387,008	42,580	1,049
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	22,838,404	152,256	1,015
Debt	-	-	-
Equity	-	-	-
Total sources of funds	29,225,412	194,836	4,799
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	0.00%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	1.80%		
Initial yield on capital cost less grants	n/a		
Grants as a % of (grants + debt)	100.0%		
Minimum Debt Service Cover Ratio	-		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

These are the same as under Cases 7.1.1, 7.1.2 and 7.2.1 above.

Project Parameters:

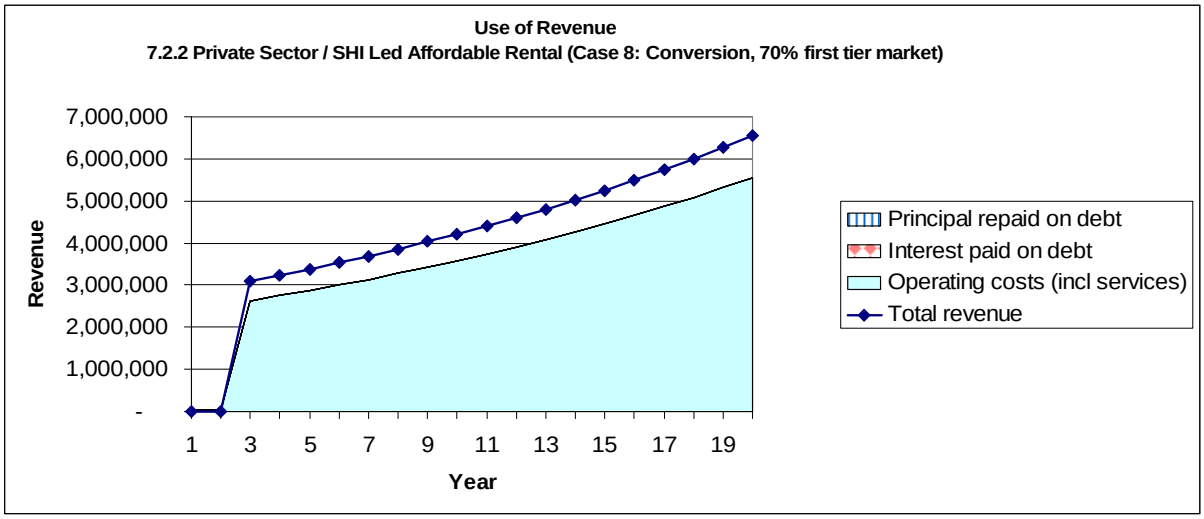
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing conversion projects. A typical project is made up of 150 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

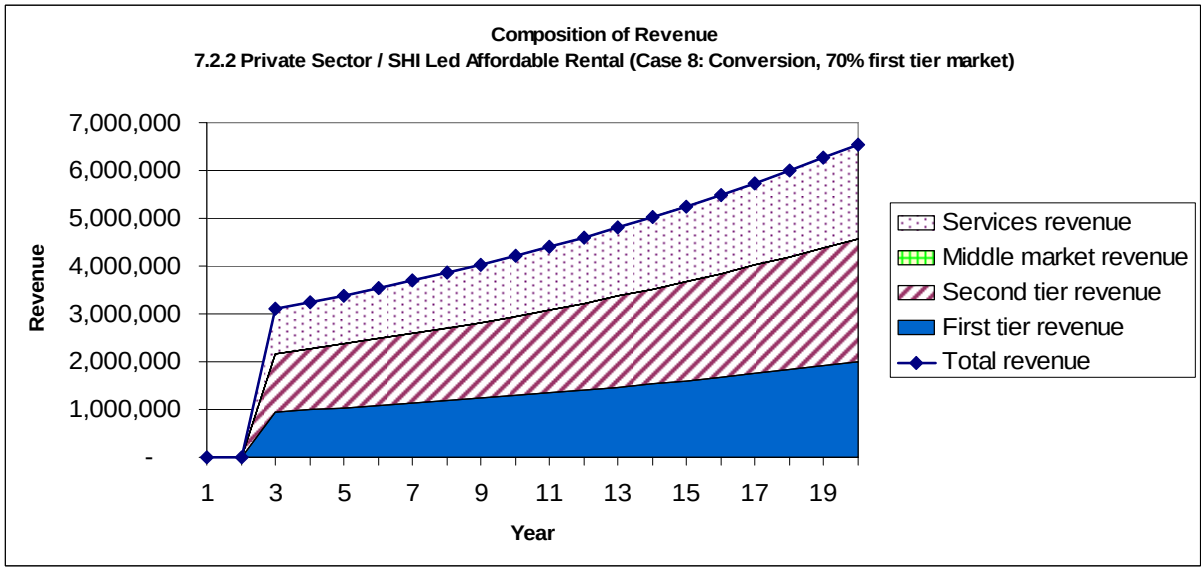
- 70% of the total being first tier, averaging R750 per month.
- 30% of the total being second tier, averaging R1,983 per month.
- Total average rental per unit per month is R1,120.

The cost to income ratio of R828 versus R1,120 per month is equal to 74%. This means that some cash should be available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

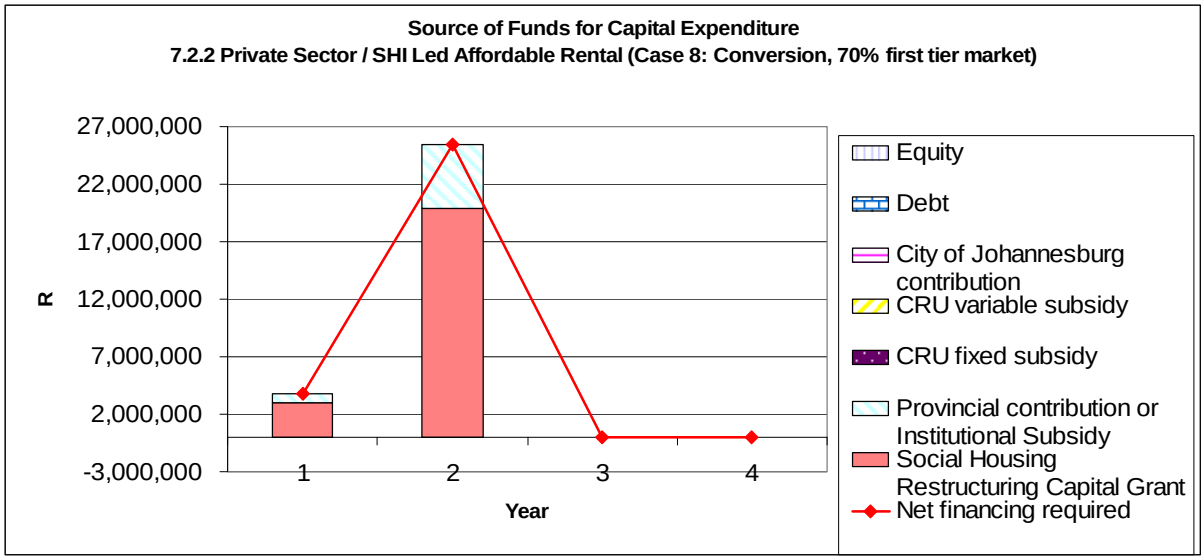




Funding Sources:

The total development costs of building 150 conversion units of R194,836 each is R29.2 million. In this case it is funded from:

- The Social Housing Restructuring Capital Grant of R23.3 million of which only R22.8 million is required (R2.9 million in year one, R19.9 million in year two);
- The provincial institutional subsidy of R6.5 million of which only R6.4 million is required (R0.8 million in year one, R5.5 million in year two);
- No debt is needed.
- There is no funding shortfall to be met by a capital contribution from the City. This can be illustrated in the following graph:



Project Results:

- Grants fund 100% of the capital requirements of the project, so project IRR, minimum DSCR and initial yield after subsidies are not useful indicators.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The City's capital contribution and the need for debt is already zero in the base case. The effect of this variable on the results is a change in the cost to income ratio from 74% to 59%, 67%, 81% and 89% respectively. There is no need for a capital contribution from the City.

- Capital Costs were varied by -20%, -10%, +10% and +20%. At -20% and -10% there is no need for any debt or City contribution. At +10% there is a need for R2m worth of debt and a City contribution of R288,082. At +20% there is a need for R2 million of debt, and a City contribution of R3.2m.

- Services Costs were varied by -20% and +20%. The results are the same as under 7.1.1, 7.1.2 and 7.2.1 above.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since most of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
  The results are the same as under 7.1.1, 7.1.2 and 7.2.1 above.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. The variable does not affect the long-term financial sustainability of the project as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. No debt or City contribution is required under either of these scenarios. The cost to income ratio changes to 80% and 64% respectively.

- Area of rooms were varied by -20%, -10%, +10% and +20%. The results for this are the same as for the capital cost variation.

- Tax and VAT.
    - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City is not required to make a contribution as development costs decrease to R28.2 million. The cost to income ratio drops to 64%.
    - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, there is still no need for a City contribution. The cost to income ratio stays at 73% as operating costs decrease, but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This decreases the development costs to R13.5 million, with no debt or contribution from the City. The cost to income ratio changes to 97%.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. This increases the development costs to R29.3 million, no debt and no City contribution. The cost to income ratio changes to 72%.
    - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. This changes the development costs to R28.3 million, no debt and no City contribution. The cost to income ratio is 75%.

5.7.5 Results of case 7.3.1 – Private Sector or SHI-led Affordable Rental – Refurbishment with 30% of units in first tier rental target

The results from this case can be summarized in the following table:

7.3.1
Private sector / SHI led affordable rental
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Refurb		
Total number of units	80		
Number of first tier units	24		
Number of second tier units	56		
Number of middle market units	0		
Floor space (in sq m)	3,248	40.6	
Average monthly rental income	115,600	1,445	35.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	70,129	877	21.6
Monthly service costs	41,440	518	12.8
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	61%		
Cost to income ratio (excl services, incl rent subsidy)	61%		
Development costs (all inclusive) nominal terms	6,559,442	81,993	2,020
Funding sources			
Provincial contribution or Institutional Subsidy	1,687,402	21,093	520
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	4,872,041	60,901	761
Debt	0	0	0
Equity	-	-	-
Total sources of funds	6,559,442	81,993	2,020
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	0.00%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	8.32%		
Initial yield on capital cost less grants	n/a		
Grants as a % of (grants + debt)	100.0%		
Minimum Debt Service Cover Ratio	-		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

These are the same as under Cases 7.1.1, 7.1.2, 7.2.1 and 7.2.2 above.

Project Parameters:

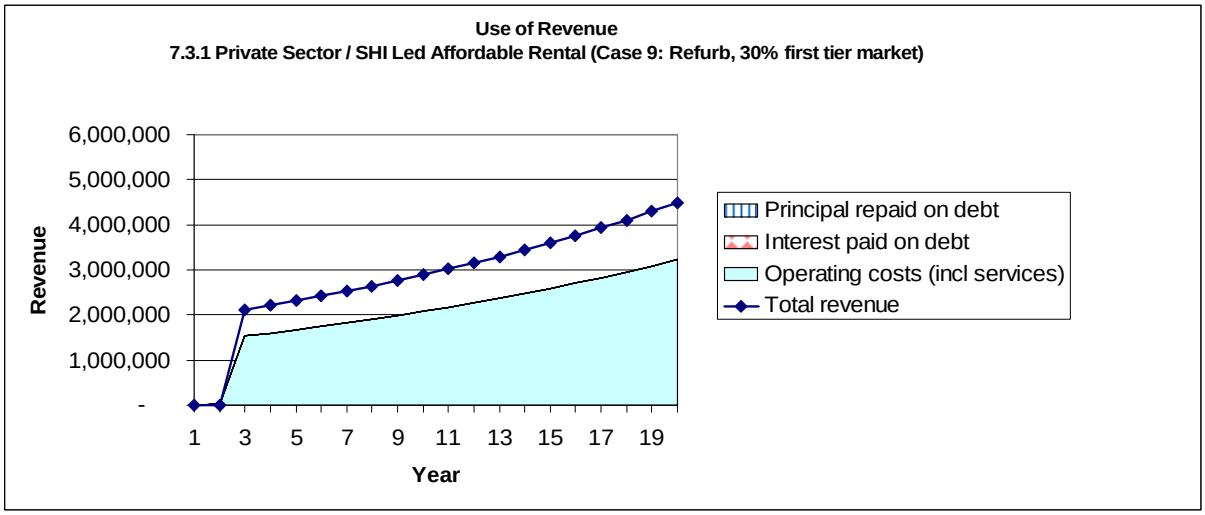
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing refurbishment projects. A typical project is made up of 80 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

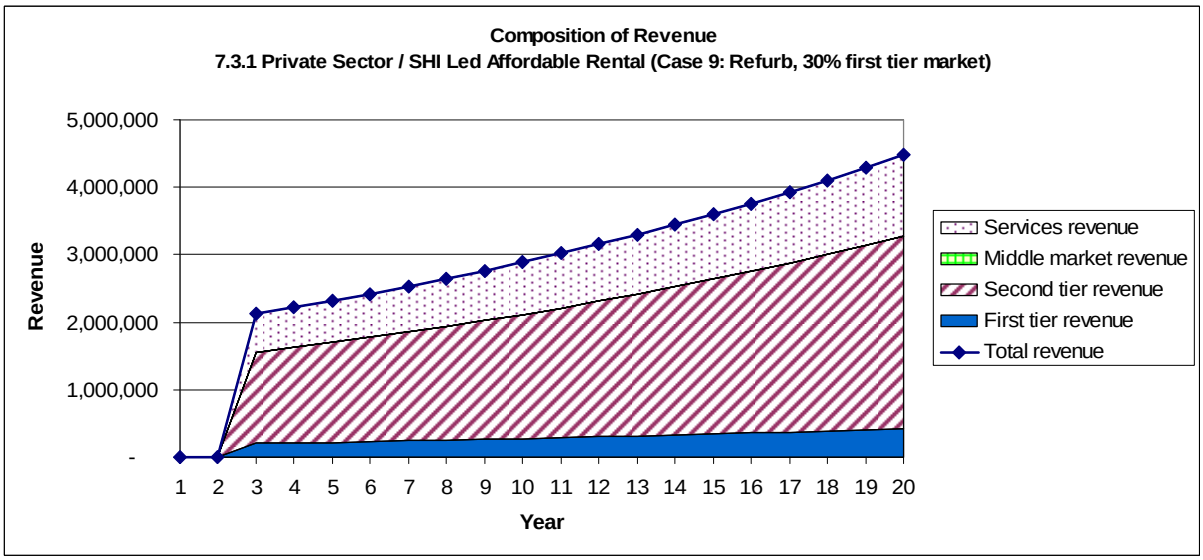
- 30% of the total being first tier, averaging R700 per month.
- 70% of the total being second tier, averaging R1,764 per month.
- Total average rental per unit per month is R1,445.

The cost to income ratio of R877 versus R1,445 per month is equal to 61%. This means that the project should be financially sustainable without a rent subsidy.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

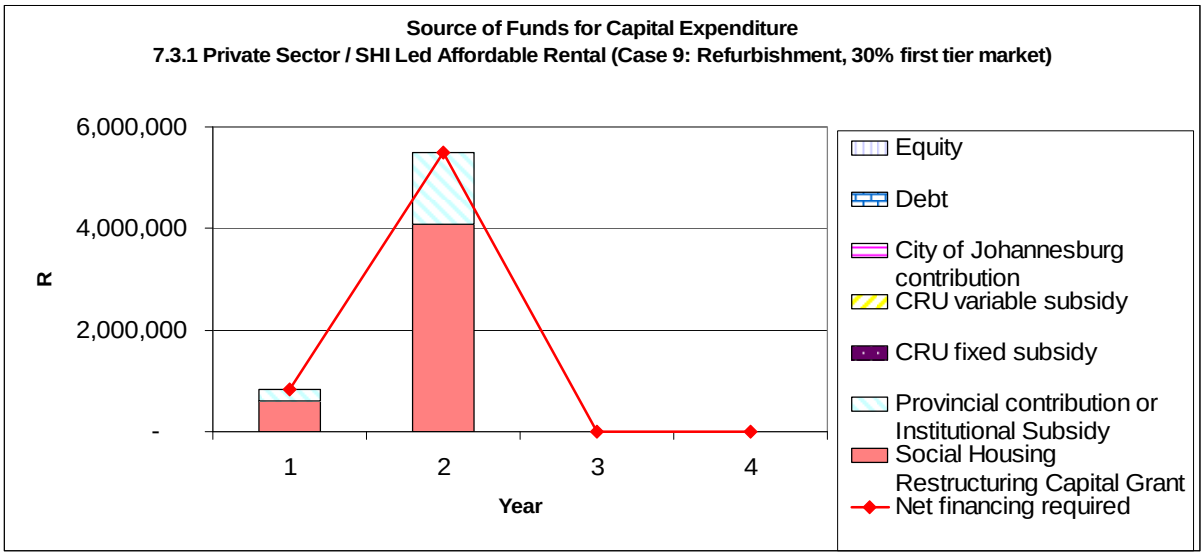




Funding Sources:

The total development costs of building 80 refurbishment units of R81,993 each is R6.6 million. In this case it is funded from:

- The Social Housing Restructuring Capital Grant of R10 million of which only R4.9 million is required (R0.6 million in year one, R4.3 million in year two);
- The provincial institutional subsidy of R3.5 million of which only R1.7 million is required (R0.2 million in year one, R1.5 million in year two);
- No debt is needed;
- There is no funding shortfall to be met by a capital contribution from the City. This can be illustrated in the following graph:



Project Results:

- Grants fund 100% of the capital requirements of the project, so project IRR, minimum DSCR and initial yield after subsidies are not useful indicators.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The City's capital contribution and the need for debt is already zero in the base case. The effect of this variable on the results is a change in the cost to income ratio from 61% to 49%, 55%, 67% and 73% respectively. There is no need for debt or a capital contribution from the City in any of the scenarios.

- Capital Costs were varied by -20%, -10%, +10% and +20%. There is no need for debt or a capital contribution from the City in any of the scenarios.

- Services Costs were varied by -20% and +20%. The results are the same as under 7.1.1, 7.1.2, 7.2.1 and 7.2.2 above.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since all of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
  The results are the same as under 7.1.1, 7.1.2, 7.2.1 and 7.2.2 above.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. The variable does not affect the long-term financial sustainability of the project as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. No debt or City contribution is required under either of these scenarios. The cost to income ratio changes to 62% and 58% respectively.

- Area of rooms were varied by -20%, -10%, +10% and +20%. The results for this are the same as for the capital cost variation. There is no need for debt or a capital contribution from the City in any of the scenarios.

- Tax and VAT.
    - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's is not required to make a contribution as development costs reduce to R6.1 million. The cost to income ratio drops to 52%.
    - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, there is still no need for a City contribution. The cost to income ratio stays at 60% as operating costs decrease, but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This decreases the development costs to R6.3 million, with no debt or contribution from the City. The cost to income ratio changes to 82%.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. The development costs are still R6.6 million, no debt and no City contribution. The cost to income ratio changes to 59%.
    - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. The development costs are R6.4 million, no debt and no City contribution. The cost to income ratio is 61%.

5.7.6 Results of case 7.3.2 – Private Sector or SHI-led Affordable Rental – Refurbishment with 70% of units in first tier rental target

The results from this case can be summarized in the following table:

7.3.2
Private sector / SHI led affordable rental
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Refurb		
Total number of units	80		
Number of first tier units	56		
Number of second tier units	24		
Number of middle market units	0		
Floor space (in sq m)	3,248	40.6	
Average monthly rental income	89,600	1,120	27.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	70,129	877	21.6
Monthly service costs	41,440	518	12.8
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	78%		
Cost to income ratio (excl services, incl rent subsidy)	78%		
Development costs (all inclusive) nominal terms	6,559,442	81,993	2,020
Funding sources			
Provincial contribution or Institutional Subsidy	1,433,520	17,919	441
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	5,125,923	64,074	801
Debt	-	-	-
Equity	-	-	-
Total sources of funds	6,559,442	81,993	2,020
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	0.00%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	3.56%		
Initial yield on capital cost less grants	n/a		
Grants as a % of (grants + debt)	100.0%		
Minimum Debt Service Cover Ratio	-		
Target minimum Debt Service Cover Ratio	1.3		

Monthly costs to tenants:

These are the same as under Cases 7.1.1, 7.1.2, 7.2.1, 7.2.2 and 7.3.1 above.

Project Parameters:

The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing refurbishment projects. A typical project is made up of 80 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

- 70% of the total being first tier, averaging R750 per month.
- 30% of the total being second tier, averaging R1,983 per month.
- Total average rental per unit per month is R1,120.

The cost to income ratio of R877 versus R1,120 per month is equal to 78%. This means that the project should be financially sustainable without a rent subsidy.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

Funding Sources:

- The total development costs and funding sources are the same as under case 7.3.1 above.

Project Results:

- Grants fund 100% of the capital requirements of the project, so project IRR, minimum DSCR and initial yield after subsidies are not useful indicators.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The City's capital contribution and the need for debt is already zero in the base case. There is no need for debt or a capital contribution from the City in any of the scenarios.

- Capital Costs were varied by -20%, -10%, +10% and +20%. There is no need for debt or a capital contribution from the City in any of the scenarios.

- Services Costs were varied by -20% and +20%. The results are the same as under 7.1.1, 7.1.2, 7.2.1, 7.2.2 and 7.3.1 above.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. Since all of the funding for this case comes from grant funding, there is no predictable negative impact on the cost of the project due to delays.

- Concessions.
  The results are the same as under 7.1.1, 7.1.2, 7.2.1, 7.2.2 and 7.3.1 above.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. The variable does not affect the long-term financial sustainability of the project as rent is assumed to escalate at the same rate as costs.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. No debt or City contribution is required under either of these scenarios. The cost to income ratio changes to 85% and 68% respectively.

- Area of rooms were varied by -20%, -10%, +10% and +20%. The results for this are the same as for the capital cost variation. There is no need for debt or a capital contribution from the City in any of the scenarios.

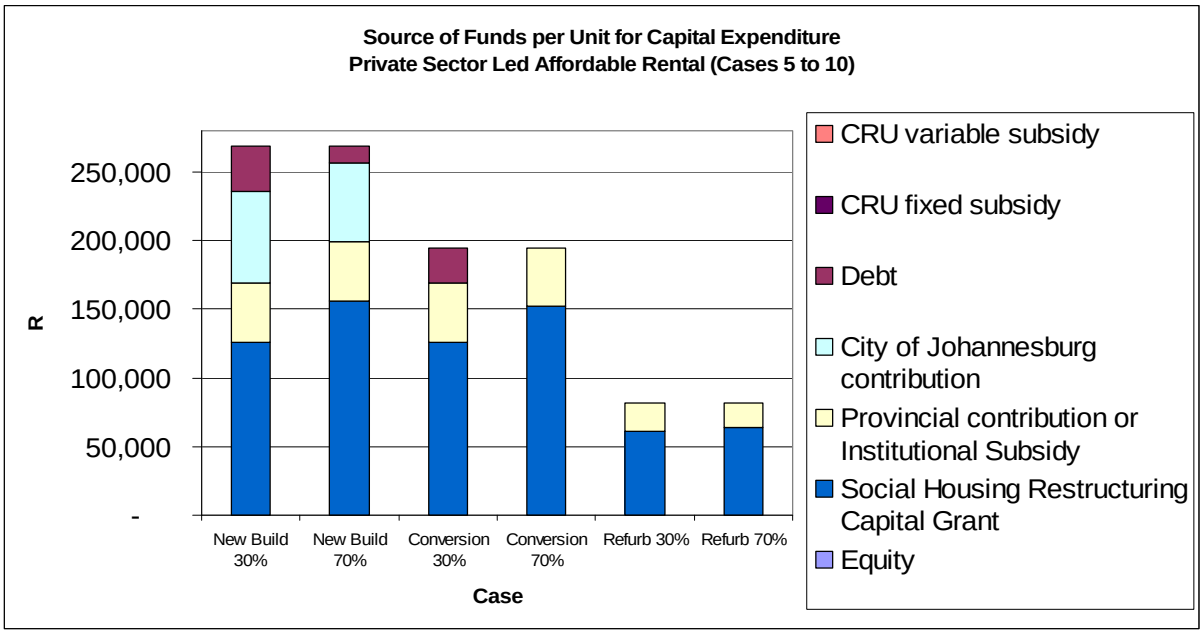
- Tax and VAT.
  - Where the assumption of the organisation not qualifying as a PBO is changed, it does not impact on the pre-tax results and ratios of the project.
  - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's is not required to make a contribution as development costs reduce to R6.1 million. The cost to income ratio drops to 67%.
  - Where it is assumed that VAT must be charged on the rental of the project, but it can also be reclaimed on the costs, there is still no need for a City contribution. The cost to income ratio stays at 78% as operating costs decrease, but so does net revenue.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:

- All 30 sq metre bachelor units. This decreases the development costs to R6.3 million, with no debt or contribution from the City. The cost to income ratio changes to 103%, i.e. not sustainable.
- An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. The development costs are still R6.6 million, no debt and no City contribution. The cost to income ratio changes to 76%.
- A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. The development costs are R6.4 million, no debt and no City contribution. The cost to income ratio is 79%.

5.7.7 Comparison of Cases 5 to 10:

The following graph illustrates the difference in the source of funding per unit across the six cases in this section. As can be seen, the City's contributions are only present in the case of the new-build projects where capital costs are the highest.



In the first two cases (new-build project), the City's capital contribution is sensitive to changes made to the assumed:

- Operating costs;
- Capital costs and area of rooms;
- Inflation rate;
- Percentage of income spent on rent;
- VAT assumptions;
- Product mixes.

For the second two cases (conversion project), the City is required to make a capital contribution when increases are made to the capital costs and area of rooms.

There are no instances in the last two cases (refurbishment project) where the City is required to make a capital contribution due to variations in the assumptions.

5.8 Other Issues

- Limited funding is available over the next few years for the Social Housing Capital Restructuring Grant, so there is no guarantee that the projects will get access to this funding.

- Difficulty in accessing appropriate buildings from the City for refurbishments and refurbishments.

6 Option 8: Inclusionary housing

6.1 Cases

The following eight cases have been identified for this housing option, and have been costed and modelled:

Option	8.1.1.1	8.1.1.2	8.1.2.1	8.1.2.2	8.2.1.1	8.2.1.2	8.2.2.1	8.2.2.2
Typology	Conversion	Conversion	Conversion	Conversion	Refurbishment	Refurbishment	Refurbishment	Refurbishment
Affordable rentals / unit / month								
Minimum	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
Maximum	450.00	450.00	450.00	450.00	450.00	450.00	450.00	450.00
Average	345.00	345.00	345.00	345.00	345.00	345.00	345.00	345.00
Units in affordable range	20%	20%	30%	30%	20%	20%	30%	30%
Maximum rental level of balance	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Product mix	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed	10% bachelor; 45% 1-bed; 35% 2-bed; 10% 3-bed
Bad buildings	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Basket of benefits	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Area per room	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52	30; 37; 45; 52
Funding	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant	Restructuring Capital Grant
	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy	Institutional Subsidy
	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity	Debt / equity
Maintenance costs	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations
Operating costs	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations	Funded from operations
Rent subsidy	No	Yes	No	Yes	No	Yes	No	Yes
Rates rebates & free basic services	18 mths	18 mths	18 mths	18 mths	18 mths	18 mths	18 mths	18 mths
Effect of time delays	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

6.2 Typology

Two different inclusionary housing building typologies have been modelled, namely:
- Conversion to residential from hotels or office buildings (cases 8.1.1.1, 8.1.1.2, 8.1.2.1 and 8.1.2.2), and
- Refurbishment of existing residential buildings (cases 8.2.1.1, 8.2.1.2, 8.2.2.1 and 8.2.2.2).

Use of 'bad buildings' has been assumed for conversions and refurbishments.

The typologies have different capital, operating and maintenance costs. As previously mentioned, the average number of units per project for each of these typologies are as follows:
- Conversion to residential: 150 units,
- Refurbishment of existing residential buildings: 80 units.

6.3 Affordability levels

Two tiers of rentals have been assumed for the eight cases:
- First tier:
    - Income levels between R800 and R1,500 per unit per month.
    - 30% of income spent on rentals resulting in rentals between R240 and R450 per unit per month. The average rental for this tier must be below R750 to qualify as 'Primary Target Market Units' for the Social Housing Restructuring Capital Grant.
- Middle market tier:
    - Income levels of R8,333 per unit per month.
    - 30% of income spent on rentals resulting in rentals of R2,500 per unit per month. These units will not qualify as social housing units, and as such, will not qualify for any grants.

The Reference Group has stipulated that the model must compare cases where the percentage of units in a development with rentals that target the income range of R800 to R1,500 per month is equal to:
- 20% of the total (8.1.1.1, 8.1.1.2, 8.2.1.1 and 8.2.1.2.), and
- 30% of the total (8.1.2.1, 8.1.2.2, 8.2.2.1 and 8.2.2.2.).

6.4 Product mixes

The typology mix for this model includes various combinations of bachelor flats, one-, two-, and three-bedroom units. Ideally, there should be a good mix of these units, with the majority being two-bedroom units as these are the most popular in the City. In reality, however, there is more likely to be more of the smaller units and less of the larger units due to the financial incentive to reduce capital costs. The Reference Group has decided to use the following mix as the base case:
- 10% bachelor units of 30 square meters each;
- 45% one-bedroom units of 37 square meters each;
- 35% two-bedroom units of 45 square meters each;
- 10% three-bedroom units of 52 square meters each.

This mix may not be ideal for refurbishments and conversions, but has been assumed and costed for comparative purposes.

6.5 Costs

An estimate of a typical South African inclusionary housing development cannot include all the various issues and costs that are peculiar to a region or development. The model, therefore, assumes that all projects have certain basic costs associated with them.

The model has not attempted to estimate the indirect costs associated with the municipality providing additional capacity to speed up approval processes.

Typical capital costs, operating costs, and maintenance costs have been estimated by the quantity surveyor as follows:

6.5.1 Capital costs per unit

The following table describes the assumed capital costs per unit for these housing options:

6.5.1.1 Conversions:

The capital costs for the affordable units are assumed to be the same for inclusionary housing as for private sector-led affordable rental housing. The capital costs for the units targeting the middle market, however, are assumed to be slightly higher (8% to 12% higher building costs) due to higher quality finishes such as cupboards and kitchens.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total conversion development costs for a 150-unit project come to the following:

Avg cost of land per unit - incl VAT or transfer duties.	23,216
Avg cost of buildings per unit - incl professional fees & overheads	186,772
Avg cost of development per unit - incl land, VAT	209,988
Avg cost of development per m2 - incl land, VAT	5,172
Cost of development	31,498,266

6.5.1.2 Refurbishments:

The capital costs for the affordable units are assumed to be the same for inclusionary housing as for private sector-led affordable rental housing. The capital costs for the units targeting the middle market, however, are assumed to be slightly higher (14% to 18% higher building costs) due to higher quality finishes such as cupboards and kitchens.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total refurbishment development costs for an 80-unit project come to the following:

Avg cost of land per unit - incl VAT or transfer duties.	28,378
Avg cost of buildings per unit - incl professional fees & overheads	58,319
Avg cost of development per unit - incl land, VAT	86,697
Avg cost of development per m2 - incl land, VAT	2,135
Cost of development	6,935,773

6.5.2 Operating costs per unit

6.5.2.1 Conversion:

The operating costs are assumed to be the same for inclusionary housing as for private sector-led affordable rental housing.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly operating costs for a 150-unit conversion are:

	SUMMARY - Conversion (150 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Variable direct operating costs	93,721	625	15.4
Fixed overhead costs	30,450	203	5.0
Total cost recovery (to rental)	124,171	828	20.4

6.5.2.2 Refurbishments:

The operating costs are assumed to be the same for inclusionary housing as for private sector-led affordable rental housing.

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly operating costs for an 80-unit refurbishment are:

	SUMMARY - Refurb (80 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Variable direct operating costs	51,399	642	16
Fixed overhead costs	18,730	234	6
Total cost recovery (to rental)	70,129	877	22

6.5.3 Services costs per unit

The services costs are assumed to be the same for inclusionary housing as for private sector-led affordable rental housing.

The following tables describe the assumed monthly services costs per unit that are not already included in the fixed and variable costs of the organisation. These costs are related to services consumed by the tenants.

The base case assumes the following with regard to service charges:

- 100% recovery rate.
- No assessment rates rebate.
- No free basic services.
- No free 6kl of water per unit.

6.5.3.1 Conversions:

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly services costs for tenants for a 150-unit conversion project are:

	SUMMARY - Conversion (150 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Electricity and gas	35,055	234	5.8
Water	22,200	148	3.6
Water if first 6kl free	14,970	100	2.5
Refuse removal	8,055	54	1.3
Effluent	9,863	66	1.6
Assessment rates	2,460	16	0.4
Total	77,633	518	12.7

6.5.3.2 Refurbishments:

For the base case product mix of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units, the total monthly services costs for tenants for an 80-unit refurbishment project are:

	SUMMARY - Refurb (80 unit project) 10:45:35:10 mix		
	R/m	R/unit/m	R/m2/m
Electricity and gas	18,732	234	5.8
Water	11,840	148	3.6
Water if first 6kl free	7,984	100	2.5
Refuse removal	4,296	54	1.3
Effluent	5,260	66	1.6
Assessment rates	1,312	16	0.4
Total	41,440	518	12.8

6.6 Potential funding sources

6.6.1 Capital cost funding:

- Some of the projects in this category should fall within the proposed restructuring zone for Johannesburg City. The model assumes that the first-tier rental units in the projects qualify for the Restructuring Capital Grant.
- This option should also be able to gain access to the provincial institutional subsidy amounts for the first-tier rental units.
- A portion of the funding is assumed to be met from debt and / or equity. The servicing of these funding sources is paid from rental revenues from the project over time, and the model determines the size of this funding based on minimum cash returns and cover ratios that funders will usually insist on.

- The shortfall between capital costs and the sum of the subsidies and debt and equity funding is assumed to be funded by the City of Johannesburg in the form of a capital subsidy.

6.6.2 Operating cost funding:

Operating and maintenance costs:

- The private sector will be expected to cover operating and maintenance costs from the rental revenue streams (and rent subsidies in the case of the 'rent subsidy' option). Rent subsidies are assumed in options 8.1.1.2, 8.1.2.2, 8.2.1.2 and 8.2.2.2.
- Services and rates will affect the all-in costs to the end user. This raises the possibility of applying for rates rebates and free basic services. The effect of these measures is considered in the sensitivity analysis.

6.6.3 Maintenance cost funding:

- Maintenance is funded from the rental revenues from the project.

6.7 Results

6.7.1 Results of case 8.1.1.1 – Inclusionary housing – Conversion with 20% of units in first tier rental target, no rent subsidy.

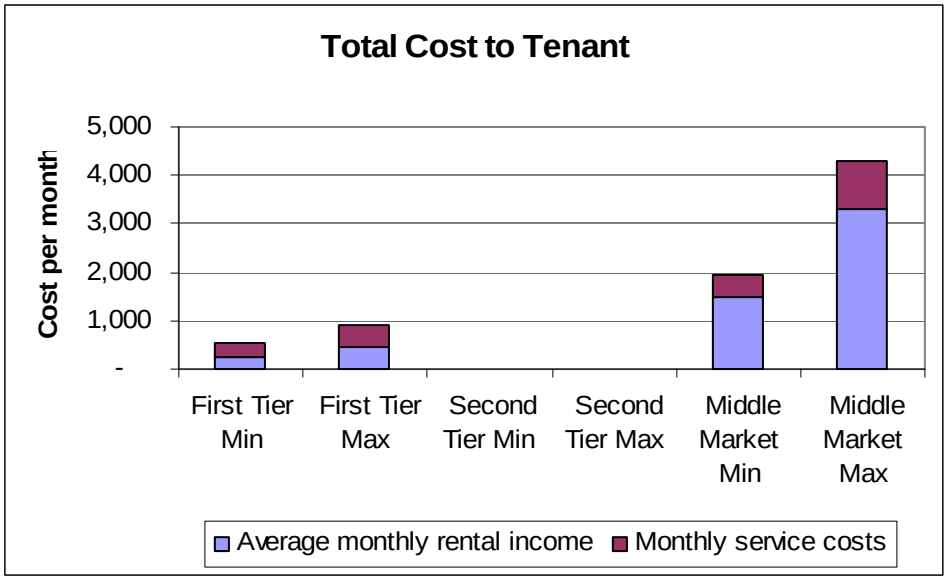
The results from this case can be summarized in the following table:

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	30		
Number of second tier units	0		
Number of middle market units	120		
Floor space (in sq m)	6,090	40.6	
Average monthly rental income	308,250	2,055	50.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	124,171	828	20.4
Monthly service costs	77,633	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	40%		
Cost to income ratio (excl services, incl rent subsidy)	40%		
Development costs (all inclusive) nominal terms	31,533,632	210,224	5,178
Funding sources			
Provincial contribution or Institutional Subsidy	1,305,180	8,701	214
City of Johannesburg capital contribution	18,016,535	120,110	2,958.4
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	-	-	-
Debt	9,158,937	61,060	1,504
Equity	3,052,979	20,353	501
Total sources of funds	31,533,632	210,224	5,178
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	24.37%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	7.01%		
Initial yield on capital cost less grants	18.1%		
Grants as a % of (grants + debt)	61.3%		
Minimum Debt Service Cover Ratio	1.50		
Target minimum Debt Service Cover Ratio	1.3		
Return on Equity (if appropriate)	20.99%		

Monthly costs to tenants:

The total costs to tenants including services costs, varies between R537 and R893 for first-tier tenants, and between R1,943 and R4,295 for middle-market tenants. This gives an average of R2,573 per unit per month (R2,055 excluding services). The following graph illustrates the costs to tenants:



Project Parameters:

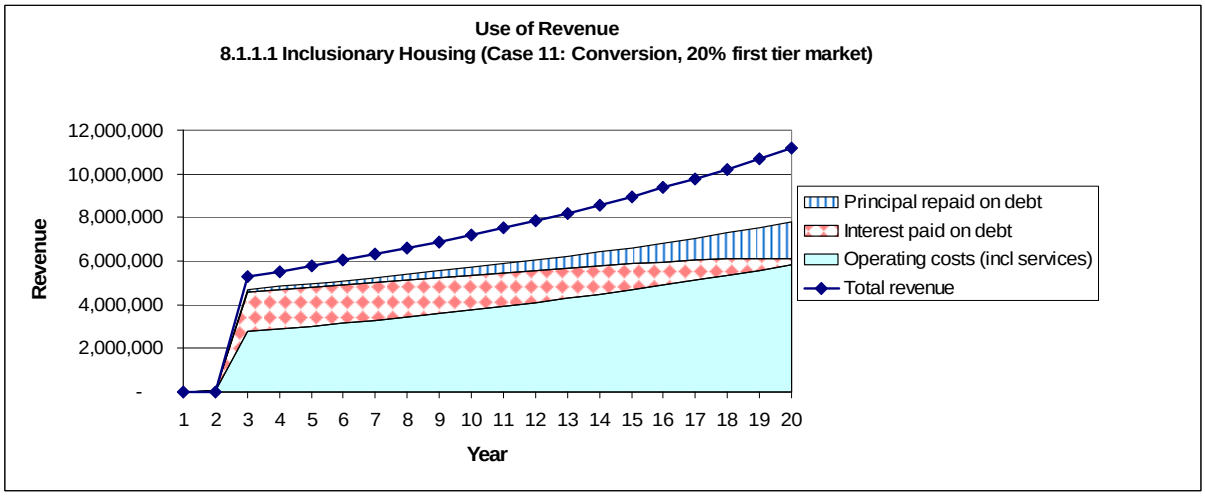
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing conversion projects. A typical project is made up of 150 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

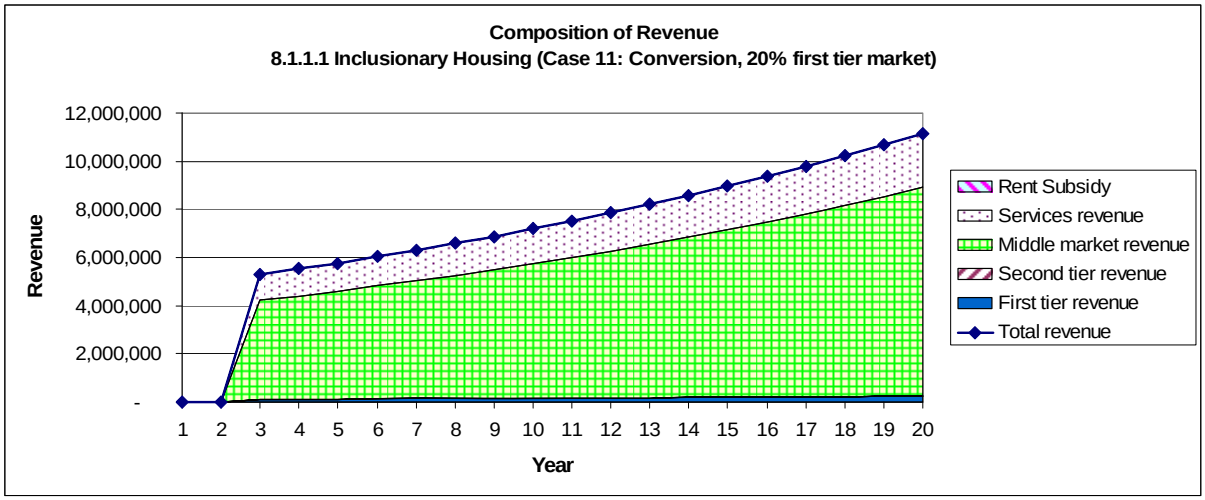
- 20% of the total being first tier, averaging R275 per month.
- 70% of the total being middle market tier, averaging R2,500 per month.
- Total average rental per unit per month is R2,055.

The cost to income ratio of R828 versus R2,055 per month is equal to 40%. This means that some cash should be available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

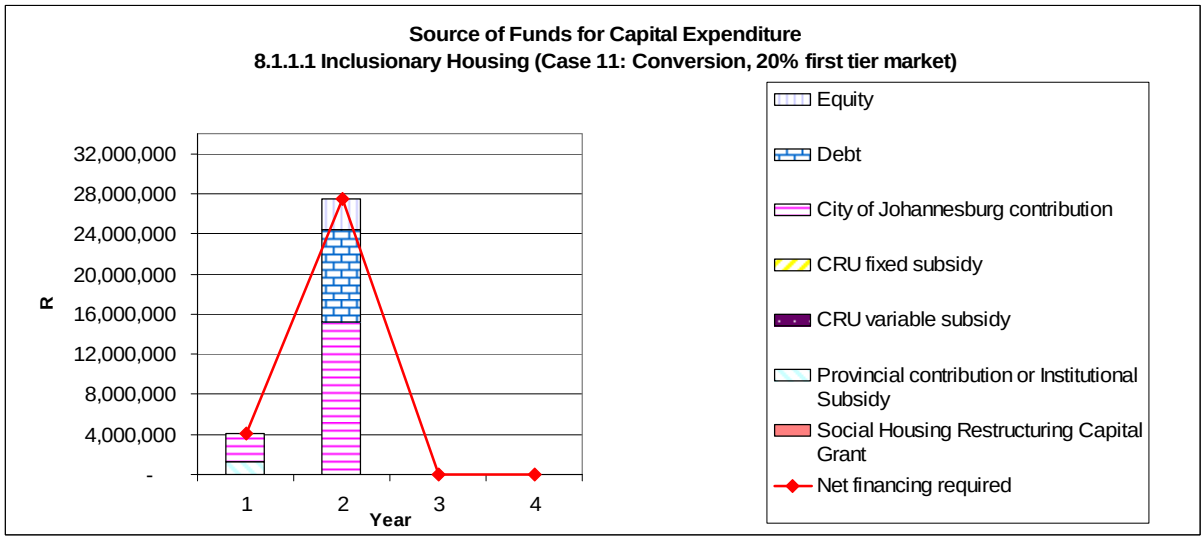




Funding Sources:

The total development costs of building 150 conversion units of R210,224 each is R31.5 million. In this case it is funded from:

- The provincial institutional subsidy of R1.3 million in year one;
- Debt of R9.2 million in year two;
- Equity of R3.1 million in year two;
- The project is not assumed to qualify for the Social Housing Restructuring Capital Grant due to only 20% of the units in the development qualifying as Primary Target Market Units;
- The funding shortfall to be met by a capital contribution from the City is equivalent to R18 million, or R120,110 per unit. (R2.8 million in year one, R15.2 million in year two). This can be illustrated in the following graph:



Project Results:

- The project IRR is 24.37%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 18.1%. This is indicative of a healthy project.

- Grants fund 61.3% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 1.5, meaning the funders should theoretically be comfortable lending to such a project.
- Return on equity is 21%, which should attract private investment.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure does change due to this variation as the size of the debt funding will increase if the operating costs are lower due to more cash being available to service debt. Similarly if operating costs are higher, debt will be lower due to less cash being available to service debt. The City's capital contribution falls from R18 million to R16.4m and R17.2m in the first two scenarios, and increases to R18.8m and R19.7m for the second two respectively.

- Capital Costs were varied by -20%, -10%, +10% and +20%. The institutional subsidy does not decrease, nor does the maximum size of the debt or equity, so the City's capital contribution is very sensitive to this variable, and falls from R18 million to R11.7m and R14.9m in the first two scenarios, and increases to R21.2m and R24.3m for the second two respectively.

- Services Costs were varied by -20% and +20%. This did not affect the financial sustainability of the scenario as it is assumed these costs will be passed on to the tenants. Tenants end up paying an average of R414 and R621 per month respectively instead of R518 per month. It does change the amount of funding, and therefore the City's contribution, slightly due to assessment rates being payable prior to tenant occupancy.

- Time savings. The duration of the negotiation period is varied by -6 months, -3 months, +3 months and + 6 months. The timing of the capex is varied but not the amount. There are no additional costs assumed due to a delay, or savings due to an increased speed.

- Concessions.
    - Rates rebate. Where a permanent assessment rates rebate as well as an 18-month rates rebate is assumed, the cost of funding the project is reduced by the amount of rates payable (R43,550) prior to tenant occupancy. The effect on the tenants will be beneficial (cost reduces from R518 to R501 per month for a permanent rebate), but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants.
    - Free basic services. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. The effect on tenants is that average monthly services costs decrease from R518 per month to:
        - R16.40 under free basic services;
        - R469 under free 6lk of water;
        - R0 under a rates rebate and free basic services permanently.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the development costs of the project as it is assumed to be a fixed-price contract. It does, however, affect the cost of capital as interest rates are linked to the inflation rate. It also affects the forecast amount of cash generated by this case as revenue is much higher than costs. As forecast inflation drops, so will the amount of surplus cash in the project and the amount of debt and equity to achieve the same minimum cover and return ratios. This means the City's capital contribution must increase to fill the funding gap. The City's capital contribution increases by R2.9m to R20.9m for a fall of forecast inflation by 3%. The City's contribution falls by R1m and R2.2m for the forecast increases in inflation.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the City's capital contribution must increase by R0.1m and at 40% it must decrease by R0.2m.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes the same as in the sensitivity analysis for changes in capital costs.

- Market rent is varied by -10%, -5%, +5% and +10%. Where the forecast amount of the middle market rent per unit is reduced by 10%, the cover ratios and return on equity ratios come under pressure, causing the amount of debt and equity to reduce. This means the City's contribution must increase to R20 million. For a 5% reduction the City's contribution increases to R19m. For the 5% and 10% increase in market rent, the City's contribution falls to R17m and R16m respectively.

- Tax and VAT.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution falls to R14.8 m as the development costs fall to R30.5m, and the cost to income ratio drops to 35%.
    - Where it is assumed that VAT must be charged on the rental of the project, but can also be reclaimed on the costs, the City's contribution only decreases to R17.5m.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This decreases the development costs but also the rental revenue so that the City's contribution increases to R20.9 million.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. The City's contribution falls to R17.5m.
    - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. The City's contribution falls to R17.8m.

6.7.2 Results of case 8.1.1.2 – Inclusionary housing – Conversion with 20% of units in first tier rental target, with a rent subsidy

There is no requirement for any form of rent subsidy for this option modelled under the set of assumptions made. As such, this case is no different to case 8.1.1.1. even under the sensitivity analysis.

6.7.3 Results of case 8.1.2.1 – Inclusionary housing – Conversion with 30% of units in first tier rental target, no rent subsidy

The results from this case can be summarized in the following table:

8.1.2.1
Inclusionary Housing
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Conversion		
Total number of units	150		
Number of first tier units	45		
Number of second tier units	0		
Number of middle market units	105		
Floor space (in sq m)	6,090	40.6	
Average monthly rental income	281,828	1,879	46.3
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	124,171	828	20.4
Monthly service costs	77,633	518	12.7
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	44%		
Cost to income ratio (excl services, incl rent subsidy)	44%		
Development costs (all inclusive) nominal terms	31,290,630	208,604	5,138
Funding sources			
Provincial contribution or Institutional Subsidy	1,957,770	13,052	321
City of Johannesburg capital contribution	13,320,997	88,807	2,187.4
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	5,652,675	37,685	251
Debt	7,769,391	51,796	1,276
Equity	2,589,797	17,265	425
Total sources of funds	31,290,630	208,604	5,138
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	24.36%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	6.05%		
Initial yield on capital cost less grants	18.3%		
Grants as a % of (grants + debt)	66.9%		
Minimum Debt Service Cover Ratio	1.50		
Target minimum Debt Service Cover Ratio	1.3		
Return on Equity (if appropriate)	20.32%		

Monthly costs to tenants:

The total costs to tenants including services costs, varies between R537 and R893 for first-tier tenants, and between R1,943 and R4,295 for middle-market tenants. This gives an average of R2,396 per unit per month (R1,879 excluding services).

Project Parameters:

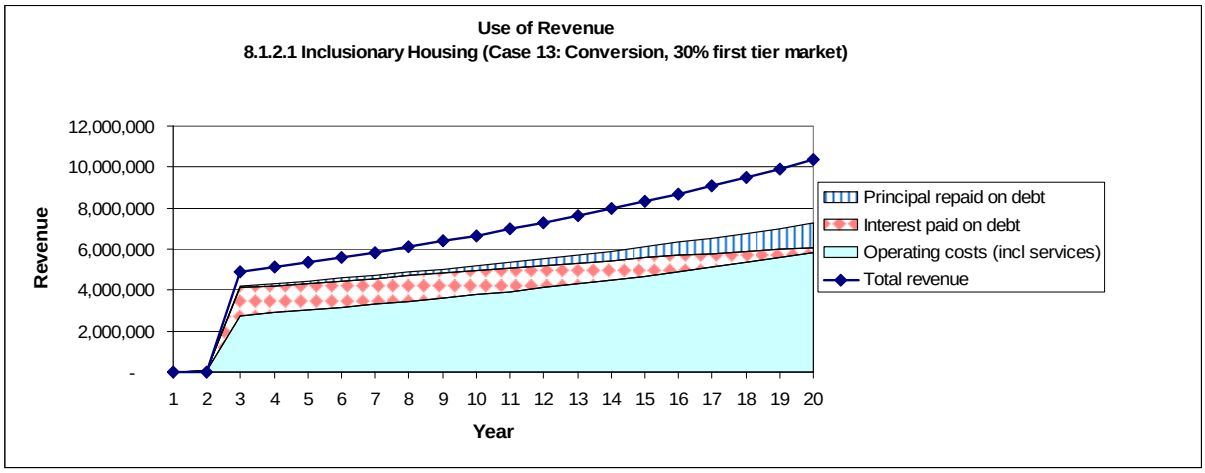
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing conversion projects. A typical project is made up of 150 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

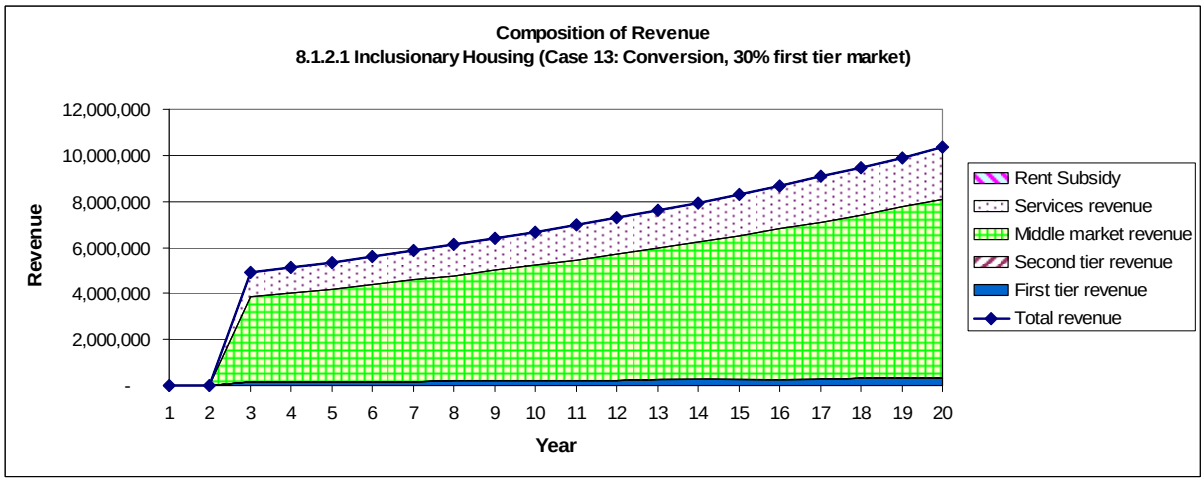
- 30% of the total being first tier, averaging R287 per month.
- 70% of the total being middle market tier, averaging R2,561 per month.
- Total average rental per unit per month is R1,879.

The cost to income ratio of R828 versus R1,879 per month is equal to 44%. This means that some cash should be available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

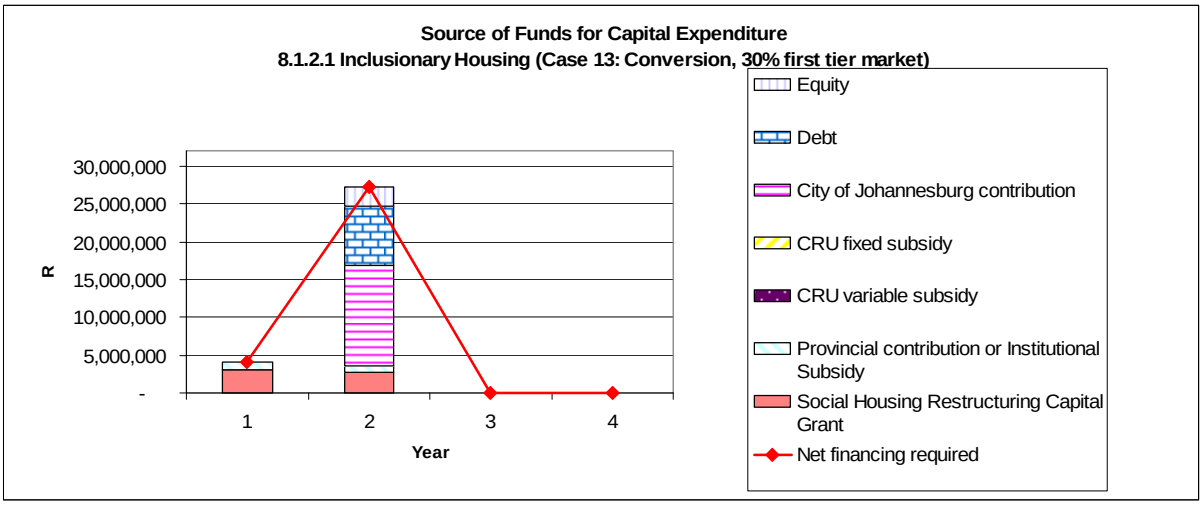




Funding Sources:

The total development costs of building 150 conversion units of R208,604 each is R31.3 million. In this case it is funded from:

- The provincial institutional subsidy of R2 million (R1 million in each of the first two years);
- Debt of R7.8 million in year two;
- Equity of R2.6 million in year two;
- The Social Housing Restructuring Capital Grant of R5.7 million (R3m in year one, and R2.6m in year two);
- A contribution from the City of Johannesburg to fund the shortfall in year two of R13.3 million (R88,807 per unit). This can be illustrated in the following graph:



Project Results:

- The project IRR is 24.36%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 18.3%. This is indicative of a healthy project.
- Grants fund 66.9% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 1.5 meaning the funders should theoretically be comfortable lending to such a project.
- Return on equity is 20.32%, which should attract private investment.

Sensitivity Analysis:

- Operating costs were varied by -20%, -10%, +10% and +20%. The capital cost funding structure does change due to this variation as the size of the debt funding will increase if the operating costs are lower due to more cash being available to service debt. Similarly, if operating costs are higher, debt will be lower due to less cash being available to service debt. The City's capital contribution falls from R13.3 million to R11.7m and R12.5m in the first two scenarios, and increases to R14.1m and R15m for the second two respectively.

- Capital Costs were varied by -20%, -10%, +10% and +20%. The institutional subsidy is not reduced, nor is the maximum size of the debt or equity. The City's capital contribution is very sensitive to this variable, and falls from R13.3 million to R7.1m and R10.2m in the first two scenarios, and increases to R16.4m and R19.6m for the second two respectively.

- Services Costs were varied by -20% and +20%. The results were largely the same as under Case 8.1.1.1.

- Concessions.
    - Rates rebate. Where a permanent assessment rates rebate as well as an 18-month rates rebate is assumed, the cost of funding the project is reduced by the amount of rates payable (R47,766) prior to tenant occupancy. The effect on the tenants will be beneficial (cost reduces from R518 to R501 per month for a permanent rebate), but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants.
    - Free basic services. The effect on the tenants will be beneficial, but it does not impact on the financial sustainability of the project as these amounts are assumed to be 100% collectable from the tenants. The effect on tenants is the same as under Case 8.1.1.1.

- Inflation. The long-term inflation rate is varied by -3%, +3% and +6% on top of the assumed 4.5%. This does not materially affect the development costs of the project as it is assumed to be a fixed-price contract. It does, however, affect the cost of capital as interest rates are linked to the inflation rate. It also affects the forecast amount of cash generated by this case as revenue is much higher than costs. As forecast inflation drops, so will the amount of surplus cash in the project and the amount of debt and equity, to achieve the same minimum cover and return ratios. This means the City's capital contribution must increase to fill the funding gap. The City's capital contribution increases by R2.7m to R16m for a fall of forecast inflation by 3%. The City's contribution falls by R0.9m and R1.7m for the forecast increases in inflation.

- % Income spent on rent. The base case of 30% is varied to 25% and 40%. At 25% the City's capital contribution must increase by R0.1m and at 40% it must decrease by R0.2m.

- Area of rooms were varied by -20%, -10%, +10% and +20%. Where the area of the rooms is changed, the funding requirement changes the same as in the sensitivity analysis for changes in capital costs.

- Market rent is varied by -10%, -5%, +5% and +10%. Where the forecast amount of the middle market rent per unit is reduced by 10%, the cover ratios and return on equity ratios come under pressure, causing the amount of debt and equity to decrease. This means the City's contribution must increase to R15.1 million. For a 5% reduction the City's contribution increases to R14.2m. For the 5% and 10% increase in market rent, the City's contribution falls to R12.4m and R11.5m respectively.

- Tax and VAT.
    - Where it is assumed that VAT can be reclaimed on the costs of the project, the City's contribution falls to R10.1 m as the development costs fall to R30.3m, and the cost to income ratio drops to 38% from 44%.
    - Where it is assumed that VAT must be charged on the rental of the project, but can also be reclaimed on the costs, the City's contribution only decreases to R12.8m.

- Product Mix. The assumption that all units are communal units is changed to assume the following product mixes:
    - All 30 sq metre bachelor units. This decreases the development costs but also the rental revenue so that the City's contribution increases to R16.4 million.
    - An even mix of 25% each of bachelor units, one-bed, two-bed, and three-bed apartments. The City's contribution falls to R12.6m.
    - A mix of 30%:30%:30%:10% each of bachelor units, one-bed, two-bed, and three-bed apartments. The City's contribution falls to R12.6m.

6.7.4 Results of case 8.1.2.2 – Inclusionary housing – Conversion with 30% of units in first tier rental target, with a rent subsidy where required.

There is no requirement for any form of rent subsidy for this option modelled under the set of assumptions made. As such, this case is no different to case 8.1.2.1.

6.7.5 Results of case 8.2.1.1 – Inclusionary housing – Refurbishment with 20% of units in first-tier rental target, no rent subsidy

The results from this case can be summarized in the following table:

8.2.1.1
Inclusionary Housing
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Refurb		
Total number of units	80		
Number of first tier units	16		
Number of second tier units	0		
Number of middle market units	64		
Floor space (in sq m)	3,248	40.6	
Average monthly rental income	164,400	2,055	50.6
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	70,129	877	21.6
Monthly service costs	41,440	518	12.8
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	43%		
Cost to income ratio (excl services, incl rent subsidy)	43%		
Development costs (all inclusive) nominal terms	6,986,212	87,328	2,151
Funding sources			
Provincial contribution or Institutional Subsidy	696,096	8,701	214
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	-	-	-
Debt	4,717,587	58,970	1,452
Equity	1,572,529	19,657	484
Total sources of funds	6,986,212	87,328	2,151
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	24.16%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	16.19%		
Initial yield on capital cost less grants	18.0%		
Grants as a % of (grants + debt)	10.0%		
Minimum Debt Service Cover Ratio	1.49		
Target minimum Debt Service Cover Ratio	1.3		
Return on Equity (if appropriate)	24.70%		

Monthly costs to tenants:

The total costs to tenants is the same as under Case 8.1.1.1.

Project Parameters:

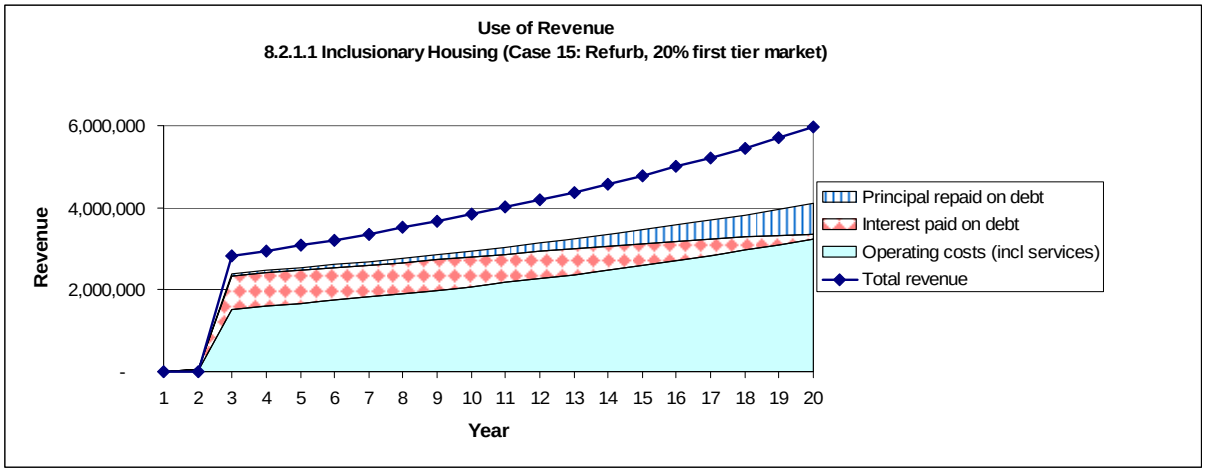
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing refurbishment projects. A typical project is made up of 80 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

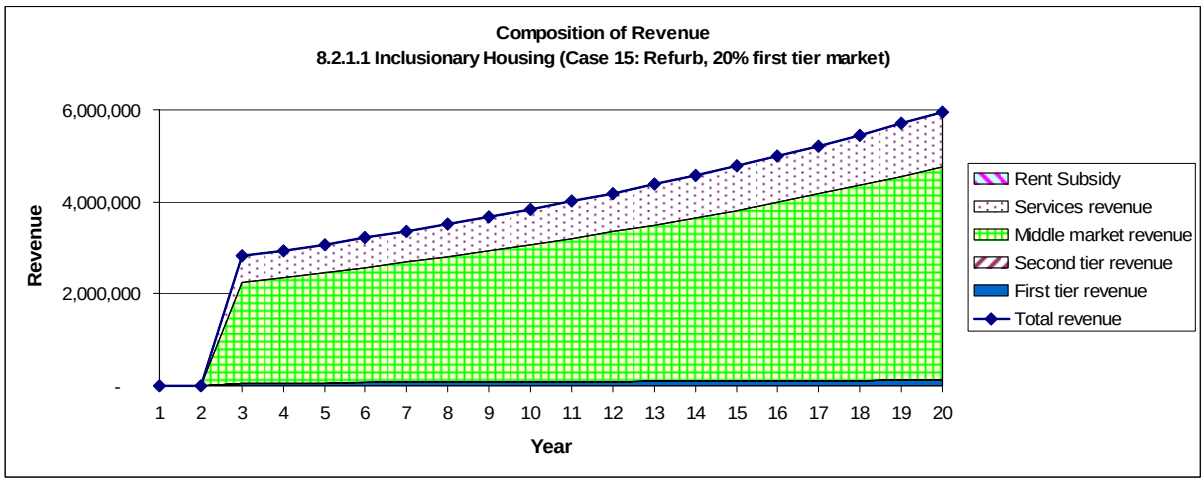
- 20% of the total being first tier, averaging R275 per month.
- 70% of the total being middle market tier, averaging R2,500 per month.
- Total average rental per unit per month is R2,055.

The cost to income ratio of R877 versus R2,055 per month is equal to 43%. This means that some cash should be available to service debt or equity, or to build up some reserves.

The average service cost to be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

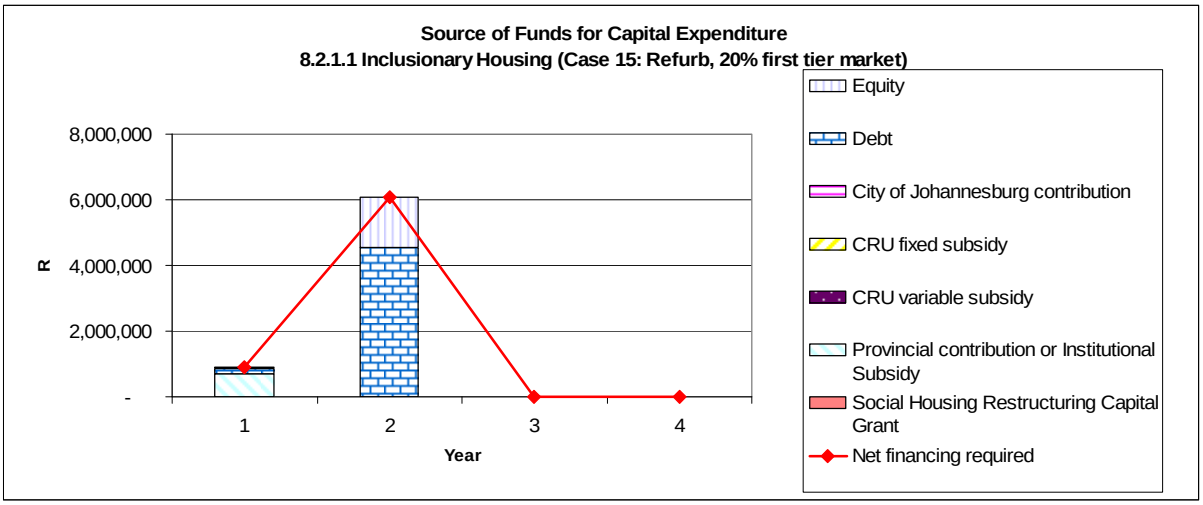




Funding Sources:

The total development costs of building 80 conversion units of R87,328 each is R7 million. In this case it is funded from:

- The provincial institutional subsidy of R0.7 million in year one;
- Debt of R4.7 million (R0.1 million in year one, R4.1 million in year two);
- Equity of R1.6 million, nearly all in year two;
- The project is not assumed to qualify for the Social Housing Restructuring Capital Grant due to only 20% of the units in the development qualifying as Primary Target Market Units;
- There is no shortfall to be funded by a capital contribution from the City. This can be illustrated in the following graph:



Project Results:

- The project IRR is 24.2%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 18%. This is indicative of a healthy project.
- Grants fund 10% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 1.49, meaning the funders should theoretically be comfortable lending to such a project.
- Return on equity is 24.7%, which should attract private investment.

Sensitivity Analysis:

The only instances where the City is required to make a capital contribution under the sensitivity analysis are:

- When operating costs are 20% higher – the City is required to make a capital contribution of R0.1 million.
- When capital costs are increased by +20% or the area of the units is increased by 20%. The City's capital contribution is R0.4 million.
- When inflation is 3% lower, the City's contribution is R0.7 million.
- When the market rent is varied by -20%, the City must contribute R0.3 million.
- If all the units are bachelor units the City must contribute R2.3 million.

6.7.6 Results of case 8.2.1.2 – Inclusionary housing – Refurbishment with 20% of units in first tier rental target, with a rent subsidy

There is no requirement for any form of rent subsidy for this option, modelled under the set of assumptions made. As such, this case is no different to case 8.2.1.1 even under the sensitivity analysis.

6.7.7 Results of case 8.2.2.1 – Inclusionary housing – Refurbishment with 30% of units in first tier rental target, no rent subsidy

The results from this case can be summarized in the following table:

8.2.2.1
Inclusionary Housing
Base Case

01 May 2008

	Total	Average	
Project parameters		**Per Unit**	**Per sq m**
Building typology	Refurb		
Total number of units	80		
Number of first tier units	24		
Number of second tier units	0		
Number of middle market units	56		
Floor space (in sq m)	3,248	40.6	
Average monthly rental income	150,309	1,879	46.3
City of Johannesburg Rent Subsidy	-	-	-
Monthly operating costs (including maintenance)	70,129	877	21.6
Monthly service costs	41,440	518	12.8
Service cost recovery rate	100%		
Cost to income ratio (excl services & rent subsidy)	47%		
Cost to income ratio (excl services, incl rent subsidy)	47%		
Development costs (all inclusive) nominal terms	6,909,558	86,369	2,127
Funding sources			
Provincial contribution or Institutional Subsidy	1,044,144	13,052	321
City of Johannesburg capital contribution	-	-	-
CRU fixed subsidy	-	-	-
CRU variable subsidy	-	-	-
Social Housing Restructuring Capital Grant	3,014,760	37,685	471
Debt	2,137,991	26,725	658
Equity	712,664	8,908	219
Total sources of funds	6,909,558	86,369	2,127
Project Results			
Project IRR pre-tax, pre-finance, excludes residual value, post-subsidies	42.48%		
Minimum hurdle project IRR	16.50%		
Initial yield on total capital cost (incl any rent subsidy)	13.93%		
Initial yield on capital cost less grants	33.7%		
Grants as a % of (grants + debt)	58.7%		
Minimum Debt Service Cover Ratio	2.53		
Target minimum Debt Service Cover Ratio	1.3		
Return on Equity (if appropriate)	45.99%		

Monthly costs to tenants:

The total costs to tenants is the same as under Case 8.1.2.1.

Project Parameters:

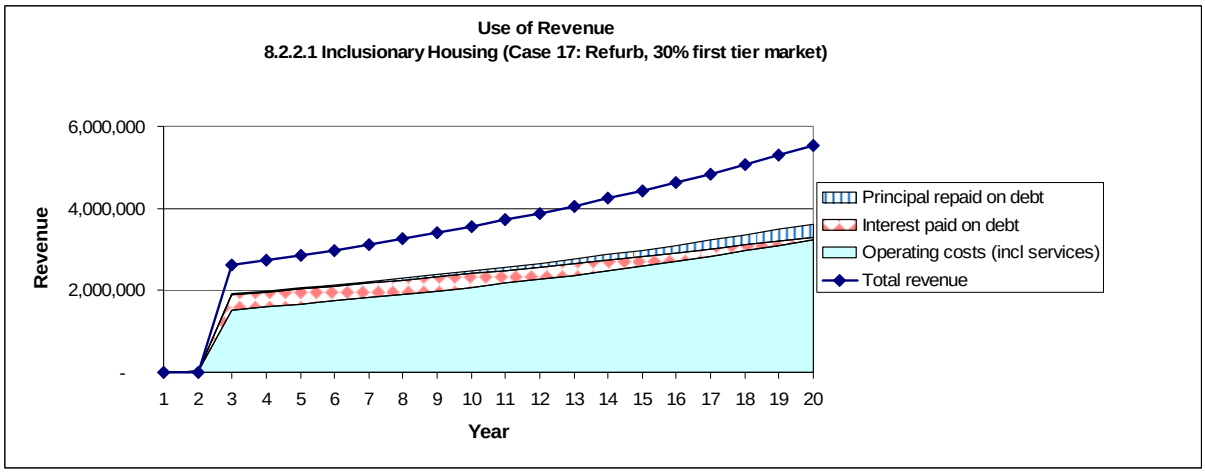
The key project parameters summarise the inputs in May 2008 terms, described in the sections above detailing refurbishment projects. A typical project is made up of 80 units. The average floor space per unit is 40.6 sq m. The average rental per unit is made up of:

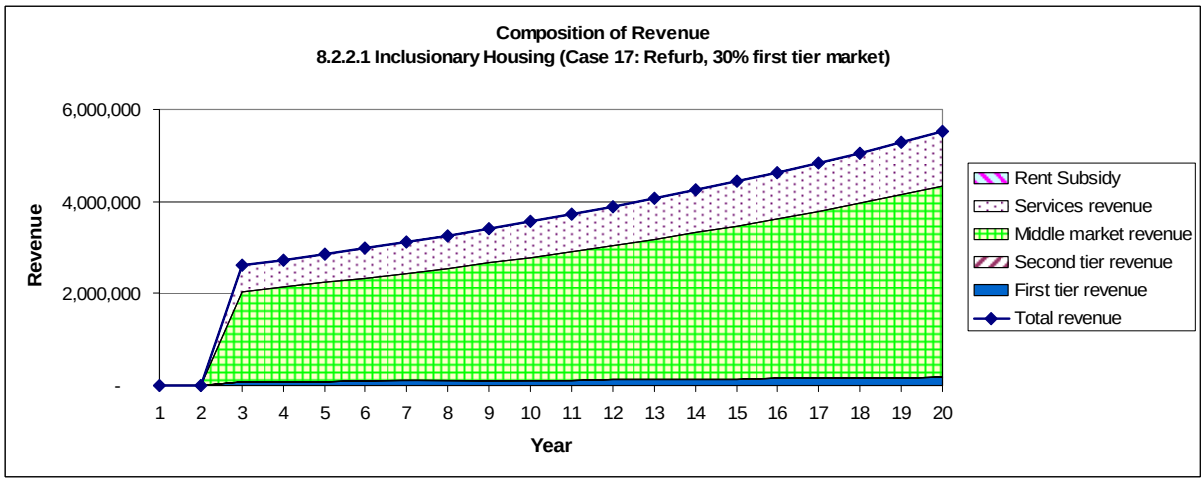
- 30% of the total being first tier, averaging R287 per month.
- 70% of the total being middle market tier, averaging R2,561 per month.
- Total average rental per unit per month is R1,879.

The cost to income ratio of R877 versus R1,879 per month is equal to 47%. This means that plenty of cash should be available to service debt or equity, or to build up some reserves.

The average service cost that must be met by the tenant is R518 per month per unit. This is recovered entirely from the tenant.

The following two graphs illustrate the use and composition of project revenues over the 20 years.

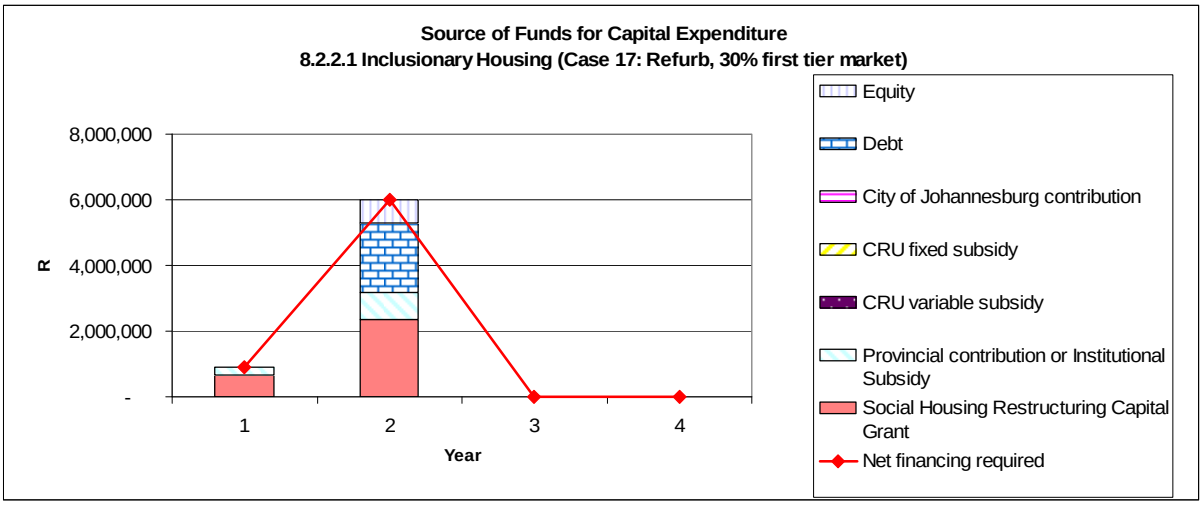




Funding Sources:

The total development costs of building 80 conversion units of R86,369 each is R6.9 million. In this case it is funded from:

- The provincial institutional subsidy of R1 million (R0.2m in year one, R0.8m in year two);
- Debt of R2.1 million in year two;
- Equity of R0.7 million in year two;
- The Social Housing Restructuring Capital Grant of R3m (R0.7m in year one, R2.3m in year two);
- There is no shortfall to be funded by a capital contribution from the City. This can be illustrated in the following graph:



Project Results:

- The project IRR is 42.5%, well clear of the minimum threshold for a sustainable project.
- The initial yield on the cost of the project less the amount of the grants, is 33.7%. This is indicative of a healthy project.
- Grants fund 58.7% of the capital requirements of the project.
- The minimum Debt Service Cover Ratio (DSCR) is 2.53, meaning the funders should theoretically be comfortable lending to such a project.
- Return on equity is 46%, which should attract private investment.

Sensitivity Analysis:

There are no instances where the City is required to make a capital contribution under the sensitivity analysis scenarios.

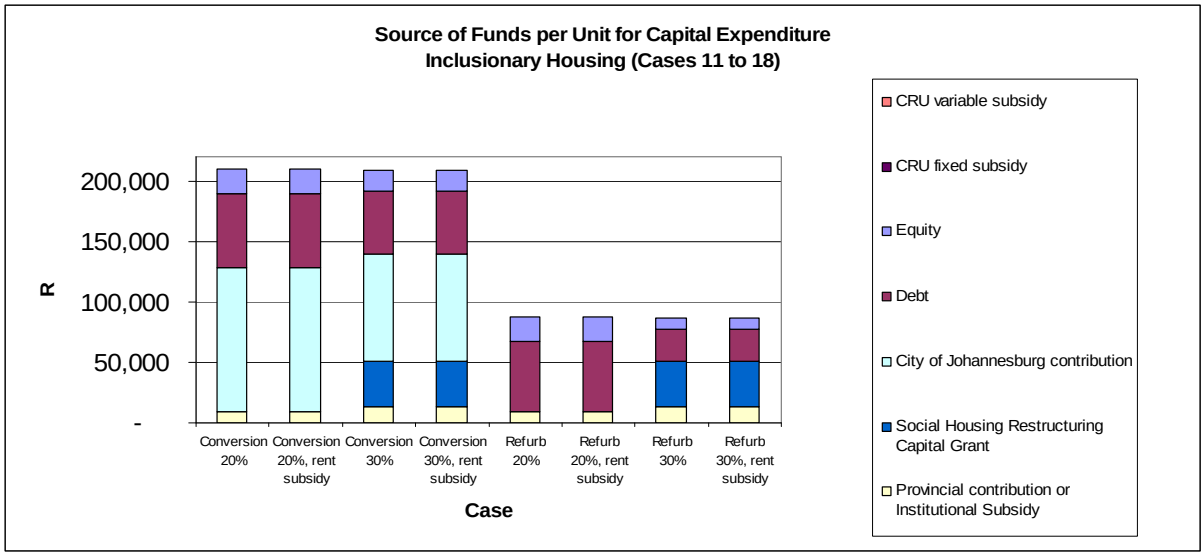
6.7.8 Results of case 8.2.2.2 – Inclusionary housing – Refurbishment with 30% of units in first tier rental target, with a rent subsidy

There is no requirement for any form of rent subsidy for this option, modelled under the set of assumptions made. As such, this case is no different to case 8.2.2.1 even under the sensitivity analysis.

6.7.9 Comparison of Cases 11 to 18:

The following graph illustrates the difference in the source of funding per unit across the eight cases in this section. As can be seen, a sizeable contribution is required from the City under the inclusionary housing conversion projects. Although debt and equity are utilized by the private sector to help fund the capital costs of the project, and the affordable units should be able to access the provincial Institutional Subsidy, the City needs to make a capital contribution in order for the project to be financially viable.

Under the inclusionary housing refurbishment projects, the debt, equity, provincial subsidy and in Case 17 and 18 the Social Housing Restructuring grant, are sufficient to fund the capital costs of the project, and the City is not required to make any contributions.



In the first four cases (conversion project), the City's capital contribution is sensitive to changes made about the assumed:

- Operating costs;
- Capital costs and area of rooms;
- Inflation rate;
- Middle-market rent;
- VAT assumptions;
- Product mixes, especially to all the units being bachelor units.

For the fifth and sixth cases (refurbishment project with no access to the Restructuring Grant), the City is required to make a capital contribution when:

- Operating costs are 20% higher;
- Capital costs are increased by +20% or the area of the units is increased by 20%.;
- Inflation is 3% lower;
- Middle-market rent is varied by -20%;
- When all the units are bachelor units.

There are no instances in the last two cases (refurbishment project with access to the Restructuring Grant) where the City is required to make a capital contribution due to variations in the assumptions.

6.8 Issues

- The problem of having the same types of units in a development at vastly different rentals will need to be addressed.
- The political issue of giving private developers a large contribution on top of a subsidy for a project they intend making a profit from will need to be addressed.
- It will be difficult to convince private developers to engage in inclusionary housing if they could earn a higher return on their money building developments that do not include housing units for the poor.
- Limited budget for the Social Housing Restructuring Grant means it is not always easy to access.

7 CONCLUSION

7.1 Cases Modelled

The objective of this modelling exercise was to identify the measures that could be taken to accommodate the poor in the Johannesburg inner city. Various cases have been modelled, based on the housing options identified by the client. These cases include the following:

- City-led affordable rental for low income earners, housed in a conversion project of a typical size of 150 communal units.
    - Case 1 (6.1.1): Using the Community Residential Unit (CRU) programme for funding, with no rent subsidy assumed.
    - Case 2 (6.1.2): Using the CRU programme for funding, with an assumed rent subsidy where needed.
    - Case 3 (6.2.1): Using the Provincial Institutional Subsidy for funding, with no rent subsidy assumed.
    - Case 4 (6.2.2): Using the Provincial Institutional Subsidy for funding, with an assumed rent subsidy where needed.

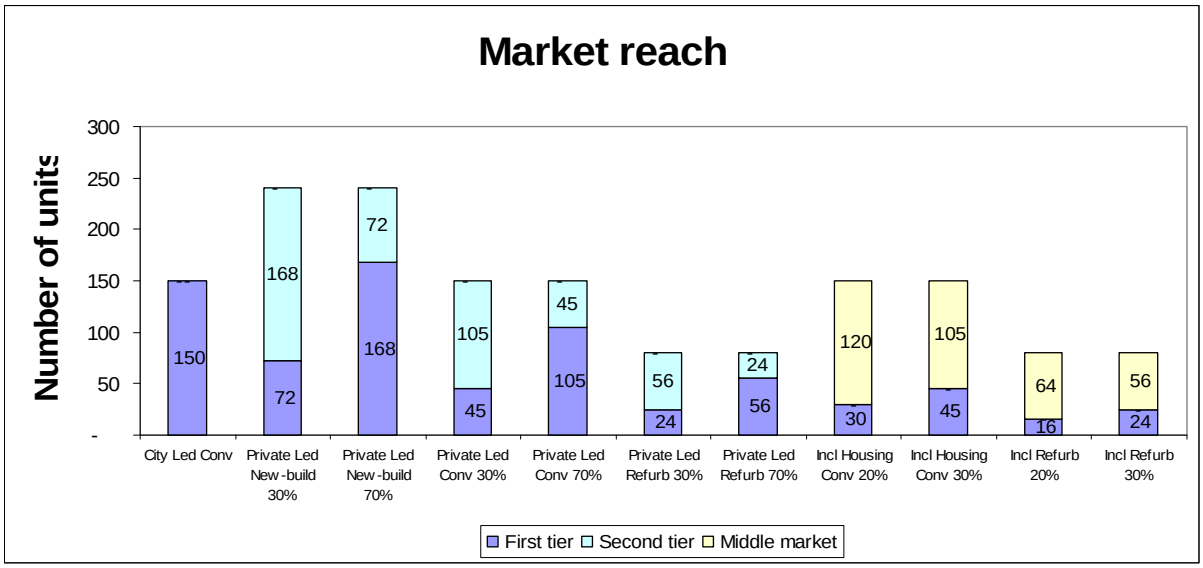
- Private sector and SHI-led rental for low income earners using the Provincial Institutional Subsidy, Social Housing Restructuring Capital Grant, and debt as funding sources.
    - Housed in a new-build project of a typical size of 240 self-contained and varied-in-size units;
        - Case 5 (7.1.1): 30% of units targeting a low-income market;
        - Case 6 (7.1.2): 70% of units targeting a low-income market.
    - Housed in a conversion project of a typical size of 150 self-contained and varied-in-size units;
        - Case 7 (7.2.1): 30% of units targeting a low-income market;
        - Case 8 (7.2.2): 70% of units targeting a low-income market.
    - Housed in a refurbishment project of a typical size of 80 self-contained and varied-in-size units;
        - Case 9 (7.3.1): 30% of units targeting a low-income market;
        - Case 10 (7.3.2): 70% of units targeting a low-income market.

- Inclusionary Housing using the Provincial Institutional Subsidy, Social Housing Restructuring Capital Grant, debt and equity as funding sources;
    - Housed in a conversion project of a typical size of 150 self-contained and varied-in-size units;
        - Case 11 (8.1.1.1): 20% of units targeting a low-income market, with no assumed rent subsidy;
        - Case 12 (8.1.1.2): 20% of units targeting a low-income market, with an assumed rent subsidy where needed;
        - Case 13 (8.1.2.1): 30% of units targeting a low-income market, with no assumed rent subsidy;
        - Case 14 (8.1.2.2): 30% of units targeting a low-income market, with an assumed rent subsidy where needed;
    - Refurbishment project of a typical size of 80 self-contained and varied-in-size units;
        - Case 15 (8.2.1.1): 20% of units targeting a low-income market, with no assumed rent subsidy;
        - Case 16 (8.2.1.2): 20% of units targeting a low-income market, with an assumed rent subsidy where needed;

- Case 17 (8.2.2.1): 30% of units targeting a low-income market, with no assumed rent subsidy;
- Case 18 (8.2.2.2): 30% of units targeting a low-income market, with an assumed rent subsidy where needed;

7.2 Comparison of Market Reach

The following table illustrates the various degrees to which the cases target differing income markets. All figures in the model are in May 2008 terms.

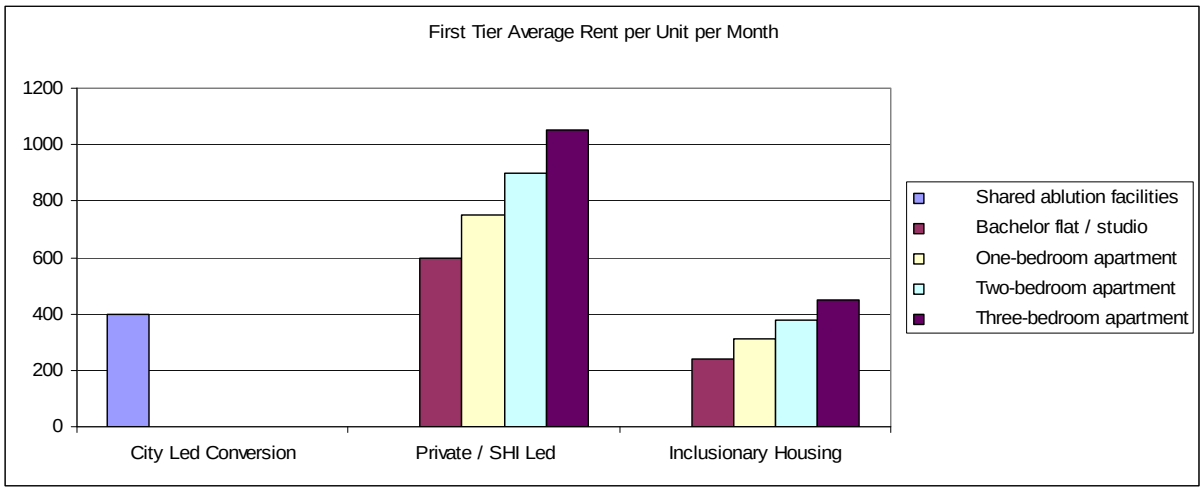


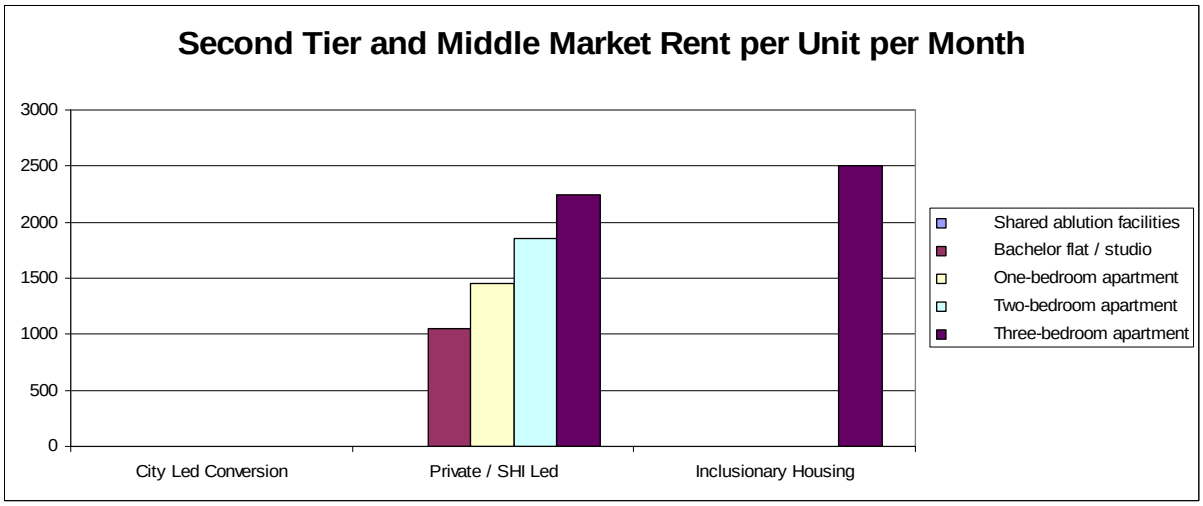
- Cases 1 to 4 cover the City-led Conversion project, and all 150 units target the lowest 'first tier' income band.
  - This income band is between R667 and R2,000 per unit per month.
  - At an assumed 30% of income, this equates to a rental band of between R200 and R600 per unit per month, averaging R400 per unit per month.

- Case 5 to 10 are the Private Sector and SHI-led projects. They vary in the number of units achieving the first-tier rentals. Assumptions across all six cases are:
  - First-tier income band between R2,000 to R3,500 per month. At an assumed 30% of income, this equates to a rental band of between R600 and R1,050 per unit per month.
  - Second-tier income band between R3,500 to R7,500 per month, equating to rental of between R1,050 and R2,250 per month.

- Cases 11 to 18 are the Inclusionary Housing projects. Assumptions across all eight cases are:
  - First-tier income band between R800 to R1,500 per month. At an assumed 30% of income, this equates to a rental band of between R240 and R450 per unit per month.
  - An average middle-market tier income band of R8,333 per month, equating to rental of R2,500 per month.

The following two graphs illustrate the different rentals that the cases assume, firstly for the first tier, and then for the second and middle-market tiers. The base case assumes a product mix in the Private Sector and Inclusionary Housing options of 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units and 10% three-bedroom units.

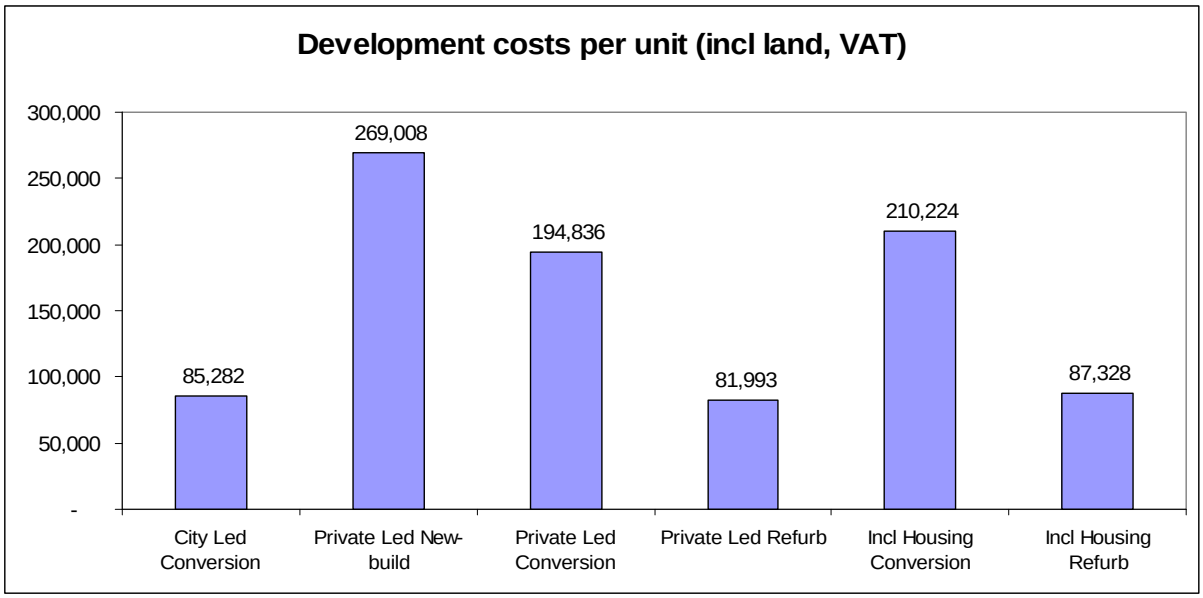




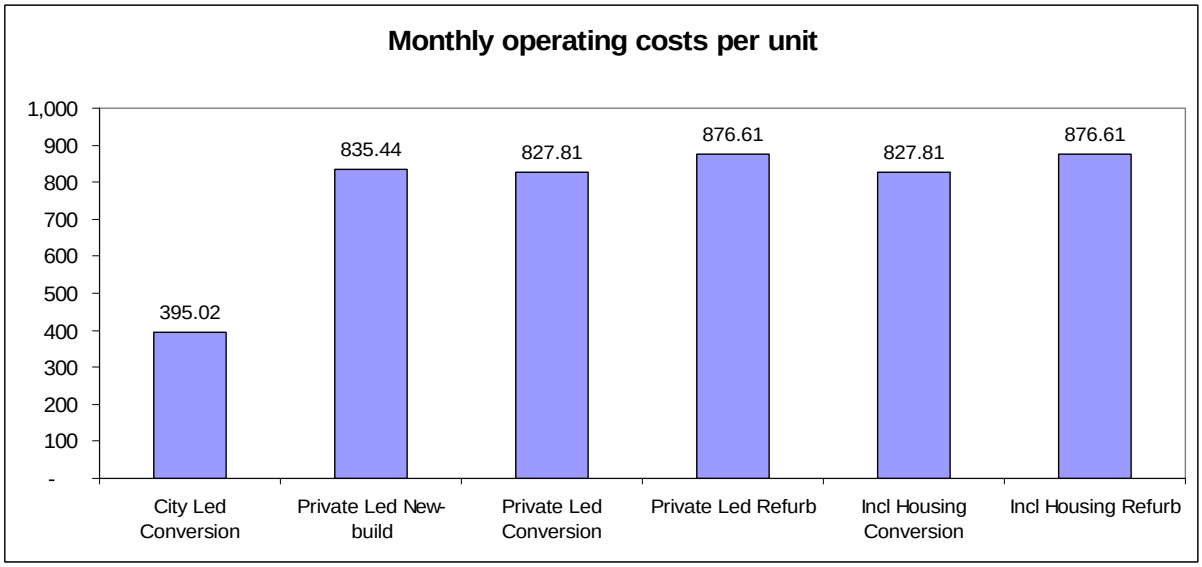
These rental figures exclude the cost of services that tenants are required to pay. The typical City-led Conversion tenant would need to pay an additional amount of R257 per month for services. The typical Private Sector tenant would need to pay between R297 and R995 for services, resulting in an average of an additional R518 per month for services, assuming a certain product mix.

7.3 Capital and operating costs

The cases all have varying capital expenditure cost assumptions. The following graph illustrates these average differences per unit.



Most cases have very similar assumed operating costs per unit, with the exception of the communal unit project under 'City-led Conversion'. The following graph illustrates these costs:

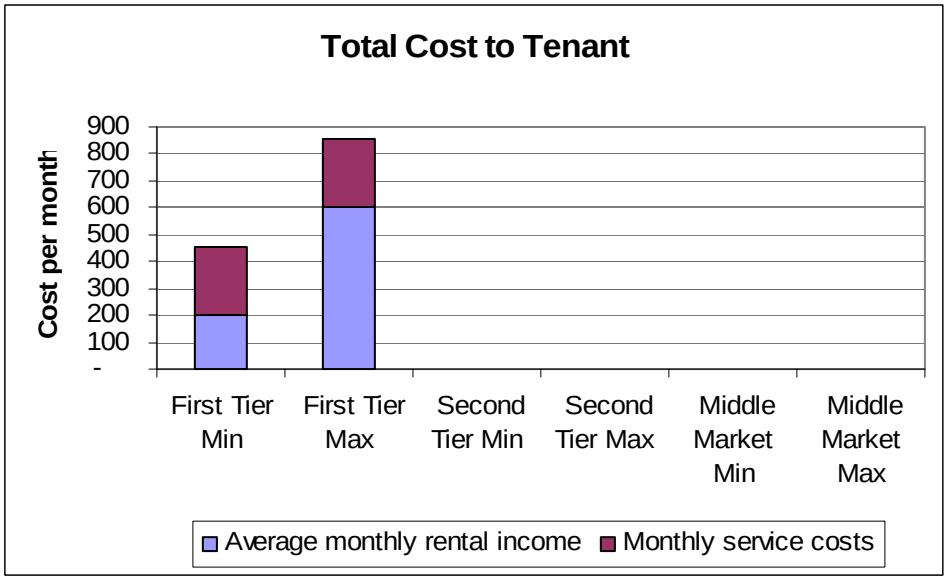


7.4 Results

7.4.1 City Led Affordable Rental - Cases 1 to 4:

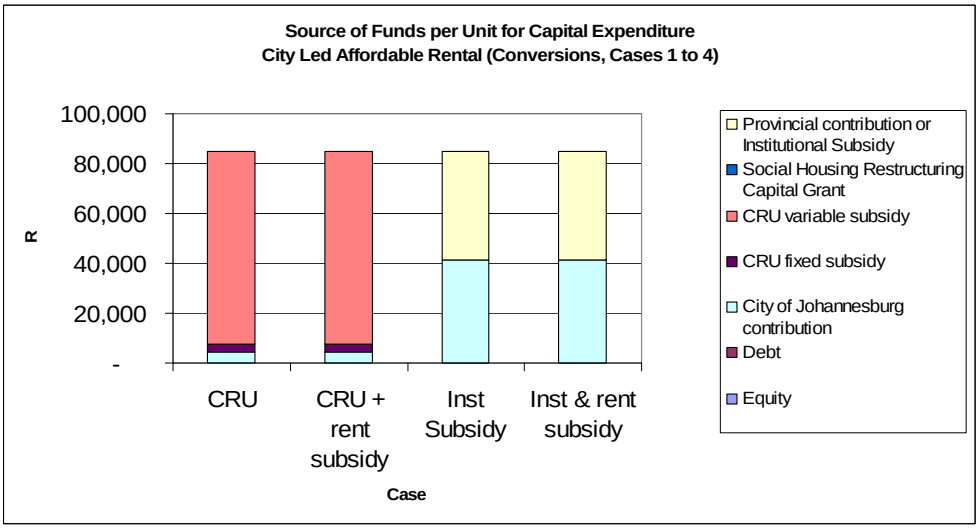
Under all four cases, all 150 units in the typical conversion project are available for the first-tier market. Rentals vary between R200 and R600 per month, averaging R400 per unit per month. Services costs are R257 per month.

The total cost to tenants, including services costs, varies between R457 and R857 per unit per month. This amounts to an average of R657 per unit per month. The following graph illustrates the costs to tenants:



The cost to income ratio of R395 operating costs versus R400 average revenue per month is equal to 99%. This means that revenue is just covering operating and maintenance costs. This option is therefore not a very robust one, and is vulnerable to changes in the environment. There is no surplus operating revenue to service any debt or equity – meaning the capital costs of the project must be fully funded.

The capital contribution that is required in order for the capital costs of the project to be funded vary across the four cases as follows:



It is clearly far more beneficial for the City to see if it can fund the conversions using the CRU programme instead of relying on the Provincial Institutional Subsidy. Under the first two cases, the City's contribution needs to be R0.7 for the project (R4,618 per unit). Under the second two cases it is R6.3 million for the project (R41,776 per unit). Combined with this is the issue of the Institutional Subsidy theoretically not being available for units with a floor area smaller than 30sq metres.

The required contribution from the City increases under all scenarios where:

- Capital costs are higher than anticipated;
- The area of the units is larger than planned;
- The product mix is not optimal. The only way this housing option is financially viable and sustainable is under the scenario where the units are communal units with shared ablutions.

The required contribution from the City decreases under the scenarios where:

- Capital costs are lower than anticipated;
- The area of the units is smaller than planned;
- VAT paid on capital costs is reclaimable.

Concessions on rates and basic services do not have a material impact on the capital contribution from the City, but do affect the cost of services paid by the tenants. This is based on the assumption that any concession on these costs is passed on to the tenant as opposed to being utilized by the operator. The effect on tenants is that average monthly services costs decrease from R257 per month to:

- R250 under a permanent rates rebate;
- R7 under a scenario of permanent free basic services;
- R207 under a scenario of the first 6kl of water being free;
- R0 under a scenario of a rates rebate and free basic services permanently.

This housing option is very vulnerable to changes in operating assumptions due to the very small margin between operating costs and revenue. In both funding structures, the project becomes financially unsustainable without a rent subsidy when:

- Operating costs are higher than assumed;
- Only 25% of income is spent on rent (as opposed to 30%);
- The assumption of using communal units of 18 square metres each is changed to that of using self-contained and varied-in-size units where operating costs are higher than assumed income.

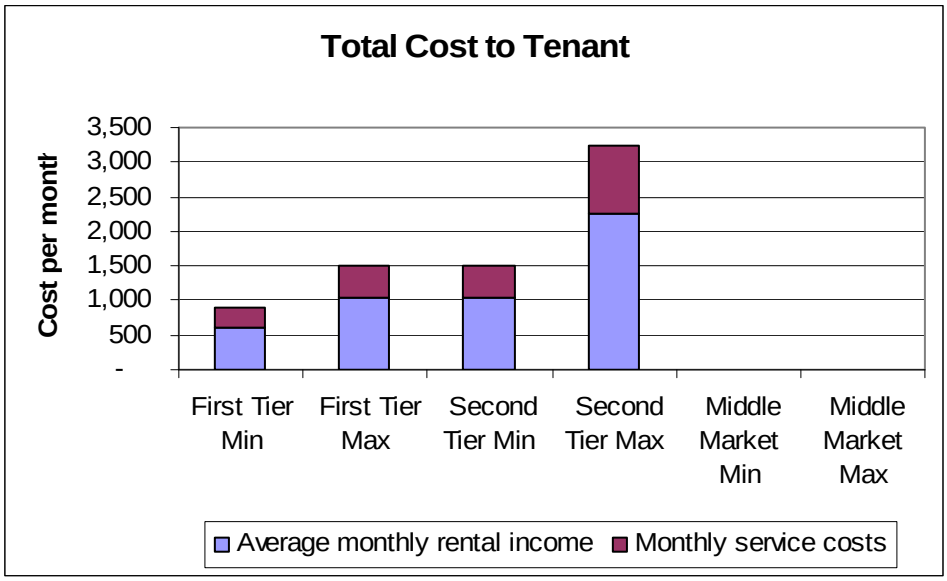
The other issue relating to this option is the limited management capacity available in the sector, raising the question of how this option will be scaled up. There have also been problems in the past in institutions accessing appropriate buildings from the City.

7.4.2 Private Sector and SHI-led Affordable Rental - Cases 5 to 10:

Under all six cases, the assumed unit mix is 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units, and 10% three-bedroom units. As a result, there is a range of rentals for the different tiers.

The following graph illustrates the cost to tenants for the six cases. Rentals vary between R600 and R1,050 for the first-tier market, and between R1,050 and R2,250 for the second tier. Services costs vary between R297 and R443 for the first-tier market, and between R443 and R997 for the second tier.

The following graph illustrates the costs to tenants:



The total cost to tenants, including rentals and services costs, varies between R880 and R3,245 per unit per month. This gives an average of

- R1,963 per unit per month (R1,445 excluding services) for projects with 30% first-tier reach;
- R1,638 per unit per month (R1,120 excluding services) for projects with 70% first-tier reach;

The cost to income ratios vary across the cases.

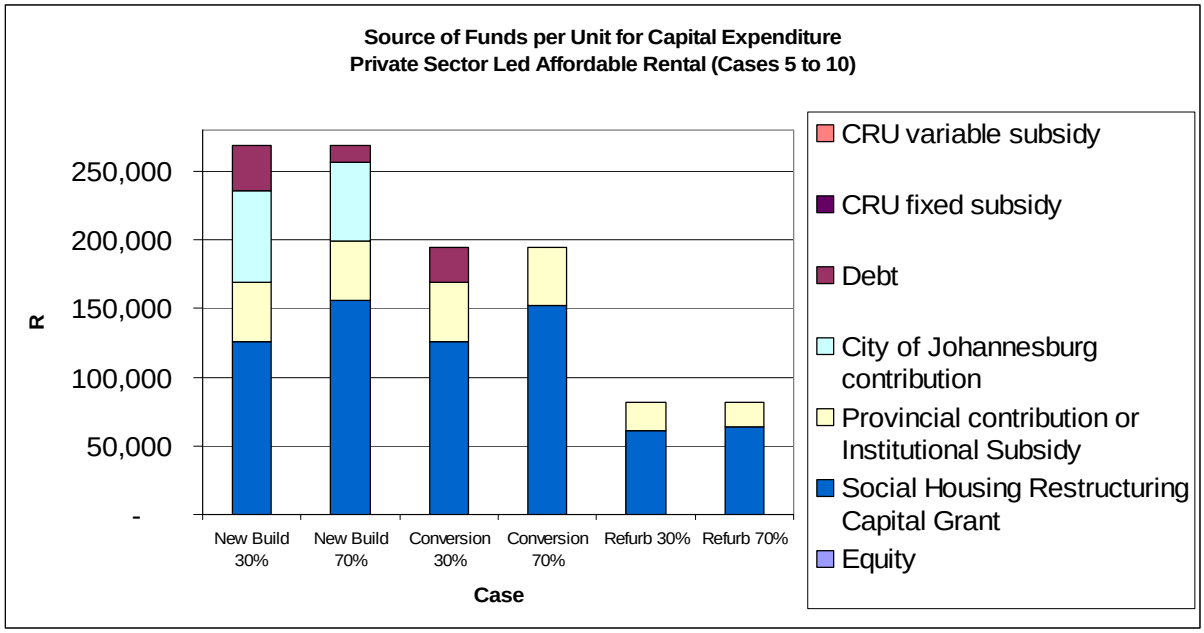
- For new-build projects the average operating costs are R835 versus
  - R1,445 average revenue per month for projects with 30% first-tier reach is equal to 58%.
  - R1,120 average revenue per month for 70% first-tier reach is equal to 75%.

  This means that revenue is covering operating and maintenance costs, with some left over to buffer the project from unexpected costs, and also to fund some debt.

- For conversion projects the average operating costs are R828 versus
  - R1,445 average revenue per month for 30% first-tier reach is equal to 57%.
  - R1,120 average revenue per month for 70% first-tier reach is equal to 74%.

- For refurbishment projects the average operating costs are R877 versus
  - R1,445 average revenue per month for 30% first-tier reach is equal to 61%.
  - R1,120 average revenue per month for 70% first-tier reach is equal to 78%.

The capital contribution required from the City of Johannesburg in order for the capital costs of the project to be funded varies across the six cases as follows:



As can be seen, the City would be required to contribute to both new-build cases. This is because new-build is more expensive per unit at the moment than conversions or refurbishments, and the Social Housing Restructuring Grant together with the Institutional Subsidy would not be sufficient to cover the capital costs. This gap could be partially funded by private debt, but the City would need to contribute an estimated R16 million (R66,364 per unit) out of the total project costs of R65 million (R269,008 per unit) for the case where 30% of the units target the first-tier market. The required contribution decreases slightly to R13.8 million in the case where 70% of the units target the first-tier market.

The City is not required to make any contribution under either of the conversion cases or the refurbishment cases. The capital costs are funded by the Social Housing Restructuring Grant, the Provincial Institutional

Subsidy, and some private debt for Case 7 – Private Sector-led conversion with 30% of the units targeting the first-tier market.

In the first two cases (new-build project), the City's capital contribution is sensitive to changes made about the assumed:

- Operating costs;
- Capital costs and area of rooms;
- Inflation rate;
- Percentage of income spent on rent;
- VAT assumptions;
- Product mixes.

For the second two cases (conversion project), the City is required to make a capital contribution when the capital costs and the area of rooms are increased.

There are no instances in the last two cases (refurbishment project) where the City is required to make a capital contribution due to variations in the assumptions.

Concessions on rates and basic services do not have a material impact on the capital contribution from the City, but do affect the cost of services paid by the tenants. This is based on the assumption that any concession on these costs is passed on to the tenant as opposed to being utilized by the operator. The effect on tenants is that average monthly services costs decrease from R518 per month to:

- R501 under a permanent rates rebate;
- R16.40 under a scenario of permanent free basic services;
- R469 under a scenario of the first 6kl of water being free;
- R0 under a scenario of a rates rebate and free basic services permanently.

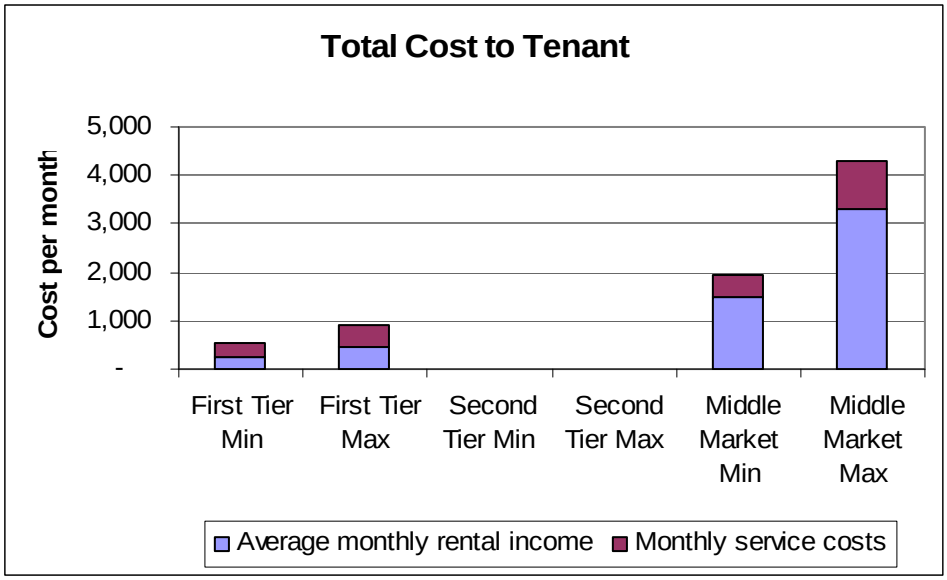
Limited funding is available over the next few years for the Social Housing Capital Restructuring Grant, so there is no guarantee that the projects will get access to this funding. There has also been difficulty in accessing appropriate buildings from the City for conversions and refurbishments.

7.4.3 Cases 11 to 18:

Under all eight cases, the assumed unit mix is 10% bachelor units, 45% one-bedroom units, 35% two-bedroom units, and 10% three-bedroom units. As a result, there is a range of rentals for the different tiers.

Rentals vary between R240 and R450 for first-tier tenants, and between R1,500 and R3,300 for middle-market tenants. Services costs vary between R297 and R443 for the first-tier market, and between R443 and R995 for the middle-market tier.

The following graph illustrates the costs to tenants:



The total cost to tenants, including rentals and services costs, varies between R537 and R4,295 per unit per month. This gives an average cost to tenants of

- R2,573 per unit per month (R2,055 excluding services) for projects with 20% first-tier reach;
- R2,396 per unit per month (R1,879 excluding services) for 30% first-tier reach;

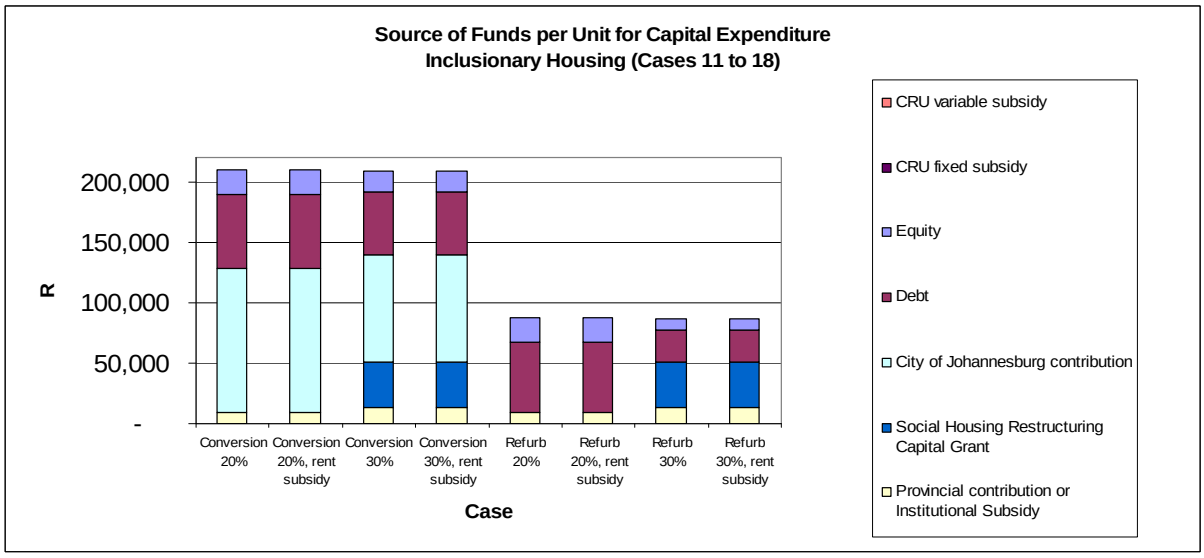
The cost to income ratios vary across the cases.

- For conversion projects the average operating costs are R828 versus
  - R2,055 average revenue per month for 20% first-tier reach is equal to 40%.
  - R1,879 average revenue per month for 30% first-tier reach is equal to 44%.

  This means that revenue is covering operating and maintenance costs, with some left over to buffer the project from unexpected costs, and also to fund some debt.

- For refurbishment projects the average operating costs are R877 versus
  - R2,055 average revenue per month for 20% first-tier reach is equal to 43%.
  - R1,879 average revenue per month for 30% first-tier reach is equal to 47%.

The capital contribution required from the City of Johannesburg in order for the capital costs of the project to be funded varies across the eight cases as follows:



As can be seen, a sizeable contribution is required from the City under the inclusionary housing conversion projects. Although debt and equity are utilized by the private sector to help fund the capital costs of the project, and the affordable units should be able to access the provincial Institutional Subsidy, the City needs to make a capital contribution in order for the project to be financially viable.

Under the inclusionary housing refurbishment projects, the debt, equity, provincial subsidy and, in the last two cases, the Social Housing Restructuring Grant, are sufficient to fund the capital costs of the project, and the City is not required to make any contributions.

In the first four cases (conversion project), the City's capital contribution is sensitive to changes to the assumed:

- Operating costs;
- Capital costs and area of rooms;
- Inflation rate;
- Middle-market rent;
- VAT treatment;
- Product mixes, especially to all the units being bachelor units.

For the fifth and sixth cases (refurbishment project with no access to the Restructuring Grant), the City is required to make a capital contribution when:

- Operating costs are 20% higher;
- Capital costs are increased by +20% or the area of the units is increased by 20%;
- Inflation is 3% lower;
- Middle-market rent is varied by -20%;
- When all the units are bachelor units.

There are no instances in the last two cases (refurbishment project with access to the Restructuring Grant) where the City is required to make a capital contribution due to variations in the assumptions.

Concessions on rates and basic services have the same effect on tenants as under Cases 7.1.1 to 7.2.2 above.

Other issues include:

- Limited funding is available over the next few years for the Social Housing Capital Restructuring Grant, so there is no guarantee that the projects will get access to this funding.
- Renting out the same types of units in a development at vastly different rentals could be problematic.
- There is a potential political issue of giving private developers a large contribution on top of a subsidy for a project they intend to profit from.
- It will be difficult to convince private developers to engage in inclusionary housing if they could earn a higher return on their money pursuing developments that do not include housing units for the poor.

7.5 Overall Comparison

The various housing options modelled in this exercise produced different results in terms of:

- Market reach;
- Risk;
- Required support from the City; and
- Issues affecting the project.

City-led affordable rental for low income earners produces:

- Good market reach with all 150 units in a typical project targeting low-income individuals earning between R667 and R2,000 per month.
- Risky projects with no operating surplus to allow any private funding or to allow the project to build up any reserves for unexpected expenses. The results are very sensitive to changes made to any of the assumptions. The project is not viable under any product mix other than communal units with shared ablutions.
- Where access to the Community Residential Unit (CRU) programme is assumed, the City would only be required to contribute R0.7 million for a typical project (or R4,618 per unit). Where access to the CRU programme is not assumed, and instead access to the provincial Institutional Subsidy is assumed, the City would be required to contribute R6.3 million for a typical project (or R41,776 per unit). A rent subsidy is not required under the base case, but could be used to make the project financially viable under any increases in assumed operating costs, or decreases in assumed rentals.
- Other issues include:
    - The Institutional Subsidy theoretically not being available for units with a floor area smaller than 30sq metres.
    - Difficulty in accessing appropriate buildings.

Private sector and SHI-led affordable rental for low-income earners produces:

- Varying market reach of between 24 and 168 units in a typical development targeting low-income individuals earning between R2,000 and R3,500 per month.
- Robust projects with adequate operating surpluses to allow for private debt and for the project and institution to build up some reserves for unexpected expenses. In the new-build projects, the City's capital contribution is sensitive to changes to most of the assumptions. This is because the City is required to fund a substantial portion of the capital costs. For the conversion projects the City is required to make a capital contribution when increases are assumed for the capital costs or area of rooms. There are no instances in the refurbishment projects where the City is required to make a capital contribution due to variations in the assumptions.
- Varying required contributions from the City to fund the capital costs of the project:
    - For new-build projects:
        - With 30% first-tier reach: R16 million for a typical project (or R66,364 per unit).
        - With 70% first-tier reach: R13.8 million for a typical project (or R57,320 per unit).
    - No required contribution for conversion and refurbishment projects:
- Other issues include:
    - Difficulty in accessing the Social Housing Restructuring Capital Grant.
    - Difficulty in accessing appropriate buildings for conversions and refurbishments.

Private sector and SHI-led affordable rental for low income earners produces:

- Varying market reach of between 16 and 45 units in a typical development targeting low-income individuals earning between R800 and R1,500 per month.
- Robust projects with adequate operating surpluses to allow for private debt and equity, and for the project to build up some reserves for unexpected expenses. For the conversion projects the City's capital contribution is sensitive to changes made to various assumptions. For the refurbishment projects the City is only required to make a capital contribution for some scenarios where there is no access to the Social Housing Restructuring Grant.
- Varying required contributions from the City to fund the capital costs of the project:
    - For conversion projects:
        - With 20% first-tier reach: R18 million for a typical project (or R120,110 per unit).
        - With 30% first-tier reach: R13.3 million for a typical project (or R88,807 per unit).
    - No required contribution for the refurbishment projects:
- Other issues include:
    - Difficulty in accessing the Social Housing Restructuring Capital Grant.

- Difficulty in accessing appropriate buildings for conversions and refurbishments.
- Difficult to convince private developers to engage in inclusionary housing if they could earn a higher return on their money building developments that do not include housing units for the poor.
- Limited budget for the Social Housing Restructuring Grant means it is not always easy to access.

Effect of service cost concessions:

Assuming that the benefit of any rates rebates and free basic services are passed on to the projects' tenants and not retained by the developers or managers, the City can make a substantial difference to the monthly costs of the tenants. For the first-tier market, services costs vary between R257 and R443 per month. This can be reduced to between:

- R250 and R429 under a permanent rates rebate;
- R7 and R14 under free basic services;
- R207 and R395 under free 6lk of water;
- R0 under a permanent rates rebate and free basic services.

Fees payable to the City for plan approvals, rezoning, service connections and consent use vary between R1,516 and R8,314 per unit. These could also be forfeited by the City as a form of contribution.

Another form of contribution could be to provide free land and buildings with no transfer duties or VAT to developers of these housing options. This varies between R10,982 and R22,876 per unit in the model.

Conclusion:

The City is able to make a number of contributions to the various housing options identified above, in order to make them financially viable and sustainable. The City must decide on:

- The market it would like to reach;
- The risk of the projects it would like to support;
- The amount of capital contributions it is prepared to make, and rent subsidies it is prepared to grant; and
- How else it can assist in making these projects viable and more affordable to tenants, using such tools as:
    - Assisting in providing appropriate buildings for conversions and refurbishments;
    - Lobbying the South African Revenue Services (SARS) to allow Input VAT to be reclaimed by residential housing projects that benefit the poor;
    - Providing permanent rates rebates and free basic services to projects that benefit the poor;
    - Forfeiting fees for plan approvals, rezoning, service connections and consent use;
    - Providing free land and buildings to these projects.