

# APPLICATIONS FOR NEW RETAIL DEVELOPMENT RIGHTS IN TRANSVAAL - A POLICY EVALUATION

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*Transvaal's policy for the evaluation of new retail development proposals has been applied successfully for well over a decade, but is based on debatable premises. The policy is described, its premises are criticised and tentative suggestions for improvement made.*

*Premises of the policy include a retail hierarchy with discrete levels, the use of circles of prescribed radius as proxies for trade areas, and the allocation of retail floor space per person, irrespective of economic considerations.*

*Suggested improvements include increasing the prescribed radii of circles, while reducing the allotted retail floor space per person, incorporating*

*travel time as alternative to distance, and incorporating economic criteria.*

*Transvaal se beleid vir die beoordeling van voorstelle vir nuwe kleinhandel-ontwikkeling word reeds langer as 'n dekade suksesvol aangewend. Die beleid is egter op aanvegbare veronderstellings gebaseer. Die beleid word beskryf, die veronderstellings gekritiseer en tentatiewe voorstelle ter verbetering word gemaak.*

*Veronderstellings van die beleid sluit in 'n kleinhandelshierargie met diskrete vlakke, die gebruik van sirkels van*

*voorgeskrewe radius as plaasvervaarders vir afsetgebiede, en die toedeling van kleinhandel vloeroppervlakte per persoon, sonder inagneming van ekonomiese oorwegings.*

*Voorgestelde verbeterings behels die vergroting van die voorgeskrewe radiusse van sirkels, terwyl die toegelede kleinhandel vloeroppervlakte per persoon verminder word, die byvoeging van reistyd as alternatief tot afstand, en byvoeging van ekonomiese kriteria.*

## 1 INTRODUCTION

Traditionally, town planners in South Africa placed free-standing shopping Centres 1,6 km (1 mile) apart, theoretically giving each facility a trading radius of 0,8 km (Floyd, 1960:135). The office of the Director of Local Government of the Transvaal Provincial Administration still employs a similar trade radii approach, adapted for the retail hierarchy, when evaluating applications for new retail development rights (Dacomb et al., 1982). The other three provinces do not have formally documented policies for evaluation of such applications (Terblanché, 1989: 179).

The purpose of this paper is to explain the approach of the Director of Local Government of Transvaal, critically examine its basic premises and make tentative suggestions on how the policy may be improved.

## 2 THE POLICY OF THE DIRECTOR OF LOCAL GOVERNMENT OF TRANSVAAL

The Director of Local Government of Transvaal adopts a hierarchical approach in evaluating new retail deve-

lopment proposals. At each level in the retail hierarchy, an application may be based on the population residing within a specific radius of the subject site — the higher the hierarchical level, the larger the allowed radius. These radii are used only to evaluate applications and are not suggested as norms for trade area size.

Apart from hierarchical level and distance, the approach is further based on the widely-applied rule of thumb that every person in a community requires roughly two square metres of shopping floor area, this being distributed across the local, neighbourhood, community, regional and central business district levels of the traditional retail hierarchy.

Application of the Director of Local Government's approach is modelled in Figure 1, and will be explained briefly:

The leftmost column in the diagram shows the various applicable radii. Other columns show the retail floor area at each hierarchical level that may be claimed per person, within each distance category. The number of people living within each of the trade radii is estimated and multiplied by the

amount of floor area shown, according to the hierarchical level applied for. For example, an application for a *community shopping centre* may claim a total area of (see third column):

- 1,2 m<sup>2</sup> of gross leasable area (GLA) for every person living within 0,5 km of the property, plus
- 0,8 m<sup>2</sup> for every person living further than 0,5 km but within 1,5 km of the property, plus
- 0,4 m<sup>2</sup> for every person living further than 1,5 km but within 2,5 km of the property.

On a similar basis, an application for a *neighbourhood centre* may claim 0,8 m<sup>2</sup> per person living within 0,5 km and 0,4 m<sup>2</sup> per person living between 0,5 and 1,5 km of the site.

From the total claimed area, existing and potential future competition should be deducted to obtain the net amount of floor area that should be applied for. Allowance may be made for expected changes, such as growth in the target population.

The policy document states that travel

Depending on the type of centre applied for, multiply the population in the trading radius by the corresponding theoretical retail floor area required per person within this radius.

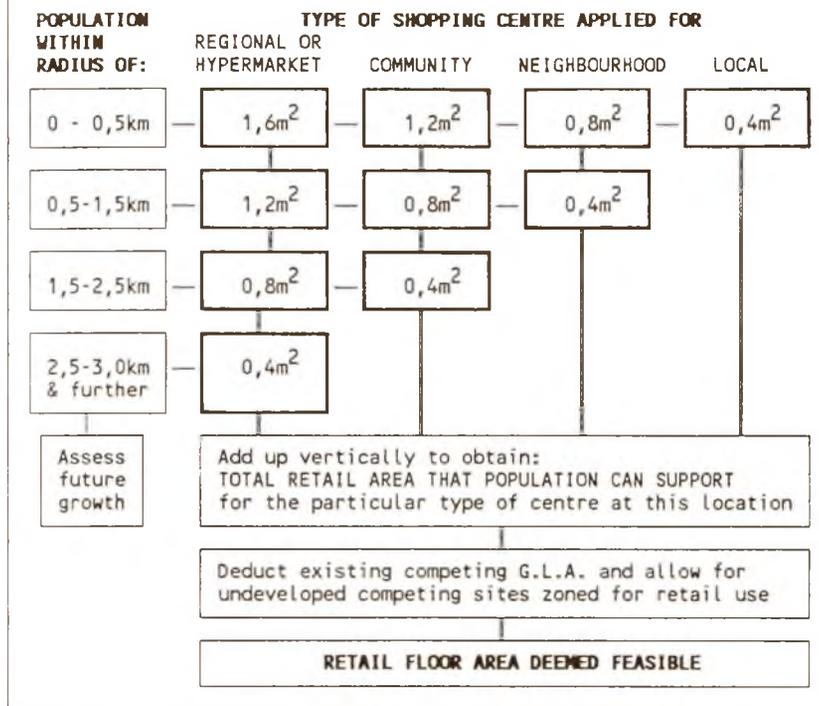


FIGURE 1: Procedure for retail demand analysis according to the Director of Local Government of Transvaal. Based on Ghyoot (1985:3)

time may be used instead of distance, but does not specify how this should be applied.

Because the approach is based solely on distance and population size, economic feasibility is not explicitly analysed.

### 3 CRITICISM OF THE APPROACH

#### 3.1 General

The Transvaal policy in its present form has been in use for more than a decade and has the advantage that it is quick and simple to apply. Applicants also know the basis on which their applications will be evaluated. However, the following premises on which the policy is based can be questioned:

- A retail hierarchy with discrete levels
- The prescribed trade radii
- The amount of retail floor space allocated per person
- The omission of economic criteria

Each of these premises will be discussed briefly, with specific attention to a comparison of the prescribed trade radii with empirical findings.

#### 3.2 A retail hierarchy with discrete levels

The policy is based on the traditional retail hierarchy, but acknowledges that this does not clearly manifest in urban areas. The problem has been exacerbated since the last policy update in 1982 by the emergence and strengthening of new forms of retail outlet, such as multi-use-, ancillary-, speciality-, infill and extension centres<sup>1</sup>. In recent surveys of the western Witwatersrand and Pretoria (Ghyoot, 1992), evidence of a retail hierarchy was found, but the distinctions between hierarchical levels were less pronounced than the distinctions between types of goods (convenience, shopping, speciality). Hierarchical levels tended to merge, supporting the view that the retail hierarchy is a continuum of retail provision, with no discrete steps (Coetzee, 1974:23).

The policy's orientation to a retail hierarchy with discrete levels creates the following typical problem in practice: A site is evaluated for suitability as a community shopping centre, but the number of people within 2,5 km proves to be fewer than that required for the application to succeed at that hierarchical level. When the calculation is repeated for a neighbour-

hood shopping centre, the number of people residing within 1,5 km are, in turn, too few to support an application at that level. This phenomenon is caused by the reduction in permitted GLA per person for the lower hierarchical level, along with the reduced radius and thus smaller number of people. Actually, a hybrid or phased development may be feasible, starting at somewhere between the neighbourhood and community levels, but the prescribed procedure does not explicitly cater for this possibility.

#### 3.3 The prescribed trade radii

Transvaal's prescribed radii of 0,5 to 3 km have little bearing on actual distances that consumers are prepared to travel at the various hierarchical levels. The Urban Land Institute has suggested the following typical distances, for various levels in the retail hierarchy, within which the majority of trade will originate (McKeever, 1968:2 90-291; McKeever & Griffin, 1977:35):

- 1,5 to 2,5 km for food stores, and 2,5 km for neighbourhood shopping centres.
- 5 to 8 km for clothing and household items where selection is not important, and for community shopping centres.
- 13 to 32 km for goods where comparison is important, and 13 or more km for regional shopping centres. Eighty per cent of regional shopping centres' business will normally originate within the closest 11,5 to 13 km.

These distances will vary according to local conditions and are not set as norms.

The two views on retail trade radii at various hierarchical levels have been drawn to the same scale in Figure 2:

The top diagram depicts the Transvaal policy and the bottom diagram the suggestions of the Urban Land Institute. Note that the distances suggested by the Urban Land Institute are much greater at all hierarchical levels than those used by the Director of Local Government of Transvaal.

In customer spotting surveys of the western Witwatersrand and Pretoria (Ghyoot, 1992; 1993) it was found that Transvaal's prescribed trade radii

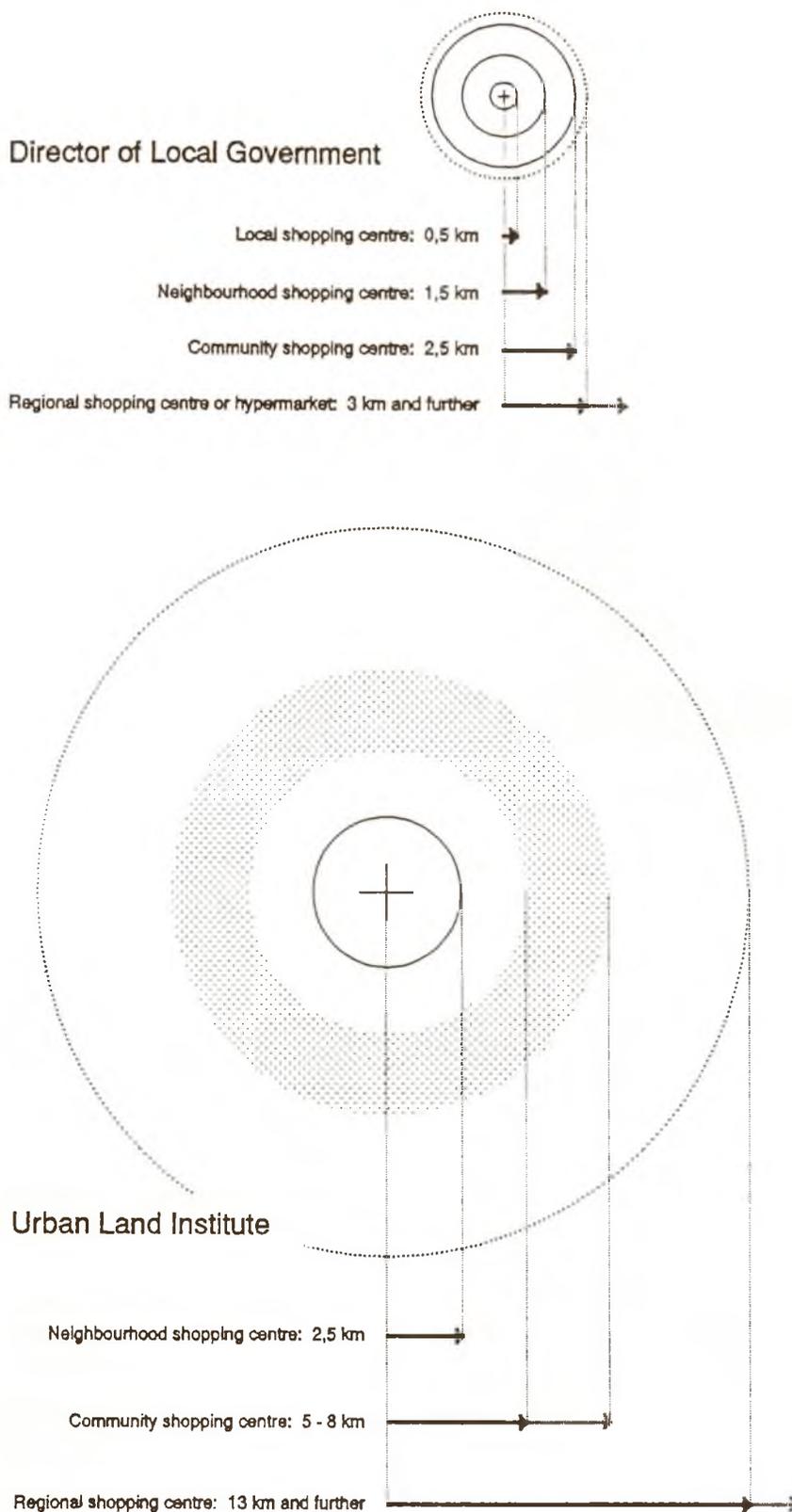


FIGURE 2: Trade radii approaches of the Director of Local Government, Transvaal Provincial Administration, and the Urban Land Institute, drawn to the same scale. Source: Ghyoot (1992:85)

penalise especially the larger retail facilities, which may draw customers from a large hinterland. Certain findings of the survey are shown graphically in Figure 3, which depicts the percentage of customers in the two study areas that originate at various distances from retail facilities, for different levels of the retail hierarchy<sup>2</sup>.

For the two areas surveyed, the graph shows that the trade radii employed by the Director of Local Government of Transvaal includes only limited percentages of shoppers at the various hierarchical levels:

- For the four regional shopping centres and three hypermarkets surveyed, only 20 per cent of shoppers arriving by motor vehicle originated within 3 km of the site. (Pedestrians are excluded, because shopper origins were traced from motor vehicle registration details, but pedestrians arguably represent only a small percentage of shoppers at the middle and higher hierarchical levels.)
- For the three community shopping centres surveyed, only 35 per cent of shoppers arriving by motor vehicle originated within 2,5 km of the site.
- For the four neighbourhood shopping centres surveyed, only 30 per cent of shoppers arriving by motor vehicle originated within 1,5 km of the site. (Because of the exclusion of pedestrians, these percentages will be underestimated at the neighbourhood and lower hierarchical levels.)

In contrast, the trade radii guidelines of the Urban Land Institute enclose in excess of 70 per cent of shoppers at regional shopping centres that use motor cars, 65 to 70 per cent of those at community shopping centres, and almost 50 per cent for neighbourhood shopping centres in the two areas studied (compare Figures 2 and 3).

The Urban Land Institute guidelines appear more closely to reflect reality than the Transvaal policy. The latter appears to be inappropriate, especially for larger retail facilities.

The Transvaal policy is further unsuitable for retail facilities that derive a substantial portion of their custom from areas outside their immediate

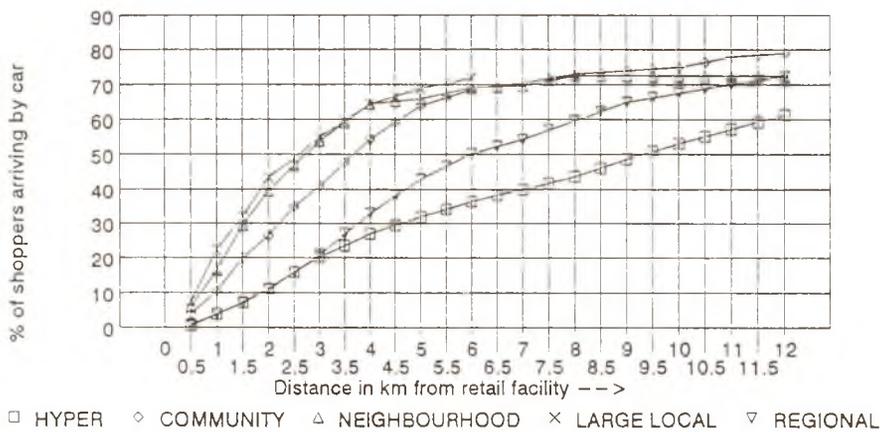


FIGURE 3: Cumulative distribution over distance of shopper addresses at various hierarchical levels on the Witwatersrand and in Pretoria.

vicinity (for example Highgate, Southgate, Boksburg Hypermarket). Where public transportation is extensively used, for example amongst the black population, the distance measures are also inappropriate, because actual trade areas will typically extend to distant locations along such public transportation routes. In both these cases, travel time would clearly be a superior criterion (it is generally regarded as a better measure of accessibility than distance)<sup>3</sup>.

### 3.4 The amount of retail floor space allocated per person

The rule of thumb that 2 m<sup>2</sup> of gross leasable area (GLA) is required per person has not been satisfactorily resolved for South African conditions, where a great diversity of income levels and buying patterns are found. The apparent arbitrariness of this rule of thumb has prompted alternative proposals from time to time<sup>4</sup>.

Further, allocation of the 2 m<sup>2</sup> in steps of 0,4 m<sup>2</sup> across the retail hierarchy and over distance (Figure 1) has no factual basis. Such division generates a straight line when plotted — inspection of Figure 3 reveals the classic bell-shaped distribution of customers over distance, and logically the breakdown into parcels of floor area per person should reflect this bell shape.

Rand Afrikaans University's landmark studies in the 1970s and early 1980s (for example, Oosthuizen, 1983a; 1983b) generally supported the theoretical 2 m<sup>2</sup> per person, but explained the total GLA in the towns and cities studied mainly in terms of their white population. Possibly a re-evaluation of the available data to include all population groups served at the time would

provide a more accurate estimate of shopping floor area per person. Such re-evaluation would provide a more accurate yardstick if done on the basis of square metres of retail floor area per rand of available spending power, which raises the fourth deficiency of Transvaal's approach to be discussed here.

### 3.5 The omission of economic criteria

Probably the most serious deficiency in the policy is that buying power of the target population is ignored. While economic feasibility analysis requires a consideration of turnover levels per square metre of shopping floor area, the policy only considers population numbers, irrespective of income. The relationship between total buying power in a community and viable retail floor area has however been known since the first permanent shops came into existence (see Davis, 1966: 56). This deficiency is referred to, but not corrected in the policy document.

## 4 CONCLUSION AND RECOMMENDATIONS

Notwithstanding problems, the existing policy of the Director of Local Government of Transvaal province provides a simple and objective standard for evaluation of applications. It also provides a useful starting point for feasibility analysis. The policy has traditionally been applied in a flexible manner, allowing the incorporation of aspects such as travel time and economic criteria in applications<sup>5</sup>. However, improvement is possible with relatively simple modifications.

Four premises of the existing Transvaal policy were questioned in the previous section. Specific suggestions

follow:

- The hierarchical basis of the prescribed procedure should remain. It is a useful way of differentiating (however inadequately) between retail establishments of various scales. Allowing interpolation between levels would reduce problems experienced with the current procedure.
- The prescribed trade radii for the various hierarchical levels should be increased to enclose a greater percentage of potential customers. Based on the limited survey data plotted in Figure 3, the following radii would enclose at least 50 per cent of shoppers:

Hypermarket: 9 km

Regional: 6 km

Community: 3,5 km

Neighbourhood: 2,5 km

Local: 1 km (allowing for the pedestrians not reflected in the graph)

Alternative travel time criteria should also be formulated. This would automatically cater for retail facilities that serve predominantly black areas, and for other facilities that draw custom from distant locations. Applicants should be allowed to choose between the use of distance or travel time.

- The amount of retail floor space allocated per person should be adjusted according to the increased radii suggested above. Figure 4 gives suitable adjustments for the new radii, based on the existing two-square-metres-per-person-rule. The suggested weights reflect the bell-shaped distribution of shoppers with distance from a retail facility. Application of these weights produces permissible floor areas similar to, and slightly larger than, that of the current policy.

The increased radii and adjusted weights in Figure 4 more closely reflect reality than the current policy, and the Director of Local Government should consider allowing their use as alternatives to the currently prescribed criteria.

- Economic criteria should be formulated and incorporated in the

policy. This may be done simply by weighting the target population by median household income or similar measure of buying power.

Transvaal's policy for the evaluation of retail development proposals is still viable and has considerable potential for refinement. It is hoped that the changes suggested here are helpful. Additional studies of all types of nodes (not only retail) are required so that land use control policies may be based more directly on empirical data. Pooling of data from existing studies would also help by providing an increased data base for analysis.

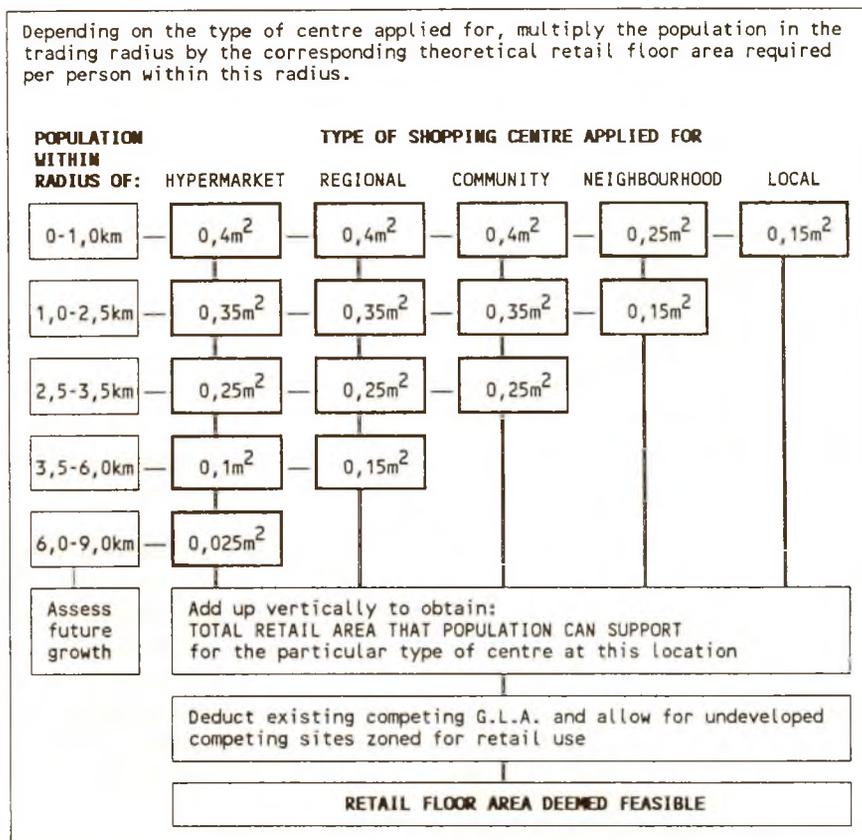


FIGURE 4: Proposed procedure for retail demand analysis in applications to the Director of Local Government of Transvaal.

## NOTES

- 1 See Dawson (1983:17-37) or Ghyoot (1992:52-59) for a description of these shopping centre types.
- 2 The graph is based on an empirical investigation into the trade areas of 44 shopping centres and business districts on the Witwatersrand and in Pretoria, varying from local to superregional levels in the retail hierarchy. During the investigation, the dispersion of 5 256 customer addresses was analysed. Relatively constant customer dispersion patterns were found, with no apparent differences between the two study areas. The graph depicts mean values for three hypermarkets, four regional-, three community-, four neighbourhood- and five large local retail facilities. Methodology and other findings are described in Ghyoot (1992; 1993).
- 3 See, for example, McKeever (1968:290), Coetzee (1974: 62), McKeever and Griffin (1977:35) and Greer and Farrell (1984:97).
- 4 For example, see Rosmarin & Associates (1987:17) and Nicholas Maritz Associates (1991). Jones (1969:64) gives empirical measurements of GLA per person in Britain; Rand Afrikaans University has published several such studies, for example, Coetzee (1983a).
- 5 See, for example, Ghyoot (1985).

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