MAKING LOW-COST HOUSING PROJECTS MORE ACCESSIBLE FOR PUBLIC TRANSPORT IN ETHEKWINI: WHAT ARE THE COSTS?♦

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1. INTRODUCTION

It has long been acknowledged and recognised that land use and transport impact on each other in a direct way, and that planning needs to be integrated to ensure sustainable and efficient development.

Low-cost housing projects in particular impact directly on the provision and cost of public transport, as the low-income segment of the population is entirely dependant on public transport. Badly located projects would result in higher transport costs for the commuter and higher subsidies for public transport.

It would therefore seem logical and reasonable that it is in the Governments best interest to ensure that housing projects are well located and easily accessible to the existing public transport system.

However, the reality is that the location of low-cost housing projects are influenced almost entirely by the financial constraints of the housing sector. The main aim of the housing sector is to provide as many houses as possible with available funds. The cheapest land is therefore selected for projects (the housing subsidy sets a maximum land cost of R1000 per site), with little consideration given for the impact on the commuter and the public transport system.

eThekwini is faced with the situation that current and proposed subsidised low-income housing projects are often badly located and reinforce the apartheid land use structure. Even though many of the projects are insitu upgrades (i.e. providing housing units where people are already living), no options are presented to allow people to locate in more accessible areas.

This paper sets out the work done to quantify the cost differences between existing and more accessible (but also more expensive) housing projects.

2. EXISTING FINANCIAL CONSTRAINTS AND DYNAMICS WITHIN THE HOUSING SECTOR

2.1 Description of the National Subsidy

The existing national subsidy provided by government for three low-income groups is shown in Table 1 below:

♦ **Disclaimer: The views expressed in this paper are those of the authors and not necessarily that of the eThekwini Municipality.**

Table 1: Current National subsidy for low-income housing

Income per month	Subsidy amount
Up to R 1 500	R 16 000
R 1 501 to R 2 500	R 10 000
R 2 501 to R 3 500	R 5 500

The amount of R 16 000 can be increased by 15 per cent (i.e. up to R18 400) due to excessive slopes or difficult terrain.

Disabled persons can qualify for additional amounts of subsidy as follows:

- R720 for ramp access to house or paving
- R300 for door kick plates
- R 1 100 for grab rails and lever action taps
- R700 for visual bell indicators

Since April 1999 the government has determined that a maximum of R 7 500 can be spent on services, land acquisition and township establishment. The suggested national minimum standards for services are:

- Water: metered standpipe per site
- Sanitation: VIP per site
- Roads: graded roads
- Storm-water: lined open channels
- Street lighting

The remaining R 8 500 must be utilised for a top structure with a minimum floor area of 27-30m^2.

2.2 Cost breakdown in eThekwini

The steep topography and wet climate of eThekwini have resulted in the adoption of service standards higher than those recommended by National government. The eThekwini Municipality has adopted a minimum standards policy for housing developments, which are reflected in the costs below.

A typical cost breakdown for eThekwini for a single unit is provided in Table 2 below:

Generally, the difference between the actual cost and the subsidy amount (R 18 400) is made up by the eThekwini Municipality. On average, this amount has been in the order of R 3000 to R 4000 per site for services before the minimum standards policy was adopted. The top up by Council for new projects developed under the minimum standards policy will therefore be in the order of R6 000 per site.

Table 2: Cost breakdown for a single low-income housing unit in eThekwini

Description of Cost element	EThekwini typical cost estimate (1)
1. LAND COST	
Land acquisition	R 500
Opening of township register	R 75
Subtotal	**R 575**
2. PROFESSIONAL FEES	
All professional fees	R 2 320
Subtotal	**R 2 320**
3. SERVICES	
Water connection	R 560
Sanitation reticulation	R 4 775
Roads	R 4 380
Storm water	R 1 500
Subtotal	**R 11 215**
4. BRIDGING FINANCE	
Bridging finance	R 225
Subtotal	**R 225**
5. TOPSTRUCTURE	
Construction of 30m2 house	R 10 000
Subtotal	**R 10 000**
TOATL COST (rounded)	**R 24 335**

2.3 Delivery programme

It is estimated that the current backlog in housing is 160 000 units. The delivery target is around 16 000 per annum for the next 10 years, providing that current levels of funding from Province are maintained.

3. MPUMALANGA CASE STUDY: FINANCIAL ASSESSMENT

3.1 Location and size of project

An existing housing development of 2680 units in Mpumalanga (some 57 km from the CBD) was selected (see figure 1). This housing location is considered to be “bad” from a transport point of view. There is little employment in the area, and previous surveys have indicated that only 17per cent of the community will find employment in the area. The remaining people will find employment in the other employment centres of the Metro area, as shown in table 3 below.

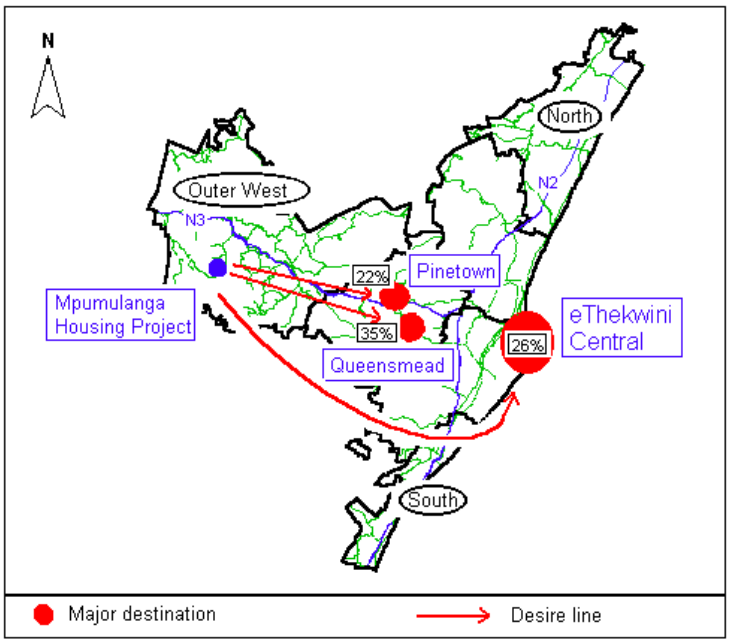

Figure 1: Existing Mpumalanga project location

Table 3: Employment destinations

Area of employment	% of Mpumalanga residents	Travel distance	Travel time (min)
Pinetown	22%	35 km	40 min
Northdene / Queensmead	35%	45 km	55 min
CBD / Southern Industrial Basin	26%	57 km	70 min
Mpumalanga	17 %	< 5km	
TOTAL	**100%**		

3.2 Housing and transport costs for project

Transport costs and subsidies have been calculated based on work done by Professor R del Mistro for the Fundamental Restructuring of eThekwini's PT system [(2)]. All costs have been escalated to reflect 2001 prices.

It has been assumed that the percentage splits in Table 3 can be applied to the proportion of housing units that would be affected.

The transport costs, income and subsidy have been calculated by designing a bus service to serve the required number of people for the destinations as shown in table 3 above.

A summary of the housing costs are shown in Table 4 below.

Table 4: Housing costs for Mpumalanga Project (escalated to 2001)

Land costs per unit (R)	Services and Professional fees (R)	18m^2 top structure (R)	Total per completed unit (R)
850	13 500	7 200	**21 550**

Table 5 below summarises the related transport costs for each area.

Table 5: Annual transport costs

Destination Area from Mpumalanga	Cost of service (R)	Income from fares (R)	Required Annual Subsidy (R)
Pinetown	R 4,2 m	R 2,6 m	R 1,6 m
Northdene / Queensmead	R 7,6 m	R 4,3 m	R 3,3 m
CBD / Southern Industrial Basin	R 6,8 m	R 3,4 m	R 3,4 m

3.3 Proposed new sites: location, size and costs

New sites have been selected for the destination areas of Pinetown, Queensmead and the CBD. These locations would be considered to be "good" from a transport of view, substantially reducing commuting distances and times.

3.3.1 Site for Pinetown and Queensmead destination

Figure 2 shows the proposed site in Pinetown south, commonly known as Nazareth Island. The site is 240 ha, and can accommodate approximately 1400 dwelling units. The site is currently valued at around R2,0 million. This site is relatively well located for these destinations, with a one way trip distance of around 10 km.

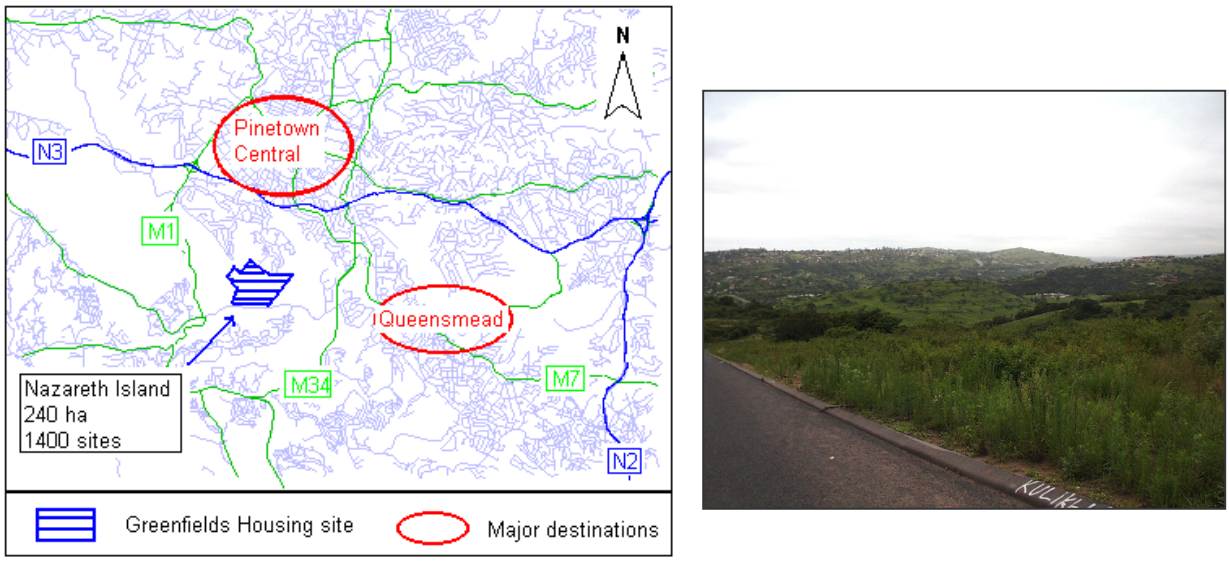

Figure 2: Pinetown south location: Nazareth Island

A summary of the housing costs and transport costs are shown in Tables 6 and 7 below.

Table 6: Housing costs for Nazareth Island (escalated to 2001)

Land costs (R per unit)	Services and Professional fees (R)	30 m^2 Top structure (R)	Total per completed unit (R)
1500	13 500	14 000	**29 000**

Table 7: Annual transport costs

Destination Area from Nazareth Island	Cost of service (R)	Income from fares (R)	Required Annual Subsidy (R)
Pinetown	R 2,20 m	R 1,4 m	R 0,8 m
Queensmead / Northdene	R 3,7 m	R 2,5 m	R 1,2 m

3.3.2 Sites for CBD and Southern Industrial Basin destinations

Figure 3 shows two proposed sites for these destinations.

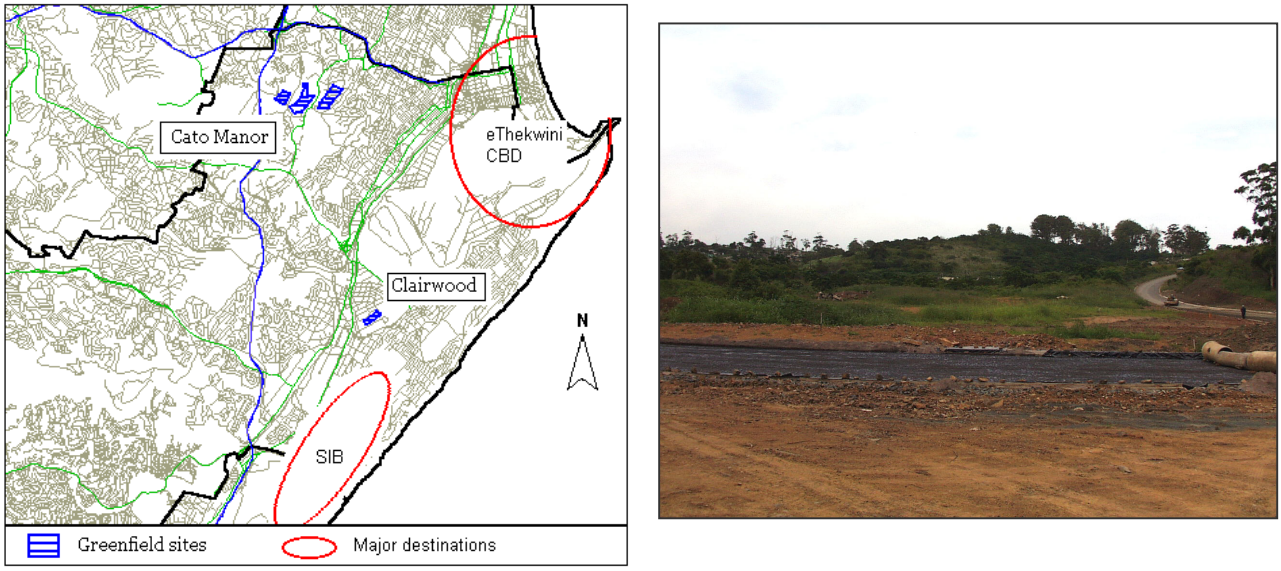

Figure 3: Cato Manor and the Clairwood site

The first is located at Cato Manor, where the land is valued at R 60 000 per ha. All the required dwelling units will be able to be accommodated on these sites (some 700 sites). This land is relatively well located.

A second site was chosen in Clairwood, which represents expensive but very well located land. The land has been valued at R100 per square metre. This site will only be able to accommodate a few dwelling units, but it was selected to give an indication of the cost of utilising very well located land.

A summary of the housing costs and transport costs are shown in Tables 8 and 9 below.

Table 8: Housing costs (2001 prices)

Project area	Land costs (R per unit)	Services and Professional fees (R)	30 m^2 Top structure (R)	Total per completed unit (R)
Cato Manor	R 2 600	R 13 500	R 14 000	**30 100**
Clairwood	R 33 000	R 13 500	R 15 000	**61 500**

Table 9: Annual transport costs

Project Area to CBD and SIB	Cost of service (R)	Income from fares (R)	Required Annual Subsidy (R)
Cato Manor	R 3,1 m	R 1,8 m	R 1,3 m
Clairwood	R 2,5 m	R 1,7 m	R 0,9 m

3.5 Financial comparison

The above costs show clearly that it the cost of the land that is the main cause of increased project costs for more accessible land. The service and top structure cost remain relatively constant, mainly due to the Council's norms and standards policy for housing.

Table 10 below shows the financial cost comparison for utilising better located land, and the number of years required.

Table 10: financial comparison

Relocating from Mpumalanga to:	Increased housing costs	Decreased annual transport subsidy costs	No. of years to breakeven (years)
Nazareth Island (Pinetown destination)	R 4,4 m	R 0,8 m	5,2
Nazareth Island (Queensmead destination)	R 7,0 m	R 2,0 m	3,4
Cato manor	R 6,0 m	R 2,1 m	2,8
Clairwood	R 27,8 m	R 2,5 m	11,0

The above table shows clearly that the additional land costs are relatively quickly absorbed by the savings in transport subsidy. Over a 20 year analysis period, the savings to the transport subsidy bill will be enormous.

3.6 Council "top up" required

Table 11 below gives an indication of the "top-up" funding that Council would have to provide up front for the proposed Mpumalanga project in order to realise the transport subsidy savings.

Table 11: Council top-up

New location	No. of units	Total cost / unit	Provincial Subsidy	Council top-up
Nazareth Island	1528	R 29 000	R 18 400	R 16,2 m
Cato Manor	697	R 30 100	R 18 400	R 8,2 m
(Clairwood	*697*	*R 61 500*	*R 18 400*	*R 30,0 m)*
			TOTAL	**R 24,4 m *(R 46,2 m)***

The Council top-up to the Provincial subsidy for the relocation from Mpumalanga to Nazareth Island and Cato Manor, for example, would be R24,4 m. Taking into account that there are a number of badly located low-cost housing projects, local government at present does not have these substantial additional resources. More importantly, because the transport subsidy is not under local government control, there is no incentive to provide such a huge top–up. This indicates the need to consolidate the entire transport function at a local level.

4. OTHER CONSIDERATIONS

4.1 Poverty reduction

National transport policy in South Africa has set a goal of households spending less than ten percent of their disposable income on transport.

The table below shows the cost of transport to the breadwinner in terms of fares as a percentage of his or her **total** monthly income. The figures in the table can be increased by 4 to 5 per cent if disposable income is considered.

Existing project	% monthly income*	After relocation	% monthly income*	Reduction
Mpumalanga to Pinetown	14,7	Nazareth Island to Pinetown	8,0	6,7
Mpumalanga to Queensmead	15,4	Nazareth Island to Queensmead	9,0	6,4
Mpumalanga to Durban / SIB	15,9	Cato Manor to Durban / ISB	9,0	6,9
		Clairwood to Durban / SIB	8,0	7,9

* does not include transport costs of children that will impact on household budgets.

The table shows clearly that the relocation of low-income housing to more accessible land has a direct impact on household budgets, and can greatly assist in poverty alleviation.

4.2 Equity

The current housing policies and programme have been established mainly around the issue of equity i.e. the aim is to provide as much housing for as many people as possible. A shift in policy which provides fewer, better located houses can be seen to favour a “few” and leave the “many” people without adequate housing for a long period. This could lead to negative sentiments and criticism.

However, it needs to be noted that Government, and in particular Local Government, also needs to focus on sustainable development, reducing urban sprawl and environmental issues. All of these issues need to be balanced with issues of equity.

This paper has demonstrated that badly located low-income housing projects place a huge burden on the fiscus in terms of the transport subsidy, and also results in households spending a high proportion of their meagre income on transport. This is not considered to be sustainable in the long term, and does contribute to urban sprawl.

4.3 Allocation process

The existing process of allocating housing units to individuals without regard to where they work is not desirable and needs some intervention.

The results of this investigation are only valid if the more accessible housing units are allocated to the individuals who work in the area. This means that the existing allocation policy will have to be changed to give priority to people working within a certain radius of the housing location.

It is noteworthy that low-income housing projects are being located in Cato Manor at present, but because of the allocation policy, no priority is given to those working in close proximity to the area and hence no transport subsidy savings will be realised.

This indicates that a change in the allocation process (which would only have very minor cost implications), could produce substantial transport subsidy savings.

4.4 Need to provide a wider range of housing solutions

This study has focussed on low-income, single unit housing projects. However, well located land, by definition, is within the existing urban fabric, where land is not as readily available. Options around more dense housing solutions such as three storey walk-ups and duplexes would need to be investigated. However, there is an entirely different dynamic around these housing options and they have therefore not been included in this study.

5. INTERNATIONAL TRENDS

Countries like Hong Kong, Singapore and Malaysia have for some time now been aggressively developing high density housing at accessible locations, generally close to rail stations. This has enhanced public transport and reduced the public transport subsidy substantially.

6. CONCLUSION

This investigation has shown that it makes economic sense to locate housing projects on more accessible land. The increase in land costs can be easily recovered by the savings in transport subsidy.

The investigation has been conducted at quite a broad level merely to illustrate some of the principles involved. No attempt has been made to quantify the transport subsidy of other trips (such as non work) that no doubt would be generated to other destinations. Similarly, existing transport services have not been factored into the analysis, but could very well provide opportunity for further reductions in the transport subsidy bill.

This investigation has also revealed that the existing allocation process will prevent any transport savings to be realised. A policy which gives priority to people working in the area would be very inexpensive to implement and provide benefits to the transport subsidy even with the current housing projects.

7. Recommendations

(i) The Council needs to consider reviewing its policy around the current allocation process to give priority to people working in the vicinity of housing developments. This will be relatively inexpensive, and have great transport subsidy savings even with the current location of housing projects.

(ii) The Province should lobby National government to consider further subsidising some badly located housing projects that are being proposed to move them to more accessible land. This will have large long-term benefits to the current transport subsidy bill.

(iii) The transport function should be located at the local level, where cross subsidisation of housing projects from the transport budget can be more easily facilitated and the benefits more directly felt.

References

(1) eThekwini Metro Housing estimate, 2001

(2) Durban Unicity, (1999), PUBLIC TRANSPORT ASSESSMENT STUDY FOR DURBAN, Prepared by Del Mistro and Associates, Durban, November 1999.

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Biography of CA Aucamp

After completing his BSc Civ Eng at the University of Natal in 1990, Andrew Aucamp started working for the Durban City Council in January 1992. After spending one and a half years in the Roads Department, he moved to the Traffic and Transportation Department where he has remained to date. He has mainly been involved in public transportation planning. During this time he completed a post-graduate Diploma in Transportation from the University of Natal. He is married with two children.

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