Cost-Benefit Analysis: Social Rental Housing and RDP Housing

Social Housing Foundation

Final Report

Disclaimer:

Terms and conditions:

These are the terms and conditions that govern usage of this website ("the Site") of Social Housing Foundation. By using the Site, you agree to be bound by these terms and conditions and, where appropriate, any other terms and conditions, guidelines or rules applicable to other products or services that may be posted from time to time. If you do not agree with any part of the following terms and conditions, you must not use the Site. If you are uncertain, you may always contact us at resource@shf.org.za. The Site is an advertisement for Social Housing Foundation. These terms and conditions also apply to your use of the websites of our associated chapters (the "Associated Sites") in addition to any terms and conditions that may apply to the use of the Associated Sites. If there is any conflict between them, any specific terms and conditions for the Associated Site will apply when you use the Associated Site. Social Housing Foundation makes no promise that materials on the Site are appropriate or available for use in locations outside South Africa and accessing the Site from locations outside South Africa if its contents are illegal there is prohibited. All orders made on the Site will also be governed by specific terms and conditions.

Our obligations:

Social Housing Foundation will provide you with up to date information on the functionality of the Site and advice and assistance on any upgrade or changes to its functionality as it deems necessary and use reasonable endeavours to comply with any applicable law or regulation. If you make assumptions about the location of items within or functionality of the Site in any of your procedures or automated scripts, you should check that those assumptions remain valid whenever it is used and warn you accordingly if those assumptions become false. For example, Social Housing Foundation makes no promise that the Site will always be maintained with the same DNS names, IP addresses, authentication methods or URLs. Although Social Housing Foundation aims to offer you the best service possible, Social Housing Foundation makes no promise that the services at Social Housing Foundation will meet your requirements or be fault free. Your access to the Site may be occasionally restricted to allow for repairs, maintenance or the introduction of new facilities or services. Social Housing Foundation will attempt to restore access as soon as it reasonably is able. When you request information by email, we do not guarantee that we will deliver such information. If we have difficulty delivering information to a particular email address, we reserve the right to stop using that address.

Your obligations:

You agree that you will use the Site and the Associated Sites in accordance with these terms and conditions and any additional terms and conditions of the Associated Sites and shall comply with all applicable laws and regulations. You will require internet connectivity and appropriate telecommunications links to use the Site. You agree that Social Housing Foundation shall not be liable for any telephone or other costs that you may incur. You represent, warrant and undertake that you will not do anything or cause or permit anything to be done that may infringe, damage or endanger any intellectual property rights of Social Housing Foundation or any of our associated companies or any third party or do anything that is otherwise unlawful.

You may not use the Site or any Associated Site for:

- Disseminating any unlawful, harassing, libellous, abusive, threatening, harmful, vulgar, pornographic, obscene or otherwise objectionable material;

- Transmitting material that encourages conduct that constitutes a criminal offence, results in civil liability or otherwise breaches any applicable law or regulation;
- Gaining unauthorised access to other computer systems;
- Interfering with any other person's use or enjoyment of the Site;
- Breaching any laws concerning the use of telecommunications networks;
- Interfering or disrupting networks or websites connected to the Site;
- Making, transferring or storing electronic copies of materials protected by copyright without the owner's permission; and
- Downloading more than a reasonable amount of data and not repeat these downloads more frequently than is reasonable.

If you are asked to create a password during your use of the Site, you must keep this password confidential and must not disclose it or share it with anyone. You will be responsible for all activities that occur under your password. If you know or suspect that someone else knows your password you should contact us immediately. If Social Housing Foundation has reason to believe that there is likely to be a breach of security or misuse of the Site we may require you to change your password (if any) or we may suspend your use of the Site.

Exclusion of warranty:

We try to ensure that the information contained on this Site is as accurate as possible. However, we give no warranty of any kind regarding the Site or the Associated Sites and/or any materials provided on the Site or the Associated Sites. Social Housing Foundation does not warrant the accuracy, completeness, currency, or reliability of any of the content or data found on the Site or the Associated Sites and Social Housing Foundation expressly disclaims all warranties, representations, conditions, undertakings or other obligations including any implied warranties of merchantability, fitness for a particular purpose, non-infringement and any warranty that any software will be error-free or that such errors will be corrected, all of which are hereby excluded to the fullest extent permitted by law. If Social Housing Foundation is informed of any inaccuracies on the Site, we will attempt to correct the inaccuracies as soon as we reasonably can. If you obtain a product or service from Social Housing Foundation off this website that is provided without an agreement, that product or service is provided "AS IS" and in no event will Social Housing Foundation be liable to you for any loss or damage of any kind arising from your use or inability to use that product or service.

Liability:

The Site is provided by Social Housing Foundation without any warranties or guarantees. Social Housing Foundation assumes no responsibility and shall not be liable for any damage to or viruses that may infect your computer equipment or other property on account of your access to, use of, or browsing in the Site or the Associated Sites. To the full extent allowed by applicable law, you agree that Social Housing Foundation shall not be liable for any injury, loss, claim, damage, or any exemplary, punitive, direct, indirect, incidental or consequential damages or any kind (including but not limited to lost profits or lost savings) whether based in contract, tort, strict liability or otherwise which arises out of or is in any way connected with the Site including (without limitation):any use of this Site or the Associated Sites or content found therein; any failure or delay (including but not limited to) the use of or inability to use any component of the Site or the Associated Sites and any errors or interruptions of the Site;

- the performance or non-performance by Social Housing Foundation;
- unsuitability, unreliability or inaccuracy of the Site;
- inadequacy of the Site to meet your requirements;
- incompatibility of the Site with any of your equipment, software or
- telecommunications links;
- the provision of or failure to provide services;
- any information, software, products, services and related graphics obtained through the Site or the Associated Sites.

Any dealings you have with third parties via the Site or the Associated Sites are your responsibility. Should a dispute arise between you and any third party due to use of the Site or the Associated Sites we will do our best to assist its resolution but will not be responsible for any loss or damage suffered as a result. We may provide links to other websites, resources, advertisements or sponsorships either

directly or through contractual partners. Social Housing Foundation accepts no responsibility for these links and does not endorse their contents. If you decide to access other websites, you do so at your own risk.

Indemnity:

You shall indemnify and keep Social Housing Foundation indemnified against all actions, claims, losses, costs (including all legal costs actually incurred or otherwise), damages and expenses that are suffered or incurred by Social Housing Foundation whether or not reasonable or otherwise foreseeable or avoidable which arise directly or indirectly from any breach or alleged breach by you of any of these Terms and Conditions or your use of the Site or any Associated Site.

Intellectual Property:

All content, software and data on or relating to the Site is the property of Social Housing Foundation or is licensed for use by Social Housing Foundation. None of the software, data or content found on the Site may be reproduced, republished, distributed, posted, sold, transferred or modified without the prior express written permission of Social Housing Foundation. In addition, the trade marks, logos and service marks displayed on this Site ("the Trade Marks") are registered in South Africa and elsewhere by their respective owners and may not be used without the owners express written consent. All copyright, database rights, rights in inventions, patents and patent applications in the software, data or content relating to the Site shall (unless licensed to Social Housing Foundation) be owned by and vest absolutely in Social Housing Foundation. Social Housing Foundation does not want to receive confidential or proprietary information from you through this Site. Please note that any information or material sent to Social Housing Foundation will be deemed not to be confidential. By sending Social Housing Foundation any information or material, you grant Social Housing Foundation an unrestricted, irrevocable licence to use, reproduce, display, perform, modify, transmit and distribute such information or material, and you also agree that Social Housing Foundation is free to use any ideas, concepts, know-how or techniques that you send us for any purpose. Nonetheless, any use of your name or other personal data is subject to our Privacy Policy.

General:

You may not assign, sub-licence or otherwise transfer any of your rights under these terms and conditions. These terms and conditions shall be deemed severable. The illegality, invalidity or unenforceability of any part of these terms and conditions will not affect the legality, validity or enforceability of the remainder. Failure by Social Housing Foundation to enforce these terms and conditions shall not be construed as a waiver of any of its rights under it. Social Housing Foundation shall not be responsible for any breach by it of these Terms and Conditions caused by circumstances beyond its reasonable control. We reserve the right to make changes to these terms and conditions at any time. Your use of the Site following such changes constitutes your acceptance of these changes. These terms and conditions, together with those incorporated herein or referred to herein constitute the entire agreement between us relating to the subject matter hereof, and supersede any prior understandings or agreements (whether oral or written) regarding the subject matter. These terms and conditions shall be governed and submitted to the laws of South Africa and the non-exclusive jurisdiction of the South African courts. Notwithstanding the foregoing, Social Housing Foundation shall have the right to seek injunctive, or similar, relief in any courts of competent jurisdiction.

Table of Contents

List of Figures

List of Tables

Acknowledgements

The Trust for Urban Housing Finance (TUHF) provided input and direction throughout and also provided financial support for the project. In particular, TUHF provided critical input into defining the project's objectives and scope.

The service providers, a consortium consisting of Rhizome Management Services and RebelGroup, must be gratefully acknowledged for their ground-breaking research and their ability to engage so successfully with SHF and the project Steering Committee.

The members of the project Steering Committee provided ongoing support and direction throughout a period of some 12 months. Special thanks must go to those Steering Committee members who took the time to engage directly with the service providers in addition to providing general oversight.

Abbreviations & Acronyms

AG	Auditor General
BCM	Buffalo City Municipality
BNG	"Breaking New Ground"
CBA	Cost-Benefit Analysis
CoJ	City of Johannesburg
DBSA	Development Bank of Southern Africa
DRD	Durban Roodepoort Deep
GMHA	Greater Middelburg Housing Association
JOSHCO	Johannesburg Social Housing Company
MIG	Municipal Infrastructure Grant
NDoH	National Department of Housing
NHFC	National Housing Finance Corporation
NPV	Net Present Value
PIG	Provincial Infrastructure Grant
RDP	Reconstruction and Development Programme
SACN	South African Cities Network
SH	Social Housing
SHF	Social Housing Foundation
SHI	Social Housing Institution
SOHCO	Social Housing Company
SPSH	Support Programme for Social Housing
SRH	Social Rental Housing
TUHF	Trust for Urban Housing Finance
UDZ	Urban Development Zone
ZAR	South African Rand

1 Executive Summary

South Africa has various state-supported housing programmes, of which RDP housing (currently termed "BNG" housing), and more recently Social Rental Housing (SRH) are significant components.

Although over 2 million houses have been provided to date through the RDP housing programme, the programme poses several challenges, not least being the implications for the future sustainability of cities and their municipalities in South Africa.

SRH is seen as an alternative to RDP housing. Although the observed initial construction costs of SHR are higher, so too are the long term benefits.. SRH addresses an important demand and income segment within the housing sector and market in South Africa.

A Cost Benefit Analysis of Social Rental Housing

This report contains the results of a Cost Benefit Analysis (CBA) undertaken to compare SRH (as the potential investment or "project case") with RDP housing (as the status quo or "base case"). The objective of this analysis is to assess the relative benefits to society in the provision of SRH and RDP housing, and takes into account all costs and benefits to society over the life time of the housing.

The CBA provides an *economic perspective* on investments in housing by identifying and quantifying costs and benefits wherever possible. Importantly, as an economic tool, the CBA, quantifies direct and indirect costs and benefits in monetary terms, and discounts these values over time, to allow for an accurate comparison.

The quantification of costs and benefits is important as it allows for a more objective comparison to be made between the total effects on society of RDP and SRH. For analytical purposes, financial, economic and distributional analysis is distinguished within the CBA. The financial analysis considers the costs of the project, taking into account and correcting (as far as possible) pricing and other distortions. The economic analysis considers primary and secondary effects that result from the project and aims to quantify these as far as possible. Finally, the distributional analysis seeks to assess where the incidence of cost falls, that is who the primary beneficiaries of the project are and the main carriers of the cost burden.

In order to analyse the relevant aspects of housing, the primary intended effect of SRH is defined as being:

- to contribute to urban restructuring in order to address structural economic, social and spatial dysfunctionalities; and

- to improve and contribute to the overall functioning of the housing sector.

Based on these policy goals, several measurable variables were defined resulting from the characteristics of SRH compared to RDP housing, including effects on employment, education, health and crime.

The costs and benefits of six actual projects were analysed. The principal analysis was based on comparisons of the Bram Fischerville RDP project and the Roodepoort SRH project both located in Johannesburg, and on RDP housing in Potsdam and the Amalinda SRH housing project in East London. The analysis was supplemented with further information from the Tokologo / Mhluzi Ext 2 RDP project and the Hope City SRH project in Middelburg.

Extensive primary data was collected from the six projects, including project documentation and a series of interviews with key practitioners involved in the projects. This was supplemented by secondary data; causality relationships were established; a review of empirical and theoretical literature was undertaken, as well as engagement with an expert panel (the Project Reference Group). A detailed survey of 550 households was conducted to measure impact and effects.

Restrictions and Methodological Issues

The CBA is not intended to measure the exact value of an investment. Reality is necessarily simplified and is partly assumption-based, which means that results can only be stated in ranges. The sensitivity analysis is therefore a crucial element in understanding and interpreting the results. *The strength of the CBA as an instrument of analysis is that it helps to develop an understanding of the differences between alternatives, and the relative value of these differences.*

The CBA also provides an economic perspective which can be an extremely valuable tool in policy making. The CBA is not, however, a substitute for policy making in which social, political, budgetary and other perspectives are also important.

It is important to stress that the CBA is a cash flow model, and as such does not provide insight into the value of the underlying assets at each point in time.

The CBA encountered a specific methodological problem in that it became apparent that RDP housing residents earn substantially lower incomes than residents in SRH. It is therefore important to differentiate between effects that are as a result of income levels and those that are as a result of housing type and location. The report highlights those instances where this was apparent. Inter alia, a subset of residents with comparable incomes in the RDP and SRH survey was created to test for income versus housing differences.

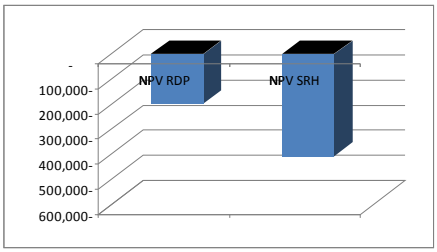
Results of the Financial CBA

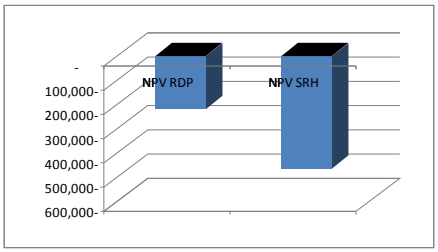
All direct costs during the life cycle (40 years) of a housing project were included in the financial CBA, regardless of who incurred these costs. These included costs of construction, land, infrastructure services and rebuilding (due to different economic life cycles for RDP and SRH).

The final result of the CBA indicated that the lifecycle financial costs per unit of SRH are 2 to 2,5 times higher than those of RDP housing.

Figure 1: Findings: NPV Lifecycle Financial Costs (ZAR)

Bram Fischerville (RDP) & Roodepoort (SRH)	Potsdam (RDP) & Amalinda (SRH)
NPV RDP: 190,000 – 209,000 R/unit NPV SRH: 397,000 – 428,000 R/unit	NPV RDP: 206,000 – 227,000 R/unit NPV SRH: 443,000 – 490,000 R/unit





Note: NPV results have been reported as ranges allowing for a 5% variance in either direction from the mid-point.

These figures are corrected for possible distortions due to subsidies and market inefficiencies (efficiency pricing) and are therefore based on actual costs to society. It is important to note that these financial figures relate to the direct financial costs of the housing and related infrastructure itself, and do not take into account the wider costs (or benefits) of the housing to society.

> ***SRH's higher lifecycle financial cost is due to its more central location, its higher building standards, and better maintenance and servicing. RDP per unit housing costs are also lower because of the impact of economic scale efficiencies due to the higher number of units typically constructed in such projects.***

Results of the Economic CBA

The Economic CBA considered a broader view than the direct costs of the housing itself and included costs such as health, education, safety, and social cohesion. These indirect costs were identified based on the primary intended effects of SRH.

In each case, causal relationships were identified between the housing intervention and the effect, with empirical or theoretical support from literature. The effects were measured using a detailed household survey of 550 households, and were empirically quantified using primary and secondary data.

> ***When the financial lifecycle costs are combined with the broader economic costs and benefits to society then under certain conditions, SRH is a better investment for society than RDP housing.***

The two project comparisons indicated different results. A strong positive NPV was evident when comparing the SRH project Amalinda to the RDP project Potsdam (East London). A moderately negative NPV was evident in the comparison of the SRH project Roodepoort and the RDP project Bram Fischerville (Johannesburg).

Table 1: Findings: NPV Financial and Economic Costs (ZAR)

Projects	NPV (Financial & Economic) per Unit (ZAR)
Potsdam (RDP) & Amalinda (SRH)	318,000 to 352,000
Bram Fischerville (RDP) & Roodepoort (SRH)	-38,000 to -42,000

These figures represent the difference between all costs and benefits to society and are calculated by adding the value of economic effects with the difference in financial costs of RDP and SRH. The cause of these differences can be found in the figures below, which show the various economic effects associated with SRH versus RDP.

Figure 2: Findings: Economic Effects - Potsdam & Amalinda (ZAR)

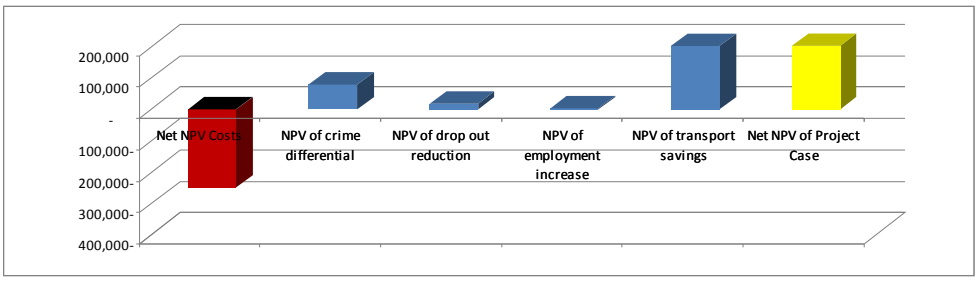
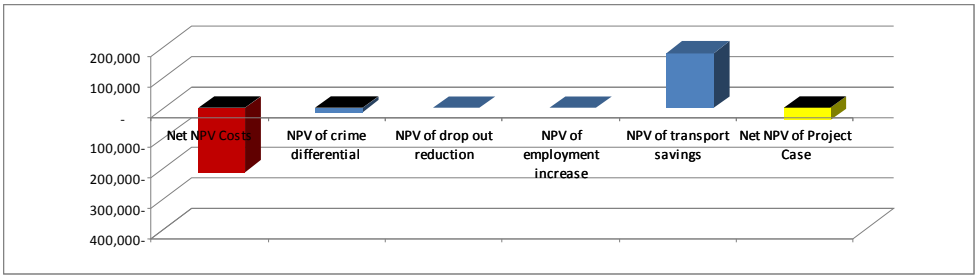


Figure 3: Findings: Economic Effects – Bram Fischerville & Roodepoort (ZAR)



The economic benefits of SRH as compared to RDP are evidenced mainly in transport savings, then to a lesser extent in reduced crime levels, and finally in marginally improved education and employment. Location and density / project design appear to play a strong role in this regard.

In relation to financial and economic costs, SRH is a significantly better investment than RDP, when RDP housing is peripherally located. In instances where SRH and RDP projects are situated in similar locations in the city, the differences of cost between the two housing forms are less significant and the extra investment cost of SRH is not compensated for by its advantages.

More specifically, location appears to take over from the type of housing and it could be said that the same economic benefits could be achieved from delivering RDP in better located areas and from building higher density RDP projects with a better spatial layout. Delivering SRH projects at more peripheral locations to the city would most probably not achieve value for money, despite the potential of reduced unit costs due to cheaper land.

Results distributional analysis

The distributional effects of the housing projects are addressed in the distributional analysis. This provides an analysis of the cost incurred by the respective parties as well as the benefits accruing to each of them. The primary conclusion reached is that:

RDP housing creates a substantial lifecycle cost burden to municipalities, while this is not the case in SRH. On the contrary, in SRH costs are effectively passed on to residents.

The distributional analysis shows that although RDP unit costs are lower, these costs are carried by municipalities and not by residents themselves. The figures below show the results for RDP and SRH.

Figure 4: Findings: Distributional Analysis – RDP Lifecycle Costs (ZAR)

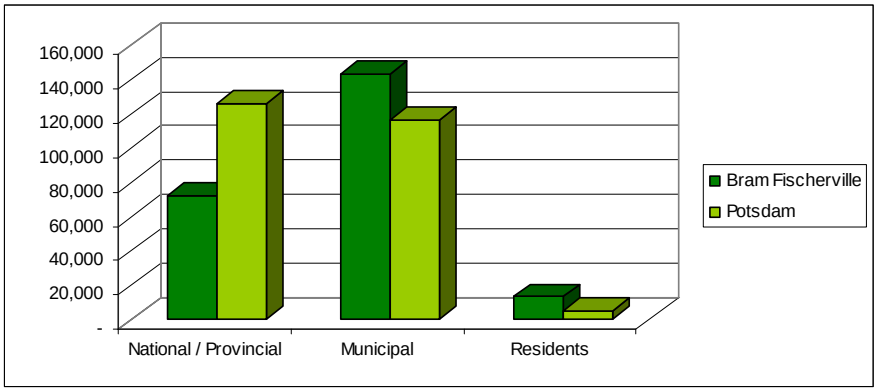
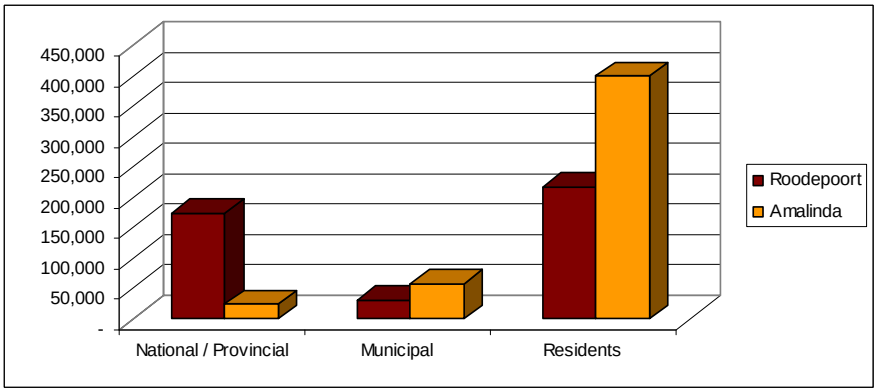


Figure 5: Findings: Distributional Analysis – SRH Lifecycle Costs (ZAR)



Taking financial and economic effects together, the main difference is observable in respect of the costs which accrue to residents in SRH by comparison with residents in peripherally located RDP projects...

Figure 6: Findings: Distributional Analysis –Financial & Economic Effects (Roodepoort) (ZAR)

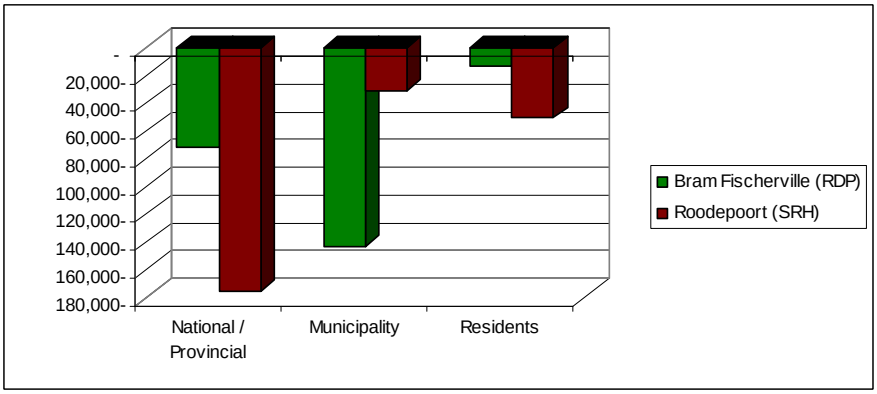
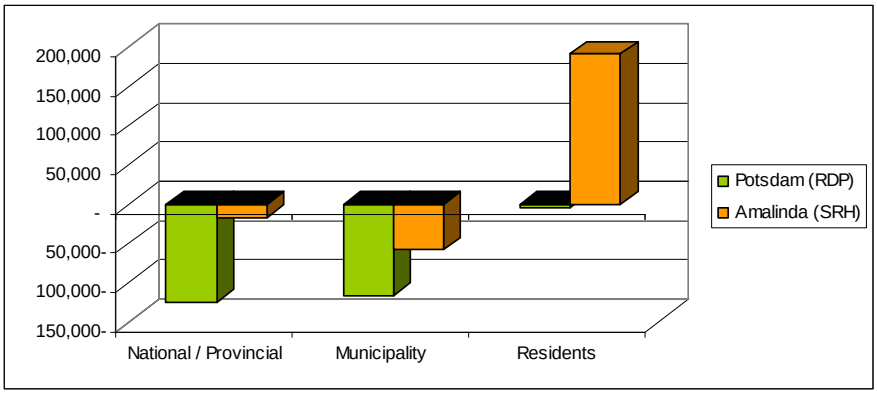


Figure 7: Findings: Distributional Analysis –Financial & Economic Effects (East London) (ZAR)



While SRH costs per unit are higher than those in RDP, these costs are carried by residents. The reverse is true in relation to RDP where the development cost per unit is less; but municipalities carry more of the lifecycle cost. Subsidization of RDP housing therefore creates a future financial burden for municipalities, while this is not the case for SRH. In conclusion:

> *RDP housing requires a greater total lifecycle subsidy of residents than SRH. RDP requires smaller initial direct subsidies compared to SRH, but larger lifecycle indirect subsidies.. While RDP is more redistributive, SRH is more fiscally sustainable...*

Because of the greater redistributive nature of RDP, RDP manages to target the poorest of the poor. SRH is targeted at a specific income segment, where residents are able to pay some level of rental in line with their housing choice.

> *SRH requires residents with sufficient income to pay for lifecycle costs, while RDP incurs a much higher indirect lifecycle cost and in so doing is able to target much lower income groups than SRH...*

Results fiscal analysis

The fiscal (budgetary) impacts of SRH versus RDP housing show a mixed result. Considering the budgetary impact of building 100,000 units of RDP versus SRH, assuming a 5 year phased construction, a 40 year lifetime and rebuilding RDP with a subsidy at 20 years, the following results are evident:

Table 2: Findings: Fiscal Implications (ZAR)

Projects	NPV of Costs to Government (ZAR)
Bram Fischerville (RDP) & Roodepoort (SRH)	
Bram Fischerville (RDP)	19 to 21 billion
Roodepoort (SRH)	18 to 20 billion
Potsdam (RDP) & Amalinda (SRH)	
Potsdam (RDP)	21 to 23 billion

Amalinda (SRH)	7, to 8 billion

The fiscal analysis suggests that in the case of Bram Fischerville and Roodepoort, the budgetary costs of delivering 100,000 housing units of RDP housing are approximately the same as those of SRH housing.

However, in the case of Potsdam and Amalinda, the budgetary costs of RDP units are almost three times higher than those of SRH units.

Policy Implications

The results presented above have several implications for future policy making.

> ***The results do not justify the exclusive selection of one housing form (or tenure) over the other, as each target different groups (income levels, tenure preference, mobility, etc.) and each have different intended effects…***

It is important to recognize that SRH is one housing option within a wider range of housing options available in the South African housing sector that targets a specific income group seeking rental housing solutions. RDP and SRH are therefore both options within a full spectrum of housing support options to address a housing ladder that includes rental as well as ownership.

> ***The financial, economic and fiscal consequences of SRH versus RDP are related, from a policy design perspective, to the incentive structures created in each of the housing programmes. Policy interventions should be designed to better utilize incentives (employing basic principles from economic theory)…***

The results seen in the CBA can be explained by considering the inherent incentive structure in RDP and SRH projects and their related subsidies. In RDP housing the following is evident:

- Developers do not carry any long term operational and maintenance risk. This affects the design of the houses, the materials used, the building quality and eventually leads to the need for government regulation.

- Residents do not understand the maintenance needs of their house, and this leads to suboptimal levels of investment in maintenance.

- Residents do not face penalties or exclusion when not paying for taxes or utilities, which leads to non-payment.

The result of these incentives is the creation of a default cost burden to municipalities. In SRH, SHIs are responsible for lifecycle performance and maintenance of housing. This leads to more sustainable design and build. Furthermore, SHIs have the ability to recoup costs from residents or exclude them for non-compliance, resulting in a more sustainable housing situation.

> ***Projects can be optimized by drawing upon the specific financial and economic costs and benefits caused by the project…***

A CBA provides insight into the more specific costs and benefits associated with the project and base cases, and thereby identification of which SRH and RDP housing programmes might be optimized going forward. Importantly, caution is

needed as this is an iterative process. Changes made to the structure of costs of either the project or the base cases may, in turn, impact on other cost or benefit areas of the projects.

> *With regard to lessons for housing policy optimization, choosing a favourable location for RDP and investing in security measures could minimize the difference in net present value between SRH and RDP, thereby combining a positive outcome for society as a whole with providing housing for the poorest of the poor…*

Two opposite effects need to be considered here. If RDP housing creates additional economic costs due to the higher transport burden of households because of the marginal location of the housing, then choosing a more central location may reduce such economic costs. However, the higher cost of more central land may dramatically increase the financial costs of the housing, rendering an inferior overall result. Nevertheless, considerable insight is gained from the study on where both direct and indirect costs and benefits stem, and such a study can therefore facilitate policy improvement.

Final Comments

It is important to emphasise that this is an economic analysis. Given that the primary intended effect of SRH is urban restructuring, it is impossible to base policy decisions on the economic perspective alone. However, this study indicates to government the likely costs incurred in pursuing its policy goals.

In addition, and as noted above, the study does not support the choice of one form of housing over the other. The analysis has been applied to investments that target a specific group of people with specific intended effects. While RDP is focused on providing shelter to the poorest of the poor, SRH is aimed at urban restructuring. This indicates that an optimal housing strategy should ultimately incorporate both forms of housing and that no one housing form should be perceived as being “better” than the other. Each serves a very specific and different purpose.

2 Introduction

2.1 Preamble

The provision of subsidised housing has been one of the cornerstones of the South African government's broad social welfare package since 1994. Recent assessments (Philip and Hassen, 2008) have noted that in respect of sheer scale and reach, the National Housing and the Expanded Public Works Programmes have by far exceeded all other anti-poverty interventions in respect of household reach.

Nevertheless, housing policy makers as well as practitioners have been grappling with a number of vexing issues that pertain to scale delivery, public affordability and the overall impact of subsidised housing on households and the economy. Most notably questions are increasingly being asked whether the dominant approach – which we shall term RDP / BNG housing delivery for short - comprising the mass-supply of cheap housing is economically sustainable in the long term. "Economically sustainable" in this sense refers to households, government and broader society.

While much policy debate is happening in the housing sector, and also much wrangling over cost parameters (especially in respect of the determination of the most appropriate subsidisation levels), the overall debate is generally couched in social or purely financial terms.

Absent from the current housing debate (with a few exceptions) is any sustained and robust economic debate as to the nature and impact of government's housing programmes. This is an urgent debate that needs to ask questions about the economic impact of the housing provided on households, on our cities, on government and society and the economy at large. It is also about asking questions as to whether the housing that is being delivered is contributing to broader economic development and sustainability, and whether the maximum economic spin-offs are being achieved.

These are clearly large and complex issues made more difficult by the general paucity of data and reluctance in many quarters of the housing sector to ask the "hard" questions.

This assignment – which makes no claim to address or resolve all of these complex issues – is nevertheless a first positive step towards addressing this significant gap in local housing research. It is hoped that it represents the opening salvo in a more sustained economic analysis of the "housing question", and while it does not always offer easy answers it suggests the future direction required of research and highlights a number of key unanswered questions.

2.2 Purpose of the assignment

The Chief Directorate: Social Housing at the National Department of Housing (NDoH), in collaboration with the Social Housing Foundation (SHF), is currently undertaking the compilation of a business case to support the up scaling of delivery of rental housing opportunities to meet the high level of demand.

The goal of the business case is the delivery of 100 000 rental units (Social Housing and Community Rental units) over a five-year fiscal period and to maintain this momentum until the demand curve levels out to a more consistent and manageable rate.

Interactions with National Treasury have led to some concerns being raised about the perceived higher cost of providing rental accommodation as opposed to providing RDP units. The argument raised is that as RDP units are less costly to develop, the budget would be better utilized producing more units overall, thereby satisfying more beneficiaries.

To address these concerns, and to ensure that NDoH and SHF can undertake an informed response to future queries on this issue, a need has been identified to develop a Cost Benefit Analysis of the delivery of RDP units versus the delivery of Rental units in the public sector using subsidies.

In light of the above, this report and its accompanying model presents a Cost Benefit Analysis of Social Rental Housing. This assignment provides an analysis from a financial and economic perspective and includes a distributional analysis as well as an assessment of the overall fiscal implications of the findings for the envisaged housing delivery programme.

2.3 Project reference group

The Social Housing Foundation (SHF) assembled a project reference group comprising of key housing sector experts for this assignment (see **Appendix 1** for a list of Reference Group members).

The purpose of the Reference Group was to review progress and guide the overall direction of the research and the assignment. In particular, the Reference Group was utilised to obtain expert opinion in respect of:

- Project case study selection
- The identification of key economic effects to be investigated and modelled where possible.

A number of workshops were held with the Reference Group in 2008 and early 2009.

2.4 Overall approach

2.4.1 Assignment objectives

Following engagement with the Reference Group the primary objectives of this assignment were agreed as

- the cost benefit comparison of social rental housing versus RDP housing
- the fiscal implications of both delivery models

The primary objective is to assess the most appropriate directions for government housing investment given scarce resources and policy priorities, i.e. "the best spend of the last Rand".

As such, the CBA focuses on the cost of the two housing delivery models to society as a whole rather than to individual households..

Given this focus, it is proposed that the title of the assignment be rephrased as "CBA Social Rental Housing" as in essence, Social Rental Housing is being compared to the RDP base case.

The secondary objectives of this assignment are to:

- Determine and quantify (where possible) the key economic effects;
- Understand the broader social and distributional effects; and
- Assess the performance of the two housing delivery models against an agreed policy framework

2.4.2 Study parameters

The overall study is confined to an analysis of two housing programmes funded by government:

- RDP housing
- Social rental housing (SRH)

"RDP" in this assignment refers to housing built under the capital subsidy scheme, either individual or project-linked subsidies. RDP housing in this case is characterised by large scale housing delivery, typically of a free-standing nature on individual erven.

In this assignment the terminology of "social rental housing" (SRH) has been adopted, and refers to rental housing built under the institutional and new social restructuring grant subsidies. SRH is typically medium to high density housing delivery on an institutional basis (i.e. institutional management, typically by a social housing institution - SHI).

This study specifically confines itself to housing being delivered within the subsidy bands in these two programmes and therefore does not include a consideration of private rental, credit-linked housing or other public housing initiatives.

2.4.3 Approach

Our approach comprised four phases of work:

1. Phase 1: Inception
2. Phase 2: Structuring
3. Phase 3: Cost Benefit Analysis – with five components:
    a. Financial Analysis
    b. Efficiency Pricing Parameters
    c. Economic Analysis
    d. Policy Implications
    e. Optimization and Project Packaging
4. Phase 4: Close-Out

Phase 1: Inception involved the mobilisation of the assignment team, the final agreement of an overall project plan, and an inception meeting with the SHF. This phase was used to address the overall scope of the assignment, the key deliverables and expected outcomes.

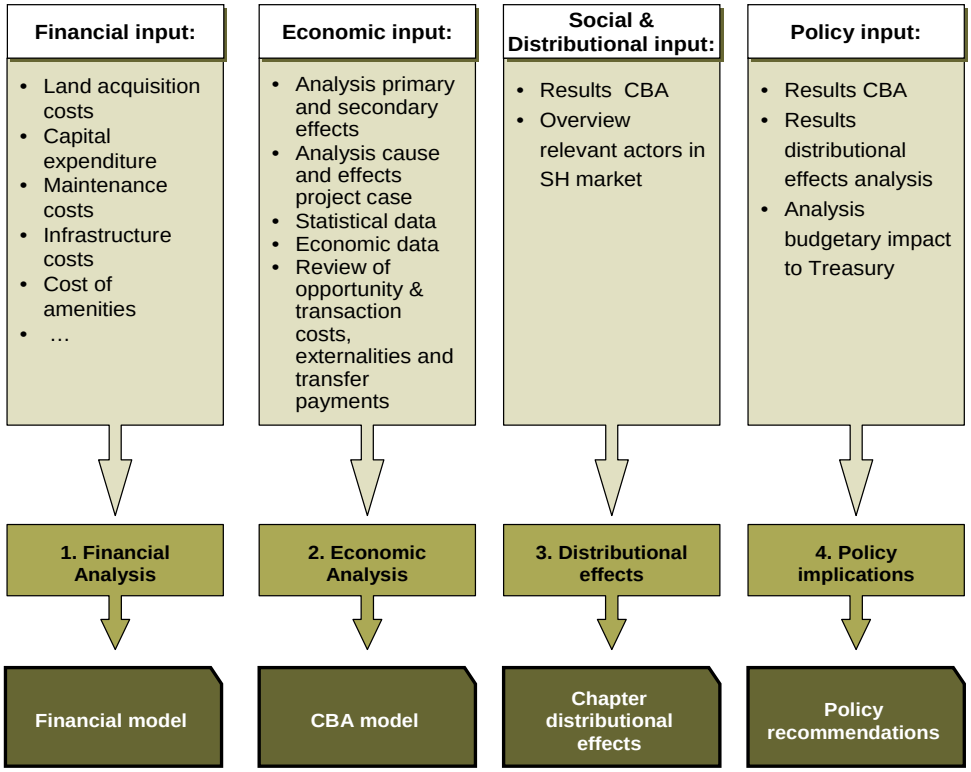
Phase 2: Structuring defined the scope of the cost benefit analysis as clearly as possible, including:

- Identifying primary and secondary goals
- Identifying effects related to housing
- Identifying causal relationships
- Definition of project alternatives

The results of Phase 1 and 2 are summarised in an **Inception Report** (*Final Inception & Structuring* Report, Development of a Cost Benefit Analysis: Social Rental Housing, 4 August 2008).

Phase 3: Cost Benefit Analysis comprised five components of work as indicated in the figure below.

Figure 8: Overall approach to the CBA



Note: Component 2 - Efficiency Pricing Parameters is included in the above figure as part of the financial input.

- **Component 1: Financial Analysis** involved the gathering of all financial data necessary to complete the CBA.
- **Component 2: Efficiency Pricing Parameters** consisted of an analysis of market prices used in the financial analysis and possible market distortions.
- **Component 3: Economic Analysis** involved an investigation of all economic effects, and a quantification of these effects as far as this is possible. This included so called "intangible" costs and benefits.
- **Component 4: Policy Implications** consisted of an application of the CBA findings - representing an economic point of view - to the wider context in which social and political issues were also present.
- **Component 5 (Parallel component): Optimisation & Project Packaging** involved the application and analysis of sensitivities to the CBA model

Phase 4 constitutes the close out of the assignment.

This report covers Phases 3 and 4 of the research. (The CBA results are summarised in a CBA model in Excel separately from this report).

2.5 This document

This document comprises the final report in respect of the Cost Benefit Analysis: Social Rental Housing and is structured as follows:

- Section 1: Executive Summary
- Section 2: Introduction
- Section 3: Background and Key Definitions
- Section 4: Introduction to the CBA Methodology
- Section 5: Set-up of the CBA
- Section 6: Effects of Social Rental Housing
- Section 7: Causality analysis
- Section 8: Financial CBA
- Section 9: Economic CBA
- Section 10: Distributional Analysis
- Section 11: Fiscal Analysis
- Section 12: Sensitivity Analysis
- Section 13: Conclusions & Recommendations
- Section 14: Appendices

3 Background and Key Definitions

3.1 Background

Housing constitutes a key socio-economic priority for South Africa. South Africa's population is around 47 million people and is growing at a rate of 2-3% a year. Almost half the population lives under the internationally recognized poverty line, and the country has the second highest Gini index in the world.

Significant housing backlogs continue, with the number of people living in informal settlements increasing from 1.45 million households in 1996 to 1.84 million households in 2001.

Recognizing the dire need for housing in the post-1994 period, the National Department of Housing has delivered 2.3 million houses of various descriptions (mainly RDP units) over the last 13 years and has spent just over R29.5 billion. Over 7 million more people now have homes.

While acknowledging the need for sustainable integrated communities as integral to effective housing delivery, government's response since 1994 has been the delivery of mass low-cost "RDP" housing to qualifying beneficiaries.

The primary delivery mechanism has been private sector and municipal delivery utilising a range of institutional and project-based capital subsidies attached to individual qualifying beneficiaries.

3.1.1 RDP delivery to date

Initially labelled "RDP" (Reconstruction & Development) the primary emphasis from 1994 to 2003 has been on the delivery of quantity rather than quality. According to Government's latest data in respect of the number of "houses completed and in process of completion", some 2,6 million units have been built or are being completed.

Table 3: Houses completed or under construction as at March 2007

Province	Total as at March 2008
Eastern Cape	288,231
Free State	161,250
Gauteng	592,457
KwaZulu-Natal	390,098
Limpopo	217,513
Mpumalanga	169,962
Northern Cape	49,145
North West	228,361
Western Cape	258,896
Total	**2,355,913**

A 2003 housing policy review process identified a range of challenges with respect to RDP housing delivery. Charlton et al (2003) provides a useful synopsis of some of the pertinent concerns:

- **Poor quality stock:** The housing programme is generally perceived to have delivered poor quality stock or top structures. Consideration must also be given to environmental and energy efficiency in housing. While better construction quality is undoubtedly needed, there is a real danger of an inappropriate focus on the top structure only to the exclusion of the deeper underlying issues related to quality of the neighbourhood as a whole. Such issues include the location of the settlement, level and quality of services, facilities and amenities and access to economic opportunities.
- **Inadequate neighbourhoods:** There is broad consensus that many of the neighbourhoods in which new housing is located are not holistic and do not offer the full range of amenities.
- **Poor location:** Much of the housing delivered for the poor is not well-located with respect to urban opportunities. There are contradictions within the housing policy which in fact encourage poor location. In many settlements the very weak or non-existing linkages between housing developments and income generating activities is exacerbated by related issues such as the high cost or lack of transport. These factors mean that owning a subsidised house does not necessarily assist in improving beneficiaries' economic circumstances, and, in fact, may worsen them.
- **The city:** The intended outcome for urban areas is that the housing programme would contribute to a more efficient urban form and improve the rates base of these areas. Reality has diverged markedly from the original intention and the actual outcomes can be summarized as follows: from the perspective of the city the impact of housing delivery have been generally negative; in many instances housing projects represent a financial burden to municipalities, contribute to fragmented, inefficient urban form, and consist of mono functional neighbourhoods which are not conducive to future investment.
- **Exacerbating fiscal drain:** Many housing projects seem to represent a financial and maintenance burden for municipalities, rather than an asset to the city. The location of many low-income housing developments, their scale and the poverty of their inhabitants imply a large maintenance and management problem.
- **Perpetuating fragmentation:** Housing projects have made little contribution to notions of the integration, compaction and restructuring of the apartheid city. The general urban trend over the last ten years has seen the growth of areas of poverty, increasingly spatially dislocated, and the concentration of wealth in increasingly isolated and protected areas located away from traditional urban centres.
- **Perpetuating mono functional development**: Many housing projects have manifested as low density and mono functional neighbourhoods, lacking

in integrated, holistic development. This does not facilitate the economic growth or socio-economic development of beneficiary communities so necessary to cities.

- **Realising the asset value of the stock:** The market value of the housing stock delivered thus far does not reflect cost of creation. In as much as there is a secondary market it appears to be almost entirely informal and largely illegal. This is exacerbated by the prohibition by the NDoH on the sale of subsidized houses for eight years. There is also some evidence of a rental market in subsidized housing.

3.1.2 Comprehensive Plan

In September 2004 the National Department of Housing released its *Comprehensive Plan for the Development of Sustainable Human Settlements*, entitled "Breaking New Ground" (BNG).

Whilst this plan notes the continued relevance of the state housing programme introduced in 1994, it flags the need to redirect and enhance various aspects of policy, and commits the Department of Housing to meeting a range of specific objectives. Amongst others, these objectives include:

- Utilizing housing as an instrument for the development of sustainable human settlements, in support of spatial restructuring
- Combating crime, promoting social cohesion and improving quality of life for the poor
- Leveraging growth in the economy
- Utilizing the provision of housing as a major job creation strategy.

Breaking New Ground notes the shift in emphasis from the provision of housing to the creation of sustainable human settlements in a manner that is responsive to the demands of particular segments of society and local situations. This includes the promotion of more efficient cities, towns and regions. In support of spatial restructuring, the plan highlights the need to "integrate previously excluded groups into the city and the benefits it offers". The plan flags the need to promote densification, including "housing products which provide adequate shelter to households whilst simultaneously enhancing flexibility and mobility".

The NDoH has developed seven business plans to address its new focus on housing delivery. These plans include programmes for the social and rental housing sectors.

3.1.3 Rental housing

The demand for all types of housing is high, particularly rental accommodation due to its location and quality and the high rates of mobility within the South African population. At present some 1.8 million households are catered for by rental accommodation, most of which (over 70%) are within formal structures.

The type of rental accommodation that does exist is differentiated by typology, location and market; the poorest households (R0-R1 000 income a month) generally occupy backyard shacks within the townships, middle income earners (R1 500 - R2 500) live in medium and high rise flats, whilst the higher income groups can afford to rent free-standing structures, cluster houses and lower density apartments.

It is estimated that the need for rental housing by the low-medium income group will increase 5.14% annually across the country and by as much as 9% within the larger metropolitan areas (Dauskardt and Stuart, 2005).

At present the private sector is barely able to keep up with the upper-end of the market demand whilst the social housing sector has not been able to meet the large and growing demand for social, transitional, and communal housing. Moreover, demand is expected to grow significantly within the next 5 years.

South Africa's rental housing sector has long been classified as under-developed, and indeed the policy framework has only recently begun to address the development of this sector.

Research undertaken for the SHF suggests that demand for rental housing nationally should increase by 105,670 units per annum up to 2006 in the middle to lower income groups (see the table below). The research suggests that the demand for rental accommodation will be influenced by the income growth of households.

The numerous surveys that have been undertaken suggest that a rise of income would have two major influences on the market for social housing. At the high end of the income range, families will leave the social housing sector and enter the private rental or ownership housing sector. At present this would apply to households with monthly incomes exceeding R 4,000. At the same time, rising incomes at the lower end of the spectrum would result in a shift away from informal housing. This would lead to a greater demand for formal housing.

The rental market plays an important role in the market in the sense that it offers high levels of location flexibility. It is also seen as an initial step into the urban property market.

Table 4: Projected Annual Growth in the National Rental Market

Province	2001	% Growth 2006	% Growth 2011
Eastern Cape	162,924	2.86%	2.80%
Free State	111,920	3.87%	3.77%
Gauteng	654,486	7.21%	7.01%
KwaZulu Natal	344,020	5.73%	5.43%
Limpopo	53,161	5.49%	5.29%
Mpumalanga	100,642	5.23%	4.93%
Northern Cape	30,347	6.05%	5.81%
North West	128,517	3.17%	2.99%
Western Cape	232,406	4.17%	3.98%
Total	**1,818,423**	**5.23%**	**5.14%**

Source: Viruly Consulting: 2nd draft report: "The Demand for and Affordable Rental Housing in South Africa" 2004, quoted in Dauskardt and Stuart, 2005.

3.1.4 Social housing

Social Housing, as a component of housing, is a relatively new sector in South Africa, and support for this model was enacted in the Housing Act 107 of 1997. Social Housing is defined as a:

> "rental or co-operative housing option for low income persons at a level of scale and built form which requires institutionalised management" (Social Housing Policy, May 2005).

A significant number of social housing institutions (SHIs) have emerged in South Africa since the introduction of the institutional subsidy mechanism in 1995. To date approximately 83 social housing institutions have been formed, delivering approximately 33,000 units throughout the country.

To date SHIs have predominantly developed social housing stock by accessing the government's institutional subsidy, together with loan finance from the National Housing Finance Corporation (NHFC). Limited private sector funding has been mobilised. In many instances, funding for institutional set-up and operational costs has been sourced through donor and local authority grants. The heavy reliance upon grant funding has resulted in an unsustainable situation amongst the majority of the SHIs.

While delivery in the social housing sector commenced slowly, more recently it has been growing at a relatively fast pace, with a number of new SHI's being established each year (See table below).

The most recent estimate, according to the Support Programme for Social Housing (SPSH), is that there are some 78 social housing institutions and a

further 25 cooperative housing associations with some 37,000 units under management.

Table 5: Total Number of Social Housing Institutions per Province (1994 to May 2004)

Province	No. of SHIs		
	2001	2002	2003
Gauteng	16	30	35
Western Cape	7	8	7
Eastern Cape	7	8	19
KwaZulu-Natal	4	4	12
Northern Cape	0	1	1
Limpopo	0	1	1
Free State	1	2	2
Mpumalanga	3	4	4
North West	2	1	2
Total	*40*	*59*	*83*
No. of units (planned, complete or under construction)	*24,917*	*30,332*	*Not available*

Source: Social Housing Foundation, 2004

While the number of institutions has been increasing, the number of units developed by the SHI's has not been increasing at the same rate, and the majority of institutions have proved to be unviable.

Of these, a large number are classified by the Support Programme for Social Housing (SPSH) as being in financial distress. The SPSH's most recent estimate is that only 6 institutions are sound, and a further 25 potentially viable. The NHFC together with the SPSH and National Department of Housing is developing a turnaround strategy for these SHI's, which uses capacity building grants from the EU programme, and other mechanisms to provide support for SHI's who are unable to service long term project loans.

Delivery of social housing by the private sector is extremely limited. Current rentals and investment yields of new rental housing units are not viewed by developers as an investment opportunity in the lower to middle income sector.

3.1.5 Overall policy challenge

While current housing policy recognises the need for a differentiated approach to housing delivery, current practice is still dominated by the older supply driven approach focused on capital subsidies and "RDP housing".

While rental and social housing have been recognised as important tools and are acknowledged to be providing models of sustainable human settlements, fiscal

constraints and limited financial viability are limiting growth. All evidence suggests that without a substantial equity contribution on the part of government such rental accommodation cannot be supplied at any scale to lower income households.

The fiscal and policy dilemma facing the country is therefore the optimal mix of housing "types" balanced against limited fiscal resources.

In this context sound research and analysis of the cost and benefits of the different delivery approaches is required. In particular, there is an urgent need to quantify the welfare and economic costs and benefits of the different delivery models – from the perspective of government (national and local) as well as beneficiary households.

The Chief Directorate: Social Housing at the National Department of Housing (NDoH), in collaboration with the Social Housing Foundation (SHF), is currently undertaking the compilation of a business case to support the up-scaling of delivery of rental housing opportunities to meet the high level of demand. The goal of the business case is the delivery of 100 000 rental units (Social Housing and Community Rental units) over a five-year fiscal period and to maintain this momentum until the demand curve levels out to a more consistent and manageable rate.

3.2 Key definitions

3.2.1 Definition of RDP housing

RDP in the context of this assignment refers to housing built under the capital subsidy scheme, either individual or project-linked subsidies.

RDP is characterised by large scale housing delivery, typically of a free-standing nature on individual erven. Typical RDP settlements are located on the periphery of town due to lower land costs.

3.2.2 Definition of social rental housing

Social Rental Housing (SRH) in this assignment refers to rental housing built under the institutional and new social housing restructuring grant subsidies.

SRH is typically medium to high density housing delivered on an institutional basis (i.e. institutional management, typically by a social housing institution - SHI). SRH is usually located in existing urban centres that are more proximate to social amenities and which face higher land cost requiring increased densities.

4 Introduction to the CBA Methodology

4.1 What is a CBA?

Cost Benefit Analysis (CBA) is primarily an economic decision-making tool which assesses, from an economic point of view, the extent to which a project leads to an overall increase in general welfare to society.

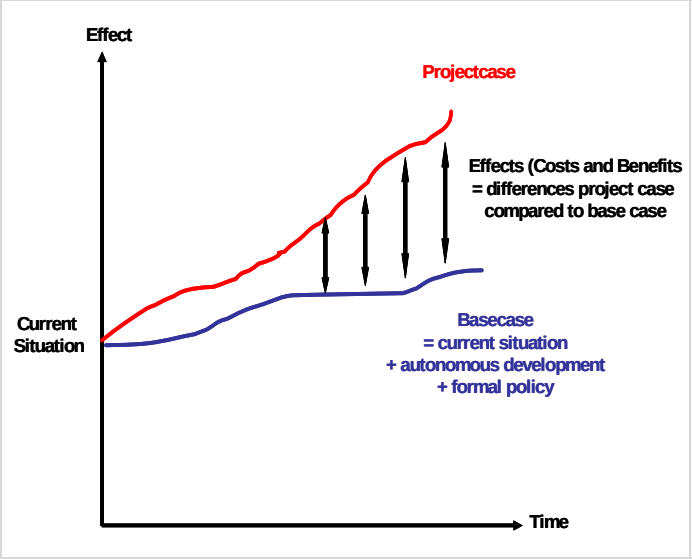
To evaluate the extent of increase in general welfare, the "project alternative" (project case) is compared with the "continuing existing policy alternative" (base case). The effects on general welfare that are caused by the project case, and therefore do not occur in the base case, are analysed and expressed in terms of costs and benefits.

In comparing the base case and project case, we focus on the effects which are most relevant to policy making. Therefore, we need to establish the intended effect of the project case: what are we trying to accomplish? Other, unintended effects may be included as well, but are of secondary interest.

The costs and benefits of an intervention are evaluated from the perspective of the society as a whole. Costs and benefits are identified, put in monetary terms, plotted over time and discounted. A discount rate is chosen, which is used to compute all relevant future costs and benefits in present-value terms. This results in a Net Present Value (NPV) for the project and insight into the internal rate of return on investment (IRR) for the public.

Cost Benefit Analysis is visualised in the next figure, in which base case and project case are plotted over time.

Figure 9: CBA methodology overview



The base case can be described as a movie of the state of the world, now and in the future, without the project under consideration (representing a world in which housing is continues to be delivered only through RDP housing).

The project case can be described as a movie of the state of the world, now and in the future, with the project (Social Rental Housing).

The effects captured in the CBA are the differences we see between both movies, translated to money.

4.2 What is the added value of CBA in this field?

The legacy of political transition in South Africa and the centrality of the Bill of Rights in policy formulation has resulted in issues of rights and access (for the poor at least) as being key considerations in housing policy debate. The overriding concern to date has been the provision of shelter at scale to a population that has generally very limited affordability. As a consequence, the debate has focused on the delivery of increased affordable housing units – mainly by utilising state provided subsides to improve affordability.

While this approach has merits, given the severe backlog and continuing growth of informal settlements, little economic consideration has been given to the issue of housing. The current debate has largely been framed by concern about the short-term affordability of housing subsidies and the scale of the challenge.

More specifically, what has been missing to date is an acknowledgement and engagement with the fact that housing is more than shelter and has a range of economic costs and benefits – be these for households, cities or society at large. Even more critically, an economic perspective begins to assess the cost of housing provision in terms that go far beyond the cost of construction and the provision of subsidies. The current national policy direction implicitly acknowledges this concern with its emphasis on the role that housing does or should play in restructuring our urban environment and creating more efficient cities.

Analysing policy from an economic perspective is new and can add value by providing an overview of all costs and benefits associated with a policy alternative. In doing so, the CBA method has several distinctive advantages.

4.2.1 Life cycle approach

First, it looks at costs and benefits over the entire life cycle of a project, which means that all costs and benefits are included, also costs and benefits that manifest themselves in a later project phase (for example maintenance costs or long term health benefits). Policy makers have the tendency to regard investment decisions in the time frame relevant for politics and elections, which is usually shorter than 5 years. The effects of projects often extend beyond that

horizon and fair project appraisal will have to take into account the entire life cycle.

4.2.2 General welfare approach

Secondly, the CBA method considers costs and benefits to society as a whole. Policy decisions are often made from the perspective of one governmental department, in isolation from its potential economic impact on another department. For example, the impact of healthier forms of housing on the health care budget is not considered. It is of no concern to the taxpayer which government body incurs the costs and which reaps the benefits. However, a policy alternative beneficial to society as a whole can decrease the overall tax burden.

4.2.3 Creating a 'common language'

CBA results are expressed in monetary terms, in a common and accessible language, which contributes to a better understanding between social scientists and budget owners. Truly beneficial projects are able to obtain funds more easily if the social benefits can somehow be 'translated' into monetary terms, enabling budget owners to weigh up the different alternatives..

4.3 Limitations of the use of CBA

There are several important constraints to using CBA as a methodology to analyse these housing programmes:-

- CBA adds an economic perspective to the overall decision making process, but does not substitute the decision making process itself. Other perspectives, such as political feasibility or social desirability, are critical components within the overall decision making process, and should be taken into account, together with the results from the CBA.

- CBA necessarily simplifies reality and works with stylised models of the world, only taking the most important factors into account. This means that not all effects are quantified.

- CBA necessarily uses assumptions to construct the base and project case and causal relations. This type of analysis is new to the housing sector and although available research has been considered assumptions have been used.

- As a result of simplification and the need for assumptions, the CBA is unable to produce a single numerical result. Results are subject to sensitivity analyses and outcomes are therefore reflected in ranges.

5 Set-up of the CBA

5.1 The intended effect of social rental housing

The primary intention and effect of Social Rental Housing is:

> *To contribute to urban restructuring in order to address structural economic, social and spatial dysfunctionalities; and to improve and contribute to the overall functioning of the housing sector.*

While both RDP and SRH programmes provide housing, the difference between the two is seen in this context in the degree to which each contribute to effective urban restructuring and its related effects.

The differences between RDP (base case) and Social Rental Housing (project case) resulting from the differences between the two models are quantified and used as an input to the CBA model. Besides this primary effect, there are secondary effects which are important to take into account. Secondary effects are non-intended effects, which arise from the project and result in costs or benefits to society. Relevant secondary effects will be discussed in Sections 6 and 7.

The results depend heavily on the extent to which Social Rental Housing actually succeeds in providing effective urban restructuring. In other words, the effectiveness of the project case in addressing the problems in the base case, determines if benefits are realised. The measures to assess the achievement of goals in Social Rental Housing will be addressed in Section 13.

5.2 Actual project analysis versus average project analysis

Actual project costs and benefits are reflected in this report. It was decided against reflecting average project costs.

Investments made in a project are directly linked to the ensuing effects. Consider for instance investments in security. While extra costs are made, the likely effect will be less crime in that specific project, as a result of these investments. Only when we consider project specific costs and benefits are we able to draw these types of conclusions. Averaging the costs will lead to results which do not provide insights in possible project optimisation, because the link between investments and effects is broken.

5.3 Definition of the base case

The base case, within the context of this study, is the continued delivery of RDP housing. Because CBA analyses effects now and in the future, we will assume a learning effect in government's approach to delivering RDP housing. In the choice of our base case we will therefore consider current typical practices in RDP, assuming that the government has learnt from previous projects and will choose to invest money as effectively as possible. This means, for example, that we will not analyse RDP projects that are built very far from cities, because that doesn't represent current best practice.

5.4 Definition of the project case

The project case, Social Rental Housing, is defined, in line with the *Social Housing Policy* and the *Social Housing Policy Review*, the primary objectives of Social Rental Housing are assumed to be:

- To contribute to the national priority of restructuring South African society in order to address structural economic, social and spatial dysfunctionalities; and
- To improve and contribute to the overall functioning of the housing sector and in particular the rental sub-component thereof.

5.4.1 Urban restructuring

With regard to the first objective, it is clear that whilst South Africa has made great strides in the years since the election of its first democratic government, a number of structural constraints to achieving fundamental change remain a cause for concern. It is clear that the links between processes of social restructuring and housing policies and instruments need to be brought into closer alignment. The contribution of Social Rental Housing to such restructuring objectives comprises three dimensions: spatial, economic and social.

- With regard to spatial objectives it is proposed that Social Rental Housing is situated in specific, defined localities (mostly urban) which have been identified as areas of opportunity (largely economic) where the poor have limited or inadequate access to accommodation, and where the provision of Social Rental Housing can contribute to redressing this situation.
- In addition to contributing to addressing spatial constraints to economic access, Social Rental Housing aims to contribute to job creation and economic revitalisation. This could occur through job creation in construction as well as the revitalisation/regeneration of important economic areas which are lagging or underperforming.
- With regard to social objectives, a mix of race and income levels in the beneficiary profile is an intention of the Social Rental Housing programme. The location of Social Rental Housing projects in targeted

areas of opportunity could also contribute to achieving a racial and income mix at a neighbourhood level.

5.4.2 Functioning of the housing sector

The second overall reason for promoting Social Rental Housing relates to the functioning of the housing sector as a whole. The formal rental sector in South Africa is underdeveloped when measured against international norms. Rental housing is especially important to the poor who struggle to access the limited number of affordable rental opportunities provided by the formal market (especially in good locations). There is general consensus that those housing sectors which are functioning well have a good balance between ownership and rental. In light of the current imbalance in South Africa in this regard, the development of Social Rental Housing could be an important contributor to the housing options for the poor, and to the functioning of the sector as a whole.

As in the base case, there is also a learning effect in the project case. In the choice of Social Rental Housing projects to analyse, focus will be on current best practices.

5.4.3 Comparing Base Case and Project Case

As a result of introducing Social Rental Housing, the CBA assumes that benefits occur which would not necessarily manifest themselves in the base case (RDP). These benefits are quantified and plotted against the costs. The focus will be on the effects with the largest impact on society in monetary terms.

5.4.4 Limitation of the comparison

A key limitation in respect of the base case / project case comparison must be noted. In particular RDP and SRH address very different household income segments.

The subsidy regime in respect of RDP is limited to households earning less than R 3,500 per month, while SRH beneficiaries under the new social housing grant (which is project based) may earn up to R 7,500 per month.

In addition, a pre-condition for entry into SRH is the ability to pay rent and typically SRH residents are employed and financially better off than the average RDP resident.

In order to address this concern, the assignment has focused its primary research (household interviews) on households that are generally equivalent:

- RDP households earning more than R2,500 per month

- SRH households that qualify for the full institutional subsidy, i.e. earning less than R3,500 per month

5.5 Projects analysed

In consultation and agreement with the Reference Group, a primary project for RDP and SRH has been identified and used with two additional projects for each type to supplement the data and provide input into the determination of key sensitivities to be tested.

In selecting the projects the following criteria have been applied:

- Should represent a typical RDP or SRH project
- Should represent current best practice
- Should have been in existence / operational / occupied for at least a year
- Selection should offer a range of housing project examples with respect to location and city size
- Should provide a pair (one RDP and one SRH project) within the same geographic area / municipal boundary

In selecting projects the following approach was adopted:

- Review of available data such as the SHF Interim Social Housing project data and SPSH Financial Structuring Report data to obtain an overview of current Social Rental Housing projects.
- Discussions with key experts in both RDP and SRH fields including private sector developers, government and Social Housing Institutions

The projects analysed are summarised in the table overleaf.

Table 6: Projects analysed - Overview

	Name	Location	No. of Units	Relative Location	Site Activity Commence-ment Date	Completion Date	Period of Occupation	Size	General
RDP Housing									
1	Bram Fischerville Phase 2 Extension 10	Roodepoort, City of Johannesburg, Johannesburg, Gauteng	652 (Phase 2 – 8388 residential erven)	Outlying area south of Roodepoort CBD	March 2002	March 2003	5.5 years	Unit - 30m2 Stand - 250m2	Very basic level of service - gravel roads - cold water - sanitation
2	Potsdam Phase 1	Mdantsane, Buffalo City Municipality, East London, Eastern Cape	500 units (400 occupied)	25kms outside East London adjacent to Mdantsane	2004	October 2007	1.5 years	Unit - 40m2 Stand - 250m2	Basic level of service - gravel roads - storm water - cold water - sanitation
3	Mhluzi Extension 2 Tokologo	Mhluzi, Greater Middelburg Municipality, Middelburg, Mpumalanga	300 units	Adjacent to Middelburg, 6km from town centre separated by ridge	2005	Early 2007	1.5 years	Unit - 45m2 Stand - 300m2	Basic level of service - gravel roads - yard tap - sanitation - storm water
Social Rental Housing									
4	JOSHCO Roodepoort Inner City Phase 1	Roodepoort, City of Johannesburg, Johannesburg, Gauteng	82 units	1km south of Roodepoort CBD	2007	September 2008	1 year	Average unit - 38m2	
5	SOHCO Amalinda Phase 1	East London, Buffalo City Municipality, East London, Eastern Cape	408 units	5km from CBD of Buffalo City	2001	June 2003	5.5 years	Average unit - 40m2	Includes rent –to-buy units
6	GMHA Hope City Phase 1	Greater Middelburg Municipality, Middelburg, Mpumalanga	501 units	6km east of Middelburg CBD	2001	2003	5 years	Average - 54m2	Adjacent to Industrial Area

The table below sets out the level of servicing and unit specifications relevant to the projects analysed. The differential specifications have a direct baring on unit costs.

Table 7: Projects analysed – Servicing levels

	Roads		Water						Electricity			
	Gravel	**Tarred**	**Yard Tap**	**Internal**	**Geyser**	**Account**	**Pre-paid**	**Service Provider**	**Upfront Installation**	**Post Installation**	**Pre-paid**	**Service Provider**
Johannesburg, Gauteng												
Roodepoort Inner City **SRH**		●		●	●	●		CoJ	●		●	CoJ
Bram Fischerville Ext.10 **RDP**	●			●			●	Eskom		●	●	Eskom
East London, Eastern Cape												
Amalinda Village **SRH**		●		●	●	●		BCM	●		●	BCM
Potsdam **RDP**	●			●		●		BCM		●	●	BCM
Middelburg, Mpumalanga												
Hope City **SRH**		●		●	●	●		STLM	●		●	STLM
Mhluzi Ext 2 & Tokologo **RDP**	●	●	●			●		STLM		●	●	STLM

CoJ: City of Johannesburg
BCM: Buffalo City Municipality
STLM: Steve Tshwete Local Municipality

A brief overview of each of the projects reviewed is provided below.

5.5.1 Roodepoort Inner City

The Roodepoort Inner City project is a Social Rental Housing Development developed and managed by the Johannesburg Social Housing Company (JOSHCO). The project is located in the Roodepoort Inner City (approximately 1 km from the CBD) – close to a multitude of urban amenities including:

- Transport – opposite taxi rank and close to railway station
- Retail centres – Shoprite centre and other stores
- Schools
- Municipal offices
- Law Courts
- Hospital
- Commercial and industrial centre

Due to the project's location, the level of service surrounding it includes tarred roads, street lighting, waterborne sewerage, and connections to the City Power electricity and Joburg Water reticulation networks. Additional infrastructure was required for connection to the electrical network, other services were adequate.

Figure 10: Roodepoort Inner City SRH: location

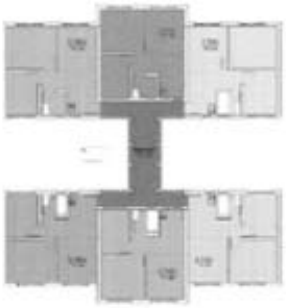
The Roodepoort Inner City project is designed to deliver 432 high quality family rental units and to be delivered in phases 1A, 1B, 1C, 2A and 2B across four sites. A fifth site has been identified for a possible phase 3. To date, Phase 1 has been completed delivering 146 units – 82 (Phase 1A) of which were occupied from November 2007 – January 2008 and a further 64 (Phase 1B) in September 2008.

Table 8: Roodepoort Inner City SRH: Planned units

Phase	Unit	No.	Total
Phase 1 A	1 bedroom	16	82
	2 bedroom	66	
Phase 1B	1 bedroom	16	64
	2 bedroom	48	
Phase 1C	1 bedroom	16	70
	2 bedroom	54	
Phase 2A	1 bedroom	20	90
	2 bedroom	70	
Phase 2B	1 bedroom	0	90
	2 bedroom	90	
Phase 2C	1 bedroom	20	40
	2 bedroom	20	
Total Number of Units			**436**

Figure 11: Roodepoort Inner City SRH: Project unit designs

1 bedroom unit – Phase 1 & 2 (± 30 m^2)



2 bedroom unit – Phase 1 (± 40m^2)

The units for Phase 1 are a mixture of one and two bedroom units. The units are a standard design consisting of one / two bedrooms, kitchen and living space with a bathroom. The development includes open space with grassed and paved areas, walkways, playground equipment, parking, drying yards and refuse area. Security includes a perimeter fence, guard house, entry / exit gates and intercoms. Twenty four hour security is provided by guards employed by JOSHCO.

The beneficiaries for these units were identified from areas in and around the Roodepoort area, Dobsonville, Florida, Highgate, Nelson Mandela informal settlement and Westgate. Typically these beneficiaries were already living and working within the Roodepoort area. Phase 2 beneficiaries are on application by qualifying individuals from a wider area and allocated on a first come first serve basis.

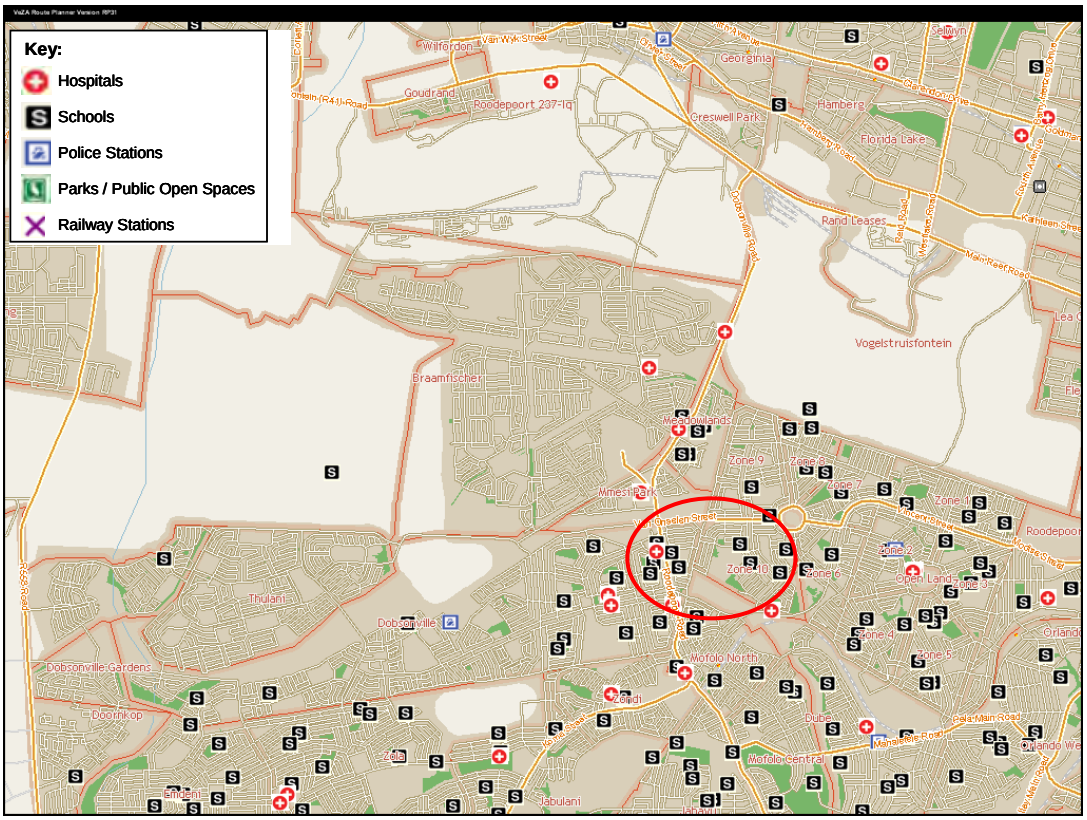
The allocation of units is structured against the following household income per month as follows:

- 30% < R 3500
- 40% R 3500 – R 7500
- 30% > R 7500

The Roodepoort Inner City project land was made available as a contribution to JOSCHO by the municipality. The Motheo Group was appointed as the developer. Funding was made available for this development by:

- Provincial Housing Grant
- National Social Housing Restructuring Grant (Department of Housing)
- Loan funding (Development Bank of Southern Africa – DBSA)

Figure 12: Roodepoort Inner City SRH: Urban amenities



5.5.2 Bram Fischerville Extension 10

Bram Fischerville Extension 10 is part of the Durban Roodepoort Deep Phase 2. The land is located 6 km south of the Roodepoort central business district (CBD) and on land previously owned by the Durban Roodepoort Deep mines within the local authority area of Johannesburg. The mines have made this land available for RDP housing programme development by Rand Leases. Only land that is suitable for development requires payment from the developer to the mine.

Figure 13: Bram Fischerville Extension 10: Location

This project consists of a total of 8,299 developable residential erven.

The table below shows the spread across the extensions. 82 sites in the vicinity of the Marie Louise landfill site have been sterilised decreasing the developable stands.

Table 9: Bram Fischerville total erven

Extension	Residential Erven
Bram Fischerville Proper	40
Bram Fischerville Ext 1	28
Bram Fischerville Ext 3	1200

Extension	Residential Erven
Bram Fischerville Ext 4	819
Bram Fischerville Ext 5	561
Bram Fischerville Ext 7	2348
Bram Fischerville Ext 8	1812
Bram Fischerville Ext 9	928
Bram Fischerville Ext 10	652
Total	**8388**

Bram Fischerville Extension 10, situated on Portion 46 of the Farm Vogelstruisfontein No 233 I.Q. consists of 652 residential and 12 non-residential erven. The land required full development including township proclamation, bulk and link servicing and internal servicing.

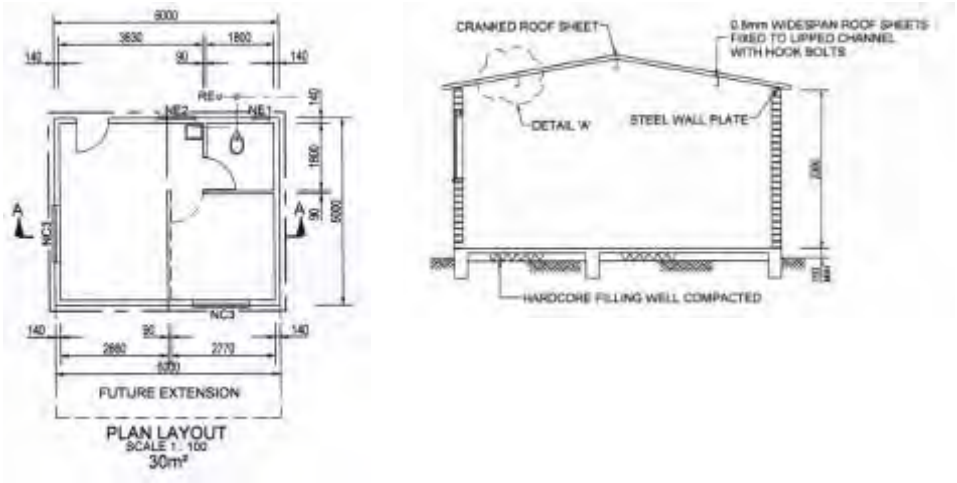
The project's town general planning was completed in March 2002, internal servicing of the stands initiated thereafter and completed by September 2002.

The construction of the top structures took approximately 8 months (July 2002 – March 2003).

The residential erven are 250m^2 with a RDP unit top structure (house) of 30m^2. All infrastructure to supply the project required development including bulk and link servicing (water and waterborne sewerage), electricity reticulation (overhead), roads (gravel), underground storm water and public lighting.

Land within the extension has been earmarked for education and recreation facilities – however to date these have not been developed.

Figure 14: Bram Fischerville RDP: Project unit designs

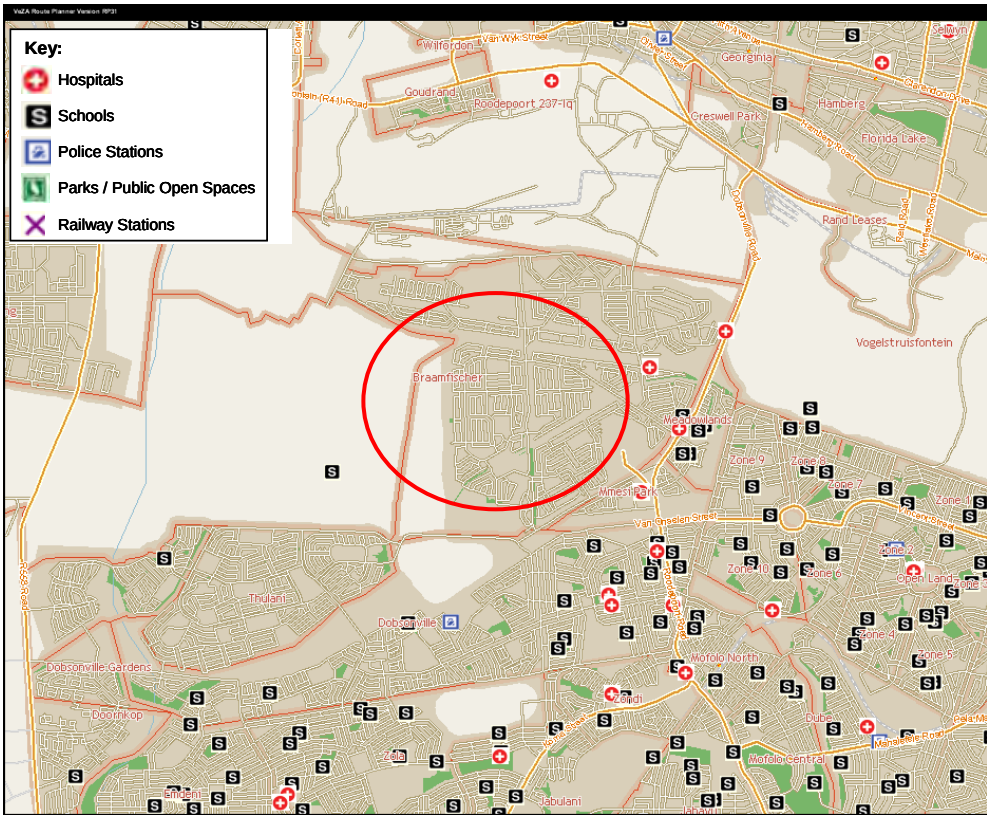


Beneficiaries for the project were identified from targeted communities, the Provincial Waiting List and informal settlement relocation from Alexandra (Sandton) and Jabulani (Soweto)

Funding for the development includes:

- National Capital Subsidy Scheme (bulk and link services)
- Bridging Finance (Rand Leases)
- Eskom (reticulation and house connections)
- Street lighting (City Power CMIP funding)
- Additional subsidy for ground conditions, excessive slopes
- Internal servicing (prior state subsidies)
- Electrical infrastructure (NER grant).

Figure 15: Bram Fischerville RDP: Urban amenities

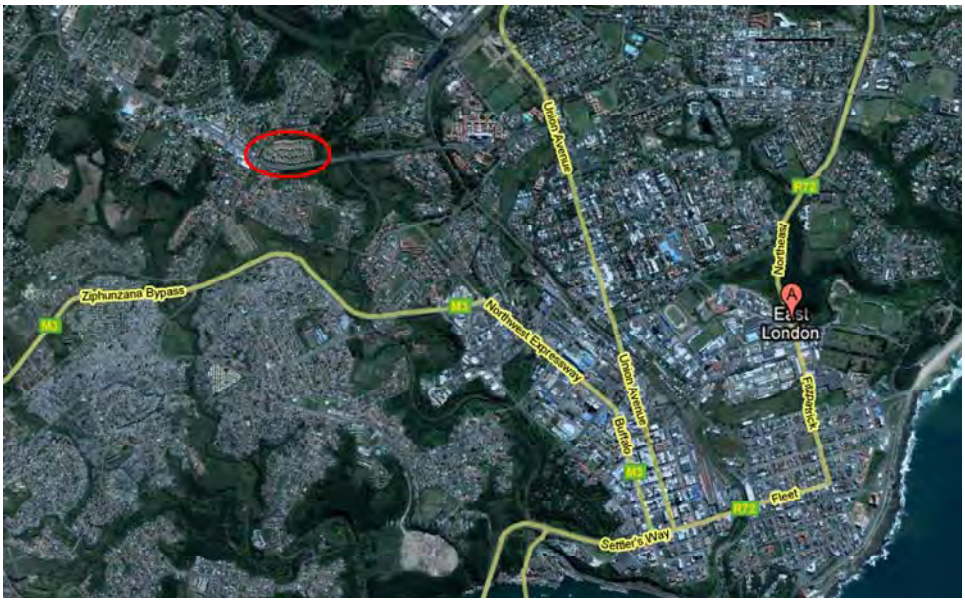


5.5.3 Amalinda Village – Phase 1

Amalinda Village is a Social Housing project in Buffalo City (East London) in the Eastern Cape Province. The project was developed and is managed by SOHCO a social housing institution with a head office in Durban, and a management office located within in the project. The Amalinda project was initiated in 1999 and approved in early 2000. The land was made available through the municipality by tender and acquired in 1992. The project was initiated in 1999 and financial support was provided by the Flemish government (grant funding). Site activities commenced in 2001 for the development of phase 1 – 408 of the 600 units completed in phases with Inframax appointed as the developer.

Amalinda Village is located approximately 5 km from the central business district of Buffalo City. It has access to various amenities including health (walking distance to Frere Hospital), education (within 5km), easily accessible transport routes (alongside Amalinda Drive a major route) and recreation (shopping centres) as well as the industrial areas of Wilsonia and Braelyn. As the project is located within the urban boundaries electricity, water and sanitation did not require upgrading for the development to be connected into the reticulation networks. The developer paid for the roads into Amalinda village.

Figure 16: Amalinda Village – Phase 1: Location



Amalinda phase one consists of 408 units, 34 of the 44, 12 unit blocks were completed in June 2003. The balance of the units (196) was developed thereafter.

Beneficiaries for the units include local government employees and local industry including employees at the Daimler-Chrysler plant

Table 10: Amalinda Village – Phase 1: No of units

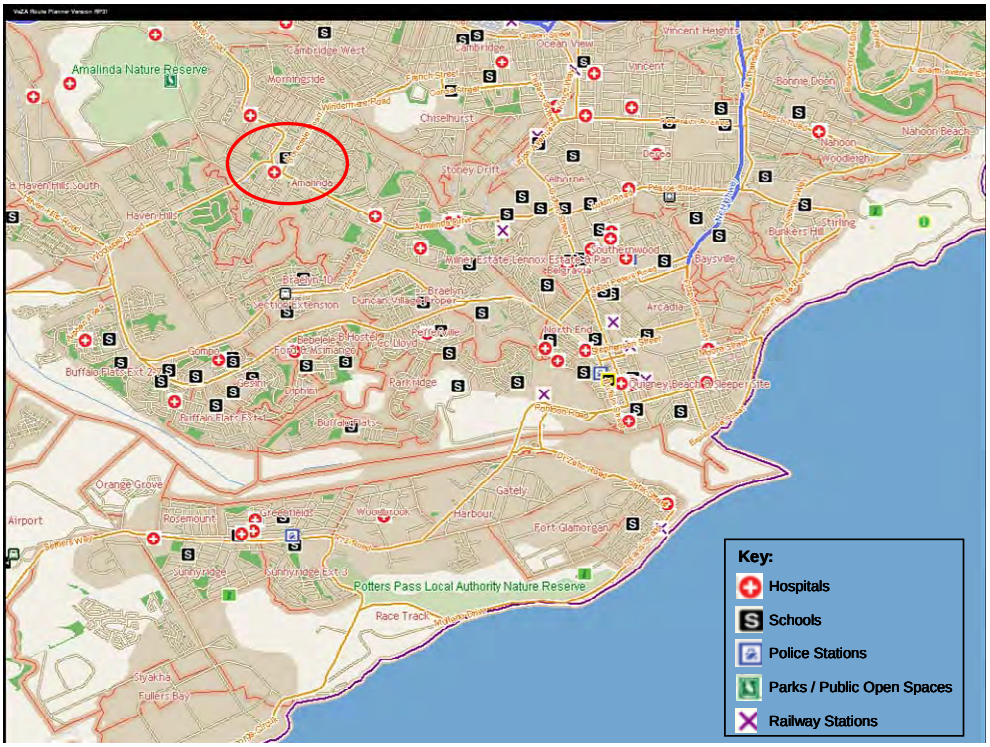
Unit	No.
One bedroom Units	66
Two bedroom Units	342
Totals	**408**

The design of the project is 3 storey walk-up blocks clustered around public open space, and was designed to incorporate recreational areas for both adults (braai and picnic areas) and children (play areas). Paved and grass parking is incorporated, as well as lock-up drying areas and refuse yards. The site is access controlled with electronic access system, fencing of the perimeter and manual security gate.

The specification of the units include plastered and painted interior, carpets, 75 litre geyser, stove plug and pre-paid electricity meters.

Figure 17: Amalinda Village: Site layout

Figure 18: Amalinda Village: Urban amenities

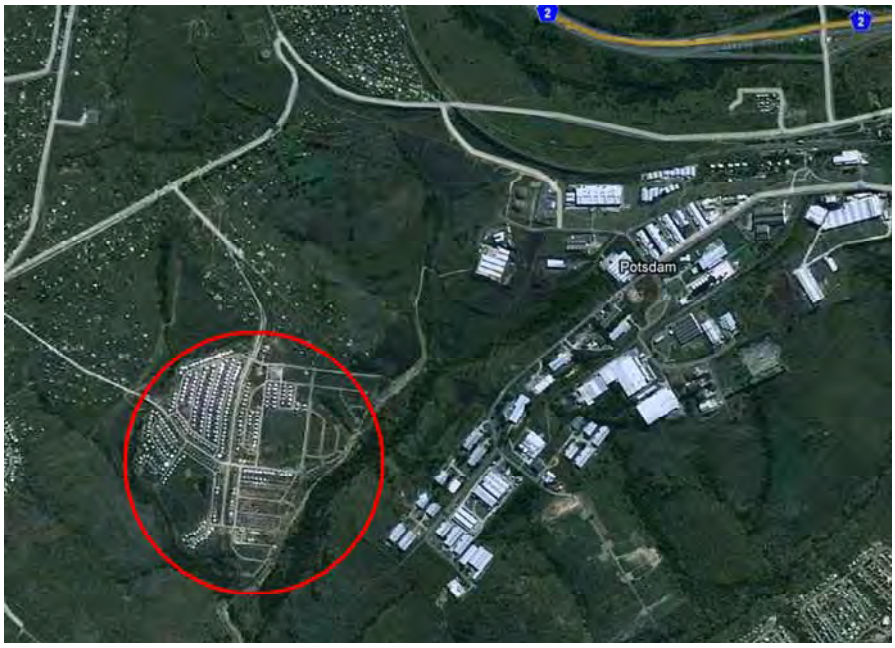


5.5.4 Potsdam – Phase 1

Potsdam is a RDP development on municipal land approximately 25km from the central business district of Buffalo City in the Eastern Cape and is adjacent to Mdantsane along the National Highway (N2). The Potsdam development is to consist of 2503 units on completion with the initial phase (one) consisting of 500 units.

Figure 19: Potsdam – Phase 1: Location

Figure 20: Potsdam – Phase 1: Location detail



Potsdam was identified as an area to be developed for the provision of 200 low cost housing units by the Buffalo City Municipality for targeted beneficiaries. 250 of the units were reserved for families from shared houses in the Mdantsane area and 250 units for the shack dwellers that occupied the site. Potsdam is part of a larger development plan – which strives to provide all the necessary amenities to create a sustainable environment:

- 2503 residential units
- 10 churches
- schools
- 17 business stands
- 1 sports area
- 1 clinic
- 22 other areas (public spaces)

Phase one received commitment of funding from the Eastern Cape Provincial Department of Housing in 2001. The land had been previously proclaimed while still under the management of the Ciskei Government. However the planning was unsuitable and the site was redeveloped for housing project. Planning and design had to take into account the land conditions – steep gradient and clay soil in certain areas. The project commenced in 2003 with the installation of bulk infrastructure designed to sustain 6000 units. Internal servicing of the stands started in 2005 which included gravel roads, water, waterborne sewage and storm water drains.

A contractor was appointed for the construction of 500 houses in 2005. Initially there were delays due to identification of sub-standard construction by the contractor who was replaced. Between 2005 and 2008, 500 houses were completed. Units were handed over to beneficiaries in September 2008.

The units have been built within the RDP guidelines. The area has gravel roads, limited storm water drainage, overhead electricity reticulation and is connected to water and sewerage networks – all installed / upgraded for the development with additional capacity for future development.

Phase 2 of the project is underway and the 2503 units should commence with construction in the 2008/09 financial year.

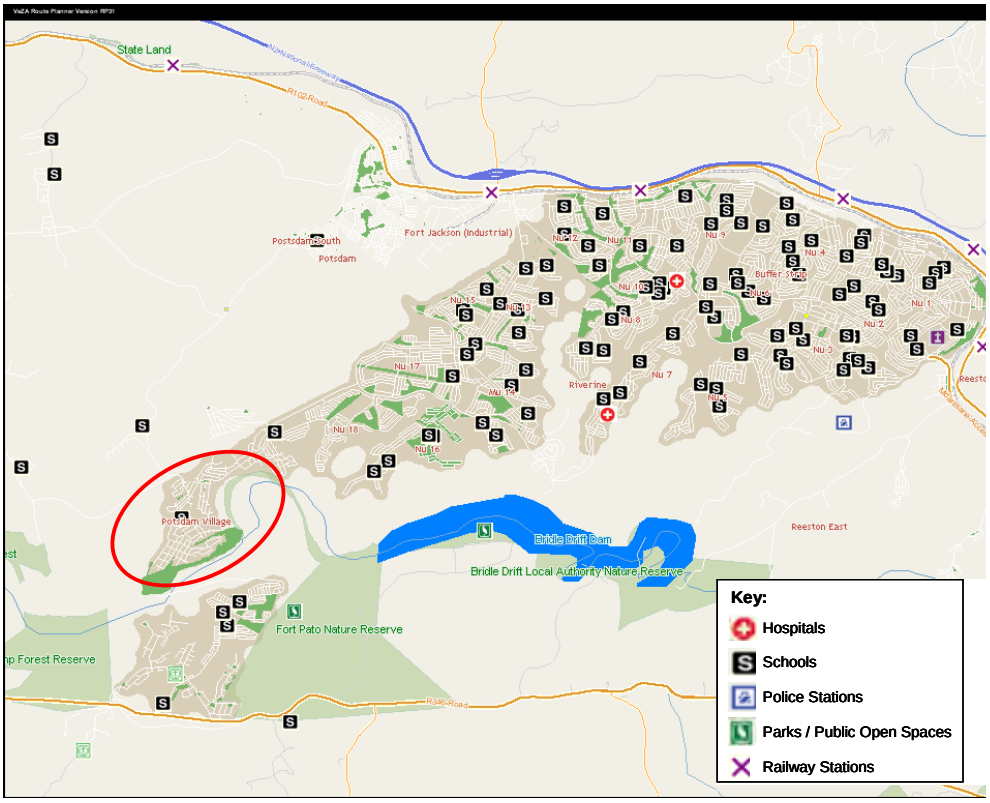
The municipality received funding for the project from various sources:

- Housing Subsidy (Eastern Cape Provincial Housing Department)
- Bulk Servicing (MIG)
- “Internal” Bulk Servicing (additional MIG funding)
- Geotech subsidy

- Electrical reticulation (Department of Minerals and Energy)
- Water meters (Buffalo City Municipality)

In addition the Department of Science and Technology has identified Potsdam as a housing pilot site for the installation of alternative energy and technologies and is providing R 17 million in funding. Funding is to be used for items such as storm and rain water management, solar heating, new construction techniques, improved material specification (e.g. gravel stabilizer).

Figure 21: Potsdam – Phase 1: Urban amenities



5.5.5 Hope City - Phase 1

Hope City is a Greater Middelburg Housing Association (GMHA) social housing project situated within Middelburg, Mpumalanga.

Hope City was developed in a joint venture between:

- GMHA – Development and Management
- Department of Housing – Social Housing Subsidy for 450 units
- Middelburg Town Council – Land and Servicing

The project was developed on land made available by the municipality for the purpose of the project. Hope City consists of 501 units with a range of two, some with lofts and three bedroom units ranging from 50m^2 to 67m^2. All units have bedrooms, kitchen / lounge area and a bathroom. The loft space is multi-purpose although often used as a bedroom. Delivery of the units commenced with the first phase completed in October 2003 and the remainder in 2004.

Table 11: Hope City: Unit typology

Unit	No.	Rents (subsidised)	Rents (unsubsidised)
One bedroom Units	414	R875	R 1250
Two bedroom Units	9	R 1000	R 1500
Two bedroom + loft Units	78	R 1000	R 1500
Totals	408		

The project is approximately 6km from the central business district of Middelburg, in a developing residential suburb close to the urban amenities of the city as well as employment opportunities, shops, schools, health care and recreation facilities.

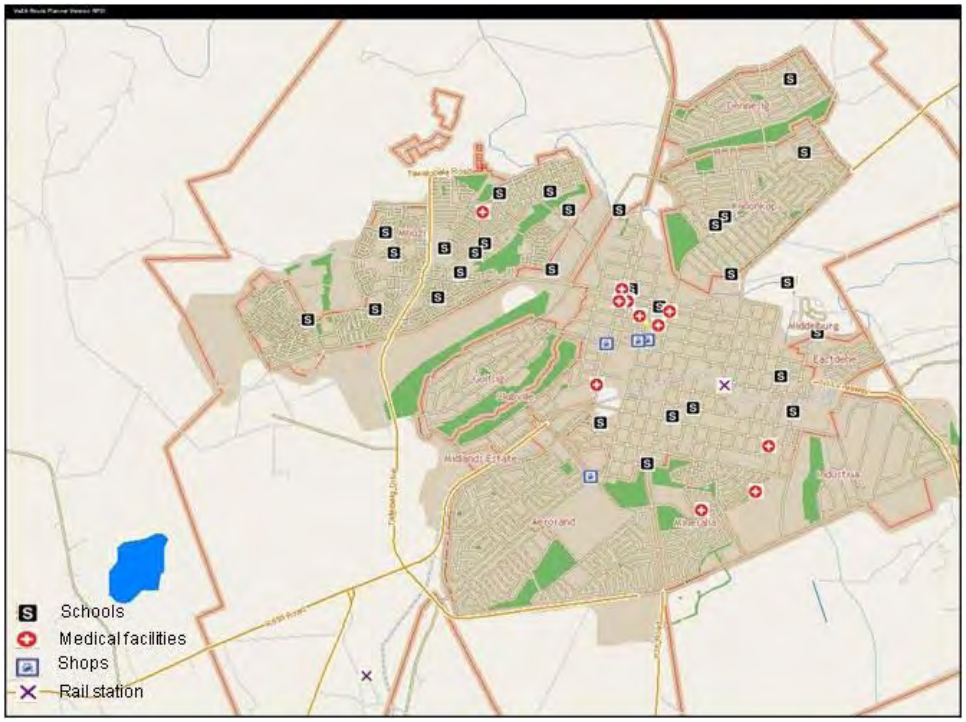
Many of the qualifying beneficiaries that are allocated units on application are employed in small commercial or retail services in the CBD, whereas those outside the subsidy bracket are employed by Columbus Steel, Eskom, Middelburg Mines and the Municipal/District offices.

Figure 22: Hope City: Location

The design of the project includes grassed areas, drying yards, paved walkways, parking and a playground for children. The perimeter is secured with a palisade fence and 24 guards are employed by GMHA.

The units are finished with plaster and paint, while floor covering includes carpeting and tiles. Each unit has a geyser and a prepaid electricity meter.

Figure 23: Hope City: Urban amenities



5.5.6 Mhluzi Extension 2 and Tokologo

Mhluzi is a RDP project within the Middelburg area, adjacent to main town area. The municipality initiated housing development in the area in 1996/1997, with the Tokologo area being developed from 2004 and Mhluzi extension 2 thereafter with sections still under construction.

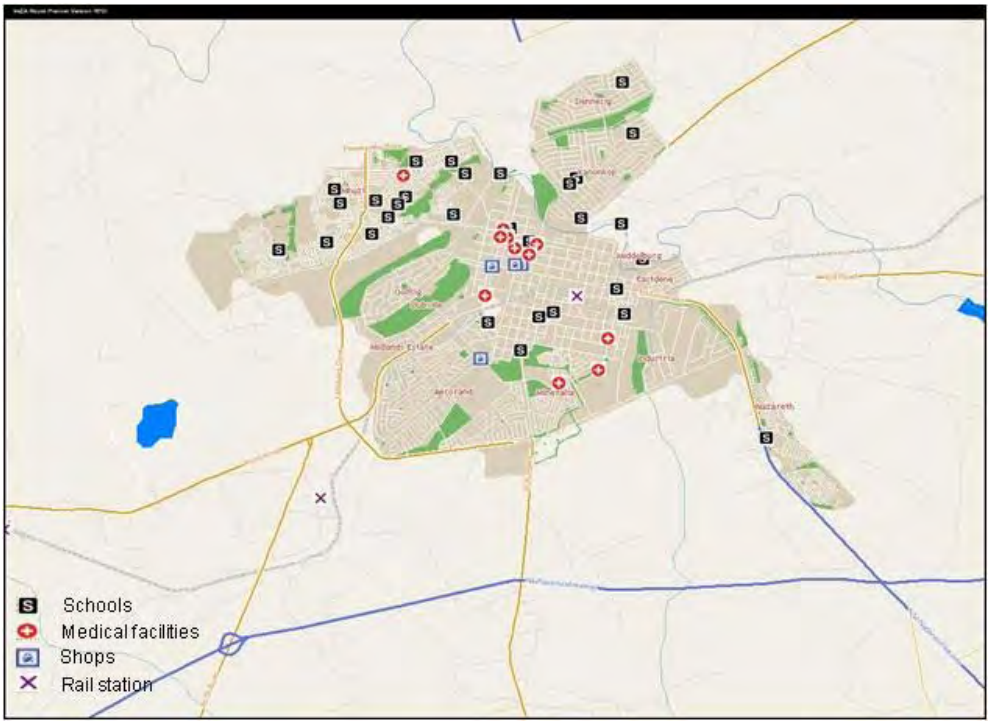
The population of the area is 41% of the municipality and although some of the units have been occupied since 2006, the municipality recognises the need for the development and upgrading of basic services including electricity, provision of health care services, education facilities, measures for the prevention of crime and emergency services. Added to this is restricted access to the central business district of Middelburg as there are only two access points to the city with the additional geographic boundary of a ridge.

Figure 24: Mhuzi & Tokologo: Location

The servicing of the stands was completed in 2005, the municipality installed water and sanitation networks and gravel roads. In 2008 most roads in the areas were tarred and currently storm water drainage is being addressed. Tokologo is being developed in phases with the water and sanitation networks being completed in 2007. Construction of the top structures is still being completed.

The stands are 300m2 with 45m2 structures all using one basic house plan. The municipality has facilitated the development, with Province appointing contracting. No single contractor has been used – construction has been undertaken by small local contractors. Involvement and facilitation by the municipality of the project included the planning, land servicing and contribution of the land.

Figure 25: Mhuzi & Tokologo: Urban Amenity



6 Effects of Social Rental Housing

In structuring the CBA, the assignment reviewed the existing housing and economic literature as well as any other available resources in respect of current thinking as well as empirical evidence for the effects of social rental housing.

On the basis of this literature review the CBA identified a number of key effects of social rental housing which form the main input into the causality analysis and model.

The literature review included a review of:

- the economic literature in respect of housing and economic impact
- general housing literature viz housing and effects
- South African research.

The overall challenge in respect of this assignment is to understand and assess the costs and benefits of Social Rental Housing (SRH) as a medium-density housing form. Thus the debate RDP vs SRH is not only about tenure (if at all), but rather about issues of location and density – that is the economic and social effects that may result from relatively better locations and /or density profiles of SRH projects.

The difficulty noted in this literature review however is the overall limited nature of empirical economic housing research and the almost absent nature of any consideration of medium-density housing as a specific form. Rather, much of the literature is concerned about the effect of housing per se, or focused on the ownership versus rental debate.

For instance, while there is an extensive North American and European (mainly UK) literature with respect to housing and economic development, there is little in this literature that addresses our current concerns in respect of the built form and its economic impact.

Generally speaking, we find the housing literature (in particular the South African literature) very weak on empirical evidence. To date limited work has been done outside of mainstream property studies that look at housing and housing policy from an economic perspective.

Consequently a number of findings and causalities have been inferred from this literature which requires testing. Such testing has occurred in the assignment through the use of a household survey as well as the development of the CBA model.

Finally it should also be noted that attention has been focused on those areas (themes) that have been identified as possible effects of medium-density housing by the Reference Group and which are different between RDP and SRH. Consequently this review does not exhaust the range of issues that arise with

respect to housing which is by its very nature multifaceted. Nor does this review exhaust the available literature – the focus being on, as far as possible, seminal and recent research with an emphasis on empirical studies.

6.1 Overview of the literature

The literature review has focused on current thinking in respect of housing form (specifically medium-density housing) and its social and economic effects. The primary purpose of the review has been to inform the development of causalities (see next **Section**).

The review was undertaken in the context of SRH as a form of medium-density housing, relatively well located in respect of urban amenity and job opportunities.

Within the South African context, the primary intention of Social Rental Housing is, as confirmed by the Reference Group:

> **To contribute to urban restructuring in order to address structural economic, social and spatial dysfunctionalities; and to improve and contribute to the overall functioning of the housing sector.**

The review considers literature with wide ranging perspectives, some in support and some against the assumptions made in this document.

6.2 Economic consequences of housing

While the delivery of housing is often analysed in terms of social objectives, less attention is given to the broader and sometimes indirect impact that housing markets and housing policy has on promoting economic growth and development.

Not only is housing part of the consumption undertaken by households, but it also creates household assets which can be used to promote economic wellbeing. Property markets, through both the positive and negative externalities produced, have a broader impact on the economy. Negative externalities include social costs such as traffic congestion and pollution which are often not internalized in the property market. Positive externalities include the improvement in health, educational standards and access to labour markets provided by property markets.

The impact of housing markets on economic development is often complex and difficult to predict. Housing is often seen, from a household perspective, as a consumption and investment to meet household requirements. From a public policy perspective, it is often difficult to ascertain the direct and indirect social and economic outcomes of housing policy.

Although the social welfare benefits of housing have been well documented, less attention has been given to the role that housing markets play in improving economic efficiency and ultimately economic growth. Yet, there is a growing

understanding that policies that improve housing market flexibility, also improve the mobility of households and ultimately the flexibility of labour markets.

The flexibility or efficiency of property markets is influenced by a number of factors.. These include the level of government intervention in land markets; the alignment between property markets and existing social infrastructure (such as transport, schools and clinics) and the linkages between property and financial markets. At a micro level, it can be argued that the social and economic benefits secured from a property are influenced by its location, typology and the tenure that it provides.

In analyzing housing markets it is important that consideration be given to the demand and supply drivers that exist in such markets. Housing demand is determined primarily by economic and demographic parameters and is influenced by the size and income of the household, and the flexibility required in the labour market. While ownership may be appropriate for some households, renting may be a better option for others. Such considerations ultimately determine the value that households place on a housing unit. Because households have unique requirements, public sector housing interventions increasingly tend to focus on the demand side of the property market, that permit households to make decisions that optimise wellbeing. In certain countries this has been made possible through the implementation of "housing voucher systems" that allow households to make such optimal choices.

From a supply perspective, analysis focuses on the players in the property market, and the institutions that influence decisions in the residential property market. Market supply is characterized by the structure of the investment market, development sector, building costs, land availability, and the availability of financing.

Governments often attempt to influence the supply side of the market through subsidies as well as government sponsored projects that increase the supply of units in particular segments of the housing market. In South Africa, the focus has been on the delivery of both owner-occupied housing, such as RDP housing, as well as social rental housing units. The level of flexibility that exists in the supply side of the property market plays a critical role in ensuring that the market delivers the type of housing demanded by households.

Externalities of the property market

Housing market consumers and producers seek to maximise their benefits/ profits. This often has indirect benefits and costs on others – positive and negative externalities.

Some well known externalities that property markets create include:

- traffic congestion,
- crime and

- rising demand for infrastructure.

The public sector often attempts to influence negative externalities through, for example, town planning and environmental regulations.

Apart from these negative externalities, the residential property market also provides numerous positive externalities. These include improvement in health standards, and better access to employment opportunities and education.

It can be argued that high density housing offers economic opportunities through the economies of agglomeration – the benefits of numerous households living in close proximity to each other. High density living also improves accessibility to social amenities such as schools, clinics and tertiary education.

The potential of such positive externalities has been encouraged by government through tax incentives (UDZ incentives – that encourage investors to enter the CBD) and housing policies such a "Breaking New Ground" that promote integrated human settlements. Public sector policy makers can use incentives as a way to stimulate the creation an environment that promotes positive externalities through the housing property market.

There is a growing body of literature that suggests that the flexibility of labour markets, and therefore the economy, is closely associated with the efficient functioning of the residential property market. This literature draws the conclusion that the tenure, type, and location of properties have a critical role to play in influencing labour market flexibility.

The literature also suggests that, there is a tendency to see rental as providing greater flexibility than ownership, although this may not be the case. For instance, it can be argued that property owners are often wealthier than renters and therefore have greater flexibility to move to areas that offer better employment opportunities.

In summary, the property market provides externalities that have both positive and negative socio-economic implications. The level of externalities produced by markets is influenced by the efficiency of property markets as well as by the type, location and tenure of housing units provided.

Housing and the macro-economy

The residential property market has direct as well as indirect impacts on the economy. While the housing market caters directly for the housing consumption needs of households (the shelter), it also plays a role as an investment and therefore forms part of a country's investment stock. The link that exists between the property sector and the macro-economy is complicated by the fact that it interacts with many markets. These include the space market, financial markets, and the development and land markets.

In the space market, households, property owners, developers and government interact to deliver on housing needs – this is the sector of market in which demand

and supply dynamics interact. The housing market also interacts with financial institutions in the financial sector. This means that the institutional arrangements in the financial sector have the potential to influence property market outcomes. For households that cannot raise the required finance, there is often little option but to rent a property or acquire lesser quality properties through informal financial institutions. The residential property market functions within the development market. In this market, developers develop the supply of residential units. It is also a market that is influenced by building costs, availability of land and overall conditions in the property market. The property market consists of an intricate web interacting with numerous different markets and is therefore linked into the macro-economy through this web.

As discussed by Harris, 2006, the efficiencies of the residential sector have a profound impact on economic growth. Harris also emphasizes that the housing market has a "market enabling" role to play. In other words, the property market plays a greater role than only the delivery of shelter.

A similar argument is made by Clapham (1996) who suggests that there is considerable evidence that public sector investment in the housing sector has the potential to raise private-sector productivity by enhancing the level of human capital. For example, the link between poor housing and poor health standards has been effectively shown by Burridge and Ormandy, 1993.

There is little doubt that the home environment has an important influence on scholastic attainment - it is easier to concentrate on homework in a warm, pleasant and private space. An appropriate housing environment can also play a meaningful role in the reduction in crime and in social problems. It is reasonable to suggest that in addition to providing a shelter, housing can contribute towards creating an improved living environment. This in turn can have a positive influence on the ability of households to secure employment and improve their welfare.

An analysis of these outcomes suggests that the property sector can have an indirect and positive impact on wage rates, migration trends, and the performance of labour markets. Research suggests that the availability of housing affects the regional dispersion of economic activity (Geoffrey Meen in O'Sullivan, 2003). It would seem that households trade-off employment opportunities in an area with the cost of living in an area. Recent experience in the UK shows that high residential property values and rentals in certain metropolitan areas have made it difficult for certain professions to work and live in such areas.

The economic efficiency argument

Moving away from the broader macro-economic implications, property markets also play a role at a micro-economic level in improving, the efficiency of economic inputs such as land, labour and capital and therefore the 'supply side' of the economy. Housing literature has for some time been interested in the impact that structure and performance of the built environment and housing policies has in improving the micro performance of the economy. The question is often asked

whether economic and welfare outcomes are influenced by the type, location and tenure of properties.

Much of the literature in this sphere has tended to focus on the potential influence that the housing market has on labour markets. The general premise is that efficiencies and the structure of the property market influence the mobility of labour and ultimately macro-economic efficiency. It can be concluded therefore that failure of the property market can result in a lack of labour mobility resulting in lower employment levels (Clapham, 2006).

The literature provides different views on whether ownership or rental housing or provides the highest level of labour market efficiency. Research suggests that a greater level of ownership of housing units results in lower labour mobility because of the often high costs of moving. This encourages households to remain in their existing homes and look at other employment opportunities. There is also a suggestion that the high transaction costs associated with property acquisition means that property owners only move if they can make a "big'" jump – a move to a significantly better property.

Furthermore, conditions in the property market and the structure of the property market make it difficult for households to sell properties without making a loss and experiencing a negative equity scenario (Coulson, 2002). This would again "lock" households in existing properties.

While it is sometimes argued that social housing improves labour mobility because of the rental stock that it provides, this may not necessarily be the case as government housing may in fact provide a lower level of choice than the private rental market may offer. Moreover the subsidies provided by social housing units may make it difficult for households to find similar quality property in the market.

6.3 Key themes in the literature

This section reviews some of the current literature with respect to housing and key social and economic effects. This review has been structured on a thematic basis in order to provide insight for the causality analysis (see Section 7). The following themes are addressed:

- Labour market flexibility
- Local economic development
- Education
- Health
- Crime
- Social cohesion
- Integration
- Locational costs

6.3.1 Labour market flexibility

There is a growing understanding that policies which improve housing market flexibility also improve the mobility of households and therefore the flexibility of labour markets. In particular, there is a significant amount of literature that suggests a very clear correlation between housing and unemployment – or specifically housing and labour market flexibility and unemployment.

There is considerable evidence of a positive correlation between home ownership and unemployment (Oswald, 1996; Nickell, 1998 and Dohmen, 2005). Dohmen argues that the data implies that a 10% point rise in owner-occupation rate is associated with an additional 1.3% points of unemployment rate.

Dohmen (2005) argues further that the key issue is not housing per se, but tenure that links to labour mobility and unemployment. In particular he aims to address the key empirical fact that contradicts the above view of homeownership – that renters have lower employment rates.

Dohmen's paper shows why higher aggregate rates of homeownership are associated with higher unemployment rates, although unemployment might not be concentrated among homeowners. It explains why high-skilled workers are more mobile than low-skilled workers given the choice of housing tenure. The model illustrates that increased aggregate homeownership rates are associated with reduced search intensity, diminished attractiveness of job offers, and with higher unemployment.

The central conclusion is that mobility and search behaviour are partly determined by conditions in the housing market. Interventions in the housing market consequently affect labour market outcomes.

Dohmen's model implies that policies that raise moving costs (e.g. homeownership) reduce mobility and thereby increase unemployment. The analysis of asymmetric shocks indicates that higher moving costs slow the adjustment process as unemployment among immobile workers in the slump region remains high for a prolonged period.

More recently Riccio (2007) has argued that the evidence is not conclusive that access to housing is a key component of improved economic self–sufficiency. He suggests that other factors and interventions (such as specific employment programmes) may in fact have greater impact and are certainly complementary to housing interventions.

In considering the available evidence and literature the central question is whether SRH improves household mobility, and if it does, how do we value market flexibility? It is suggested that key indicators would be reduced periods of unemployment, reduced search times and higher levels of upward job mobility and overall lower levels of unemployment.

The findings from the survey indicate that SRH residents generally have access to better jobs because of their location. The data supports the hypothesis that location (proximity to employment) and larger potential pools of employment are relevant. In addition, reduced travelling time and costs are strongly correlated with better employment outcomes for these households.

The analysis is complicated, however, by a number of things. Firstly, the selection bias inherent in SRH means that tenants are typically employed. In the main case study, SRH projects,, are, in the main, sustained by tenants employed in nearby firms (e.g. Daimler Chrysler in the case of Amalinda and Columbus Stainless steel in the case of GMHA for instance).

Secondly, there is the regulatory limitation that applies to RDP housing which restricts the sale of RDP units for a period of 5 years. In essence, households are tied to a property with a non-transferable benefit (subsidy) with little or no choice in respect of location. The response to this (see for instance the work done in respect of Township Residential Property Markets) is the splitting of households and multiple household locations across cities to access different benefits such as employment and schooling. In most cases the continued utilisation of informal settlements is a consequence.

The literature suggests a strong link between labour market flexibility and mobility and the availability of a range of rental housing stock. However, the literature is concerned by-and-large with effective housing markets and not those faced with a general and severe shortage of housing. Under such conditions of restricted supply it is questionable whether the labour mobility decision comes into play for households at all.

6.3.2 Local economic development

The issue of local economic development and housing is severely under-theorised and even more poorly researched and documented. While there is considerable evidence that housing contributes to broader economic development (primarily through employment creation and a range of multiplier effects (Glaeser, 2007; Pindus et al, 2007), the issue of specific local economic development has not been adequately considered.

Numerous studies have focused attention on the provision of public housing or subsidised housing and its economic impact. The rise of housing as a key component of development discourse is well traced by Arku (2006) and Harris and Arku (2007). As Arku notes, the economic impact of housing has been focused primarily on its contribution as the construction sector to broader GDP (often through mass public housing programmes) as well as employment. The multiplier of low-income residential construction through on-site as well as off-site activities appears to be considerable. Arku cites a number of studies:

- Grimes (1976): multiplier of 2%
- Moavenzadeh (1987): multiplier of two for developing countries – for every job created in construction two are created elsewhere
- Gorynski (1981): the building industry purchases almost three times as much material from the non-industrial sector of the economy as does manufacturing

From another perspective (which ties in closely with current debates in respect of labour flexibility), public housing is noted for its contribution to economic benefits within local communities in addition to its role as affordable shelter (Econsult, 2007). A study by Econsult Corporation, 2007: *Assessing the Economic Benefits of Public Housing*, notes that public housing:

- sustains low-wage workers and supports local industry by providing an effective rent subsidy in high-growth industries
- expenditures contribute to local economies both in respect of direct expenditure (construction and maintenance), but also ongoing operating costs and as an indirect subsidy to local employers ensuring that low-income workers obtain and retain jobs in unaffordable markets
- Capital and operating expenditures associated with public housing spill over into regional economies, driving indirect and induced economic activity that nearly equals the effects of direct spending

Clapham (1996), in a study of the UK housing market, suggests that for every extra £100 million per annum in housing in Britain, 1000 jobs are created in the first year. The multiplier on this would result in a further 540 jobs in the first year, rising to 3000 in the next year as construction workers and new households

spend their money (Clapham, 1996: 641). The addition of taxes in income and spending to government, which Clapham cites in a study by Meen, could amount to between a third and half of government investments in housing.

Within the context of the CBA, it is noted that there is likely to be a limited difference between the direct multipliers of RDP and SRH housing, i.e. in respect of construction activities., SRH does require, however, ongoing maintenance that creates employment opportunities. Nonetheless, there is no evidence to suggest that this is more than the employment created by the establishment of new residential areas and the need for increased public services such as refuse removal, road maintenance etc.

Furthermore, the argument that SRH generates increased demand for local goods and services appears to be unsustainable, given the income selection bias inherent in SRH projects.

Despite these insights there is little in the literature that considers housing and local economic development. Local economic development (LED) is understood in this context as the process by "which public, business and non-governmental sector partners work collectively to create better conditions for economic growth and employment generation" (World Bank). Typically, these are local or neighbourhood interventions that seek to create new and often entry level employment and income generation opportunities.

There is evidence of practical cases where attempts have been made to introduce specific LED initiatives into affordable housing programmes such as the Cato Manor Development in Durban (Eising et al, 2003) and the inclusion of lower-level retail opportunities in the Brickfields social housing development in Newtown Johannesburg. However these are not replicated at any scale across the SRH sector.

Wadhams (1993), in a review of five case studies from the US, India and Europe suggests that the LED affordable housing link is more complex than typically assumed. His research suggests that LED housing interventions require significant additional public investment and cannot be generated by housing alone. Institutional and other interventions such as urban management are equally important factors to local economic development – especially in poor or depressed areas. So, while housing can serve as a catalyst to LED, there is no clear evidence to suggest that it does this alone.

A cautionary note is appropriate when considering the debates from a local perspective. Evidence exists that RDP housing plays a key role in providing income opportunities and supporting LED (often informal activities) in poor neighbourhoods (see, for instance, the recent work on housing entrepreneurs, Shisaka Development Management Services and CSIR Built Environment, 2006). Local evidence indicates that RDP housing affords the opportunity to create rental accommodation as well as accommodate a variety of home-based businesses. This is supported by the findings from the CBA household survey.

It is suggested that, on balance, the differences in local economic development effects between RDP and SRH are primarily a function of household income, rather than housing form and location. This is not to say that SRH – especially at scale and accompanied by a range of other urban interventions – could not ultimately support increased local economic activity. The evidence however supports the view that SRH is likely to be detrimental to poor households' economic opportunities and could well undermine LED initiatives.

6.3.3 Education

There is fairly substantial literature and evidence that supports a positive link between housing and educational outcomes, Newman (2008). This literature focuses on the benefits of homeownership for educational outcomes.

However as Newman (2008) notes, despite the broad consensus, the issue of causality is far from resolved. In fact much recent research suggests that it is not homeownership but rather stability and decent / good quality housing that is the key cause of improved children's education performance. In light of this, she notes that UK or US public housing (which equates at some levels with SRH in the South African context) can have a positive impact if it represents an improvement in housing conditions. This is supported by the recent work of Mueller and Tighe (2007), who note the importance of affordable housing rather than homeownership in improved education outcomes.

In line with the above, there is much literature that relates improved educational outcomes to formal housing. Specifically this literature notes that formal housing, irrespective of density or tenure, plays an important role in increased household stability and the provision of an environment conducive to improved education– especially when coupled with access to electricity, water and sanitation. The Centre for Housing Policy (2007) notes a number of positive impacts of affordable housing on education:

- Stable affordable housing may reduce the frequency of unwanted moves that lead children to change schools and disrupt educational instruction
- Affordable housing strategies may help families move to communities that have stronger school systems
- Affordable housing can reduce overcrowding and other sources of housing-related stress that lead to poor educational outcomes
- Well-constructed, maintained and managed affordable housing can help families address or escape housing-related health hazards, e.g. lead poisoning and asthma that adversely impact learning.

Given the immediate concerns the literature does not provide any clear support or evidence of a link between *medium-density housing* and educational outcomes. In other words, there appears to be no specific basis in which the housing typology or form contributes to differential housing outcomes.

There is however some evidence to suggest that there is a link to improved education outcome based on the locational access of housing.. Biermann (2006) proposes another line of causality in respect of improved education outcomes. She notes that a key factor in South Africa, in terms of household location decision making is access to good schools. In the South African context, this translates primarily into schools in former designated "white" areas – mainly in the inner city or suburbs of the major towns and cities.

Consequently access to SRH - which tends to be located in such neighbourhoods or substantially more proximate to such areas -, is likely to result in improved access to educational opportunities and educational outcomes. In the South African context, this hypothesis tends to be supported by the fact that the provision of educational infrastructure lags substantially in RDP settlements and in some areas schools have still not been provided many years after housing has been built.

More recent literature suggests (in line with Biermann's argument) that educational outcomes are an important outcome of neighbourhood effects of which housing is one component (Bramley and Karley, 2007). It further suggests that housing can become an important mechanism of mobility as households seek to escape poor neighbourhood schools.

The evidence in this regard in the CBA household survey is mixed. Generally, SRH residents indicated that moving to the area had enabled access to better schools. Overall, RDP residents rated the quality of schools as much lower than those in SRH. However these differences do not appear to have translated into significant differences with respect to drop out rates and other indicators of improved education access and attainment one would have expected, with the exception of the Potsdam residents.

6.3.4 Health

While there appears to be a broad consensus that formal housing – irrespective of tenure or typology- plays an important role in improved health outcomes, the causal relationship between housing and health remains unclear (Hood, 2005; Newman, 2008).

As Newman notes, the research and literature to date has focused on a relationship between housing and health. Causation is difficult to establish for a number of reasons:

- People living in inadequate housing also tend to be poor and socially disadvantaged (for instance in deteriorated neighbourhoods with high concentrations of poverty)

- Poor health may result in the loss of employment and the loss of housing, i.e. poor housing may in fact be an effect of poor health

Although there are some critical questions relating to causality that remain, more recent empirical research in the UK does point to a stronger – perhaps causal relationship - between housing and health outcomes.

A longitudinal study by Pevalin, Tayor and Todd (2008) suggests that worsening housing conditions are independently associated with deterioration in health, especially the reported number of health problems in women. The causes of poor health resulting from housing conditions are wide ranging and include:

- Hazardous and dysfunctional materials
- Overcrowding
- Lack of adequate water and sanitation
- Cold housing

In contrast, another recent study (Fertig and Reingold, 2007) notes that analysis of available data was "unable to detect a robust health benefit from public housing" (Fertig and Reingold, 2007: 831). The only exception noted was in respect of women where there was a positive effect in respect of domestic violence. However, there was a short-term negative effect in respect of a mother's overall heath status and a long-term negative effect on womens' overweight status.

Finally, research conducted into the different health outcomes between social renters and owner-occupiers suggests that social renters have worse health outcomes than owner-occupiers (Hiscock et al, 2003). However, the research also points out that health outcomes are likely to be the effect of both the housing as well as the people themselves. Notably the research argues that income differentials play an important role in determining the differential health outcomes.

Overall the literature on health and housing is unsatisfactory for our current concerns. It would appear that given the level of informal housing in South Africa, both RDP and SRH perform equally well in respect of improved shelter and likely health outcomes. Some local research (Zack and Charlton 2004) does suggest the inferior quality of RDP housing may result in increased negative health outcomes – but not when compared to informal settlement conditions.

There appears to be no literature that considers the linkage between location and access to improved health care. In CBA the assumption is made that the physical characteristics of RDP and SRH are likely to be only marginally different in respect of health outcomes. However, location factors are likely to contribute to improved access to health care (especially secondary and tertiary hospitals). Notable in this regard is the increased costs that RDP households face when seeking health care besides local primary care clinics. The ability to seek better medical advice and intervention is however equally likely to be a function of better household income.

6.3.5 Social cohesion

There is very limited literature in respect of social cohesion and its relationship to housing. Furthermore many of the issues that could be included within the category of "social cohesion" relate to other concerns such as crime and the broader social and economic integration.

Glaeser and Sacerdote (2000), in *The Social Consequences of Housing*, highlight the linkages between housing structure and social connection. Their research focuses on the effects of high-density housing and indicates that housing structure appears to effect:

- Citizenship: a weak and negative relationship between apartment residence and local citizenship

- Social interaction: people in apartments are more likely to socialize with neighbours, spend nights out and go to cultural events (absence of distance appears to be important); but these reduce other social interactions such as church going and visiting relatives

- Crime rate: no apparent connection between crime and multi-unit dwellings, especially burglaries and multi-unit dwellings; but a strong connection between street crimes (robberies and auto theft) and multi-unit dwellings.

There is some research that supports the argument that good management of Social Housing results in a higher level of success of the projects, giving this type of intervention an advantage over private ownership (RDP). It must be noted however that, while strict policies of collection and eviction may be necessary, it is of considerably more importance that attention given to maintaining the environment. The quality of the environment has proved to be significant in maintaining a high level of commitment from the tenants. In addition, it is possible that good maintenance and the provision of community amenities that are well maintained can reduce levels of anti-social behaviour (O'Connell, 2007).

Overall, there is limited evidence to support the view that that SRH improves social cohesion. The institutionalised management of SRH rather enforces rules and regulates conduct which limits the ability of SRH households to externalize costs.

6.3.6 Integration

There is significant evidence in respect of neighbourhood effects. In areas of concentrated poverty there is a strong correlation with a range of negative social and economic impacts. Literature on "neighbourhood effects", primarily USA literature, concludes that "neighbourhoods of concentrated poverty have a negative impact on the heath and life opportunities of low-income families" (Katz, 2004: 6).

This literature highlights the following negative effects of concentrated poverty:

- *Increased school failure:* The research indicates that children who live in poor urban neighbourhoods and attend neighbourhood schools are at greater risk of school failure evidenced by poor standardised test results, grade retention and high drop out rates. By contrast, children in integrated, middle-class schools perform better. As Katz notes, quoting a recent Task Force on the Common School, the underlying reason for this is that "schools with a core of middle-class families are marked by higher expectations, higher-quality teachers, more motivated students, more financial resources, and greater parental involvement" (Katz, 2004).

- *Workplace participation.* The evidence indicates that adults and teenagers who live in areas of concentrated poverty face real barriers to participation in the workplace. These barriers are primarily due to the "the emergence of a spatial mismatch between inner-city residents and jobs associated with the decentralisation of employment. In the USA case entry-level jobs are typically to be found in the suburbs. Such spatial mismatch is exacerbated by the lack of public transport and low levels of car ownership.

- *Health implications.* The literature suggests a strong link between living in high-poverty neighbourhoods and negative health outcomes. This it is suggested is in part due to the stress of being poor and marginalised, but also due to deprived environments and poor quality housing. As Katz notes, there appears to be strong link between a higher incidence of asthma, obesity and diabetes in areas of concentrated poverty and crime. There is also evidence that living in deprived neighbourhoods is correlated with increased heart conditions and cancer.

- *Economic and fiscal implications for cities.* Often high-poverty neighbourhoods do not contain the businesses and civic institutions that are essential for a healthy community. Where businesses do exist, they often provide inferior-quality goods at higher prices. Concentred poverty areas also generate higher costs for local government.

In response, much policy work and public intervention has focused on integrating and mixing communities – along racial as well as class lines. In the South African context this has been brought to the fore again by recent xenophobic violence – in large part concerned with access to housing goods.

The literature suggests that more effective integration leads to improved social mobility, long-term improved employment chances and better educational and health outcomes (Harkness and Newman, 2003; Goetz, 2000).

In addition, work has been undertaken that indicates a link between concentrations of poverty and overall economic performance. Galster (2001) noting the paucity of the empirical evidence, nevertheless suggests a threshold of no more than 15% of households in poverty in any area. Such research has been

utilised in part to support various inclusionary housing mechanisms (see Smit and Purchase, 2006). More recently, Galster (2007) reviewing the western European experience, has noted that the evidence base does not support a mixing policy on social efficiency grounds. He notes that, "the evidence suggests that both positive and negative social externalities may flow between advantaged and disadvantaged neighbours, but there is little definitive to indicate that the net result for aggregate social utility will be positive if neighbourhoods are more socially mixed" (Galster, 2007: 539-540).

The CBA also assesses the extent to which housing form bears any relation with the positive or negative effects of integration. Clearly part of the reasoning is that lower-income households cannot afford property prices in higher-income neighbourhoods and therefore subsidised medium to high-density accommodation is required. What effects would be evident? Kearns and Mason (2007) suggest the following:

- Economic & Service Impacts
  - Better quality public services
  - Improved quality and quantity of private services
  - Enhanced local economy
- Community-Level Effects
  - Increased social interaction
  - Enhanced sense of community and place attachment
  - Reduction in mobility and greater residential stability
- Social & Behavioural Effects
  - Reduction in anti-social behaviours
  - Better upkeep of properties and gardens
  - Raised aspirations
  - Enhanced educational outcomes
- Overcoming Social Exclusion
  - Reduction in area stigma
  - Increased connectivity with other places
  - Enhanced social networks

Kearns and Mason consider the role of social rental housing in the UK . The findings are of interest in respect of SRH and suggesting some level of tenure mix may be positive (especially for social rental households). On the basis of their research, they conclude that "the level of social renting is the more important factor determining the incidence of problems; 'balanced communities' in tenure terms offer no guarantee that neighbourhood problems will be reduced; and there are some respects in which social renting can offer satisfactory, quiet environments" (Kearns and Mason, 2007: 687).

Despite the discussions in respect of neighbourhood impact, the actual role of housing remains questionable. As Whitehead (2002) notes, it is "unclear whether

inadequate housing itself has a causal effect on poverty, deprivation and opportunity, and therefore whether there is an economic case for concentrating resources on improving conditions" (Whitehead, 2002).

It is clear that problems of health, education, crime and other aspects of social exclusion are concentrated in particular neighbourhoods and more specifically in social housing (in the US and UK sense of low-income housing estates). Housing thus helps to locate problems.

What is less clear is that housing itself directly affects outcomes rather than simply concentrating households in particular areas. In other words, it is unclear whether the risk of poor health, limited educational attainment, victimisation or criminality is the same for people with exactly wherever they live, or whether a particular location, and especially location within social housing, increases these risks.

In the CBA, it is suggested that the "integration effects" if relevant, evident primarily in education and employment outcomes.

6.3.7 Conclusions

At the core of the CBA and our causal arguments is the debate not so much about RDP versus Social Rental Housing, but rather the effects of better location and increased density. More accurately, better location – closer access to employment opportunities, better schools and other social facilities etc. – is in property economic terms a function of land price. Better location in the property market translates into higher land costs. To compensate for such increased land cost housing typically needs to increase in density if it is to accommodate lower-income households.

The challenge this poses for the current assignment is that it therefore becomes very difficult to disentangle the effects of location and density. What is evident from the literature however is that the effects desired from SRH in respect of improved integrated, city economic efficiency and restructured apartheid urban environments are not a function of tenure.

It is evident that the positive benefits could be achieved through higher density RDP units (see for instance the current work taking place n Alexandra under the Alexandra Renewal Programme or Pennyville in Soweto). This is not to say that tenure does not have economic impact. The literature has for some two decades noted the long-term positive effects of homeownership on households and economies. More recently however – primarily as a consequence of the global financial crisis – attention has once again focused on rental housing as it becomes evident that for many low-income households homeownership may not always offer the advantages or constitute a desirable "asset" that many have claimed.

Since the results from the literature review do not directly lead to clear and testable assumptions on causality for our CBA, we have constructed our own assumptions. These are presented in the next chapter and, where possible, use the results from

the literature. We will necessarily also be introducing new assumptions, tailored to the specific housing forms under consideration.

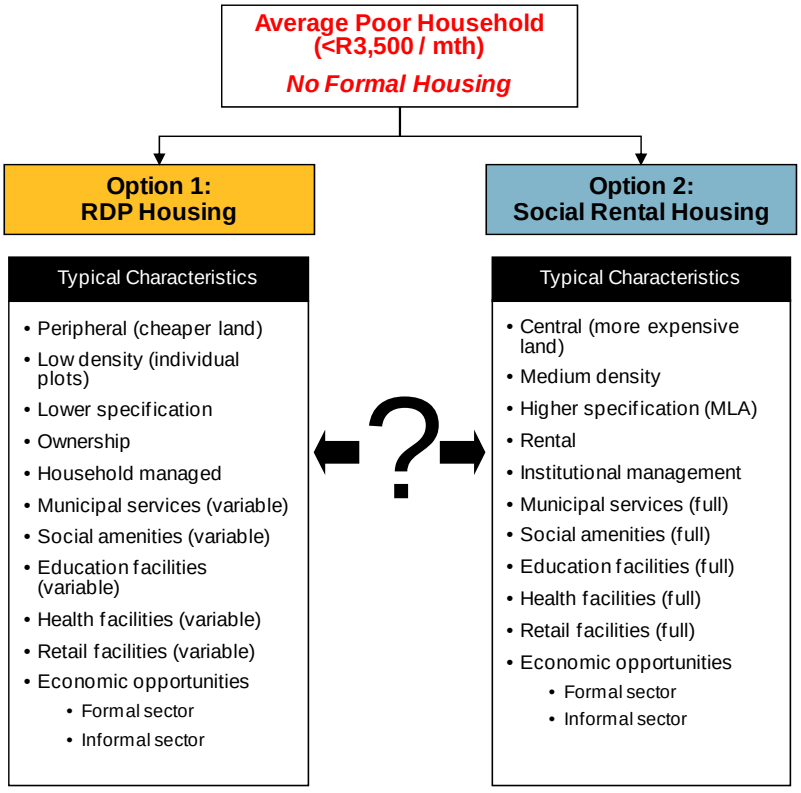
7 Causality Analysis

As noted, the intention of the CBA is to objectively test and quantify (where possible) the effects of Social Rental Housing. This, of necessity, involves understanding key causal relations and testing the actual effects of the SRH policy intent. The causal relations in this CBA are based on several sources:

- Literature review
- Input from South African housing experts
- International experience with valuing social effects of policy

Consider the figure below:

Figure 26: Causality analysis



Making the assumption that an average poor household can live in either RDP or SRH, the question then arises as to differences in general welfare between the two. This question is central to the analysis of causality.

Two main forces drive the differences between RDP and SRH. The first of these relates to the differences in the level of social cohesion which in turn impact on general welfare. The second of these relates to the effects of locational

differences between RDP and SRH. The causal relations underlying the CBA are described in the following paragraphs.

7.1 Causal relation between SRH and social cohesion

There seem to be several ways in which SRH contributes to an increase in social cohesion and in turn to a higher level of general welfare. Urban management and the mixing of income groups are considered below:

7.1.1 Urban management by Social Housing Institute

Effective urban management creates an increase in social cohesion. This is evident in SHIs that use incentives to minimize late payment of rents and eviction costs. In addition, the promotion of a healthy living environment with reduced levels of crime, etc is used as an incentive to retain tenants.

There are several routes ('carrots' and 'sticks') through which a SHI minimizes these risks:

- Policing of the project
- Regular maintenance to prevent the 'broken window' effect
- Tenant screening
- Tenant manuals
- Courses on household finance
- Basic training to improve employability.

These activities cause the following effects to occur:

- Policing of the project by the SHI prevents and curtails unwanted behaviour. For example, in the case of late payment, the SHI can evict the household after 48 hours.

  → Strict eviction policy will probably prevent eviction occurring in the first place. A more stable composition of tenants can increase social cohesion. People are more likely to get on with their neighbours if both are likely to be there in the long run. This can lead to less friction between people in the project, to a general sense of wellbeing and to less crime.

    R Lower costs of crime

  → Strict enforcement of regulations reduces the opportunity to engage in criminal activities

    R Lower costs of crime

- The SHI maintains the project regularly. In RDP projects, maintenance is the responsibility of individuals. The 'broken window' effect can create the following dynamics:

  → A successful strategy for preventing vandalism is to fix problems when they are small. Repairing small problems (for example a broken window) within a short time reduces the tendency for vandals to break more windows or do further damage.[1]

    R Lower costs of crime (vandalism in the first place)

  → Another consequence is that physical problems within the project do not escalate and thus respectable residents do not flee the neighbourhood.

    R Less benefits from mixing of income groups (monetarise if possible)

  → Building new SRH settlements in bad areas can improve those areas, thereby increasing rents.

    R Higher rents

7.1.2 Methodological restrictions

Several characteristics of the SRH system create methodological challenges for the CBA and the analysis of causality in particular:

- Tenant screening causes a selection bias. The SHI has the incentive to select tenants with a good employment record and probably without a criminal record. This type of selection is not done in RDP settlements. Observed differences in employment, health and crime may be caused by the tenant of SRH being inherently better educated. The SRH project itself does not cause the benefit to occur, rather the difference in the target groups between SHR and RDP.. This problem was addressed by comparing RDP tenants in the upper income band and SRH tenants in the lower income band. For further details, see Section 9 which discusses the key findings from the household survey.
- Some SHI's provide their tenants with basic courses on household finance or training to improve their employability. Although this might have an effect on tenants, it is assumed that this effect is negligible.

[1] James Q. Wilson and George L. Kelling. "Broken Windows": The police and neighborhood safety", March 1982, The Atlantic Monthly.

7.1.3 Mixing of income groups

SRH projects tend to have a more diverse mix of people inhabiting them than RDP projects. This causes two effects:

- People see good examples around them (response to environment stereotype)
- Employment is where the richer people are.

The causality of these effects can be described as follows:

- Having good examples around you has a positive effect on people.
  - → Seeing other people going to work every day, increases motivation to be employed. This in turn may impact on increased motivation to acquire education and/or training which ultimately may lead to a better job.
  - → Another effect may be seeking other ways to make a living and not resorting to crime
    - R Higher income
    - R Lower costs of crime
- Poor people rely on richer people to consume the goods and services they produce.
  - → The closer poor people are to richer people, the more demand there is for their labour. The mixed income groups within a SH-project provide more employment opportunities for poor people than those in a RDP-project.
    - R Higher income

The second effect (the employment effect) is expected to be larger than the first.

7.2 Causal relation between SRH and location effects

There is a difference in building form between SRH and RDP. SRH is usually medium density, multiple storey housing due to the fact that they are built in high quality locations where land prices are high. RDP is usually low density, single story housing on separate plots. The location and thus the medium density form of social housing affects the following:

- Population density
- Room for in-house businesses
- Economic and social opportunities

The causality of these effects can be described as follows:

- Medium density housing leads to higher population density in the area

→ Living in an area with a high population density leads to more buying and spending power. This in turn leads to more job opportunities, and more employment.

→ Living in an area with high population density leads to more or less crime. There is an optimal density in this regard, but uncertainty of what this is. Lower density housing usually leads to less crime, as a result of increased social control. Similarly, higher density housing usually leads to more crime, because of less social control (everyone for themselves). . Additionally, crime may be a function of demography and not just of housing, in which case it would lead to a higher crime rate in RDP projects (less opportunities, lower employability).

R Higher income

R Lower or higher costs of crime

- Residents in SRH do not own their plots to develop survivalist businesses (build shacks to rent, grow crops to sell, fix cars to earn money and so forth). Therefore SRH residents do not engage in survivalist business. It is uncertain if residents of RDP in the sample income band (highest incomes in RDP and lowest in social housing) engage in survivalist businesses. It seems that this will be most likely as a source of (small) additional income. Moving to SRH could lead therefore to a drop in income.

  R Lower income

- The building form of social housing (medium density) makes it more suited along 'nodes of social and economic activity'. This is because medium density SRH takes less space to accommodate more people on high-priced land. As a result, this housing type facilitates accommodation of more people near these nodes. The nodes are the places in cities where much economic and social activity takes place. This leads to: economic opportunities, access to high quality education and access to health care facilities.

7.2.1 Economic opportunities

→ Most likely, there will be a positive vibe in the area of the nodes of activity. When living there, people see good examples of other people going to work and doing business. This can also motivate (formerly unemployed) people to engage in businesses or jobs. In addition, it can lead to increased sharing of information between people, and residents who are better informed about employment opportunities. This will lead to a higher employment rate.

→ Living in or near the nodes of activity means greater (nearer and more diverse) access to jobs for residents. This leads to a higher employment rate and less travelling costs.

→ Living in or near the nodes of activity leads to a mix of income groups. This results in more job opportunities, as jobs are generally situated close to where the rich spend their money (see paragraph about mixed income groups above)

R Higher income

R Lower costs of travelling

7.2.2 Education access

Quality education is of great importance to residents. While access to schools is readily available, access to **good** schools is problematic. Schools of high quality (high quality government schools) are usually those located in the former designated 'white' parts of the city. These are usually in or near the nodes of activity. Thus, housing located in or near the nodes of activity increases access to high quality schooling.

Residents are prepared to travel long distances if necessary to access quality schools. This is, however, subject to affordability of travel costs.. Closer access to high quality schools clearly reduces the budget implications. In the short term, a direct effect of living in or near the nodes of activity is less travelling costs. In the long term, however, the fact that more people can afford to send their kids to high quality schools can lead to a better education level for more people, which in turn leads to better job opportunities for more people.

R Lower cost of travelling

R Higher income

7.2.3 Health care access

Access to health care facilities is better near the nodes of activity. Accommodation located near to these nodes of activity therefore increases access to health care facilities. There is a distinction between primary health care facilities and secondary and tertiary health care facilities. Access to primary

health care facilities is available to all, irrespective of whether one lives in SRH or in RDP. However, the primary health care facilities near the nodes of activity are substantially better than those further away from the nodes. Secondary and tertiary health care facilities are often not available in settlements that are far away from the nodes of activity. The assumption has been made that people in SRH and RDP within the same income band (highest incomes in RDP and lowest in social housing) have approximately the same education level, and that no differences in health level are due to a lack of knowledge of a healthy lifestyle.

→ Increased access to health care facilities leads to a better health level, because people can visit the doctor when necessary. This in turn leads to higher medical costs, but also to higher productivity and thus higher income. There might also be a long term effect that better access to health care leads to less medical costs in the long run, because prevention is better (cheaper) than cure.

- R Higher or lower health bill (short term versus long term effect)
- R Higher income
- R Lower costs of travelling
- R Lower number of days lost at work.

8 Financial CBA

8.1 Approach

The purpose of the financial CBA is to get an overview of all the cash flows involved in investing in, maintaining and operating both housing forms, regardless of which party incurs the costs. In order to obtain cost data we conducted interviews with:

- Municipality officials
- Developers
- Housing Institutions.

Further information was obtained from the following sources:

- Public cost data
- Other research, e.g. housing subsidy distortions study.

See **Appendix 2 to 6** for a full list of interviews and data sources.

8.2 Key challenges

The key challenges in this financial analysis were dealing with building cost escalation, determining the economic life of the projects and efficiency pricing issues.

- Dealing with building cost escalations to address differential construction dates: We have determined the start of construction date for each project, and escalated costs to the base year of the model, which is 2008. We have assumed an annual inflation rate based on annual building cost inflation as determined by BER. For instance, construction costs for the Bram Fischerville project were 12,619 Rand in 2003, and we have escalated those for 5,5 years, which gives us construction costs price level 2008 of 43,056 Rand.
- Determining the economic life of RDP and SRH units: By “economic life” we mean the time after which an asset is completely depreciated, and effectively has to be rebuilt. We have assumed a different economic life for RDP and SRH units. Due to low maintenance efforts and poorer construction quality of RDP units we have assumed economic life to be 20 years. For social housing, we have assumed 40 years. Since this is quite a crucial assumption, we have included a sensitivity analysis regarding this input which allows us to see how a change in assumptions affects the results.

The corrections made for price distortions are discussed below in **Section 8.4** ‘Valuation and Efficiency Pricing’.

8.3 Cost types

The financial CBA analyses the costs that can be directly attributed to housing including construction costs, land costs and maintenance costs over a certain period of time. The financial CBA is concerned with the housing itself, while the economic CBA is concerned with the effects of housing on society, especially residents.

For the financial CBA, it was necessary to establish the costs related to housing for the lifetime of the building. These initially occur during the building period:

- Land assembly costs
- Bulk servicing costs
- Township proclamation
- Land servicing
- Professional fees
- Statutory approvals and enrolments
- Construction costs.

Furthermore, associated annual costs were used during the residential period of the building. These are:

- Maintenance costs
- Utility usage.

Due to the significant difference between the economic life of RDP and SRH, the following information is included:

- The economic life of a unit
- Rebuilding costs (which are part of building costs, but occur after the building has been written off).

The table below contains an overview of the cost inputs for the projects (in Rand, costs per 2008), i.e. these cost are inclusive of escalations applied as well as any adjustments made for distortions etc.

Table 12: Summary cost inputs (ZAR)

ZAR (2008)	Bram Fischerville RDP	Roodepoort SRH	Potsdam RDP	Amalinda SRH
Bulk servicing costs	11,688	1,939	51,205	24,933
Construction	27,526	177,985	35,089	114,428
Internal services	0	0	0	0
Land assembly	1,099	22,222	446	1,730
Land servicing	20,509	4,356	21,017	81,789
Professional fees	1,777	7,245	851	15,696
Statutory approvals & enrolments	388	1,881	1,451	3,102
Township proclamation	865	0	3,184	0
Total building costs per unit	63,851	215,628	113,243	241,679
Township services maintenance costs (annual)	1,133	378	1,133	378
Maintenance costs (annual)	646	635	255	1,014
Utility usage (annual)	5,400	5,640	4,125	6,522
Operating costs (annual)	0	3,565	0	3,942
Economic life	20	40	20	40
Rebuilding costs*	29,691	187,111	37,391	133,226

* Rebuilding costs for SRH are not used in the model, because the economic life of the units is 40 years and the total modelling period is also 40 years. We show this value, however, because in a sensitivity analysis where the economic life is varied, the value will be used in the model.

Figure 27: One-off costs during initial building (ZAR)

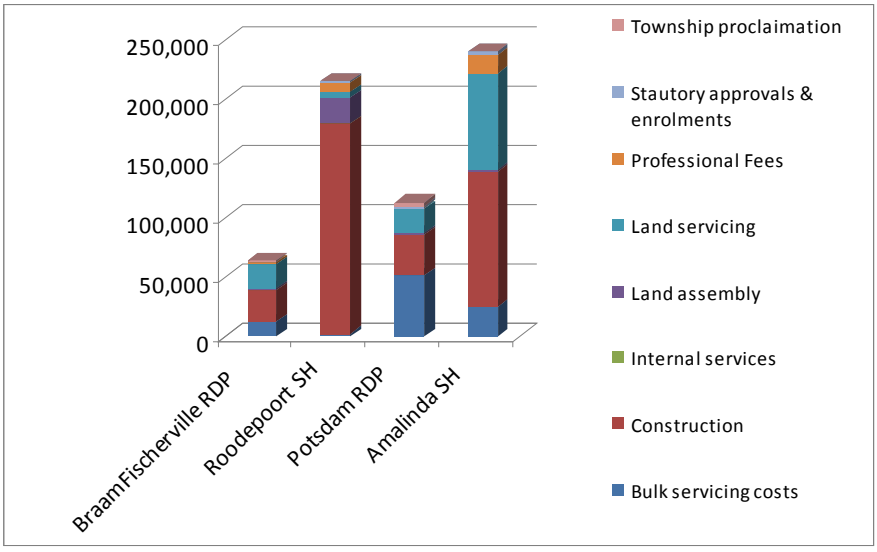
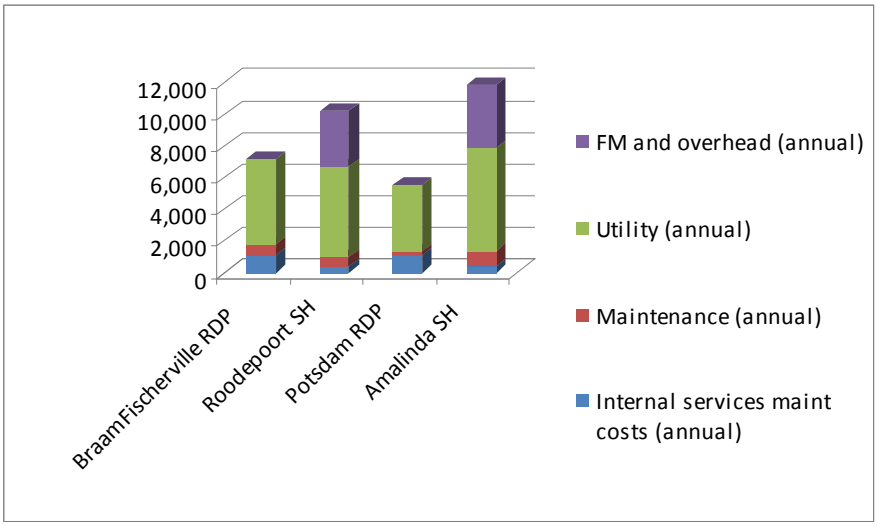


Figure 28: Annual costs during operation period (ZAR)



Cost inputs have been derived from a number of sources and are documented in **Appendix 5 and 6.** These sources include:

- Project accounts obtained from Social Housing Institutions, developers and municipalities
- Household expenditure data obtained from the household survey
- Expert opinion and input.

Total building costs per unit have been derived from actual project expenditure.

It is important to note two key influencing factors on the costing. The first is the construction and completion dates for the projects, which vary significantly. These have a very significant bearing on cost given the major construction cost inflation experienced since 2001. Historical costs have accordingly been adjusted utilising construction inflation data provided by BER.

Furthermore it is important to note that between RDP and SRH, but equally between the two main RDP projects considered, there are considerable differences in respect of specifications, level of finish and services provision.

Summarised in the table below are the broad specifications and finishes for three housing types:

- RDP (pre 2005)
- RDP / BNG
- SRH.

Table 13: Minimum unit specifications and finishes

	RDP (2003)	RDP (2007)	SRH
Unit size - 30m2	●		●
Unit size - 40m2		●	
Foundation - eng spec (concrete)	●	●	●
Slab - eng spec (waterproof)	●	●	●
1 bedroom	●		
2 bedroom		●	
Separate bathroom	●	●	●
Toilet	●	●	●
Basin	●	●	●
Shower		●	
Geyser			ü
Towel rails			ü
Lounge & kitchen (combined)	●	●	●
Kitchen Basin	●	●	●
Kitchen cupboard			
Electrical Board (where applicable)	●	●	●
Steel window & glazing	●	●	●
Steel external door	●		
Wooden / solid external door		●	●
Steel internal door frames	●	●	●
Hollow core internal doors	na	●	●
Steel hard Galvanised roof sheets	●	●	
Cement / similar roof tiles			●
Ceilings			●
Gutters			●
Down pipes			●
Interior wall finish - cement bagged	●	●	
External wall finished - waterproof coating	●	●	
Interior wall finish - plastered & painted			●
Exterior wall finish - plastered & painted			●
Floor coverings (tiles / carpeting)			●
Curtain rails			●
Boundary fencing			●

Additional detail in respect of specifications is contained in **Appendix 6**.

Ongoing operating costs derive from three sources:

- Household maintenance and upkeep expenditure as determined from the household survey
- SRH institution operating and maintenance cost derived from SHI accounts
- Local authority maintenance costs based on expert opinion and a model (see **Appendix 6)**

- Utility costs based on survey data, municipal tariff information and pricing adjustments.

In respect of these costs, actual costs obtained from the survey or accounts have been utilised and adjusted where necessary to reflect efficiency pricing (see further below).

In respect of the JOSHCO Roodepoort project the *budget* in respect of utility cost and municipal charges has been utilised. JOSHCO have indicated that the opening of accounts with the City of Johannesburg has been delayed. In addition there are some problems being experienced in respect of metering. Accordingly the budget amount has been included as this will be reflected as actual expenditure once the delays and metering problems are resolved.

Finally, a key cost input into the model is the ongoing cost of municipal services provision. Significant attempts were made to obtain data from municipalities without success. While tariff information (which includes cross subsidisation) was available, local authorities were unable to provide the actual cost of delivering and managing services.

Consequently a model was developed (see **Appendix 6**) to allocate costs to RDP and SRH on the basis of expert opinion. The model is based on the level of maintenance typically required to maintain the original capital investment given the typology and disunity of the residential area under consideration.

8.4 Valuation and efficiency pricing

Efficiency pricing involves the correcting of inputs in order to account for any distortions in market prices caused by, for example, monopolistic market conditions, subsidy or taxation impacts, and so on. A number of adjustments in the model in this regard have been made.

These are summarised in the table below and the accompanying notes.

Table 14: Efficiency Pricing Adjustments - RDP

Cost Item	Unit	Initial cost input (not escalated) R	Adjusted cost input (escalated) R	Adjustment
Bram Fischerville RDP				
Construction costs	R/unit	11,776	27,526	Efficiency pricing factor of 1.5 applied (see further comment below)
Professional fees	R/unit	760	1,777	Efficiency pricing factor of 1.5 applied (see further comment below)
Land assembly	R/unit	522	1,099	Initial land cost provided adjusted to reflect opportunity cost based on professional valuation opinion (R705 not escalated)

Cost Item	Unit	Initial cost input (not escalated) R	Adjusted cost input (escalated) R	Adjustment
Utility usage (annual)	R/unit	3,600	5,400	Initial cost input based on household survey expenditure data and free basic services municipal tariff. Adjusted to reflect under-recovery and actual cost of delivery to municipality. Factor of 1.5 applied - see **Appendix 5** for assumptions
Potsdam RDP				
Land assembly	R/unit	nil	446	Land was donated (nil cost) - adjusted to reflect opportunity cost based on professional valuation opinion (R350 not escalated)
Utility usage (annual)	R/unit	2,750	4,125	Initial cost input based on household survey expenditure data and free basic services municipal tariff. Adjusted to reflect under-recovery and actual cost of delivery to municipality. Factor of 1.5 applied - see **Appendix 5** for assumptions

Table 15: Efficiency Pricing Adjustments - SRH

Cost Item	Unit	Initial cost input (not escalated) R	Adjusted cost input (escalated) R	Adjustment
Amalinda SRH				
Land assembly	R/unit	573	1,730	Initial land cost provided adjusted to reflect opportunity cost based on professional valuation opinion (R1,110 not escalated)

- The construction costs of Bram Fischerville have been set in a highly competitive, depressed market. Therefore, the market environment cannot be compared to that of the other three projects. To correct for this market effect, we have used an efficiency pricing factor. This factor should reflect the prices that would have occurred under "normal" market circumstances. We have assumed this factor to be 1,5 (or 150%). We have chosen this because we can observe that compared to Potsdam, the quality of Bram Fischerville houses is lower. Construction prices of Potsdam are almost twice as high as Bram Fischerville prices before adjustment. Therefore, we know that the factor should be lower than 2. Since we want to adjust the prices upwards, we also know that the factor should be higher than 1. Without any further information, we have assumed our efficiency pricing factor halfway. Since this is rather arbitrary, it is possible to adjust this factor in the cockpit of the model.
- The land on which projects are built is mostly donated by the municipality. This does not mean the land is 'free'. We corrected for this by adding the

actual land costs. As a measure for the actual land costs we used opportunity cost of land: the price of the land if it would have been sold for the purpose of developing commercial housing, which is reflected in the market price for land. Where required valuations were obtained from a professional valuator. We believe using market prices yields correct results as there is no reason to assume the South African land market is heavily distorted.

- In respect of utility costs the limited data available indicates that in respect of RDP the consumption charges are not reflective of the actual cost. This has been corrected to include the estimated real cost of the provision of utilities to households.
- We did not correct for possible distortions in the markets for primary construction materials. Correcting for these specific distortions is not straightforward and produces very minimal differences in the results. For example, any price distortions in the cost of a specific construction input such as steel in actual value effects in a CBA will relate only to (1) the value of the price correction, and (2) this value applied to the difference in the volume of that input between the base and project case. We expect this has only very minimal actual effects. Furthermore, we were confronted with a lack of data at the disaggregated level, so there is no basis on which to perform efficiency pricing.

8.5 Financial model

8.5.1 Structure of the model

The financial model is structured as follows:

- The model was built in Excel, using a method of modelling which is called f1f9. This is a method that is widely used in the financial world and makes the model especially suitable for auditing. This method is concerned with separation of inputs, calculations and outputs throughout the model, simple ways of constructing formulas and colouring cells according to function for optimal recognition.
- The model consists of several Excel worksheets, which are:
- Cover (including title, author, date and disclaimer)
- Cockpit (the user interface, including information on key input and outputs, graphs and possibilities for sensitivity analysis)
- InputCosts (including all inputs for the financial CBA)
- InputBenefits (including all inputs for the economic CBA)
- Time (including calculations needed for timing of costs and benefits)
- Esc (including calculations of escalation and discount factors)
- Capex (including calculations of building and rebuilding costs)
- OpCost (including calculations of ongoing costs)
- Graphs (including preparations for graphs that appear in the Cockpit).

8.5.2 Modelling choices with an impact on the results

Modelling inevitably implies making certain decisions that impact the results. In this CBA the following choices are relevant in this regard:

- The model has the purpose of making a comparison between RDP and SRH including all relevant costs and benefits and therefore includes costs over the lifetime of the building. This resulted in a total modelling period of 40 years. This includes 1 year of construction and 39 years of economic effects and ongoing costs. We have chosen this period to resemble the productive life of the residents of the house, thereby assuming that some effects might have a lifelong impact on the residents[2]. The model starts in 2008 and ends in 2047. If necessary, the model can be extended to include effects over a longer period of time. The main impact of this choice is that over the period of 40 years, the RDP house is rebuilt once,

[2] For example, this might be the case for education effects since a better education could produce income effects that cover the entire life of the resident.

while the SRH unit is not rebuilt. This can be seen in the output graphs below.

- The comparison is based on a net present value calculation. This calculation is based on a discount rate. Since we do not use cost escalation (inflation) we discount at the real discount rate, which is the long term interest rate[3] minus the inflation rate[4]. This rate is set at 3.5% per annum. The choice of the discount rate has a large impact on the net present value results. A high discount rate leads to a low valuation of costs and benefits that occur in the future and increases the impact of costs and benefits that occur now or in the near future. A low discount rate does the opposite. We subjected the results of the CBA to sensitivity analysis of the discount rate (see **Section 12**).

[3] The long term interest rate is set using the average primary overdraft rate for 2008. This rate is 15.2%.
[4] The inflation rate is set using the average CPI rate for 2008 (excluding December, which was not available yet at the time of writing this report). This rate is 11.7%.

8.6 Conclusions Financial CBA

The financial CBA shows that RDP and SRH show different cost cash flow over the period of 40 years. Mainly, RDP is rebuilt after 20 years, while SRH has higher operational costs, such as maintenance and facilities management. Further detail about the operational costs is given below. The rebuilding costs of RDP are lower than original building costs because rebuilding excludes costs such as land servicing and township proclamation.

Figure 29: RDP financial cash flow (Bram Fischerville) (ZAR)

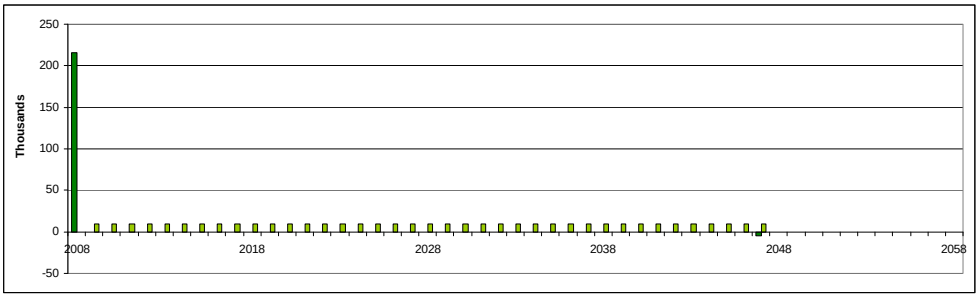


Figure 30: SRH financial cash flow (Roodepoort) (ZAR)

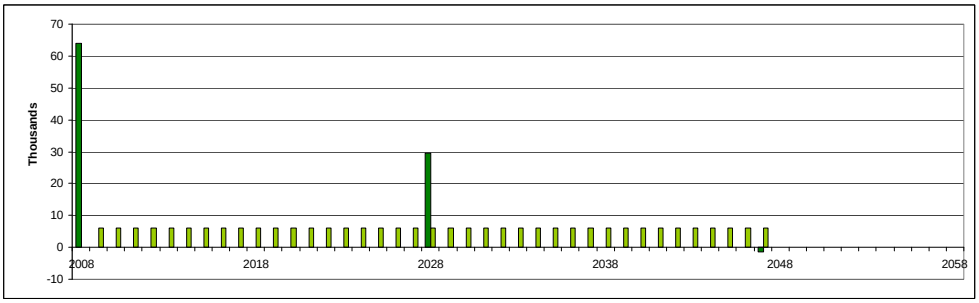


Figure 31: RDP financial cash flow (Potsdam) (ZAR)

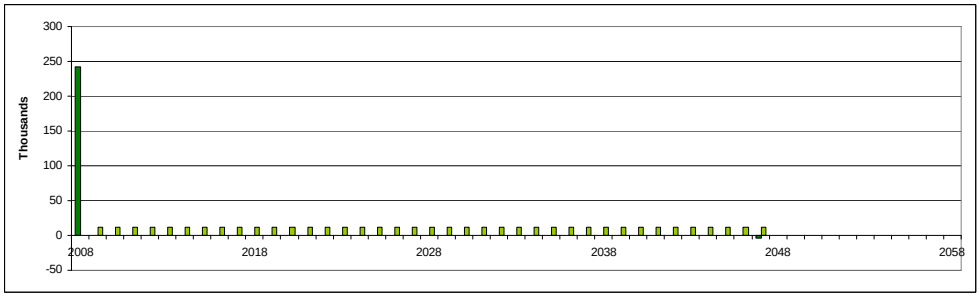


Figure 32: SRH financial cash flow (Amalinda) (ZAR)

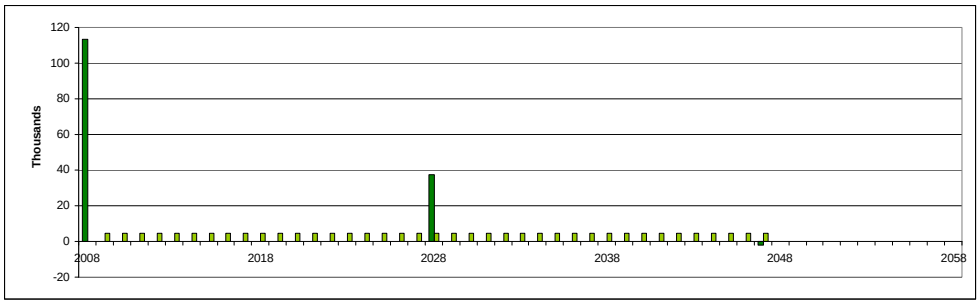


Figure 33: NPV of costs per unit (Bram Fischerville and Roodepoort) (ZAR)

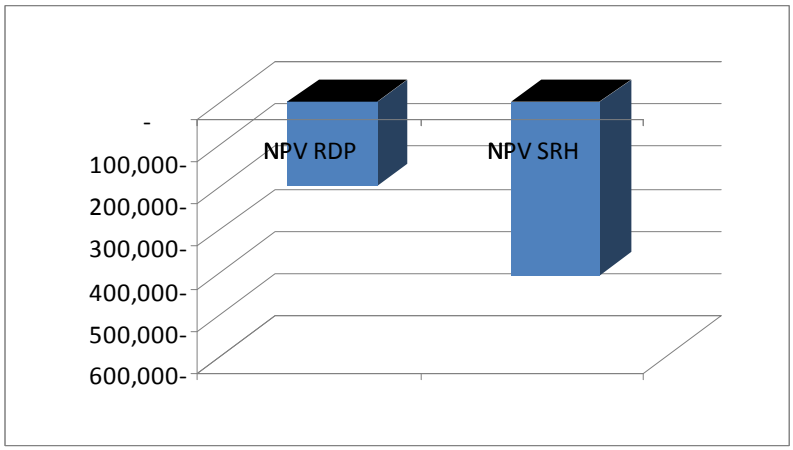
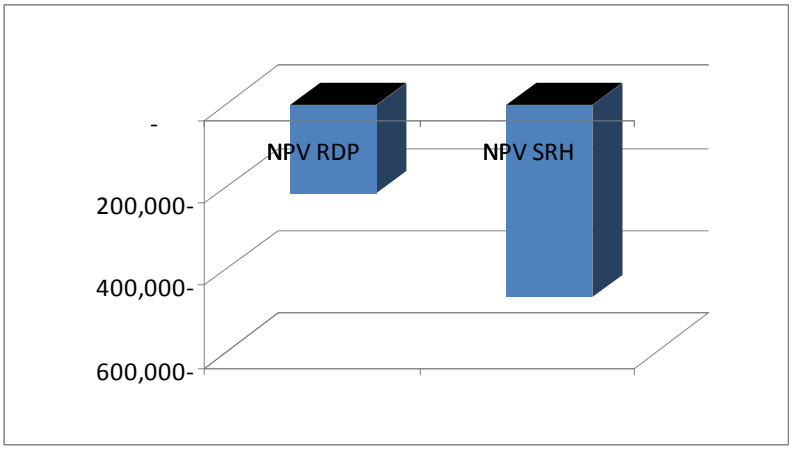


Figure 34: NPV of costs per unit (Potsdam and Amalinda) (ZAR)



The final outcome of the financial model is a comparison of the net present value of all relevant housing costs over the period of 40 years. This shows that the NPV of SRH is about 2,5 times as high as for RDP in both comparisons

Table 16: NPV Financial – Summary (ZAR)

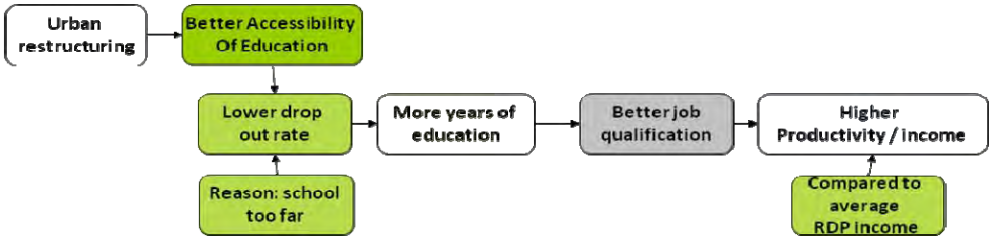
Project	NPV Financial
Bram Fischerville RDP	190,000 to 209,000 R/unit
Roodepoort SRH	387,000 to 428,000 R/unit
Potsdam RDP	206,000 to 227,000 R/unit
Amalinda SRH	443,000 to 490,000 R/unit

9 Economic CBA

9.1 The effects of Social Rental Housing - theory

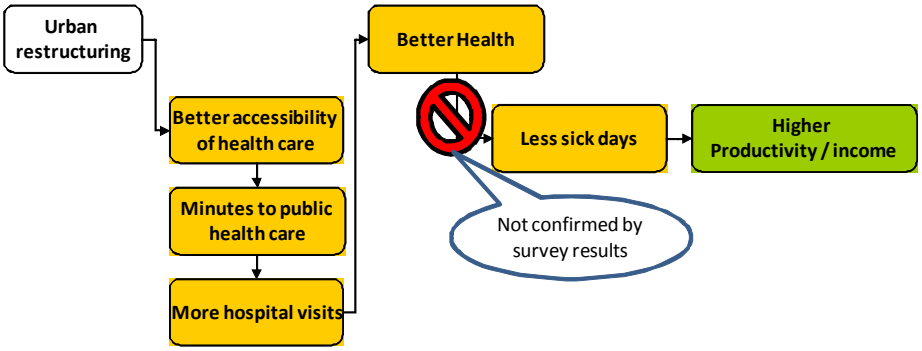
As mentioned before, the primary intended effect of SRH is to contribute to urban restructuring in order to address structural economic, social and spatial dysfunctionalities; and improve and contribute to the overall functioning of the housing sector. In order to value the effects of SRH, we translated this primary intended effect to measurable variables. In this section we will elaborate on the operationalisation of the causality chains in the model. The actual outcomes are discussed in the next section.

Figure 35: Causality education



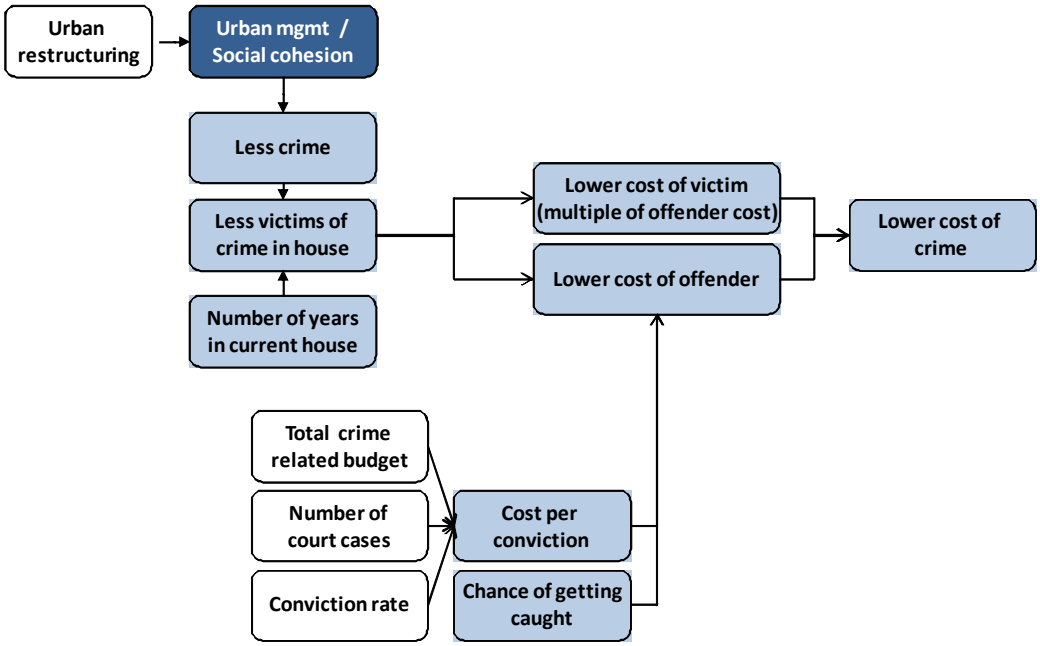
The link between urban restructuring and education was operationalised as shown in the graph above. Due to the location of social housing within the urban centre of the city, education becomes more accessible. Accessibility is measured by the difference in drop out rate between RDP and SRH, linked with the reason given for the drop out, namely the school being too far. These two variables are measured by the survey. It is assumed that staying in school instead of dropping out leads to 4 additional years of education. These additional years of education in turn will lead to a better job qualification, which will cause a higher income. We assumed the additional income to be 7% of the average annual income of an RDP resident or R 41,100. The causality of lower drop out rates, leading to additional years of education, which leads to higher income, is based on literature study. The assumptions used are based on expert opinions based on earlier research in this field.

Figure 36: Causality health



The causality link between urban restructuring and health is operationalised as follows. First, actual accessibility is measured by the number of minutes it takes to get to public health care. Furthermore, this improved accessibility should lead to additional hospital visits. This higher investment in health care should then lead to a better level of health, and in turn, less sick days. These sick days can then be valued as productive income. However, the survey results did not confirm this causality chain. In Actuality, the number of sick days for RDP residents was lower. This could be the result of a lower rate of formal employment, in effect not having a possibility to "call in sick". This poses a problem for the monetarisation of this effect. We could decide to quantify the linkage anyway, which results in a negative effect (additional costs for social housing). However, this would lack a logical explanation for this effect to occur, and it cannot be reasoned why the project case would lead to additional sickness. Therefore, it has been decided to take this effect into account in a qualitative manner.

Figure 37: Causality crime

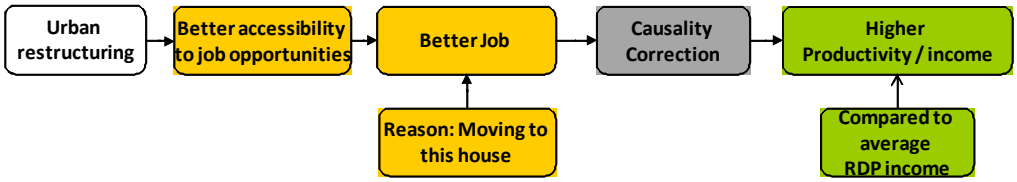


The link between urban restructuring and crime is operationalised as follows. Social housing includes extra measures of urban management, safety measures and social cohesion due to higher density. These measures affect the crime level. This variable has been measured by the number of crime victims within the house. This effect has been corrected for the average number of years that the residents have been living at this location. These variables were taken from the survey results. The difference in crime between RDP and SRH can be quantified along two lines. The first is the costs relating to the offender. These costs are built up from the total crime related budget of R 27.8 billion[5] and the total number of court

[5] Blackmore, F.L.E. (2003). A panel data analysis of crime in South Africa. SAJEMS. 6(3), pp. 439 – 458.

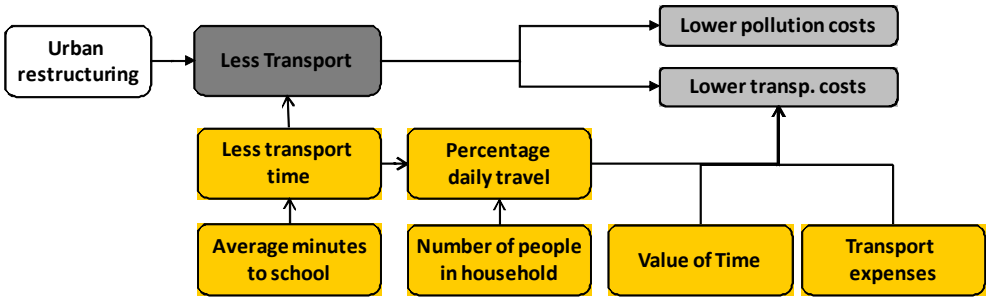
cases of almost 1 million and a conviction rate of 87%.[6] These factors lead to the costs of a conviction of an offender. In order to find the victim costs, we have to take into account the chance of getting caught, which we have assumed to be 50%. Furthermore, literature shows that victim costs can be assumed to be 3 times the costs of the offender.[7]

Figure 38: Causality employment



The link between urban restructuring and better employment opportunities is operationalised as follows. The location of SRH near employment opportunities leads to residents finding better jobs when moving to the area. The survey results were used for finding a better job, with reasons given that are related to the housing location. In addition, we have inserted a causality correction. We have done so to correct for the uneven income levels of RDP and SRH residents. We have set this factor at 50%. We have assumed that a better job leads to additional income, and we have assumed the income increase to be 7% compared to the average RDP income.

Figure 39: Causality transport



The link between urban restructuring and less transport is operationalised as follows. As a proxy for less transport we used the average of the minutes to primary and high school from the survey results. We have to relate these costs to household level, therefore we have multiplied by the number of people in the household, but corrected for the percentage of the people in the household that are travelling daily. We have assumed this percentage to be 75%, which resembles the employment rate of the RDP households. This then results in a transport time differential, the number of hours that RDP residents spend less travelling.

[6] 2006_adminjustice, Justice and Correctional Services
[7] Cohen, Mark A., and Ted R. Miller. (1999). The monetary value of pain and suffering due to criminal victimization: Evidence from jury awards. Working paper, Vanderbilt University, Nashville.

Next, we value transport savings in two ways. First is the savings in transport expenses. We assume that the taxi driver finds a more efficient allocation of the product, and therefore we can assume the expenditure of households as a saving. We have used the expenses from the survey results. Transport expenses are approximately 16 Rand per hour. Second, we value the savings in transportation time. We have used value of time standard numbers from the CBA manual for South Africa.[8]

9.2 The effects of Social Rental Housing - empirical evidence from a household survey

After having constructed a theoretical framework for the CBA, we collected empirical data. The household survey served two purposes:

- It helped to obtain a better understanding of the impact of the housing on household. By asking questions on subjects as health, employment and crime, and asking households to what extent they feel their housing situation contributes to these effects, we were able to test our causality assumptions.
- It enabled collection of micro-level data about the costs incurred by households and thereby contributed to the valuation of key economic effects.

9.2.1 Survey set-up

Objective

The objective of the survey was to provide information on households living in RDP and social housing sectors, in order to determine the impact that the type of housing has on their lives. The critical parameters were as follows:

- Employment
- Motivation to change accommodation & previous dwelling
- Social cohesion
- Schooling
- Health
- Crime
- Access to services
- Transport: Mode, time and costs
- Income and expenditure.

Method

[8] Conningarth Economists (2007). *A Manual for Cost Benefit Analysis in South Africa with Specific Reference to Water Resource Development.* Prepared for the Water Resource Commission.

A door-to-door survey was conducted in all 6 areas, and an interview conducted with the main tenant or head of the household.

Community Liaison

Progressus liaised with the councillor responsible in each RDP area, as well as the landlord in each social housing project. The objectives of the research were explained, and the method of fieldwork. All parties involved expressed interest in the results of the study.

The Sample

The sample was designed to draw 100 respondents (insofar as they existed within the inclusion criteria) randomly within each of the 6 areas.

- **RDP inclusion criteria:** Households with a minimum monthly household income of R 3,500. (This strategy was adjusted in Potsdam, Eastern Cape, because almost none of the residents qualified. A quick census was done of household income and it was decided in consultation with the client that the top earners in Potsdam will be included which resulted in households with a minimum monthly household income of R950).
- **Social Housing criteria:** Households who received a subsidy when they first occupied the unit.

The realised sample is as follows:

Table 17: Household Survey – Realised sample RDP

Building Name	Total number of households according to inclusion criteria	Number of sampled units
Bram Fischerville	700	105
Potsdam Phase 1	158	108
Mhluzi	696	104
Total sample: RDP	**1554**	**317**

Table 18: Household Survey – Realised sample SRH

Building Name	Total number of subsidized social housing units	Number of sampled units
JOSHCO Roodepoort Phase 1	16	16
SOHCO Amalinda Phase 1	208	95
GMHA Hope City Phase 1	217	108
Total sample: Social Housing	441	219

Fieldwork Training and Piloting

All fieldwork staff received contracts that satisfied legal and practical requirements with Progressus, including terms and conditions, remuneration and undertaking.

All staff that participated in the survey were trained. Interviewers were trained in all aspects related to interviewing skills and were also sensitised to the subject matter.

The monitoring staff received training in general management skills, conflict resolution and specific skills of monitoring sampled units and questionnaire completion.

9.2.2 Data management

Data collection

Data collection was done with a well-managed fieldwork system. In other words a layered supervision structure allowed both a direct hands-on approach to the management of fieldworkers, as well as a co-ordination system, which managed on a wider spectrum. This ensured the quality of the questionnaires and the quality of the sample.

Data capture and verification

Data was captured to electronic file by means of a system designed and written in Epi-Info. Professional and experienced data typists captured the data. The budget allowed for single data entry. The data set was verified and the discrepancies investigated and verified from the original questionnaires. A first set of frequencies was produced to check the data for internal consistency and again the questionnaires were used to verify discrepancies.

Analysis & reporting of results

Data was weighted and analysed for each area, as well as for all 3 RDP areas combined and all 3 social housing areas combined. Chi-square tests were performed to test for significant differences between the 2 housing sectors, as well as independent T-tests. In a few instances (where variables had many answer categories) the significance could not be determined due to insufficient sample size.

9.2.3 Demographics of the survey

The survey was conducted in 6 areas within 3 provinces of South Africa namely Gauteng, Mpumalanga and Eastern Cape. 3 RDP and 3 Social Housing projects were visited. In Gauteng Bram Fischerville RDP and JOSHCO Roodepoort Phase 1 social housing participated in the survey. In Mpumalanga Mhluzi RDP and GMHA Hope city Phase 1 social housing participated in the survey while Potsdam Phase 1 RDP and SOHCO Amalinda social housing were visited in Eastern Cape. A total of 317 respondents were interviewed in the RDP section and a total of 219 in the social housing section. 105 were interviewed at Bram Fischerville RDP section,

108 at Potsdam RDP and 104 at Mhluzi RDP. In the social housing section 16 were interviewed at JOSHCO Roodepoort, 95 in at SOHCO Amalinda and 108 at GMHA Hope City. The reason why fewer interviews were conducted in the social housing sector was because only respondents who received a social housing subsidy were included in the survey, which resulted in a smaller sample size. In the RDP section respondents were screened to interview the highest earners in each RDP settlement.

9.2.4 Survey topics

The survey included general questions on housing and some specific questions about the location of the project. The following subjects were addressed:

- Community: how do residents feel about the sense of community in the project?
- Safety: how safe do residents feel in their house? This can be related to the sense of community, but also includes the experiences of residents with crime.
- Schooling: how does the housing form affect the schooling of residents? This subject has a locational aspect (distance to schools), but also deals with the effect of housing quality.
- Health Care: how does the housing form affect the health of residents? As with schooling, this subject has a locational aspect (distance to health care facilities) and the effect of housing quality on health.
- Employment: how does the location of the housing affect the level of employment? This aspect is related to location, but also to business opportunities within the project.
- Access to services: Does the housing form affect the access to services?
- Transport: Do residents incur higher costs for transportation depending on the location of the housing?

In order to make sure the results from the survey actually relate to housing, questions about the following were included:

- Household expenditure
- Household structure
- Household income and education.

Another way to test for causality was to understand the reasons that residents experienced given effects. For instance, we asked the reason for drop outs from school. These reasons could be either housing or location related or otherwise.

9.2.5 Summary findings from the Survey

Demographics:

- Gender of head of household: RDP 54.3% female; social housing 53.4%
- Average age of household members: 25 years (RDP & social housing)
- There is a statistically significant difference in the number of household members. There are more members per household in the RDP (3.74) sector than in social housing (2.9)
- There is a statistically significant difference in household structure between the two housing sectors. Both housing sectors have a majority of nuclear families (including nuclear families with extended families and married/co-habiting couples), although RDP has more nuclear households than social housing. Social housing has significantly more single people/singles sharing-households than RDP housing. The RDP sector is made up of more nuclear families A fifth of households in both sectors are single parent households.
- Most household structures in both housing sectors stayed the same from the previous dwelling to the new dwelling, approximately a third of each increased and approximately a fifth decreased.
- The most common reason in both housing sectors for the increase in household size is the birth of children, or the ability to accommodate more people because of more space being available.
- The most important reason for the decrease in household size differs between the housing sectors (although statistical significance could not be determined). The most important reasons in the RDP section are cited as death and grown up children leaving the house. For social housing, the most important reasons for a decrease in household size are grown up children leaving the house and not having adequate space.
- Adults in social housing are better qualified than those in RDP housing with more having a tertiary qualification than those in RDP.

Employment:

- More adults in social housing are employed than in RDP and more adults in RDP are unemployed (Statistically significant: p=.000).
- More adults in social housing who are employed have *formal employment*, than those in RDP (Statistically significant: p=.000).
- More adults in social housing who are employed are *full time employed*, than those in RDP (Statistically significant: p=.000).
- Most employed adults work within the same city in both housing sectors.
- More respondents in social housing said they found a job, or found a better job since moving to their current accommodation than respondents in RDP housing.
- Reasons in both housing sectors for finding employment or improving employment are mainly because there are better work opportunities where they live now, and because it is less expensive to travel to work now.
- More adults in social housing said that moving there contributed to them finding employment or improving employment. (Statistically significant: p=.000).

Movement from previous dwelling and motivation

- The move from the previous dwelling was on average 1 year longer ago in RDP housing than in social housing.
- The most important reason for moving was mentioned in both sectors because no other accommodation could be found. For RDP, receiving a housing subsidy was cited as an important secondary reason
- Most RDP respondents plan to remain living there forever, while the majority of social housing respondents plan to live there for approximately 4 years.
- The most important reason cited in both housing sectors for people wanting to move in the future was home ownership. An equally important reason cited in RDP housing was to source better accommodation.
- Moving to the current dwelling had a perceived positive impact on the majority of households in both housing sectors.
- The most important positive impact in both housing sectors is ownership (social housing refers to the rent-to-buy strategy in place in

SOHCO Amalinda). Secondary reasons differ in the two housing sectors: In social housing, reasons include a nice place to stay, security, affordability and better living conditions. In RDP reasons include: it is living for free and having a nice place to stay.

- Negative impacts differ between the two housing sectors. In social housing it is mainly the negative impact of loud noise in the building, lack of ownership and expensive rent. In RDP, it is poor quality of houses, small houses and an increase in expenses on transport and food.

Description of previous dwelling:

- The majority of respondents in social housing previously lived in a brick house in a town/city before moving into social housing accommodation. In RDP, respondents previously came from 3 types of housing: shack in an informal settlement, backyard shack/room or to a lesser extent a brick built house in a city/town.

- RDP respondents lived statistically significantly longer in their previous dwelling than social housing respondents.

- In both housing sectors, the majority of respondents rented their previous dwelling or to a lesser extent lived for free. Less than 15% owned a previous dwelling in both housing sectors.

Social cohesion

Social cohesion measured stronger in RDP housing, than in social housing. A statistically significant difference was found in social cohesion, and was stronger in all of the following RDP sections:

- how well they know their neighbour (p=.000)

- how well they get along with people in their neighbourhood (p=.000)

- whether they will ask people in the neighbourhood for help if they have a family problem (p=.000)

- whether they will help someone in the neighbourhood when they have a family problem and they ask for help (p=.000)

- whether they will borrow money from people in their neighbourhood when in need (p=.000)

- whether they will lend money to people in their neighbourhood if they are in great need (p=.000)

- similarity of people in the neighbourhood (p=.000)

- the number of people they know well in the neighbourhood (p=.000)

Schooling

- Most children in both housing sectors attend school in the same town/city in which they live.

- There is a statistically significant difference between the two housing sectors (p=.000) with regards to parents' expectations of the education level their children will achieve. These expectations are higher in social housing than in RDP housing. Most people in social housing expect their children to reach a tertiary level, while most respondents in RDP expect their children to reach Matric.

- The majority of respondents in both housing sectors agreed that moving to the respective housing will help their children to attain the level they expect them to.

- Respondents in social housing rated the quality of schools in the area significantly better than those in RDP housing (p=.000).

- Since moving to their current dwellings, children living in RDP housing miss school significantly more than those in social housing (p=.000).

- The main reason for RDP children missing school, is cited as being that schools are too far away.

- Very few children (less than 3%) dropped out of school since moving to their current dwellings, and there is little difference between the two housing sectors.

Health:

- The majority of RDP respondents use government clinics, while the majority of social housing respondents use private GPs/clinics for their health care. There is a statistically significant difference between the two housing sectors (p=.000).

- There are statistically significantly more social housing respondents who use a health care facility *in their neighbourhood*, than RDP respondents (p=.036).

- Reasons for using government clinics: the most important reason given by respondents from both housing sectors was proximity to clinic followed by the fact that the service is free.

- Reasons for using private GP/clinic: The most important reason why respondents in both housing sectors use a private health care facility is because it is considered to *provide good health care.*

- The most important reason for visiting the health care facility is for once-off illnesses, in both housing sectors.

- Social housing respondents spend on average significantly more than RDP respondents when visiting a health care facility (p=.000).

- *Employed adults* in social housing take on average significantly more days (2 days more) sick leave per annum than RDP respondents.

- There is no difference between the two housing sectors on the number of days *children* miss school per annum (2 to 3 days per annum on average).

- There is not much difference between the two housing sectors on the number of days *adults* attend a health care facility per annum (approximately 2 and a half days).

- There is not much difference between the two housing sectors on the number of days *children* attend a health care facility per annum (approximately 4 days).

- The majority of RDP respondents said their health improved since moving to their current dwelling, while the majority of social housing respondents said it remained the same. There is a statistically significant difference between the 2 housing sectors in this regard.

- In both housing sectors the main reason for improvements in health is stated as better living conditions.

Crime

- A statistically significant difference was found between the two housing sectors on people's perception of safety, and reasons for it: Respondents living in RDP housing perceived themselves to be less safe than those living in social housing areas. However no difference was found between the housing sectors in people's actual exposure to crime in the house/ building or in the neighbourhood (p=.000).

- The most important reason why RDP residents felt safe was because they know one another, while the most important reason why they feel unsafe is poor policing in the area and the presence of gangs. The most important reasons why respondents living in social housing feel safe is because of good access control, while the most important reason why they feel unsafe is because of poor access control (p=.000).

- Less than 16% of household members were ever exposed to crime within the neighbourhood with little difference between the two housing sectors.

- Less than 14% of household members were ever exposed to crime within the house / building in which they live, with little difference between the two housing sectors.

- The most prevalent criminal exposure that household members had in the neighbourhood was theft, theft from a car, personal attack / assault / rape and robbery in street / shop.

Access to services

Data is only reported for those respondents who use these:

- Significantly more RDP respondents expressed satisfaction with their access to *water t*han those in social housing (p=.000).

- Significantly more social housing respondents expressed satisfaction with their access to *electricity* than those in RDP housing (p=.000).

- Significantly more social housing respondents expressed satisfaction with their access to *policing* than those in RDP housing (p=.000).

- Significantly more social housing respondents expressed satisfaction with their access to *health care* than those in RDP housing (p=.000).

- Significantly more social housing respondents expressed satisfaction with their access to *good schools* than those in RDP housing (p=.000).

- Significantly more RDP respondents expressed satisfaction with their access to *the councillor* than those in social housing (p=.000).

Transport

High schools:

- RDP children travel on average 5 minutes longer (which is a statistically significant difference) to high school than children in social housing (p=.000)
- Most social housing children take a taxi to school, while most RDP children walk (p=.000).
- Social housing respondents pay significantly more (approximately three times more) when going to high school when compared to RDP respondents (p=.000).

Primary schools:

- RDP children travel on average 5 minutes longer (which is a statistically significant difference) to primary school than children in social housing (p=.000).
- Most social housing children take a taxi to school, while most RDP children walk (p=.000).

- Social housing respondents pay significantly more (approximately three times more) when going to high school than RDP children (p=.000).

Crèche:

- RDP children travel on average 5 minutes longer (which is a statistically significant difference) to crèche than children in social housing (p=.000).
- Most social housing children either walk or take a taxi to crèche, while most RDP children walk (p=.000).
- Social housing respondents pay significantly more when going to crèche when compared to RDP respondents (p=.041).

Public Health Care:

- RDP respondents travel on average twice as long (which is a statistical significant difference) to a public health care facility as when compared to respondents in social housing (p=.000)
- Most social housing respondents take a taxi, walk or use their own car to go to a public health care facility, while most RDP respondents either walk or use a taxi (p=.000).
- Social housing respondents pay significantly more for transport to a public health care facility, as compared to RDP respondents (p=.000).

Private Health Care:

- RDP respondents travel on average twice as long (which is a statistically significant difference) to a public health care facility as compared to respondents in social housing (p=.000).
- Most social housing respondents take a taxi, or use their own car to go to a public health care facility, while most RDP respondents either walk or use a taxi (p=.000).
- Social housing respondents pay significantly more (approximately R5 more) for transport to a public health care facility compared to RDP respondents (p=.000).

Church:

- RDP respondents travel on average almost twice as long (which is a statistically significant difference) to a church compared to respondents in social housing (p=.000).
- Most social housing respondents walk, take a taxi, or use their own car to go to church, while most RDP respondents either walk or use a taxi (p=.000).
- Social housing respondents pay significantly more (approximately R 4 more) for transport to a public health care facility compared to RDP respondents (p=.000).

Police Station:

- RDP respondents travel on average longer (approximately 15 minutes longer - which is a statistically significant difference) to a police station compared to respondents in social housing (p=.000).
- Most social housing respondents use a taxi, or their own car to go to a police station, while most RDP respondents either walk or use a taxi (p=.000).
- Social housing respondents pay significantly more (approximately double) for transport to a police station compared to RDP respondents (p=.000).

Municipal offices:

- RDP respondents travel on average longer (approximately double the time -which is a statistically significant difference) to the municipal offices compared to respondents in social housing (p=.000).
- Most social housing respondents use a taxi, or their own car to go to a police station, while most RDP respondents either use a taxi or walk (p=.000).
- Social housing respondents pay significantly more (approximately R5 more) for transport to municipal offices compared to RDP respondents (p=.000).

Transport route (Taxi rank/station/bus route):

- RDP respondents walk on average twice as long (which is a statistical significant difference) to a transport route compared to respondents in social housing (p=.000)
- Respondents from both housing sectors mostly walk to the transport route.
- There is little difference between the housing sectors with regards to the costs of getting to the transport route.

Park/ Open spaces

- RDP respondents travel on average twice as long -which is a statistically significant difference- to a park or open space compared to respondents in social housing (p=.000).
- Most social housing respondents walk to a park/open space, while most RDP respondents walk, take a taxi, or use a car (p=.000).
- RDP respondents pay significantly more (approximately double) for transport to a park compared to social housing respondents (p=.000).

Shops for basic groceries

- RDP respondents travel on average 3 minutes longer (which is a statistically significant difference) to shops for basic groceries compared to respondents in social housing (p=.010).

- Most social housing respondents walk to go to a shop for basic groceries, while most RDP respondents either walk or use a taxi (p=.000).
- RDP respondents pay significantly more (approximately double) for transport to a shop for basic groceries compared to social housing respondents (p=.000).

Shops/Malls for shopping other than basic groceries

- RDP respondents travel on average twice as long (which is a statistically significant difference) to shops/malls compared to respondents in social housing (p=.000).
- Most social housing respondents use a taxi, or their own car or walk to go to a shop/mall, while most RDP respondents use a taxi (p=.000).
- Social housing respondents pay significantly more (approximately R3 more) for transport to a shop/mall compared to social housing respondents (p=.000).

Home Based Businesses

- A *statistically significant difference was found between the 2 housing sectors* on all questions related to home based businesses. More RDP respondents had a business in their previous dwelling than social housing respondents; more RDP respondents are currently operating a home based business than social housing respondents and more RDP respondents expressed the wish to have a home based business in future, compared to those in social housing (significance on all 3 questions: p=.000).

Income and Expenditure

- Respondents in social housing earn on average 3 times more than those in RDP settlements (p=.000).
- Significantly more respondents in social housing reported an increase in *income* since moving to the new dwelling compared to those in RDP housing (p=.000).
- Significantly more respondents in social housing reported an increase in household *expenses* since moving to the new dwelling than those in RDP housing (p=.000).
- The main reasons for the increase in household expenses were attributed to increased transport and grocery costs in RDP households, while in social housing households, it was due to high rentals and more expensive transport and groceries.

9.2.6 Key challenges in using household survey data

Although the survey provided useful information for valuing effects, there are several issues that prevent making use of all the output. See the table below.

Table 19: Survey – Summary findings

	Sample Size	Years in current dwelling	Level of education	Monthly income
1. Braam-fischerville	105	4,2	10,6	3974
2. Potsdam Phase 1	108	1,0	8,1	2123
3. Mhluzi	104	4,7	9,8	4176
Average RDP	**317**	**3,3**	**9,5**	**3425**
4. JOSHCO Roodepoort Phase 1**	16	0,0	11,5	7306
5. SOHCO Amalinda Phase1	95	5,6	11,8	10392
6. GMHA Hope City Phase 1	108	1,9	12,3	17816
Average Social Housing	**219**	**2,5**	**11,9**	**11838**

Sample size

The sample size for Roodepoort is very small. The primary reason is that this is a very new project (some 14 months old), comprising of only 82 units of which 20% (16 units) fall within the subsidy band as required by the social housing policy. The small sample size of the Roodepoort project means that valuation of effects cannot be based on the results from that project alone. The results would most probably not be representative for the entire project or for Social Rental Housing in general.

Control variables

For the purposes of the economic CBA, two housing types are compared. Ideally, the residents of each housing type only differ in respect of the housing type in which they reside. Other variables that can influence the causal relation between housing and effects are income and education level. While it is assumed that housing causes a difference between RDP and SRH, differences in income or education level could actually be the cause of the observed difference. As the table above demonstrates, the income differences between the residents in RDP and SRH are substantial. In the set-up of the survey, the intention was to interview households with similar income levels. In relation to RDP, this meant households with an income level of above R 2,500 per month and in relation to SRH households, those who qualified for a subsidy and thus earned less than R3,500 per month at time of entry. The average incomes in the different projects were in reality not similar with SRH residents with a much higher average income than RDP residents. This is an important factor when further causalities are considered.

The level of education of SRH residents is also slightly higher than that of RDP residents.

Several subsets from the survey results have been generated, focusing on the households within the sample that do have roughly similar incomes. However, the sample sizes for these subsets were far too small to draw any quantitative

conclusions. These results have been used, however, to qualitatively analyse the results. The table below shows the sample size and mean income for the sub sample where the income range between 3000 and 6000 Rand monthly has been selected.. The sample sizes are very small especially in relation to SRH and Potsdam in the case of RDP..

	sample size	mean income
1. Braam-fischerville	39	3966
2. Potsdam Phase 1	16	3869
3. Mhluzi	42	3954
Total	97	3945
4. JOSHCO Roodepoort Phase	4	3525
5. SOHCO Amalinda Phase1	14	4353
6. GMHA Hope City Phase 1	12	4417
Total	30	4268

Number of years in housing

Furthermore, it is important to consider the number of years people have lived in their current dwelling, as it provides information necessary for valuation purposes. For example, households were asked whether they have ever been a victim of crime in their neighbourhood. The number of years that a resident has lived in the neighbourhood has great impact on the level of crime and the costs to society. If residents, report having been a victim of crime in their house while they have lived there for 10 years, this means the level of crime could be lower than if they had lived there for only one year.

Long term benefits

The table shows that most residents have not been living in their current dwelling for very long, approximately 3 years on average because we opted for more recent projects, which represent best practices. This means, however, that the long term effects of housing cannot be analysed and that assumptions have had to be made.

9.3 Valuation of economic effects

The following paragraphs deal with the valuation of individual effects and include an explanation of how the above mentioned challenges have been met.

9.3.1 Education

The expected effect for education was that the accessibility of education impacts on education level, and consequently job opportunities and income in later life.

Table 20: Survey – Education: Summary findings

	Minutes to primary education	Minutes to high school	Walking as mode of transport (average primary/high school)	Miss school more	Drop out
1. Braam-fischerville	27	41	80%	20%	2%
2. Potsdam Phase 1	29	44	28%	31%	10%
3. Mhluzi	21	21	90%	1%	3%
Average RDP	**26**	**35**	**66%**	**17%**	**5%**
4. JOSHCO Roodepoort Phase 1**	13	33	75%	0%	0%
5. SOHCO Amalinda Phase1	16	28	13%	0%	2%
6. GMHA Hope City Phase 1	20	21	7%	0%	4%
Average Social Housing	**17**	**27**	**32%**	**0%**	**2%**

Interestingly, Potsdam shows an out-of-the-ordinary rate in both drop out and missing school. This is the housing project that is also a significant distance away from the CBD. This is not translated, however, as one would expect into longer travelling time to either primary or secondary education. This can be explained by the mode of transportation used in Potsdam. Potsdam children more often go to their school by bus or taxi, unlike those in most RDP areas where children tend to walk to school.

To control for the income effect, we have also taken the sub sample of residents with an income between 3000 and 6000 Rand. The results of this sub sample are in the table below. The results are generally the same when income differences have been corrected. There is still, however, a difference in travelling time to school. Due to the very small sample size it is not possible to conclude anything further, or the exact differences in travel time. The trend in the sub sample in terms of missing school and drop out rates is similar to the trend in the overall sample : children in RDP miss school more often and drop out more often than children in SRH. However, the drop-out rate is an unreliable variable in the small sample, because it has a very low occurrence rate. This means that in a sample of 16 residents, only one occurrence results in a very large swing in the final outcome.

small sample	Minutes to primary education	Minutes to high school	Walking as mode of transport (average primary/high school)	Miss school more	Drop out
1. Braam-fischerville	24	40	73%	11%	5%
2. Potsdam Phase 1	33	44	25%	27%	9%
3. Mhluzi	19	23	98%	3%	7%
Average RDP	**23**	**33**	**76%**	**10%**	**7%**
4. JOSHCO Roodepoort Phase	15	33	75%	0%	0%
5. SOHCO Amalinda Phase1	23	18	20%	0%	0%
6. GMHA Hope City Phase 1	13	20	0%	0%	0%
Average Social Housing	**18**	**21**	**19%**	**0%**	**0%**

9.3.2 Health

The expected effect was that the accessibility of health care impacts health level. The table below illustrates that, on average, RDP residents experience a longer travelling time to public health care than those in SRH. If level of health is constructed as a variable, it shows improved relative health for SRH residents as compared to this in previous housing. However, if this is related to the number of sick days per year, RDP residents show a lower number. This does not correspond to the hypothesized effect. There is evidently another causality here. For instance, SRH residents experience more job security and therefore find it easier to call in sick for a day. Possibly, this could improve long term health. However, then we would no longer be looking at an effect that is caused by housing.

Table 21: Survey – Health: Summary findings

	Minutes to public health care	Walking as mode of transport	Level of health*	Number of days sick per year
1. Braam-fischerville	32	43%	37%	4,4
2. Potsdam Phase 1	39	18%	32%	4,3
3. Mhluzi	17	90%	46%	2,8
Average RDP	**29**	**50%**	**39%**	**3,8**
4. JOSHCO Roodepoort Phase 1**	17	75%	75%	3,7
5. SOHCO Amalinda Phase1	12	42%	33%	5,8
6. GMHA Hope City Phase 1	20	24%	29%	6,0
Average Social Housing	**16**	**47%**	**46%**	**5,2**

* Constructed from question "did yourhealth improve, deteriorate or stay the same", where level of health equals percentage improved minus percentage
** JOSHCO data only includes 16 persons; this could produce outliers in the data

The conclusion reached is that there is no health effect due to location of housing. As a result, this effect is not monetarized and not included in economic CBA.

With reference to the income group 3000 – 6000 Rand, the following emerged.. There is still a difference in travelling time to health care. In terms of level of health, (excluding Roodepoort because these are based on just 4 people), the same

results are evident. with the change in level of health being slightly better for SRH residents. There is no difference in results in the number of sick days, these being, on average, equal. Looking more specifically at Potsdam and Amalinda, the same trend is evident as in the total sample, namely that RDP residents report a smaller number of sick days. These results confirm the conclusion that there is no health effect that is coherent within the causality chain and consequently this effect will not be monetarized.

Small sample	Minutes to public health care	Walking as mode of transport	Level of health*	Number of days sick per year
1. Braam-fischerville	34	56%	33%	4
2. Potsdam Phase 1	38	6%	31%	3
3. Mhluzi	19	92%	38%	3
Average RDP	**28**	**63%**	**35%**	**4**
4. JOSHCO Roodepoort Phase	17	100%	100%	5
5. SOHCO Amalinda Phase1	13	69%	21%	5
6. GMHA Hope City Phase 1	14	20%	25%	3
Average Social Housing	**14**	**54%**	**33%**	**4**

9.3.3 Crime

Due to the security measures in Social Housing and the higher density structure it is anticipated that social housing results in decreased crime levels.

Table 22: Survey – Crime Summary findings

	Victim of crime in neighbourhood	Victim of crime in building
1. Braam-fischerville	15%	14%
2. Potsdam Phase 1	16%	11%
3. Mhluzi	14%	15%
Average RDP	**15%**	**14%**
4. JOSHCO Roodepoort Phase 1**	25%	6%
5. SOHCO Amalinda Phase1	21%	12%
6. GMHA Hope City Phase 1	10%	14%
Average Social Housing	**19%**	**11%**

The table shows that even though two of the three SRH projects are in neighbourhoods with high crime levels, the crime rate in the building itself is equal to or lower than in RDP houses. JOSHCO Roodepoort residents experience a very low crime rate. However due to the small sample size, this result may not be representative. In the case of Bram Fischerville and Roodepoort average RDP and SRH levels of crime have been used. Note that crime levels in this table have been corrected by the number of years that residents have lived in the building and by the number of residents per household. The results indicate that, on average,, residents in SRH experience more crime in their building on a per year per resident

basis than those in RDP. It could be argued that the measures taken in SRH to prevent crime in the building are less effective in areas where there is a higher incidence of crime. Further research is necessary before any definitive conclusion on this topic can be determined..

The table below shows the results corrected for income effects. On average, it can be seen that in SRH, the neighbourhood has a higher occurrence of criminal activity, while crime in the building shows varying outcomes. Results on crime are, however, extremely unreliable given the small sample. This is as a result of the very low rate of occurrence of the measured variable. In a sample of 16 residents, one occurrence can result in a very large swing in the final outcome. It is not very useful, therefore, to further examine or draw conclusions from these results.

Small sample	Victim of crime in neighbourhood	Victim of crime in building
1. Braam-fischerville	10%	26%
2. Potsdam Phase 1	6%	6%
3. Mhluzi	21%	14%
Average RDP	**14%**	**18%**
4. JOSHCO Roodepoort Phase	25%	
5. SOHCO Amalinda Phase1	43%	14%
6. GMHA Hope City Phase 1	8%	25%
Average Social Housing	**27%**	**17%**

9.3.4 Employment

The survey results show that in Potsdam particularly, there are a very low percentage of residents that have accessed a better job while moving into a new house. The exceptionally low employment level amongst Potsdam residents has to be seen in the context of the very high ratio of pensioners resident who are in receipt of state pension support..

Table 23: Survey – Employment Summary findings

whole sample	Better job since moving, due to living here	Employed	Informally employed	Income level increase
1. Braam-fischerville	13,8%	58%	9,7%	45%
2. Potsdam Phase 1	0,4%	22%	4,0%	8%
3. Mhluzi	8,5%	57%	13,9%	38%
Average RDP	**5,9%**	**46%**	**9,0%**	**30%**
4. JOSHCO Roodepoort Phase	18,8%	71%	0,0%	50%
5. SOHCO Amalinda Phase1	15,7%	70%	3,2%	48%
6. GMHA Hope City Phase 1	18,3%	83%	1,4%	59%
Average Social Housing	**18,5%**	**74%**	**1,6%**	**52%**

The table below shows the results corrected for income group. In relation to employment, it is interesting to assess whether income differences affect the outcome. In general, more residents in SRH have accessed better work since moving into SRH. There is evidence of a change in employment rates, but this could be due to the specific person in the household interviewed as part of the survey). The results in increase of income level have changed; we now see that the number of residents that have experienced an income increase is almost equal.

small sample	Better job since moving, due to living here	Employed	Informally employed	Income level increase
1. Braam-fischerville	13,1%	72%	21,4%	51%
2. Potsdam Phase 1	4,7%	32%	25,0%	19%
3. Mhluzi	5,1%	55%	23,0%	31%
Average RDP	**8,3%**	**58%**	**22,7%**	**37%**
4. JOSHCO Roodepoort Phase	18,8%	56%	16,7%	25%
5. SOHCO Amalinda Phase1	16,3%	59%	23,9%	29%
6. GMHA Hope City Phase 1	12,5%	17%		42%
Average Social Housing	**15,1%**	**42%**	**13,4%**	**33%**

9.3.5 Transport

In respect of transport, use is made of a proxy for travelling time the minutes to primary and high school, which are shown in the table above on the topic of education. For transport costs, the average transport expenses of RDP residents have been used.

Table 24: Survey – Transport Summary findings

	Km to CBD	Transport expenses as % of total budget	Transport expenses	Transport expenses as % of total income
1. Braam-fischerville	3	29%	525	13%
2. Potsdam Phase 1	25	23%	316	15%
3. Mhluzi	6	17%	356	9%
Average RDP	**11**	**23%**	**399**	**12%**
4. JOSHCO Roodepoort Phase 1**	3	15%	554	8%
5. SOHCO Amalinda Phase1	2	16%	842	8%
6. GMHA Hope City Phase 1	6	12%	646	4%
Average Social Housing	**3**	**14%**	**681**	**6%**

The table below shows the results corrected for income effects. Interestingly, it is found that there is a large difference in travelling time. The total sample shows that SRH residents spend a larger amount on transport, which could lead to the conclusion that the difference in travel time is mostly due to income differences, with SRH residents buying faster transport. However, when looking at the results from the small sample, it is evident that there is still a large difference in travelling time, even though expenses on travelling are almost equal. This leads to the conclusion that location, or housing, is the cause of the difference in travelling time and not income.

it is also interesting to note that in Bram Fischerville and Roodepoort, the distance to the Central Business District is equal, but travelling time nevertheless shows a large difference. The explanation for this could be in the physical lay out of the total RDP project, which results in more travelling to exit the quarter, whereas SRH is more densely structured and therefore reduces travelling time.

small sample	Km to CBD	Transport expenses as % of total budget	Transport expenses	Transport expenses as % of total income
1. Braam-fischerville	3	30%	602	15%
2. Potsdam Phase 1	25	25%	629	16%
3. Mhluzi	6	13%	252	6%
Average RDP	**11**	**22%**	**455**	**12%**
4. JOSHCO Roodepoort Phase	3	9%	283	8%
5. SOHCO Amalinda Phase1	2	18%	726	17%
6. GMHA Hope City Phase 1	6	8%	358	8%
Average Social Housing	**3**	**13%**	**520**	**12%**

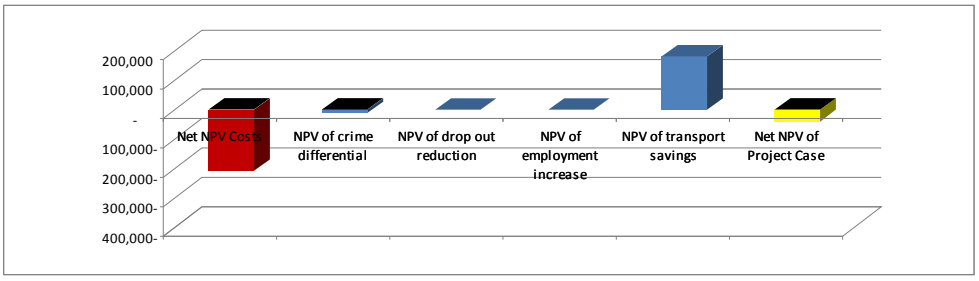
Note that we have consistently used the survey results from the total sample, because the sample size of the comparable income group was too small. Conclusions are therefore based on the total sample. However, seeing the survey results from the sub sample, we feel that in, general, there is no distortion from income effects.

9.4 Conclusions Economic CBA

The economic CBA calculates values for the different effects that have been described in this chapter. These effects have been added to the results from the financial CBA. The figures below show for the two project cases from left to right:

- The net NPV of Costs, which are the results from the financial CBA
- The NPV of crime
- The NPV of education (drop out)
- The NPV of employment
- The NPV of transport
- The resulting NPV of the project case, which sums up the previous NPVs.

Figure 40: Net Present Value of Costs and Benefits (Bram Fischerville/Roodepoort)

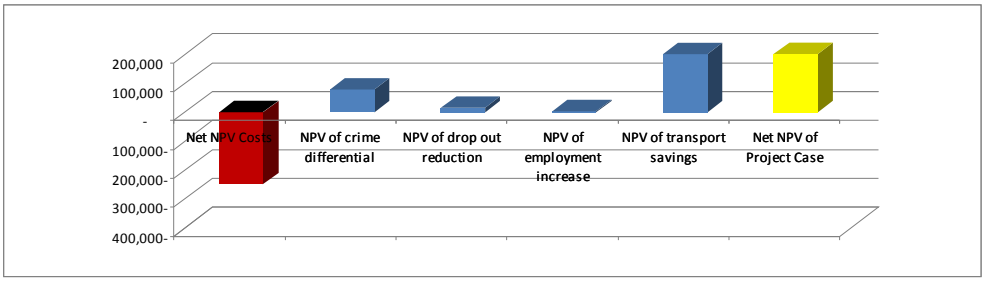


For Bram Fischerville/Roodepoort, there are no education and employment effects.

These effects are locational and are therefore only included in the Potsdam/Amalinda comparison. The crime effect is slightly negative.

Note that average results have been used of RDP and SRH to calculate the crime effect for Bram Fischerville and Roodepoort.

Figure 41: Net Present Value of Costs and Benefits (Potsdam/Amalinda)



For Potsdam/Amalinda the financial CBA resulted in a very negative net NPV.

However, the crime effect is quite large. The NPV of education and employment are not that high in comparison which is due to the relatively low monthly income of RDP.

The table below shows the numerical outcomes of the CBA, corresponding to the graphs above.

Table 25: NPV results of economic CBA (ZAR)

	Bram Fischerville / Roodepoort	Potsdam/Amalinda
NPV of crime differential	198,000 to 219,000	238,000 to 263,000
NPV of drop out reduction	12,000 to 13,000	75,000 to 83,000
NPV of employment increase	-	15,000 to 17,000
NPV of transport savings	-	4,000 to 5,000
Net NPV project case	**172,000 to 190,000**	**461,000 to 510,000**

10 Distributional Analysis

Although the Cost Benefit Analysis is an instrument that focuses primarily on the net worth of a project to society as a whole, the distribution of effects often provides insights useful to policy makers. Identifying those in society who incur costs and those who receive the benefits can facilitate a more balanced appraisal and subsequent decision making. A project might, for example, have a negative net value, but might lead to a redistribution of wealth deemed desirable by policy makers. Insight into the size of the redistribution of effects can therefore be considered a quantitative supplement to the net present value analysis.

The financial CBA and economic CBA have identified and quantified differences in costs and benefits incurred between the base case (RDP housing) and the project case (Social Housing). This is aggregated at the level of society as a whole. A distributional analysis has been conducted in which the main financial and economic costs and benefits identified are attributed to the parties to which they mainly occur. In this section the main parties considered in the distributional analysis are identified, the main financial and economic costs and benefits are distributed to these parties, and the implications identified.

10.1 Parties

There are potentially a very wide range of parties within society that may be directly or indirectly affected by social housing projects – from agencies directly financing activities, to residents themselves, to infrequent passers-by. These parties may be affected more or less, and may also be more or less relevant for decisions regarding projects. For the purposes of informed decision-making, therefore, a selection of the most important parties was made as the basis for the distributional analysis. Those parties have been selected where:

- Significant costs or benefits are incurred (i.e. parties where only minor costs or benefits occur are not considered), or
- The party is relevant for decision-makers (e.g. direct project recipients), or
- The party does not pass the costs through to other parties (with the exception of 'government' where costs are passed to tax payers as discussed below).

The main parties considered in the distributional analysis are:

1. National / Provincial Government – specifically national and provincial government departments directly supporting projects (e.g. by financing construction of housing or related infrastructure) or indirectly effected by the impacts that RDP or Social Housing may have on services for which they are responsible. Since provincial governments are for a very large part financed by transfers from national government, for the purposes of distribution they are treated together.

2. **Municipal Government** – the municipal government within whose jurisdiction projects are located and which has responsibility for the future of such areas. With regard to government, it is noted that additional costs or benefits that are incurred could be allocated also to the relevant tax payers funding that government, for example national tax payers for national and provincial governments, or property tax payers for municipal governments.

3. **Recipient Residents / Households** - This refers to the residents and households of the RDP or Social Housing projects themselves, namely the recipients of the project intervention. It does not refer to residents or households in adjoining areas, or others within the municipal boundaries.

In the case of Social Housing Institutions themselves, these institutions function primarily as agents through whom costs are transferred to other main parties, and specifically residents. For example, maintenance costs of Social Housing Units are recouped through rentals, in which case the actual cost of maintenance falls to tenants and not to the SHI itself. Similarly, with contractors and developers of RDP houses, construction and related costs are mainly transferred to subsidising parties.

10.2 Distribution over parties – methodological issues and approach

In this section the main costs and benefits identified in the financial CBA and the economic CBA are attributed to the parties which incur them. A number of general methodological and practical issues regarding the distributional analysis should be noted:

- Importantly, the analysis focuses on actual costs and benefits incurred by parties, rather than on what could be argued to be the responsibilities for costs or benefits of parties. For example, if residents of a house do not pay for the services they actually use, the costs of such services are attributed to the party who actually pays the cost (for example the utility company or municipality concerned) and not to the resident who is responsible for such costs.

- In undertaking this distributional analysis it should be noted that the distributional analysis concerns only the main parties identified as significant within the study. Similarly, costs and benefits are incurred at different times – i.e. costs and benefits may be incurred by different parties at different times over the duration of the project life. The distributional analysis identifies these costs and benefits today in present value terms.

- A further complication to distributing costs and benefits to parties is the difficulty in identifying precisely which party to attribute such costs and benefits to, given that a matrix of connections may exist between parties.

For example, costs occurring to national government are arguably costs to national tax payers. Similarly, costs to provincial governments are arguably costs to national tax payers since provincial governments are almost entirely financed through fiscal transfers. Similarly, maintenance costs paid by SHIs are ideally recouped through the rental paid by tenants, in which case the cost is ultimately carried by residents, and so on. Wherever possible such attribution issues are taken into consideration in the analysis.

With regard to the distributional analysis, a number of approaches and assumptions were made to allow for distribution of costs between parties. In particular, the following:

- With regard to financial costs, it is assumed that the direct costs incurred by national and provincial governments are equivalent to the direct subsidy amounts paid by those parties. This includes capital subsidies for housing construction, and capital infrastructure grants (MIGs and PIGs). Any additional capital construction or capital infrastructure costs not covered by the subsidy are assumed to be paid by the municipality.

- Economic costs or benefits incurred are attributed, where possible, to parties to which they incur. For example, offender costs are attributed to the national government where judicial and policies expenditure is made.

- For the maintenance of housing, it is assumed that residents are responsible for such costs, independently in the case of RDP houses, and managed through SHIs in the case of SRH.

- Regarding payment for the consumption of utilities, the cost of the so-called lifeline volume of services (principally water, electricity and waste collection) is attributed to municipalities in the case of both RDP and SRH. By policy this is determined to be covered through the municipal equitable share of revenue.

- Payment for utilities consumed above the lifeline volume and service costs covered by property taxes are attributed to residents based on payment levels. For SRH this is 100% (as payment is pre-paid or is collected through the SHI) while in the case of the RDP projects this is 0% as most costs are neither billed nor collected.

10.3 Distributional Analysis – Financial CBA

The results of the distributional analysis for financial costs of RDP projects are presented on the graphs below. It should be noted that these are full life-cycle costs of the base case and the project case.

Figure 42: Distribution of 40-Year Financial Costs per Housing Unit Between Parties, RDP Projects, Percentage

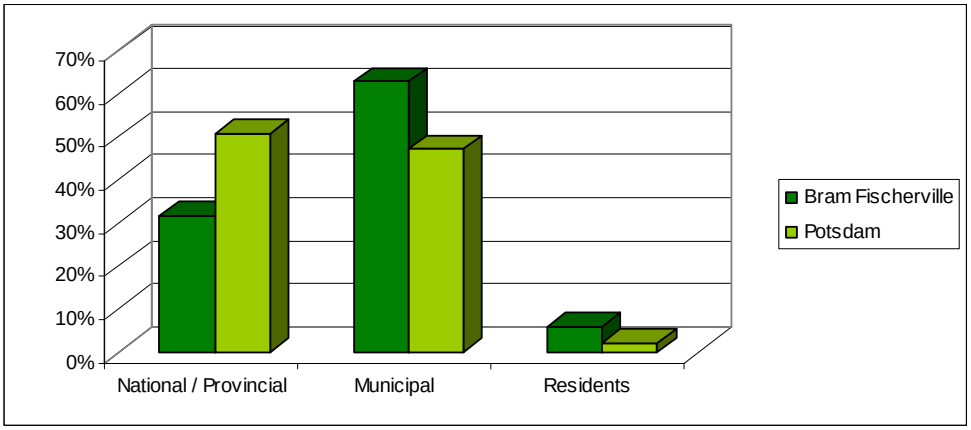
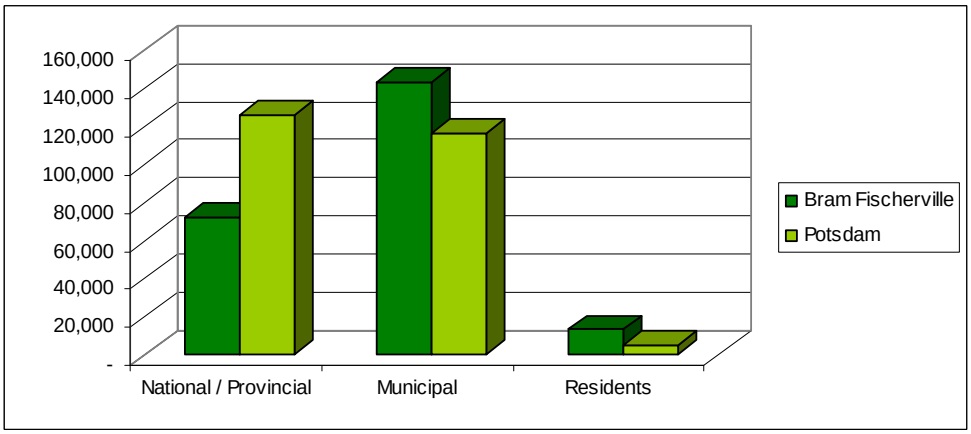


Figure 43: Distribution of 40-Year Financial Costs per Housing Unit Between Parties, RDP Projects, ZAR (2008)



For RDP housing, with regard to lifecycle financial costs, the following is apparent:

- The majority of lifecycle costs are incurred by the government, both national/provincial and municipal, with residents carrying the least costs.
- Upfront RDP housing subsidies provided by national / provincial government create lifecycle costs that are incurred especially by municipalities.

- At set national / provincial subsidy levels, it is the low contribution of residents to lifecycle costs (especially maintenance, utilities and services covered by local taxes) that results in municipalities carrying these additional costs.

The results of the distributional analysis for financial costs of SRH projects are presented on the graphs below. It should be noted that these are full life-cycle costs of the base case and the project case.

Figure 44: Distribution of 40-Year Financial Costs per Housing Unit Between Parties, SRH Projects, Percentage

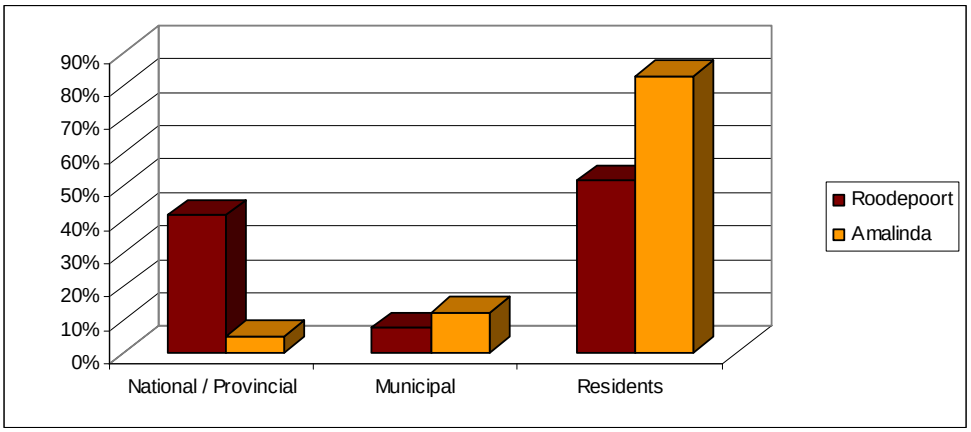
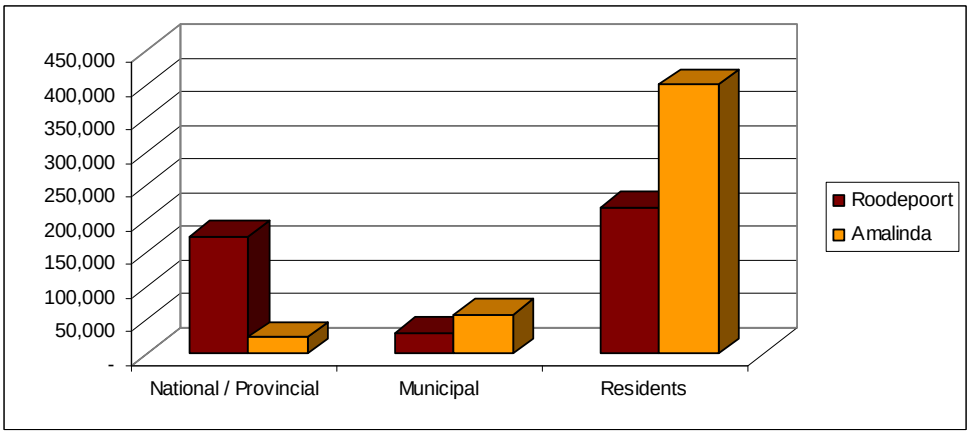


Figure 45: Distribution of 40-Year Financial Costs per Housing Unit Between Parties, SRH Projects, ZAR (2008)



For SRH housing, with regard to lifecycle financial costs, the following is apparent:

- The majority of lifecycle costs for SRH are carried by residents, as SHIs both manage and pass on especially maintenance and utility costs to residents.

- Upfront national / provincial SRH subsidies do not create a substantial lifecycle cost burden for municipalities (in comparison to RDP subsidies).

- At set national / provincial subsidy levels, SRH subsidies result in residents contributing most to their lifecycle costs and do not create the same level of financial burden to municipalities as do RDP subsidies.

Comparing the distribution of lifecycle financial costs of RDP and SRH, the following can be observed:

- RDP housing has higher distributive (subsidisation) impacts (residents pay less and receive more support from government) than SRH (where residents carry more of the lifecycle financial costs themselves).

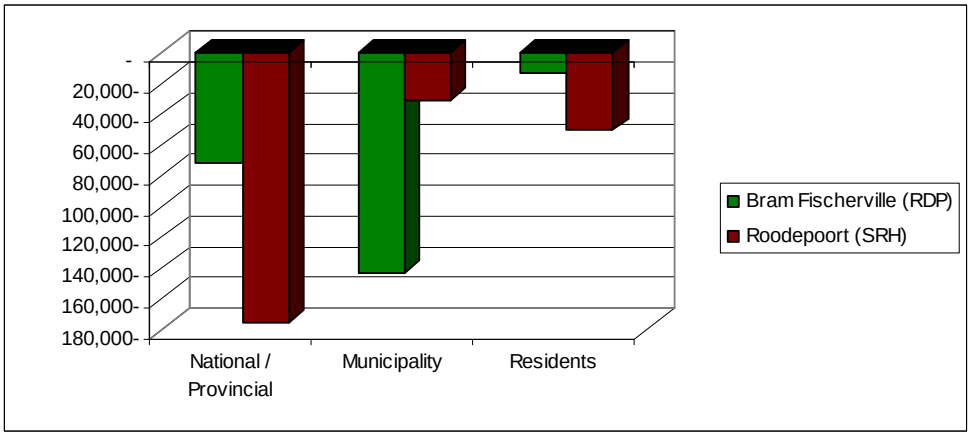
- National RDP subsidies create an additional lifecycle financial burden for municipalities (an additional structurally-induced subsidy).

- SRH creates a situation in which residents contribute substantially to their own lifecycle financial costs of housing, as opposed to RDP where this defaults to the municipality.

10.4 Distributional Analysis – Financial and Economic CBA

In this stage of the distributional analysis the financial and economic costs and benefits are allocated to parties. It should be noted that this is the full lifecycle financial and economic costs and benefits. Since the economic analysis focuses on the differences in costs and benefits between the base and project cases, the distribution is made comparatively for each set of projects. On the tables below, the base case (RDP) is the total lifecycle financial cost for the RDP units, while for the project case (SRH) it is the financial costs together with the economic costs and benefits associated with the SRH units, in both cases distributed between parties. The comparison of Bram Fischerville and Roodepoort, which results in a net negative NPV is considered first.

Figure 46: Distribution of 40-Year Financial and Economic Costs and Benefits per Housing Unit Between Parties, Bram Fischerville (RDP) and Roodepoort (SRH), ZAR (2008)

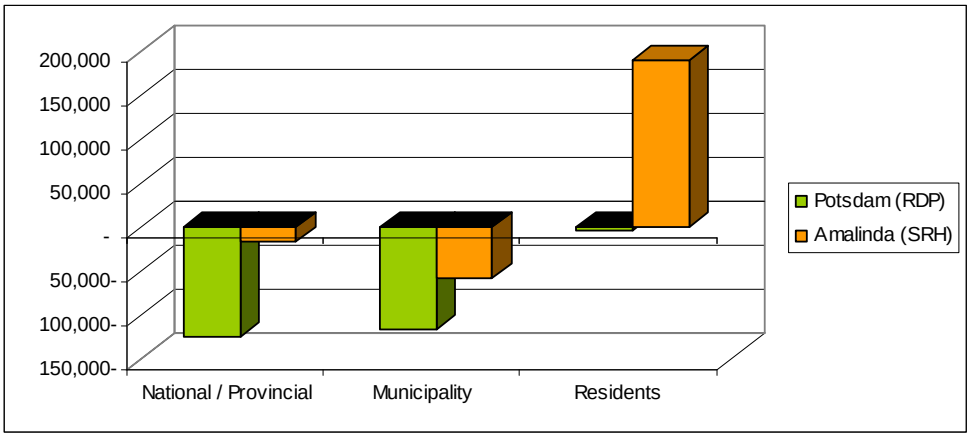


For the comparison of Bram Fischerville and Roodepoort, it can be seen that:

- SRH and RDP have similar costs for residents,
- RDP creates a disproportionate cost burden of more than 5 times for municipalities in comparison to SRH, and
- SRH is a higher cost burden for national / provincial governments,
- As these projects are in similar locations within the city, it suggests that similarly located RDP and SRH projects have similar cost benefits for residents, while RDP housing creates a municipal lifecycle cost burden, and SRH has lifecycle costs carried mainly by national / provincial government.

The comparison of Potsdam and Amalinda which results in a strongly positive NPV is presented below.

Figure 47: Distribution of 40-Year Financial and Economic Costs and Benefits per Housing Unit Between Parties, Potsdam (RDP) and Amalinda (SRH), ZAR (2008)



- For the comparison of Potsdam and Amalinda, the following is apparent:
- Residents enjoy strong additional economic benefits from SRH in comparison to RDP housing,
- RDP housing is a somewhat greater cost burden to municipalities than SRH,
- RDP is substantially more costly to national and provincial governments than SRH,
- Since the RDP project is in a peripheral location to the city, this suggests that SRH is considerably more beneficial to national / provincial governments, municipalities, and residents than peripherally located RDP housing.

The above comparison of distributed financial and economic costs and benefits highlights the key influence of location on the costs and benefits of SRH in comparison to RDP housing.

It is interesting to look in more detail at where the additional economic costs and benefits for the project cases occur, as provided in the tables below.

Figure 48: Categories of 40-Year Economic Costs and Benefits per Housing Unit Between Parties, Bram Fischerville (RDP) and Roodepoort (SRH), ZAR (2008)

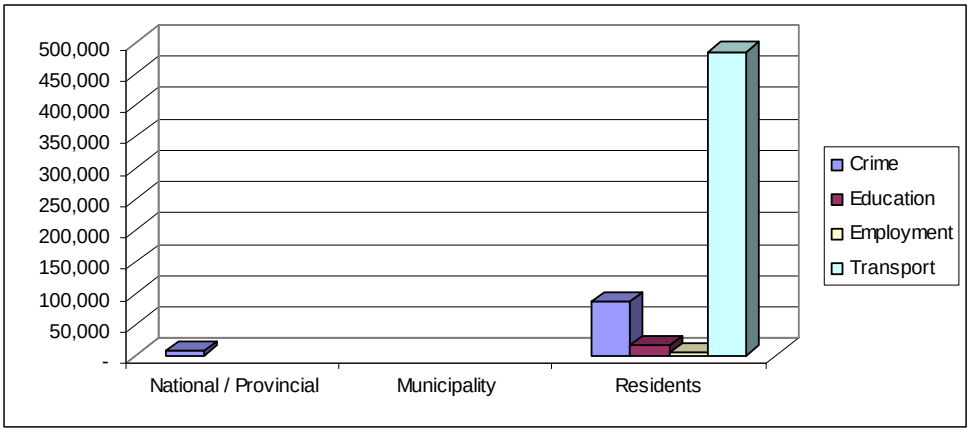
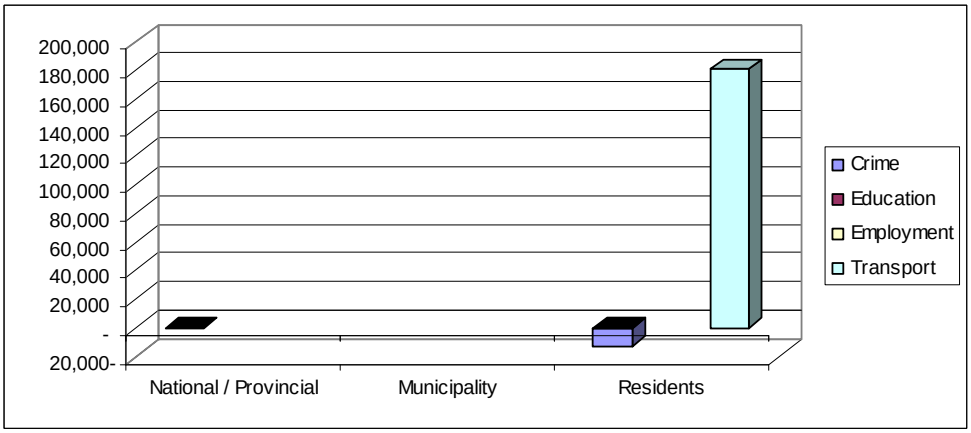


Figure 49: Categories of 40-Year Economic Costs and Benefits per Housing Unit Between Parties, Potsdam (RDP) and Amalinda (SRH), ZAR (2008)



From the categories of economic costs and benefits it can be seen that in both project cases residents have substantial transport benefits in SRH rather than in RDP housing. This is especially strong in comparing Amalinda to the more peripherally located Potsdam project. The Amalinda case also demonstrates benefits to national / provincial government in reduced criminality and for residents in reduced criminality, education benefits and to a lesser extent employment benefits. This conclusion again reinforces the importance of locality with regard to the economic benefits associated with SRH in comparison to RDP housing.

10.5 Conclusions of distributional analysis

The distributional analysis focused on examining the distribution of lifecycle financial and economic costs and benefits between the main parties related to the projects, namely municipal / provincial government, municipalities, and residents. The conclusions drawn from the distributional analysis are:

- While RDP houses initially cost less than SRH financially, they create a substantial lifecycle cost to municipalities, which is not similarly carried by national / provincial governments or residents themselves.

- While SRH houses initially cost significantly more financially than RDP houses, the lifecycle costs are carried primarily by national / provincial government, and especially residents themselves. This avoids creating the lifecycle cost to municipalities seen in RDP housing.

- When RDP housing is peripherally located, SRH is a financially and economically better option over the full lifecycle than RDP housing, with the transport cost savings of SRH representing a substantial benefit for residents, together with reduced crime, better education and employment benefits.

- Where RDP and SRH are similarly physically located in the city, they are quite comparable from a financial and economic cost benefit perspective, with residents still experiencing transport benefits to SRH.

11 Fiscal Analysis

The fiscal analysis considers the cost of RDP and SRH from the perspective solely of government and takes into account capital costs, ongoing operating costs as well as any economic costs or savings incurred by government.

The fiscal analysis is based on a model which assumes the following parameters:

- 100,000 units
- 5 year phased construction (delivery of 20,000 units per annum)
- 40 year lifetime
- RDP rebuilt at 20 years.

The findings in respect of the two projects analysed are set out below.

Table 26: Fiscal Implications (ZAR billions)

NPV	Bram Fischerville	Roodepoort	Potsdam	Amalinda
Total cost (Rb)	**19 to 21**	**18 to 20**	**21 to 23**	**7 to 8**
Capital costs - National / Provincial	6 to 7	15 to 17	11 to 12	2 to 2,3
Capital costs - Municipal	0,5 to 0,6	-	0,45 to 0,5	-
Operating costs - Municipal	12 to 14	3 to 4	10 to 11	6 to 6,4

The fiscal (budgetary) impacts of SRH versus RDP show a mixed result.

- In the case of Bram Fischerville / Roodepoort the NPV over 40 years to deliver and manage 100,000 units is very similar. If the rebuilding / refurbishment of the RDP units in year 20 were to be excluded, SRH in this instance would be more expensive given the conditions and costs of Roodepoort.
- In the case of Potsdam / Amalinda the SRH projects indicate a substantial cost saving over 40 years. This is primarily attributable in this instance to the very low level of capital subsidy provided to the SRH project as well as the high cost associated with a greenfield RDP settlement.

12 Sensitivity Analysis

The sensitivity analysis assesses which assumptions in the model most strongly affect the final outcome. The sensitivity analysis was performed on the two levels of the CBA: the financial and the economic CBA. Results of these analyses are presented separately.

The sensitivity analysis focuses on the factors that affect the final outcome. The model incorporates three categories of factors which can vary:

- Escalation factors
- Timing
- Inputs.

In this sensitivity analysis, one variable has been included that represents each of these categories. For the financial CBA, various factors have been checked out for their impact on the results. The factors with the largest impact on the final results are:

- Escalation: Discount rate (initial value in the model is 3,5%)
- Timing: Economic life of RDP unit (initial value in the model is 20 years, compared to 40 years for SH)
- Input: Construction costs (see for initial values the input table in the chapter on the financial CBA)
- Structure: project life 20 years instead of 40 years.

The table below shows the NPV outcomes and the percentage difference for variations of these factors.

Financial CBA	Braamfischerville/Roodepoort		Potsdam/Amalinda	
	NPV FCBA result	difference %	NPV FCBA result	difference %
CBA outcome (NPV)	-208.776		-250.287	
Discount rate +2%	-191.126	8%	-216.589	13%
Discount rate -2%	-235.817	-13%	-303.730	-21%
Economic life of RDP unit -10 years	-178.594	14%	-212.278	15%
Economic life of RDP unit +10 years	-217.847	-4%	-261.711	-5%
Construction costs -10%	-195.653	6%	-244.354	2%
Construction costs +10%	-221.899	-6%	-256.221	-2%
Project life 20 years	-148.278	29%	-183.902	27%

Overall we see that the NPV result varies by a maximum of -24% to the downside and 15% to the upside. However, this alters nothing in terms of the overall conclusion: in the financial comparison between SRH and RDP, SRH is the more costly option.

For the economic CBA, several factors for both comparisons have been checked. The factors with the largest impacts on the results are:

- Escalation: Discount rate
- Timing: Economic life of RDP unit
- Input (economic): Daily travel percentage (initial value in the model is 75%)
- Input (financial): Construction costs
- Structure: project life 20 years instead of 40 years.

Economic CBA	Braamfischerville/Roodepoort		Potsdam/Amalinda	
	NPV ECBA result	difference %	NPV ECBA result	difference %
CBA outcome (NPV)	-39.993		335.142	
Discount rate +2%	-66.140	-65%	216.930	-35%
Discount rate -2%	3.675	109%	526.960	57%
Economic life of RDP unit -10 years	-9.811	75%	373.152	11%
Economic life of RDP unit +10 years	-49.064	-23%	323.719	-3%
Daily travel percentage of household -25%	-100.324	-151%	173.322	-48%
Daily travel percentage of household +25%	20.338	151%	496.963	48%
Construction costs -10%	-26.870	33%	341.076	2%
Construction costs +10%	-53.116	-33%	329.208	-2%
Project life 20 years	-38.623	3%	196.439	-41%

The daily travel percentage is a crucial assumption. The assumption in the model is based on the percentage of the household that is employed. However, it could be argued that this is not the representative average for all people in the household. A variation of this percentage can lead to a change of more than half of the total NPV. This is caused by the fact that transport is a relatively large component of the total NPV, therefore any change leads to substantial change in the NPV.

Overall, however, and irrespective of how assumptions are changed for the comparison of Bram Fischerville and Roodepoort, the final outcome remains negative. The conclusion for the comparison of Potsdam and Amalinda is completely the reverse with the outcome remaining positive.

13 Conclusions & Recommendations

The purpose of this study has been to assess the benefit to society in the provision of Social Rental Housing,, taking into account all costs and benefits of the life span of the housing, and with reference to the relative benefits offered through RDP housing

The CBA has been the instrument through which this comparison has been undertaken. It has focused attention on the economic perspective, bringing this view into the complex arena of policy decision making.

In this final section of the report, high-level outcomes are presented,, particularly mindful of future policy implications..

13.1 Overall results

The following key conclusions and policy implications were presented:

> *The lifecycle financial costs of SRH per unit are 2.5 times higher than those in RDP housing*

Direct financial costs per SHR unit of over 40 years are 2.5 times higher than those in RDP. This figure is based on financial costs, including corrects made for possible distortions due to subsidies and market inefficiencies (efficiency pricing).

> *The higher lifecycle financial costs of SHR are as a result of its central location, the higher cost of land and building standards, and better maintenance and servicing. RDP housing also benefits from economic scale efficiencies due to much higher numbers of units...*

As indicated, a significant portion of the extra financial cost of SRH is related to its better location. Interestingly, RDP houses located in similar locations to SRH cost more financially. The additional cost per unit in SRH is related to its primary objective of social / urban integration, over and above financial considerations.

> *When the financial lifecycle costs are combined with the wider economic costs and benefits on society, then under certain conditions SRH is a better investment for society than RDP housing...*

When we include the wider effects on society, expanding the analysis from a financial to an economic CBA, we find the following net present value for the effects of SRH:

> *The economic benefits of SRH compared to RDP appear to be mainly in transport savings, and to a lesser extent in reduced crime levels, and marginally improved education and employment. Location appears to play a strong role, with housing typology of less significance...*

These figures represent the difference between all costs and benefits to society and are calculated by adding the value of economic effects to the difference in financial costs of RDP and SRH.

> *Considering financial and economic costs, SRH is a significantly better investment than RDP when RDP housing is peripherally located. Where SRH and RDP projects are situated in similar locations in the city, the differences for society are less and the extra investment costs of SRH are not compensated by its advantages…*

Furthermore, reducing crime has a relatively large impact on the outcome in the case of Potsdam and Amalinda.

Restrictions

These results cannot be interpreted in isolation, and must be seen in context.

> *The economic perspective is only one perspective within policy making and the results need to be interpreted as such: an economic welfare perspective on housing policy…*

This is an economic analysis. Considering that the primary intended effect of Social Rental Housing is urban restructuring, it is impossible to base policy decisions on the economic perspective alone. Reversing the apartheid structure of a city is likely to be far more important than any calculation on the subject can reveal. This study does however show the costs to government in pursuing its policy goals.

> *Further research is needed to increase insight into the mechanisms at work in different housing forms. Location seems to play a key role, with housing typology being of less significance. Many expected economic benefits such as health improvements or transition of education benefits to employment may only be evidenced, however, over a longer period of time than the duration of this study…*

A lack of empirical evidence on the (long term) effects of housing was evident. This led to the use of assumptions on causality and in the valuation of effects. We although the sensitivity analysis was utilised to provide insight into the possible consequences of wrong assumptions, it is recommend that further research be undertaken on this topic.

Distribution of costs and benefits

The social, distributional effects of the housing projects were addressed in the distributional analysis. The main conclusion reached is that:

> *RDP housing creates a substantial lifecycle cost burden to municipalities, while SRH passes this burden onto residents…*

The distributional analysis shows that although RDP per unit costs are lower, most costs are substantially carried over the lifecycle (i.e. in future years) by municipalities, and not by residents themselves.

> *RDP housing requires a greater total lifecycle subsidy of residents (smaller initial direct subsidies than SRH, but larger lifecycle indirect subsidies) than SRH. RDP is more redistributive, while SRH is more fiscally sustainable…*

While SRH costs are greater per unit, lifecycle costs are carried by residents. By contrast, RDP costs per unit are less but, municipalities carry the burden of lifecycle costs. Subsidization or RDP housing creates therefore a future financial burden for municipalities, while this is not the case with SRH.

> *SRH requires residents with sufficient income to pay for lifecycle costs. RDP, in contrast, and because of its higher indirect lifecycle subsidy, can accommodate lower income groups…*

Because of its greater redistributive nature, RDP manages to target the poorest of the poor while SRH is targeted at an income group that can pay some level of rental in line with their housing choice.

13.2 Policy Implications

> *The results of this study indicate that there is no justification in the exclusive selection of one housing form over the other since RDP and SRH target different groups (income levels, tenure preference, mobility, etc.) and have different intended effects…*

It was noted in the study that SRH and RDP, target different household income groups, and various adaptations were made to control to the extent possible for these income differences in the measurement of effects. Nevertheless, it is important to recognize that SRH is a housing option targeted at specific income groups seeking rental housing solutions, within a wide range of housing options available in the South African housing sector. RDP and SRH both contribute to create a full spectrum of housing support options.

> *From a policy design perspective, the financial-economic and fiscal consequences of SRH versus RDP are related to the incentive structures created in each of the housing programmes…*

The results seen in the CBA can be explained by considering the inherent incentive structure in RDP and SRH projects and their related subsidies. In RDP housing, developers are not responsible for the lifecycle performance or maintenance of housing, and residents do not face exclusion for non-maintenance or non-payment,

resulting in the creation of a cost burden that defaults to municipalities. In SRH, SHIs are responsible for lifecycle performance and maintenance of housing, and have the ability to recoup costs from residents or exclude them for non-compliance, resulting in a more sustainable housing situation

Projects can be optimized using the insights in the specific financial and economic costs and benefits caused by the project…

A CBA applied to an issue with programmatic characteristics provides two sets of insights9. First, it provides insights into the societal (and later fiscal) costs and benefits to society of further programmatic investment in SRH. Second, it provides insight into the more specific costs and benefits associated with the project and base cases, and thereby allows one to identify how both SRH and RDP housing programmes might be optimized going forward. Importantly, caution is needed as this is an iterative process. Changes made to the structure of costs either of the project or the base cases may in turn impact on other cost (or benefit) areas of the projects.

With regard to lessons for housing policy optimization, choosing a favourable location for RDP and investing in security measures could minimize the difference in net present value between SRH and RDP, thereby combining a positive outcome for society as a whole with providing housing for the poorest of the poor…

Practical examples of project optimization can be found in location and security. If RDP housing creates additional economic costs due to the higher transport burden of households because of the marginal location of the housing, then choosing a more central location may reduce such economic costs. However, the higher cost of more central land may dramatically increase the financial costs of the housing, rendering an inferior overall result. Nevertheless, considerable insight is gained from the study on where both direct and indirect costs and benefits stem, and therefore facilitate policy improvement.

The same argument holds for crime. Substantial benefits to society can arise from investing in better security. Victim and offender costs need to be taken into account when deciding whether or not to invest in security measures, in SRH but also in RDP projects.

[9] Although we can draw conclusions on the programmatic level, we must continuously keep in mind that the analysis was run for specific projects. And although we chose projects representing best practice, project specific characteristics might prevent us from drawing the same conclusions at the programme level.

13.3 Suggestions for further research

Housing policy development can be enhanced by further empirical analysis of the long term effects of different types of available housing. The causality analysis in Section 7 provides an overview of the types of analyses that are necessary.

It is strongly recommended that a follow-up on this CBA study be conducted to compare the benefits of SRH with private rental housing for comparable income groups. This would address the question of the potential value for society in expanding the state subsidy of SRH versus the existing provision by the market alone.

14 Appendices

14.1 Appendix 1: Reference Group Members

Adrian di Lollo, Social Housing Foundation

Rory Gallocher, NASHO

Desiree Jackson, Social Housing Foundation

Paul Jackson, TUHF

David Mosaka, Conningarth Economists

Margot Rubin, CUBES, Wits

Kecia Rust, FinMark Trust

Zoleka Sakopa, National Department of Housing

Dan Smit, Dan Smit Development Consultant

14.2 Appendix 2: References

Biermann, S. (nd). A Cost-Benefit Approach to the Identification of Well-located Land in Rapidly Urbanising Regions. CSIR Building and Construction Technology.

Biermann, S. (nd). Cost variation with density and distance and implications for sustainable urban form. CSIR Building and Construction Technology.

Biermann, S. and Van Ryneveld, M. (nd). Improving the Location of Low Income Housing Delivery in South African Urban Areas.

Biermann, S., (2006). "A sustainable livelihood cost-benefit model to enhance the understanding of the dynamics between low income housing and location." Town and Regional Planning, special edition, December.

Blasius, J. Friedrichs, J and Glaster, G. (2007), Introduction: Frontier of Quantifying neighbourhood effects, Housing studies 22(5), Sept 2007: 627-636

Bramley, G. and Karley, N.K. (2007) Homeownership, Poverty and Educational Achievement: School Effects as Neighbourhood Effects. Housing Studies, Vol.22, No.5, September: 693-721.

Burridge R. and Ormandy D. eds. (1993) Unhealthy housing: research, remedies and reform. London: E and F N Spon.

Center for Housing Policy, (2007). Positive Impacts of Affordable Housing on Education: A Research Summary.

Charlton, S. (2005) Taking Stock: Outcomes of the South African subsidy scheme. Presentation. School of Architecture and Planning, University of the Witwatersrand, July.

CID Working Paper No. 131. August 2006. Centre for International Development at Harvard University. Crime, Justice and Growth in SA. By Christopher Stone.

City of Johannesburg and Others v Mazibuko and Others. Supreme Court of Appeal judgment in the appeal against the Johannesburg High Court's decision in Mazibuko and Others v City of Johannesburg and Others, 25 March 2009.

Clapham, David (1996). "Housing and the Economy: Broadening Comparative Housing Research." Urban Studies Vol 33:4-5: 631-647

Conningarth Economists (2007). A Manual for Cost Benefit Analysis in South Africa with Specific Reference to Water Resource Development, Second Edition. Prepared for the Water Research Commission, August 2007.

Coulson, Edward N and Lynn M Fisher (2002). "Tenure Choice and Labour Market Outcomes" Housing Studies Vol 17: 1: 35-49

Dauskardt, R. and Stuart, B. (2005). Preliminary Development of a Capacity Building Framework for the South African Social Housing Sector.

Department of Housing "Breaking New Ground: a Comprehensive Plan for the Development of Sustainable Human Settlements. As approved by Cabinet and presented to MINMEC on 2 September 2004.

Department of Housing, White Paper: A New Housing Policy and Strategy for South Africa, 1995.

Di Pasquale, Denise and William C Wheaton (1996). Urban Economics and Real Estate Markets. New Jersey: Prentice-Hall.

Dohmen, T. (2005). Housing, mobility and unemployment. Regional Science and Urban Economics , 35, 305-325.

Econsult Corporation (2007). Assessing the Economic Benefits of Public Housing. Final Report submitted to The Council of Large Public Housing Authorities.

Eising, W.; Nel, E. and Hill, T. (2003) Local Economic Development on Low-Income Areas: the Case of Cato Manor. Paper presented at the Urban Reconstruction and Cato Manor Conference, January 2003.

Fertig, A.R. and Reingold, D.A. (2007). Public Housing, Health and Health Behaviours: Is There a Connection? Journal of Policy Analysis and Management, Vol. 26, No.4: 831 – 859.

Galster, G. (2002). An economic efficiency analysis of deconcentrating poverty populations. Journal of Housing Economics, Vol. 11: 303-329.

Galster, G. (2007). Should Policy Makers Struve for Neighborhood Social Mix? An Aloysius of the Western European Evidence Base. Houisng Studies, Vol.22, No.4: 523-545.

Gibb, Kenneth and Laurie Hunter (1998). "Housing Markets and Economic Flexibility." Scottish Journal of Political Economy Vol 45: 4 September:349-360

Glaeser, E.L. (2007). The Economic Approach to Cities. Preliminary Draft, 22 February 2007. Harvard University and NBER.

Glaeser, E.L. and Sacerdote, B. (2000). The Social Consequences of Housing. Journal of Housing Economics, Vol. 9: 1-23.

Goetz, E.G. (2000) The Effects of Subsidized Housing on Communities. http://www.extension.umn.edu/distribution/familydevelopment/components/7565_09.html

Gould Ellen, I, (2006). Spillovers and Subsidized Housing: the Impact of Subsidized Rental Housing on Neighbourhoods

Green, Richard K. and Stephen Malpezzi (2003). A Primer on U.S. Housing Markets and Housing Policy. Washington: The Urban Institute Press.

Group, D. A. (May 2007). Medium Density Housing Programme.

Harkness, J. M. and Newman, S.J. (2003), Effects of Homeownership on Children: The role of neighbourhood characteisrics and family income." Economic Policy Review, Vol. 9, No. 2, June 2003: 87-107.

Harris, Richard and Editorial staff (2003). "Learning from the past: international housing policy since 1945-an introduction." Habitat International Vol 27:163-166

Harris, Richard and Godwin Arku (2006). "Housing and Economic Development: The Evolution of an idea since 1945."Habitat International Vol 20: 1007-1017

Hiscock, R.; Macintyre, S.; Kearns, A. and Ellaway, A. (2003). Residents and Residence: Factors Predicting the Health Disadvantage of Social Renters Compared to Owner-Occupiers. Journal of Social Issues, Vol. 59, No. 3: 527-546.

Hood, E. (2005) Dwelling disparities: How poor housing leads to poor health. Environmental Health Perspectives, Vol. 113, No. 5, May: 310-317.

Jackson, P. (2005). A Macro Economic Perspective on Medium Density Housing Development. Trust for Urban Housing Finance.

Johnson, Michael P.; Helen F. Ladd & Jens Ludwig, 2002, The Benefits and Costs of Residential Mobility Programmes for the Poor.

Katz, B. (2004). Neighbourhoods of Choice and Connection: The Evolution of American Neighbourhood Policy and What It Means for the United Kingdom. Washington, DC: The Brookings Institution.

Kearns, A. and Mason, P. (2007). Mixed Tenure Communities and Neighbourhood Quality. Housing Studies, Vol.22, No. 5, September: 661-691.

Kitchin, F. and Ovens, W. (May 2008). Developing Integrated Towns: Key Findings (Prepared for Urban LandMark). Wendy Ovens & Associates.

Landman, K.; Ntombela, N. and Matsebe, G. (2007). Medium-density mixed housing developments: An overview of international and South African policies and practices (2nd Edition). Pretoria: CSIR.

Little, I.,M.D. and Mirrlees, J.A. (1990). Project Appraisal and Planning Twenty Years On. Proceedings of the World Bank Annual Conference on Development Economics (pp. 351-395). Washington: World Bank.

Londero, E. (2003) Measuring benefits, tracing distributive effects, and affecting distributional outcomes. Inter-American Development Bank, Washington DC.

Makaya, L.P. (2008) Housing location and mobility: The impacts on livelihood strategies of the relocated communities in Bram Fischerville. MSC research report, School of Architecture and Planning, Facility of Engineering and the Built Environment, University of the Witwatersrand.

Malpezzi, Stephen and Stephen K Mayo (1997) "Housing and Urban Development Indicators: A Good Idea Whose Time Has Returned." Real Estate Economics 25:1: 1-11

Mammon, Nisa and Kathryn Ewing (2005). "Moving Towards a Design Approach to Low-income Housing in Urban Cape Town: The Case of Joe Slovo Park." World Congress on Housing XXXIII IAHS (September).

McCarthy, M. (2009). Study: Municipal Charges and the Impact on Affordability of Social Housing Rentals (Draft 1). Prepared for the Social Housing Foundation.

McLennan, Duncan and Yong Tu (1996). "Economic perspectives on the structure of local housing systems." Housing Studies Vol 11: 3, July: 387-407

Minervini, Corrado (2002). "Housing reconstruction in Kosovo." Habitat International Vol 26: 4,December:571-590.

Mueller, E.J. and Tighe, J.R. (2007). Making the Case for Affordable Housing: Connecting Housing with Health and Education Outcomes. Jornal of Planning Literature, Vol.21, No.4, May: 371-385.

Mueller, E.J. and Tighe, J.R. (2007, May). Making the Case for Affordable Housing: Connecting Housing with Health and Education Outcomes. Journal of Planning Literature , 21 (4), pp. 371-385.

National Department of Housing, Social Housing Policy for South Africa: Towards an enabling environment for social housing development, May 2005.

Neo, Poh Har, Nai Jia Lee and Seow Eng Ong. "Government Policies and Household Mobility Behaviour in Singapore." Urban Studies Vol 40: 13 (2003) 2643-2660

Newman, S.J. (2008). Does Housing matter for Poor Families? A Critical Summary of Research and Issues Still to be Resolved. Journal of Policy Analysis and Management, Vol. 27, No. 4:895-925.

O'Connell, C. (2007),["The State and Housing in Ireland: Ideology", Policy and Practice. 2007.C O'Connell].

O'Sullivan, Tony and Kenneth Gibb (2003). Housing Economics and Public Policy. Oxford. Blackwell.

Pack, J. (1998). Poverty and Urban Public Expenditure. Urban Studies , 35 (11), pp. 1995-2019.

Palmer Development Group (2006). Comparative Tariff Analysis (Draft Final report). Prepared for the City of Joburg: Corporate Planning Unit.

Palmer Development Group (2006). Water consumption by low income consumers in the City of Joburg. Research reports prepared for the City of Joburg Infrastructure and Services Department.

Pevalin, D.J.; Taylor, M.P. and Toff, J. (2008) The Dynamics of Unhealthy Housing in the UK: A Panel Data Analysis. Housing Studies, Vol. 23, No. 5, September: 679-695.

Philip, K. and Hassen, E-K. (2008) The Review of Second Economy Programmes: An overview for the Presidency's Fifteen-Year Review. Second Economy Strategy Project, January.

Pindus, N. Theodos, B. and Kingsley, G.T. (2007). Place Matters: Employers, Low-income Workers and Regional Economic Development. The Urban Institute, Washington D.C.

Priemus, H. (2002). Too many theories and a lack of empirical evidence: An uneasy perspective for housing research. Housing, Theory and Society, Vo. 18: 27-29.

Rachel Garshick Kleit (2002, Job Search Networks and Strategies in Scattered-site Public Housing

Ramohlale, S. (2006), Exploring the competing rationalities between drivers of social housing and urban regeneration in the City of Johannesburg. MSC research report, School of Architecture and Planning, Facility of Engineering and the Built Environment, University of the Witwatersrand.

Riccio, J.A. (2007) "Subsidized Housing and Employment: Building Evidence about What Works." Prepared for Revisiting Rental Housing: A National Policy Summit, November 2006. March 2007.

Rosenbaum, James E.; Lisa Reynolds & Stefanie Deluca (2002). How Do Places Matter? The Geography of Opportunity, Self-efficacy and a Look Inside the Black Box of Residential Mobility.

Sarah Charlton, Melinda Silverman & Stephen Berrisford (2003), Taking Stock: Review of the Department of Housing's Programme, Policies and Practice (1994 – 2003).

Shisaka Development Management Services and SIR Built Environment (2006). Housing Entrepreneurs Research Project. Various reports.

Shlay, A. (2006). Low-income Homeownership: American Dream or Delusion? Urban Studies , 43 (3), pp. 511-531.

Sigodi Marah Martin –Matthew Nell & Associates Joint Venture (2002). An Assessment of Rental Housing in South Africa, April 2002. Housing Finance Resource Programme Occasional paper No. 5.

Simons, R. et al. (2005). Affordable and Middle Class Housing on Johannesburg's Mining Sites: A Benefit-Cost Analysis. Draft.

Smit, D. and Purchase, J. (2006). A review of the International Experience with Inclusionary Housing Programmes: Implication for South Africa. Prepared for the National Department of Housing, 02 February 2006.

Smith, Susan J., Munro Moira and Hazel Christie (2006). "Performing (Housing) Markets." Urban Studies Vol 43: 1, January: 81-95

South African Human Right Commission (2004). The Right of Access to Adequate Housing. 5th Economic and Social Rights Report Series 2002/2003 Financial year, 21 June 2004.

Syn-Consult Consortium. (2003). Research Report for the Development of a Medium Density Housing Programme for the National Department of Housing. Syn-Consult Consortium.

ter Rele, H. and van Steen, G. (2001). Housing subsidisation in the Netherlands: Measuring its discretionary and distributional effects. The Hague: CPB Netherlands Bureau for Economic Analysis.

The Social Housing Foundation (2008). Supply and Demand of Rental Accommodation in South Africa, July.

Tonkin, A. (2007). Towards 2010: A better way to house the poor: Providing affordable rental housing will go a long way to creating a sustainable city. Cape Argus .

Viruly Consulting: 2nd draft report: "The Demand for and Affordable Rental Housing in South Africa" 2004, quoted in Dauskardt and Stuart, 2005.

Wadhams, C. (1993). Housing and Local Economic Development – An Agenda for Low Income Urban Neighbourhoods? Community Development Journal, Vol.28, No.4, October: 321-333.

Watson, V. and McCarthy, M. (1998). Rental housing policy and the role of the household rental sector: Evidence from South Africa. Habitat International, Vol. 22, No. : 49-56.

Wells, Jill (1984). "The Construction Industry in the Context of Development": A New Perspective." Habitat International Vol 8: 3/4 (1984): 9-28.

Whitehead, C M E. (1998) "Economic Flexibility and the Private Rented Sector." Scottish Journal of Political Economy Vol 45: 4 September (1998): 361-373.

Whitehead, C. and Yates, J. (2009) "Economic methods and their contribution to housing." Housing Studies, Vol. 21: 1 (2009): 1-6.

Whitehead, C.M.E. (2002) Response: Housing, Tenure and Opportunity. Housing Studies, Vol.17, No.1: 63-68.

Wilkinson, P. (1998). Housing policy in South Africa. Habitat International, Vo. 22, No. 3: 215-229.

Zack, T. and Charlton, S. (2003). Better off, But … Beneficiaries perceptions of the governments' housing subsidy scheme. Housing Finance Resource Programme Occasional Paper No. 12, June 2003.

14.3 Appendix 3: Interviews

Adele Laurens, Steve Tshwete LM, Assistant Municipal Engineer

Alan Kitchner, CoJ (ex), Programme Implementation & Monitoring

Albie Meiring, BCM, Town Planning

Andrew Godfrey, BCM, Engineering

Bernard, CoJ, Programme Implementation & Monitoring

Blaise Jones, Rand Leases, Developer

Charmaine Naidoo, JOSHCO, Roodepoort Portfolio Manager

David Langley, BCM, Engineering

Dr Sharon Biermann, CSIR

Edward Moyo, JOSHCO, Finance Manager

Felicity Kitchen, Housing Researcher

Graeme Gotz, Corporate Strategy Unit, City of Johannesburg

Heather Maxwell, SOHCO, Managing Director

Jak Koseff, City of Johannesburg

James Mauleke, JOSHCO, Projects Manager

Karina Landman, CSIR

Margaret, SOHCO, Amalinda Projects

Martin Leamy, SOHCO, Financial Manager

Martin Thursby, BCM (ex), Housing Division

Mary Tomlinson, WITS P&DM

Mr W Fouche, Steve Tshwete LM, Municipal Manager

Nadima Ahmed, JOSHCO, Housing Allocations

Nyameka Magodla-Fiphaza, BCM, Housing Division - Project Coordinator

Paul Jackson, CEO, TUHF

Phumzile Baloyi, JOSHCO, Revenue Management

Rory Gallocher, MD. JOSHCO

Rudolf Bouwer, Steve Tshwete LM, Municipal Engineer

Tanya Zack, Housing Researcher

Thomas Steward, Inframax, Developer

Thulisile Lukhele, GMHA, Housing Administration

Walter Maluto, CoJ, Programme Implementation & Monitoring

Henry Scotcher, Professional Property Valuer

14.4 Appendix 4: Data Sources

Roodepoort	JOSHCO Roodepoort Overview Presentation
	JOSHCO Management Accounts June 2008
	JOSHCO - Moves into the Inner City
	JOSHCO Housetalk 3rd Quarter 2008
Bram Fischerville	DRD Phase 2 - Budget Estimate
	Bram Fischerville Development Phases
	CoJ Annual Report 2007/2008
	CoJ SDBIP 2008/2009
	CoJ Water Tariffs 2008/2009
	CoJ Electricity Tariffs 2008/2009
	CoJ Refuse Removal Tariffs 2008/2009
	CoJ Rates Rebates 2008/2009
Hope City	GMHA Management Accounts - April 2008
	GMHA Management Accounts - May 2009
	GMHA Management Accounts - June 2010
	Hope City - Tenant List - October 2008
	GMHA Municipal Accounts
	Hope City website - www.gmha.co.za
Potsdam	BCM - Memorandum - Mid year budgets and performance, 15-Jan-08
	Article - "Thousands sign up for indigent benefits,20-Jan-08
	Potsdam - Monthly Progress Report
	BCM - Operating Project Expenditure Report,30-Sep-08
	BCM - Statement of Financial Performance,30-Nov-08
	Potsdam Overview- Minister Presentation
	Potsdam - Council Report - Status
	Mdantsane/Potsdam Plan 1.2 - Sub Regional Context
	Mdantsane/Potsdam Plan 2.1 Population Distribution
	Mdantsane/Potsdam Plan 3.1 Developable Units
	Mdantsane/Potsdam Plan 3.4 Zonal Subsections
	Mdantsane/Potsdam Plan 3.2Exisiting Land Use
	Mdantsane/Potsdam Plan 4.2 Sewer Network
	Mdantsane/Potsdam Plan 4.3 Water Network
	Mdantsane/Potsdam Plan 5.1 Road Structure
	Mdantsane/Potsdam Plan 5.2 Proposed Road Hierarchy

Mdantsane/Potsdam Plan 6.1 Administrative Land Tenure
Mdantsane/Potsdam Plan 1.1 Regional Context
Mdantsane/Potsdam Plan 1 Study Area
Mdantsane/Potsdam Plan 2 Key Development Areas
Mdantsane/Potsdam Plan 3 LED Spatial Framework
Mdantsane/Potsdam Plan 4.1 Electrical Network
Mdantsane/Potsdam Plan 5 Infrastructure Proposals
Mdantsane/Potsdam Plan 6 Overall Proposal
Potsdam Report - Report no. 551/02 (Setplan / Ninham Shand , Nov98
BCM - Tariff Book 2008/2009
BCM - 2008/2009 Capital Budget Top Projects

Amalinda

Amalinda Village - www.sohco.co.za/amalinda.asp

SOHCO Amalinda - Project Capital Costs

Other

SACN Finance Almanac
AG Report - Audit Outcomes of Local Government, 30-Jun-04

14.5 Appendix 5: Project Costs

		Roodepoort Inner City - Phase 1			Amalinda Village - Phase 1			Potsdam			Bram Fischerville		
		# Units	82		**# Units**	408		**# Units**	500		**# Units**	652	
		Start Construction			**Start Construction**	2001		**Start Construction**	2005		**Start Construction**	Mar-02	
Notes:		**End Construction**	Oct-07		**End Construction**	Jun-03		**End Construction**	2008		**End Construction**	Jul-02 - Mar-03	
Costs are as per budgets etc for the year of construction unless commented		**Occupation**	Nov-07 - Jan-08		**Occupation**			**Occupation**	Sep-08		**Occupation**		
		Housing Subsidy (2007)	41,743.00		**Old Inst Subsidy (2001)**	18,400.00		**Housing Subsidy**			**Housing Subsidy**		
		Restructuring Subsidy (2007)	114,784.43					**MIG**			**CMIP**		
								Additional MIG					
Category	**Detail**	**JOSCHO**		**Source**	**AMALINDA**		**Source3**	**POTSDAM**		**Source5**	**BRAM FISCHERVILLE**	**Column6**	**Source7**
Internal services													
Land assembly	Land	R1,822,222.22		Assumption from land value of Phase 2B adjacent (2008)	408,000.00		Inframax (developer) - acquired pvt in 1992 (Project budget indicated R200 pu)	100,000.00		BCM - town planning - council indication (2008)	326,000.00		R2/m2 of developable land
Land assembly	Land consolidation outline diagramme										13,040.00		RL cost schedule
Land assembly	Land Encumbrances										3,260.00		RL cost schedule
Land assembly	Opening of Township Register												
Land assembly	Conveyencing										117,360.00		RL cost schedule
Land assembly	Rates & Taxes arrears				44,880.00		AV project budget						
Land assembly													
Bulk servicing costs	Bulk Electrical	159,000.00		JOSCHO - budget	3,264,000.00		Assumption of approx 10% of land servicing						

		Roodepoort Inner City - Phase 1			Amalinda Village - Phase 1			Potsdam			Bram Fischerville		
Bulk servicing costs	Bulk Water				3,264,000.00		Assumption of approx 10% of land servicing	13,700,000.00		BCM eng (2004 cost)	2,282,000.00		Assumption
Bulk servicing costs	Bulk Sewer							6,400,000.00		BCM eng (2005cost)	1,304,000.00		Assumption
Bulk servicing costs	Roads							-			1,304,000.00		Assumption
Bulk servicing costs													
Bulk servicing costs													
Township proclamation	Proclamation							1,250,000.00		BCM TP guess	326,000.00		Assumption as province appoint consultant and not reflected in budget
Township proclamation	Deeds office registration										35,860.00		RL cost schedule
Land servicing	Water	44,690.00		JOSCHO - budget	61,200.00			1,400,000.00		BCM eng (2005)	58,680.00		RL cost schedule
Land servicing	Water meters / stopcock / valve	33,210.00						250,000.00		BCM	495,520.00		RL cost schedule
Land servicing	Sewer	111,725.00		JOSCHO - budget				3,100,000.00		BCM eng (2005)			RL cost schedule
Land servicing	Stormwater	53,628.00		JOSCHO - budget							880,200.00		RL cost schedule
Land servicing	Electrical Engineering	26,814.00		JOSCHO - budget	7,340,940.00		Project Budget / EG Assumption 1/2 elec / civil includes connections				74,980.00		RL cost schedule
Land servicing	Civil Engineering	44,690.00		JOSCHO - budget	13,868,940.00		Project Budget / EG Assumption 1/2 elec / civil includes connections						
Land servicing	Water Connection	10,600.00		JOSCHO - budget							756,320.00		RL cost schedule
Land servicing	Electrical Connection	21,200.00		JOSCHO - budget									
Land servicing	Electrical meters				142,800.00								
Land servicing	Sewer Connection	10,600.00		JOSCHO - budget							801,960.00		RL cost schedule
Land servicing	Roads (incl stormwater)							3,500,000.00		BCM eng(2005)	5,395,780.00		RL cost schedule
Land servicing	P&G & Esc (Prorata)	-		JOSCHO - budget									

		Roodepoort Inner City - Phase 1			Amalinda Village - Phase 1			Potsdam			Bram Fischerville		
Land servicing	Street lighting										117,360.00		RL cost schedule
Professional Fees	Town planning	136,250.00		JOSCHO - budget	369,868.78		12% construction fee - distributed across items (9 -)	61,403.51		BCM TP guess - dist 3 ways	131,704.00		RL cost schedule
Professional Fees	Demand Assessment	70,850.00		JOSCHO - budget									
Professional Fees	Geotechnical	49,050.00		JOSCHO - budget				61,403.51		BCM TP guess - dist 3 ways	33,252.00		RL cost schedule
Professional Fees	Project Management	245,250.00		JOSCHO - budget	3,369,868.78		Additional sunk costs for pre-project management (1997 - 2001)				121,924.00		RL cost schedule
Professional Fees	Land Survey	38,150.00		JOSCHO - budget				150,000.00		BCM town planning	156,480.00		RL cost schedule
Professional Fees	Legal	27,250.00		JOSCHO - budget	369,868.78						29,340.00		RL cost schedule
Professional Fees	EIA	27,250.00		JOSCHO - budget				61,403.51		BCM TP guess - dist 3 ways	22,820.00		RL cost schedule
Statutory approvals & enrolments	Plan Submission	25,000.00		JOSCHO - budget									
Statutory approvals & enrolments	NHBRC Levy	129,246.00		JOSCHO - budget	812,028.58		1.3% of total cost	569,502.06		1.3% of total cost	162,348.00		RL cost schedule
Construction	Clear site	27,250.00		JOSCHO - budget									
Construction	Demolition	21,800.00		JOSCHO - budget									
Construction	Platforms	89,380.00		JOSCHO - budget									
Construction	Dumping fees	27,250.00		JOSCHO - budget									
Construction	External Electrical	893,800.00		JOSCHO - budget									
Construction	External Plumbing	-											
Construction	Structural Engineer	35,752.00		JOSCHO - budget	369,868.78						81,500.00		RL cost schedule
Construction	Architect	134,070.00		JOSCHO - budget	369,868.78						48,900.00		RL cost schedule
Construction	Quantity Surveyor	34,880.00		JOSCHO - budget	369,868.78								
Construction	Fire Consultant	16,350.00		JOSCHO - budget	369,868.78								
Construction	Grassing / landscaping	53,628.00		JOSCHO - budget							74,980.00		RL cost schedule

		Roodepoort Inner City - Phase 1			Amalinda Village - Phase 1			Potsdam			Bram Fischerville		
Construction	Playground equipment	25,000.00		JOSCHO - budget									
Construction	Fencing & gates	298,629.00		JOSCHO - budget									
Construction	Gates	21,800.00		JOSCHO - budget									
Construction	Parking	343,350.00		JOSCHO - budget									
Construction	Drying Yards	228,900.00		JOSCHO - budget									
Construction	Refuse Area & Guard House	104,095.00		JOSCHO - budget									
Construction	Walkways & Paved areas	166,770.00		JOSCHO - budget									
Construction	Signage	16,350.00		JOSCHO - budget									
Construction	Intercoms	86,920.00		JOSCHO - budget									
Construction	Postboxes	11,619.00		JOSCHO - budget									
Construction	**Construction (Units)**	8,506,319.00		JOSCHO - budget	27,740,158.15		Wet works	13,773,640.00		BCM planning (21/02/2007)	6,901,420.00		RL cost schedule
Construction	Subsidy / Administration				369,868.78						404,240.00		RL cost schedule
Construction	Marketing & Sale /Lease Administration				369,868.78						48,248.00		RL cost schedule
Construction	P&G & Esc (Prorata)	3,450,869.00									118,664.00		RL cost schedule
TOTAL PROJECT COST		**17,681,456.22**			**63,275,765.71**			**44,377,352.58**			**22,628,140.00**		
COST PER UNIT		**215,627.51**			**155,087.66**			**88,754.71**			**34,705.74**		

14.6 Appendix 6: Cost Tables & Assumptions

14.6.1 Local Authority Maintenance of Internal Services Costs

Typical RDP site of 250 sq m 12,5m X 20m

1 All services located on street frontage ie servicing 2 units per 12,5m of street frontage 2 12.5

Economic life of internal services **40** years

			Capital Cost/unit	Capital Cost/m	Main % pa over life	Main Cost pm per anumn	Main Cost per Unit pa
- length of road & sw per unit	6.25	m	R 15,625	R 2,500	2.50%	R 62.50	R 390.63
- length of sewer main per unit	6.25	m	R 6,563	R 1,050	2.50%	R 26.25	R 164.06
- length of water main per unit	6.25	m	R 5,938	R 950	2.50%	R 23.75	R 148.44
- length of elec supply cable per unit	6.25	m	R 17,188	R 2,750	2.50%	R 68.75	R 429.69
Totals			**R 45,313**				**R 1,133**

2 **No. of SRH units on site of 250 sq m** **3** (assumed gross density of 120units/ha)

All services located on street frontage ie servicing 2 SRH sites per 12,5m of street frontage ie 6 units

Economic life of internal services **40** years

			Capital Cost/unit	Capital Cost/m	Main % pa over life	Main Cost pm per anumn	Main Cost per Unit pa
- length of road & sw per unit	2.08	m	R 5,208	R 2,500	2.50%	R 62.50	R 130.21
- length of sewer main per unit	2.08	m	R 2,188	R 1,050	2.50%	R 26.25	R 54.69
- length of water main per unit	2.08	m	R 1,979	R 950	2.50%	R 23.75	R 49.48
- length of elec supply cable per unit	2.08	m	R 5,729	R 2,750	2.50%	R 68.75	R 143.23
Totals			**R 15,104**				**R 378**

3 **Other Local Authority Infrastructure Maintenance and/or Operational Services**

- *Maintenance of bulk infrastructure eg water reservoir* - has no differential between SRH & RDP, but is still a cost and has fiscal implications
- *Maintenance of local social facilities eg library* - has no differential between SRH & RDP, but is still a cost and has fiscal implications
- *Provision of domestic waste removal* - has no differential between SRH & RDP, but is still a cost and has fiscal implications
- *Rates revenues* - no cost difference, but differential between SRH & RDP as rates collected from SH, thus has fiscal implications

14.6.2 Housing unit specifications

	RDP (2007)[1]	RDP (2003)[2]	SH[3]
Services			
Water	Single standpipe per stand (metered)		Water reticulation with metered connections
Sanitation	VIP or alternative system agreed between the community, municipality and the MEC		Midblock sewer reticulation with unit connections
Roads	Graded or gravel paved road access to each stand		Surfaced roads with edge strip / mountable kerbs
Stormwater	Lined open channels		Surface and underground (where required)
Street lighting	High mast security lighting for residential purposes where this is feasible and practical		
Electricity	n/a		Underground reticulation with metered 30A supply
Structure			
Design			
	40m2	30m2	30m2
	2 bedrooms	1 bedroom	
	Separate bathroom with toilet, shower and hand basin		
	Combined living area and kitchen with wash basin		
	Ready board electrical installation (where electricity supply available in township)		Surface mounted internal wiring, basic switch and light fittings
Specifications			
	Concrete Foundation		Reinforced concrete raft
	Cement brick walls		
	Steel window frames with glazed glass		
	Steel internal door frame		
	Hollow core internal doors		
	Hardwood external doorframe and doors	Steel external door	Solid external door
	Steel hard galvanised roof sheets		Concrete / similar tiles, ceilings, gutters and downpipes

	RDP (2007)[1]	RDP (2003)[2]	SH[3]
Plumbing			
	1 x WC		
	1 x shower	n/a	
	1 x hand basin		
	1 x sink		
Finishing			
	External walls Agreement Certified coating system		
	Internal walls cement slurry-brushed (no paint)		
	Internal doors painted		
	External doors treated		
			Curtain rails
			Boundary Fencing

Sources:

1. Technical and general Guidelines, Part B: Technical Provisions, Part 3 of the National Housing Code, 2007
2. Proposed House (30m2) Plan, Layout and Elevations, House Plans Phase 3, Bram Fischerville
3. Job Summit Documentation

14.6.3 Free Basic Services:

Free basic municipal services are services provided at no charge by the Government to poor households. The services include water, electricity, sanitation and waste removal. These services are provided by municipalities and include a minimum amount of electricity, water and sanitation that is sufficient to cater for the basic needs of a poor household. However, policies regulating the provision of basic sanitation and refuse removal are yet to be finalised by the relevant sector departments of Water Affairs and Forestry (DWAF) and Environmental Affairs and Tourism (DEAT).

Free basic water

Free basic water consists of at least a basic amount of 6 kl (6 000 l) of water per month per household. This amount may differ among municipalities and you should contact your municipality directly to find out exactly what the free basic water service is that they provide. You are required to pay for water that is used over and above the free supply. The first 6 000 litres per household per month are free, additional litres are charged at municipal rates.

Free basic electricity

The amount of free basic electricity is 50kWh per household per month for a grid-energy system (connected through the national electrification programme). This amount of electricity will be enough to provide basic lighting, basic water heating using a kettle, basic ironing and access to a small black and white TV and radio.

Users who have pre-paid electricity meters will be able see when the free electricity is used up and will be required to buy more electricity at their own expense. Users with conventional or credit meters will not be able to see easily when they have used up their units. They will be charged for additional use at the end of each month.

Consumers who do not have access to grid energy electrification could be provided with non-grid energy by their municipalities. You should contact your municipality to find out the type of alternative sources of energy provided.

To have electricity and water connected in your home or business premises, contact the municipality of the area in which you have a new home or business.

In certain areas, the national supplier, Eskom, supplies electricity directly.

Electricity : 50 kWh per month for a grid-based system.

Free basic sanitation

The government has not yet implemented the free sanitation programme. The Department of Water Affairs is developing a framework for the provision of free basic sanitation. When the strategy is finalised, the local authorities that provide sanitation services will implement it.

Free basic refuse removal

The government has not yet implemented the free waste removal programme. The Department of Environmental Affairs ant Tourism is developing a framework for the provision of free basic waste removal services. When the strategy is finalised, the local authorities that provide waste removal services will implement it.

Source: South African Government Services, Free basic municipal services, http://www.services.gov.za/servicesforpeople/Socialbenefits/socialservices/water.aspx?Language=en-ZA

14.6.4 South African Housing Subsidy Scheme

Subsidy quantum amounts for the period 2008/2009 in respect of a 40m2 house only are as follows:

Individual and Project Linked Subsidies	Top Structure Funding only	Own Contribution	Product Price
R0 - R1 500	R43 506.00	None	R43 506.00
R1 501 - R3 500	R41 027.00	R2 479,00	R43 506.00
Indigent: Aged, Disabled and Health Stricken R0 - R3 500	R43 506.00	None	R43 506.00
Institutional Subsidies			
R0 - R3 500	R41 027.00	Institution must add Capital	At least R43 506.00
Consolidation Subsidies			
R0 - R1 500	R43 506.00	None	R43 506.00
R1 501 - R3 500	R41 027.00	R2 479,00	R43 506.00
Indigent: Aged, Disabled and Health Stricken R0 - R3 500	R43 506.00	None	R43 506.00
Rural Subsidies			
R0 - R3 500	R43 506.00	None	R43 506.00
People's Housing Process			
R0 - R3 500	R43 506.00	None	R43 506.00

Source: National Department of Housing:
http://www.housing.gov.za/content/Subsidy%20Information/Subsidies%20Home.htm

14.6.5 Building Cost Escalation

	BER Building Cost index	PPI: Building & construction	PPI: Building & construction	PPI: Building & construction
			Building industries	Civil engineering
	source: BER/MFA	source: Stats SA	source: Stats SA	source: Stats SA
2000-Q1	3.8	5.5	3.5	4.1
2000-Q2	5.4	6.2	3.9	4.1
2000-Q3	8.0	7.8	5.3	6.6
2000-Q4	-1.0	7.8	5.6	5.3
2001-Q1	8.1	7.9	6.6	6.4
2001-Q2	0.8	7.5	6.3	5.9
2001-Q3	6.5	7.3	6.3	6.0
2001-Q4	12.0	7.0	6.4	7.3
2002-Q1	11.3	10.3	9.7	9.4
2002-Q2	20.2	14.2	13.2	13.8
2002-Q3	12.7	13.9	14.4	11.5
2002-Q4	18.6	16.2	16.8	15.3
2003-Q1	9.4	13.4	13.7	13.9
2003-Q2	8.8	8.0	9.8	9.2
2003-Q3	13.8	6.4	7.6	9.6
2003-Q4	6.5	3.2	4.3	6.8
2004-Q1	12.4	1.9	2.7	6.5
2004-Q2	14.6	5.7	4.8	11.4
2004-Q3	13.3	6.5	5.4	11.2
2004-Q4	16.5	9.7	7.7	14.0
2005-Q1	20.2	10.4	8.9	13.6
2005-Q2	16.5	8.2	7.3	8.7
2005-Q3	16.3	8.2	6.7	8.2
2005-Q4	15.6	5.7	5.2	4.5
2006-Q1	6.8	5.0	5.0	3.1
2006-Q2	11.7	4.7	6.1	2.5
2006-Q3	9.5	7.9	10.7	4.8
2006-Q4	12.4	10.3	14.4	5.1
2007-Q1	10.6	11.7	15.9	6.9
2007-Q2	21.6	13.0	15.3	8.6
2007-Q3	11.2	10.1	11.3	7.1
2007-Q4	17.6	9.0	8.7	7.8
2008-Q1	18.7	10.3	8.1	8.1
2008-Q2	10.8	14.1	11.6	12.5
2008-Q3	15.3	18.3	16.0	19.3
2008-Q4	6.3	18.4	17.8	20.8

Source: BER, 2009

14.6.6 Inflation Index (CPI)

ANNUAL INFLATION ON A MONTHLY BASIS

Consumer Price Index (P0141.1)

Metropolitan areas - All Items — Base year: 2000 = 100

Year		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1981	Index	11,7	11,9	11,9	12,0	12,1	12,2	12,5	12,7	13,0	13,1	13,2	13,3	12,5
	%	..	..	..	..	..	..	..	..	..	..	..	..	..
1982	Index	13,3	13,5	13,8	14,0	14,1	14,2	14,3	14,5	14,7	14,9	15,1	15,1	14,3
	%	+13,7	+13,4	+16,0	+16,7	+16,5	+16,4	+14,4	+14,2	+13,1	+13,7	+14,4	+13,5	+14,4
1983	Index	15,2	15,5	15,6	15,8	15,9	15,9	16,1	16,3	16,4	16,5	16,7	16,7	16,1
	%	+14,3	+14,8	+13,0	+12,9	+12,8	+12,0	+12,6	+12,4	+11,6	+10,7	+10,6	+10,6	+12,6
1984	Index	16,8	17,0	17,2	17,5	17,7	17,8	18,0	18,2	18,3	18,6	18,8	18,9	17,9
	%	+10,5	+9,7	+10,3	+10,8	+11,3	+11,9	+11,8	+11,7	+11,6	+12,7	+12,6	+13,2	+11,2
1985	Index	19,1	19,8	19,8	20,3	20,5	20,8	20,9	21,1	21,4	21,7	22,0	22,4	20,8
	%	+13,7	+16,5	+15,1	+16,0	+15,8	+16,9	+16,1	+15,9	+16,9	+16,7	+17,0	+18,5	+16,2
1986	Index	23,1	23,3	23,6	24,0	24,0	24,3	24,8	25,1	25,6	25,9	26,2	26,5	24,7
	%	+20,9	+17,7	+19,2	+18,2	+17,1	+16,8	+18,7	+19,0	+19,6	+19,4	+19,1	+18,3	+18,8
1987	Index	26,8	27,2	27,6	28,0	28,2	28,5	28,7	29,2	29,6	29,9	30,2	30,4	28,7
	%	+16,0	+16,7	+16,9	+16,7	+17,5	+17,3	+15,7	+16,3	+15,6	+15,4	+15,3	+14,7	+16,2
1988	Index	30,6	30,8	31,3	31,6	31,9	32,0	32,4	32,8	33,2	33,6	33,9	34,2	32,4
	%	+14,2	+13,2	+13,4	+12,9	+13,1	+12,3	+12,9	+12,3	+12,2	+12,4	+12,3	+12,5	+12,9
1989	Index	34,7	35,0	35,6	36,1	36,6	37,0	37,4	37,9	38,2	38,5	39,0	39,5	37,1
	%	+13,4	+13,6	+13,7	+14,2	+14,7	+15,6	+15,4	+15,5	+15,1	+14,6	+15,0	+15,5	+14,5
1990	Index	40,0	40,3	40,9	41,3	41,7	42,0	42,3	43,0	43,7	44,0	44,9	45,2	42,4
	%	+15,3	+15,1	+14,9	+14,4	+13,9	+13,5	+13,1	+13,5	+14,4	+14,3	+15,1	+14,4	+14,3
1991	Index	45,7	46,3	46,7	47,4	48,1	48,4	49,0	49,7	50,4	51,3	51,8	52,6	49,0
	%	+14,3	+14,9	+14,2	+14,8	+15,3	+15,2	+15,8	+15,6	+15,3	+16,6	+15,4	+16,4	+15,6
1992	Index	53,1	53,6	54,0	54,7	55,1	55,7	56,2	56,8	57,2	57,3	57,6	57,6	55,7
	%	+16,2	+15,8	+15,6	+15,4	+14,6	+15,1	+14,7	+14,3	+13,5	+11,7	+11,2	+9,5	+13,7
1993	Index	58,2	58,4	59,2	60,8	61,0	61,3	61,8	62,1	62,3	62,8	62,9	63,1	61,2
	%	+9,6	+9,0	+9,6	+11,2	+10,7	+10,1	+10,0	+9,3	+8,9	+9,6	+9,2	+9,5	+9,9
1994	Index	64,0	64,2	64,6	65,0	65,4	65,8	66,8	67,8	68,6	68,9	69,1	69,3	66,6
	%	+10,0	+9,9	+9,1	+6,9	+7,2	+7,3	+8,1	+9,2	+10,1	+9,7	+9,9	+9,8	+8,8
1995	Index	70,2	70,5	71,3	72,2	72,5	72,4	72,8	73,0	73,1	73,3	73,5	74,1	72,4
	%	+9,7	+9,8	+10,4	+11,1	+10,9	+10,0	+9,0	+7,7	+6,6	+6,4	+6,4	+6,9	+8,7
1996	Index	75,0	75,1	75,7	76,2	76,7	77,4	78,0	78,4	79,2	79,9	80,2	81,0	77,7
	%	+6,8	+6,5	+6,2	+5,5	+5,8	+6,9	+7,1	+7,4	+8,3	+9,0	+9,1	+9,3	+7,3
1997	Index	82,0	82,5	83,0	83,7	84,0	84,2	85,1	85,2	85,6	86,0	85,7	86,0	84,4
	%	+9,3	+9,9	+9,6	+9,8	+9,5	+8,8	+9,1	+8,7	+8,1	+7,6	+6,9	+6,2	+8,6
1998	Index	86,7	86,9	87,5	87,9	88,3	88,6	90,7	91,7	93,3	93,7	93,7	93,7	90,2
	%	+5,7	+5,3	+5,4	+5,0	+5,1	+5,2	+6,6	+7,6	+9,0	+9,0	+9,3	+9,0	+6,9
1999	Index	94,4	94,4	94,4	94,6	94,5	95,0	95,1	94,7	95,1	95,3	95,5	95,8	94,9
	%	+8,9	+8,6	+7,9	+7,6	+7,0	+7,2	+4,9	+3,3	+1,9	+1,7	+1,9	+2,2	+5,2
2000	Index	96,9	96,6	97,6	98,9	99,3	99,9	100,8	101,2	101,7	102,0	102,2	102,5	100,0
	%	+2,6	+2,3	+3,4	+4,5	+5,1	+5,2	+6,0	+6,9	+6,9	+7,0	+7,0	+7,0	+5,4
2001	Index	103,8	104,1	104,8	105,3	105,7	106,2	106,1	105,9	106,2	106,1	106,6	107,2	105,7
	%	+7,1	+7,8	+7,4	+6,5	+6,4	+6,3	+5,3	+4,6	+4,4	+4,0	+4,3	+4,6	+5,7
2002	Index	109,0	110,2	111,3	113,1	113,9	114,7	116,3	116,9	118,1	119,9	120,3	120,5	115,4
	%	+5,0	+5,9	+6,2	+7,4	+7,8	+8,0	+9,6	+10,4	+11,2	+13,0	+12,9	+12,4	+9,2
2003	Index	121,6	121,5	122,7	123,1	122,8	122,4	122,4	122,9	122,5	121,7	120,8	120,9	122,1
	%	+11,6	+10,3	+10,2	+8,8	+7,8	+6,7	+5,2	+5,1	+3,7	+1,5	+0,4	+0,3	+5,8
2004	Index	121,8	122,4	123,2	123,4	123,5	123,9	124,3	124,1	124,1	124,6	125,3	125,0	123,8
	%	+0,2	+0,7	+0,4	+0,2	+0,6	+1,2	+1,6	+1,0	+1,3	+2,4	+3,7	+3,4	+1,4
2005	Index	125,4	125,6	126,9	127,6	127,6	127,4	128,5	129,0	129,5	129,6	129,5	129,5	128,0
	%	+3,0	+2,6	+3,0	+3,4	+3,3	+2,8	+3,4	+3,9	+4,4	+4,0	+3,4	+3,6	+3,4
2006	Index	130,4	130,5	131,2	131,8	132,6	133,6	134,9	136,0	136,3	136,6	136,5	137,0	134,0
	%	+4,0	+3,9	+3,4	+3,3	+3,9	+4,9	+5,0	+5,4	+5,3	+5,4	+5,4	+5,8	+4,7
2007	Index	138,2	138,0	139,2	141,0	141,8	143,0	144,4	145,1	146,1	147,4	148,0	149,3	143,5
	%	+6,0	+5,7	+6,1	+7,0	+6,9	+7,0	+7,0	+6,7	+7,2	+7,9	+8,4	+9,0	+7,1
2008	Index	151,0	151,5	153,9	156,6	158,4	160,4	163,8	165,0	165,3	165,3	165,4	..	..
	%	+9,3	+9,8	+10,6	+11,1	+11,7	+12,2	+13,4	+13,7	+13,1	+12,1	+11,8	..	..

Source: StatsSA

14.6.7 Interest rates

Dates Of Change In The Prime Overdraft Rate Of Banks	
Date	**%**
2000/01/24	14.5
2001/06/18	13.75
2001/07/16	13.5
2001/09/25	13
2002/01/16	14
2002/03/18	15
2002/06/14	16
2002/09/16	17
2003/06/13	15.5
2003/08/15	14.5
2003/09/11	13.5
2003/10/20	12
2003/12/15	11.5
2004/08/16	11
2005/04/15	10.5
2006/06/08	11
2006/08/03	11.5
2006/10/13	12
2006/12/08	12.5
2007/06/08	13
2007/08/17	13.5
2007/10/12	14
2007/12/07	14.5
2008/04/11	15
2008/06/13	15.5
2008/12/12	15

Source: SARB

14.6.8 Utility cost assumption

Given the absence of reliable utility cost data the model has utilised a number of sources and assumptions in order to estimate the cost of utilities.

These assumptions also take into account the level of under-recovery (subsidization) inherent in the current utility tariff structures adopted by South African Municipalities.

The CBA household survey results indicate the following in respect of average monthly utility consumption in the case of the two Johannesburg projects.

	JOSHCO Roodepoort Phase 1	Bram Fischerville
Water	R 41.25	R 6.92
Electricity	R 205.00	R 126.41
KL / Mth	144	20

It should be noted that there is statistically significant correlation between household income and levels of utility consumption, i.e. utilities are price elastic.

Data from the City of Joburg in respect of water services charges in 2006 indicate the estimated cost-recovery thresholds for metered and pre-paid water provision.

Joburg Water Cost Price: December 2006		
KL	**Dec-06 Cost**	**Dec-08*Cost**
6	7.5	9.36
10	5.25	6.55
15	8.3	10.40
20	7	8.73
30	6.5	8.11
40	6.5	8.11

* Escalated at 11.7% CPI

On the basis of this data and the information obtained from the household survey as well as SHI accounts it is evident that in respect of RDP there is significant under recovery of costs. In the case of SRH the tariff is in line with actual utility cost.

CoJ Water 2008-09 Tariff Cost Recovery Analysis			
KL / Mth	Metered	Pre-Paid	
0-6	0	0	Under recovery
7-10	4.4	3.4	275%
11-15	6.28	4	164%
16-20	7.93	6.58	**158%**
21-30	9.52	9.11	
31-40	9.6	9.2	
41 plus	11.46	11.46	

Given the above analysis the CBA model has applied a factor of 1.5 to utility cost in respect of RDP to reflect the actual cost of service provision. While the analysis is based only on the case of water in respect of Johannesburg an assumption has been made that a similar situation applies in respect of the other basic services (electricity and refuse collection) and is likely to be replicated in other municipalities.

14.6.9 Operating Cost Assumptions

	Roodepoort	Amalinda	Bram Fischerville	Potsdam	Comments
HH Expenditure (from Survey) p/mth					
Water	45	179.45	3.05	13.5	This is over and above free basic services
Electricity	216.88	198.88	130.24	65.99	Pre-paid in all cases
Total	**261.88**	**378.33**	**133.29**	**79.49**	
Electricity Provider	*CoJ*	*BCM*	*Eskom*	*BCM*	
Free Basic Services (Municipal Contribution) Tariff					
6 Kl Water	26.4	20.25	26.4	20.25	Other services for Indigent only
50 kWh electricity	21.55	20.25	21.55	20.25	
Total	**47.95**	**40.50**	**47.95**	**40.50**	
Other services					
Refuse		36.78	60	78.95	Not collected / nor paid for by HH
Sewer		36.78	58.75	30.25	Not collected / nor paid for by HH
Water & Electricity common areas		5.92			
Rates & taxes		45.21	0	0	CoJ and BCM RDP exempt from rates, property valued <R150k
Total	**160.16**	**124.69**	**118.75**	**109.2**	
Maintenance (from Survey)					
Home improvements	37.5	38.58	21.33	16.25	
Basic maintenance	1.88	9.4	32.53	4.98	
Total	**39.38**	**47.98**	**53.86**	**21.23**	
Municipal township services maintenance (Model)					
Municipal township maintenance	**31.47**	**31.47**	**94.40**	**94.40**	Assumption
SRH Institution Operating Costs					
Operating Costs	**297.09**	**328.49**			Includes facilities mgt & overhead
SH Maintenance Costs					
Maintenance Costs	**13.6**	**80.51**			Repairs & maintenance

Sources:

CoJ, Annual Report: Part 1: Annual Performance Report 2007/2008

CoJ, Amendment of Tariff of Charges for Water Services and Sewerage and sanitation Services: 2008/09, Council 20032008; Mayoral Committee 10032008

CoJ, Amendment of Tariff of Charges for Refuse Removal Services: 2008/09, Council 20032008; Mayoral Committee 13032008

CoJ, Determination of Assessment Rates and Rebates for 2008/2009, 14 April 2008

CoJ, Amendment of Tariff of Charges for Electricity Services: Schedule of Tariffs for 2008/9

"Eskom's blunders are the real reason", The Star, 29 April 2008, p.8

BCM, Statement of Financial Performance and the Implementation of the 2009/2009 Budget for the Period Ending 30 November 2008

JOSHCO, Management Accounts for the Month Ending June 2008

14.6.10 Estimated time cost according to income groups in 2006 prices

Income group	Value of a working hour	Value per recreational hour for all persons	Value of recreational hour for workers
	(Rand)	(Rand)	(Rand)
Eastern Cape			
Low income group	4.64	0.23	1.06
Middle income group	14.04	0.77	3.20
High income group	35.63	2.76	8.13
Total population	17.79	0.94	4.06
Free State			
Low income group	4.71	0.27	1.07
Middle income group	17.12	1.05	3.91
High income group	38.57	2.86	8.80
Total population	20.51	1.23	4.68
Gauteng			
Low income group	8.42	0.65	1.92
Middle income group	24.02	1.99	5.48
High income group	108.84	10.71	24.83
Total population	41.14	3.38	9.39

Source: Conningarth Economists, A Manual for Cost Benefit Analysis in South Africa with Specific Reference to Water Resource Development, Second Edition. Prepared for the Water Research Commission, August 2007.

14.7 Appendix 7: Distributional Analysis Tables

Bram Fischerville (RDP) and Roodepoort (SRH)

INPUTS		
National / Provincial Subsidies		
Housing subsidy (RDP)		25,520
Housing subsidy (SRH) ***		174,528
Infrastructure subsidy (RDP) ***		32,196
Infrastructure subsidy (SRH) ***		0
Utility Charge Subsidy and Collection		
RDP utility collection rates		0%
SRH utility collection rates		100%
Lifeline utility subsidy ***		30,945
Municipal / SHI Contributions		
Municipal contribution to SRH construction		0%
Municipal contribution to SRH infrastructure		0%

		Government			
	Input	**National / Provincial**	**Municipal**		**Total**
FINANCIAL					
RDP / Base Case					
Land assembly	1,099				
Township proclamation	865				
Professional fees	1,777				
Statutory approvals and enrolments	388				
Construction	27,526				
Internal services	-				
		25,520	6,135		31,654
Land servicing	20,509				
Bulk servicing costs	11,688				
		32,196	-		32,196
Rebuilding costs	14,417	14,417			14,417
Total Capital Costs	**78,268**	**72,133**	**6,135**	**-**	**78,268**

	Input	Government			Total
		National / Provincial	Municipal		
Building maintenance costs	13,171			13,171	13,171
Township services maintenance costs	27,178		27,178		27,178
Utilities - water, electricity, sewage, refuse	110,100		110,100	-	110,100
Total Ongoing Costs (NPV)	**150,450**	**-**	**137,278**	**13,171**	**150,450**
Total RDP	**228,718**	**72,133**	**143,413**	**13,171**	**228,718**
As percentage		**32%**	**63%**	**6%**	
Social Housing / Project Case					
Land assembly	22,222				
Township proclamation	-				
Professional fees	7,245				
Statutory approvals and enrolments	1,881				
Construction	177,985				
Internal services	-				
		174,528	-	34,805	209,333
Land servicing	4,356				
Bulk servicing costs	1,939				
Rebuilding costs	not used				
		-	-	6,295	6,295
Total Capital Costs	**215,628**	**174,528**	**-**	**41,100**	**215,628**
Building maintenance costs	12,947			12,947	12,947
Township services maintenance costs	7,707			7,707	7,707
Utilities - water, electricity, sewage, refuse	114,993		30,945	84,048	114,993
Operating costs	72,686			72,686	72,686
Total Ongoing Costs (NPV)	**208,334**	**-**	**30,945**	**177,388**	**208,334**
Total Project Case	**423,961**	**174,528**	**30,945**	**218,488**	**423,961**
As percentage		**41%**	**7%**	**52%**	
ECONOMIC					
Crime				-	-
Victim Costs	13,244-			13,244-	13,244-
Offender Costs	1,104-	1,104-			1,104-
Education					-
Benefits due to reduced school dropout	-				
Employment					-
Benefits from improved employment	-				-
Transport					
Transport savings	180,993			180,993	180,993
Total	**166,645**	**1,104-**	**-**	**167,749**	**166,645**
Total Project Case including Economic Effects		**103,499**	**112,468-**	**37,568**	**28,599**

Potsdam (RDP) and Amalinda (SRH)

INPUTS		
National / Provincial Subsidies		
Housing subsidy (RDP)		35,601
Housing subsidy (SRH) ***		24,121
Infrastructure subsidy (RDP) ***		72,222
Infrastructure subsidy (SRH) ***		0
Utility Charge Subsidy and Collection		
RDP utility collection rates		0%
SRH utility collection rates		100%
Lifeline utility subsidy ***		58,419
Municipal / SHI Contributions		
Municipal contribution to SRH construction		0%
Municipal contribution to SRH infrastructure		0%

		Government				
	Input	**National / Provincial**	**Municipal**	**Residents / Households**		**Total**
FINANCIAL						
RDP / Base Case						
Land assembly	446					
Township proclamation	3,184					
Professional fees	851					
Statutory approvals and enrolments	1,451					
Construction	35,089					
Internal services	-					
		35,601	5,420			41,021
Land servicing	21,017					
Bulk servicing costs	51,205					
		72,222	-			72,222
Rebuilding costs	18,156	18,156				18,156
Total Capital Costs	**131,399**	**125,979**	**5,420**	**-**	**-**	**131,399**

	Input	Government		Residents / Households		Total
		National / Provincial	Municipal			
Building maintenance costs	5,199			5,199		5,199
Township services maintenance costs	27,178		27,178			27,178
Utilities - water, electricity, sewage, refuse	84,104		84,104	-		84,104
Total Ongoing Costs (NPV)	**116,482**	**-**	**111,283**	**5,199**	**-**	**116,482**
Total RDP	**247,881**	**125,979**	**116,703**	**5,199**	**-**	**247,881**
As percentage		**51%**	**47%**	**2%**		
Social Housing / Project Case						
Land assembly	1,730					
Township proclamation	-					
Professional fees	15,696					
Statutory approvals and enrolments	3,102					
Construction	114,428					
Internal services	-					
		24,121	-	110,835		134,956
Land servicing	81,789					
Bulk servicing costs	24,933					
		-	-	106,723		106,723
Rebuilding costs	not used					
Total Capital Costs	**241,679**	**24,121**	**-**	**217,558**	**-**	**241,679**
Building maintenance costs	20,674			20,674		20,674
Township services maintenance costs	7,707			7,707		7,707
Utilities - water, electricity, sewage, refuse	132,976		58,419	74,558		132,976
Operating costs	80,373			80,373		80,373
Total Ongoing Costs (NPV)	**241,731**	**-**	**58,419**	**183,312**	**-**	**241,731**
Total Project Case	**483,409**	**24,121**	**58,419**	**400,870**	**-**	**483,409**
As percentage		**5%**	**12%**	**83%**	**0%**	
ECONOMIC						
Crime				0		0
Victim Costs	86,114			86,114		86,114
Offender Costs	7,176	7,176				7,176
Education						-
Benefits due to reduced school dropout	16,087			16,087		16,087
Employment						-
Benefits from improved employment	4,487			4,487		4,487
Transport						
Transport savings	485,461			485,461		485,461
Total	**599,325**	**7,176**	**-**	**592,149**	**-**	**599,325**
Total Project Case including Economic Effects		**109,035-**	**58,284-**	**196,478-**	**-**	**363,796-**

14.8 Appendix 8: Legal Review

14.8.1 Introduction

While lease, or rental, is a form of tenure, RDP is not a form of tenure. Ownership, however, is a form of tenure. Ownership of RDP units has features distinguishing it from ownership of other residential property. We will deal with that in more detail below.

Both ownership and rental stems from the common law. This means that the rights and obligations pertaining to these forms of tenure are not, in the first place to be found in legislation, but in case law, Both ownership and rental are, however, regulated.

In the past ownership was thought to entail absolute rights in respect of an object, and this included land. However, this view has now largely been discarded, it being realised that ownership of land is subject to many restrictions and (state) interventions.[10] These interventions take various forms and include town planning schemes (regulating use), environmental legislation, taxation, transfer procedures, restrictions on water utilisation, expropriation, neighbourhood law etc.[11]

Rental of residential property has in the past in South Africa and elsewhere been regulated through rent control legislation[12] and more recently by enactment of the. Housing Rental Act, 1999[13].(and amendments thereto[14]) dealing with particularly *relationship issue*s between landlords and tenants.

Before comparing ownership of RDP stock and rental from a legal perspective, it is necessary to look at the differences between ownership and rental generally. The best way to do it is to look at the different rights associated with the particular form of tenure.

The various rights can be summarised as follows

[10] Generally see the writings of Prof. AJ van der Walt in this regard,
[11] Van der Walt & Pienaar, Introduction to the law of Property, 5th edition, 2006 , 81 - 97
[12] Such as the Rent Control act, 1976
[13] Act No. 50 of 1999. This Act repealed the Landlord Tenant Relations Act in Gauteng.
[14] Act 43 of 2007.The Rental Housing Amendment Act seek to address certain problems which have been encountered since the promulgation of the principal Act" It extends the powers of tribunals - the inability to reverse unlawful landlord's actions (e.g. lock-outs and shutting off of utilities) when such actions are taken before a magistrate's court had approved such action - thereby making it lawful. It also allows Tribunals to deal with the seizure of possessions (section 4). Much of the bill also deals with the minister's powers to make regulations rather than MECs, and amendments proposed to attempt uniformity of regulations throughout the provinces. It allows Tribunals to make a ruling that a person must comply with the provisions of the Act, to issue spoliation and attachment (orders and to grant interdicts. It also amends section 15 of the Act to allow the Minister to make regulations, whereas in the past this power vested in the MEC's. This amendment has been necessitated by the need to ensure uniformity throughout the country with regard to procedures followed by Rental Housing Tribunals as well as rulings made by such tribunals. The Act has also been amended to make unlawful lock-outs and the shutting off of utilities an offence. It also extends the scope of what is considered unfair practices.

Right	Ownership	Rental
The right to use the property	yes	yes
The right to mortgage the property	yes	no, except long lease
The right to let the property	yes	no, only to sublet
The right to bequeath the property	yes	no
The right to sell the property	yes	no
The right of destruction	The top structure, yes	no

There are pertinent differences in respect of the way in which the form of tenure is *acquired.* While ownership can be acquired in many ways[15], residential property is typically acquired by sale or donation and the subsequent registration of transfer. Sale of property is normally effected through an outright sale (offer to purchase) or deed of sale under Chapter 2 of the Alienation of Land Act, 1981.[16]

A very significant feature is that transfer of ownership requires registration of the deed of transfer in the deeds office, whereas a lease simply requires a contractual arrangement which need not even be reduced to writing. Deed of sale under the Alienation of Land Act (erroneously referred to as "rent to buy") requires a contract to be concluded on very specific terms, set out in Chapter 2 of the Alienation of Land Act. We say erroneously because it is a *sale* on credit, it is not rental. The payments made are instalments towards acquisition of the property.

The sale of property attacks registration costs, as well as VAT (where the seller is a vendor), If the seller is not a vendor, there is no transfer duty payable if the value does not exceed R500000.00

14.8.2 Particular issues relating to rental

Very important in the case of lease, is the fact that there is an on-going legal relationship between landlord and tenant. The law of lease is mainly about the respective rights and obligations of landlords and tenants in relation to one another.

At the most basic level, a lease entails that the landlord allows the tenant to use and occupy a property, and the tenant needs to pay rental in return.

Basically, the tenant must use the property in its current form, and the property must be returned at the end of the term in its original condition. Usually the landlord is responsible for maintenance, but the contract may provide differently. Once the rent is in arrears, the landlord automatically has a tacit hypothec over the movable property on the premises to secure the landlord's claim for outstanding rent. [17]

Where a property is sold while there is a lease in respect of a property, the rule *Huur gaat voor koop* applies, which means in respect of a standard short term

[15] Eg appropriation, expropriation, prescription,
[16] Act 68 of 1981
[17] Van der Walt & Pienaar, 289

lease, that the tenant would be protected. This would also be the case in respect of a *registered* long tern lease.

Tax

The income from the rental of property is taxable in the hands of the lessor.[18] If a landlord can show that he leases property as a business, he can claim certain deductions if it is not of a capital nature and if it is incurred for purposes of trade.[19] Expenses such as interest on loans to finance the acquisition of property to be leased, rates and taxes payable and expenses with regard to maintenance of immovable property may be claimed as deductions by a landlord. [20] The Income Tax Act[21] allows for a wear and tear deduction in respect of things such as carpets, hot water systems, demountable partitions, kitchen equipment, lift installations and airconditioners.[22] It allows[23] the cost of repairs to be deducted. Improvements (which are of a capital nature) are not deductible. A deduction is allowed for taxpayers who erect or finance the cost of erection of housing of employees (50% of the deduction up to a maximum of R6000 per dwelling). A residential building initial allowance and annual allowance are available in respect of the cost of residential units erected by a taxpayer under a housing project in terms of section 13*te)* – a residential annual allowance of 2% and a residential building initial allowance of 10% of the cost of the residential unit. Section 13*quat* allows for deductions in respect of the erection of improvements to buildings including residential buildings in an urban development zone.

The letting of any accommodation in a dwelling (residential property)[24] is exempt from tax under section 12(c) of the Value-Added Tax Act, 1991.[25]

Eviction

A particular issue for landlords is the ability to evict defaulting tenants. Since the case of NDLOVU v NGCOBO; BEKKER AND ANOTHER v JIKA 2003 (1) SA 113 (SCA) 2003 (1) SA 113, where the court extended the concept of "unlawful occupier to all unlawful occupiers, irrespective of whether their possession at an earlier stage had been lawful, and provided them with the protection under the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 19 of 1998, there has been a number of attempts to bring to Parliament amending legislation to make the procedural aspects of evictions of defaulting tenants less cumbersome. During the course of the last month, the draft bill was again rejected by the relevant Parliamentary Committee, raising questions about the political commitment to deal with the matter.

[18] Par (g) of the definition of "gross income" in the Income Tax A, 1962.
[19] Section 23(g), section 11 and 13 of the Income Tax Act
[20] In terms of section 11(a) of the Income Tax Act
[21] Section 11(e)
[22] Note practice notes 15, 19, 39 in respect of straight line depreciations
[23] Section 11(d)
[24] See definition of dwelling in section 1 of the Vat Act,
[25] Act 89 of 1991

Registration

Whilst any lease can be registered[26], a long lease[27] is required to be registered in the deeds office in order to have the effect of applying against purchasers of the property.

14.8.3 Specific distinguishing features of RDP ownership

The most notable distinction between RDP ownership and the ownership of other residential property, lies in the restrictions in respect of sale and mortgage, imposed under sections 10A and 10B of the Housing Act, 1997[28], which restricts the sale of subsidised RDP units for a period of eight years from the date on which the property was acquired by that person unless the dwelling or site has first been offered to the relevant provincial housing department.[29] A restriction is also placed on the beneficiary's successor in title or creditors in law, (other than creditors in respect of credit-linked subsidies), to sell or otherwise alienate his or her dwelling or site unless the dwelling or site has first been offered to the relevant provincial housing department at a price not greater than the subsidy which the person received for the property. It has previously been pointed out that these restrictions have a serious impact on the second-hand property market in townships.

The relevant sections are quoted below in their totality:

[26] Section 77 of the Deeds Registries Act 47 of 1937
[2727] A long lease is a lease, which when entered into, was for a period of not less than 10 years or for the natural life of the lessee or another person mentioned in the lease, or a lease renewable from time to time at the will of the lessee indefinitely for periods which together with the first period amount in all to not less than 10 years.
[28] Act 107 of 1997
[29] Act 107 of 1997

"10A Restriction on voluntary sale of state-subsidised housing

(1) Notwithstanding any provisions to the contrary in any other law, it shall be a condition of every housing subsidy, as defined in the Code, granted to a natural person in terms of any national housing programme for the construction or purchase of a dwelling or serviced site, that such person shall not sell or otherwise alienate his or her dwelling or site within a period of eight years from the date on which the property was acquired by that person unless the dwelling or site has first been offered to the relevant provincial housing department.

(2) The provincial housing department to which the dwelling or site has been offered as contemplated in subsection (1) shall endorse in its records that the person wishes to vacate his or her property and relocate to another property and is entitled to remain on a waiting list of beneficiaries requiring subsidised housing.

(3) When the person vacates his or her property the relevant provincial housing department shall be deemed to be the owner of the property and application must then be made to the Registrar of Deeds by the provincial housing department for the title deeds of the property to be endorsed to reflect the department's ownership of that property.

(4) No purchase price or other remuneration shall be paid to the person vacating the property but such person will be eligible for obtaining another state-subsidised house, should he or she qualify therefore.

10B Restriction on involuntary sale of state-subsidised housing

(1) Notwithstanding any provisions to the contrary in any other law, it shall be a condition of every housing subsidy, as defined in the Code, granted to a natural person in terms of any national housing programme for the construction or purchase of a dwelling or serviced site, that such person's successors in title or creditors in law, other than creditors in respect of credit-linked subsidies, shall not sell or otherwise alienate his or her dwelling or site unless the dwelling or site has first been offered to the relevant provincial housing department at a price not greater than the subsidy which the person received for the property.

(2) Any such offer to the provincial housing department shall be made in writing and shall be accepted or rejected by the MEC within a period of 60 days from receipt thereof.

(3) If such offer is accepted, the purchase price shall be determined, subject to the provisions of subsection (1), by agreement between the MEC and the person or creditor concerned or, in the event of no agreement being reached, by a valuer acceptable to both parties and registered in terms of the Valuers' Act, 1982 (Act 23 of 1982).

(4) The purchase price as determined in terms of subsection (3) shall be financed by the MEC out of the provincial housing development fund.

(5) An MEC may grant exemption from the provisions of subsection (1), either conditionally or unconditionally, in respect of any dwelling or site to which the provisions of that subsection apply.

(6) The Registrar of Deeds concerned shall-

(a) make such endorsements on the title deeds of any dwelling or site and such entries in his or her registers as may be necessary to indicate that the provisions of subsection (1) apply in respect of such dwelling or site;

(b) cancel any such endorsements or entries where an exemption has been granted unconditionally under subsection (5) or where satisfactory proof has been submitted that conditions imposed under subsection (5) have been complied with; or

(c) make such endorsements or entries as may be necessary to indicate any conditions subject to which an exemption has been granted under subsection (5).

(7) No transfer of any dwelling or site in respect of which subsection (1) applies, shall be passed to a person other than the provincial government unless the Registrar of Deeds is provided with a certificate, signed by the head of department, to the effect that such dwelling or site has been offered for sale to the provincial department of housing in terms of subsection (1) and that-

(a) the offer has been rejected; or

(b) an exemption has been granted under subsection (5), either unconditionally or subject to the conditions set out in the certificate.

(8) The Minister may, by notice in the Gazette, make rules on the granting of exemption in terms of subsection (5) as well as the amount that must be paid by the person or creditor concerned for the granting of such exemption."

Given these restriction, the summary of rights are as follows:

Right	**Ownership of RDP property**	**Rental**
The right to use the property	yes	yes
The right to mortgage the property	**Yes, subject to the restrictions of section 10B of the Housing Act**	no, except long lease
The right to let the property	yes	no, only to sublet
The right to bequeath the property	yes	no
The right to sell the property	**Yes, but only after 8 years**	no
The right of destruction	The top structure, yes	no