SECTION FOUR: PHYSICAL ENVIRONMENT

Sub-problem 4: To classify urban and rural landscapes, based on appropriate criteria.

Sub-problem 5: To classify roads and road signs based on appropriate criteria.

Hypothesis 4: Urban and rural landscapes can be classified according to appropriate criteria and used in the development of a National Code of Practice for Outdoor Advertising.

Hypothesis 5: Roads and road signs can be classified according to appropriate criteria and used in the development of a National Code of Practice for Outdoor Advertising.

This section discusses the physical environment in terms of landscapes and roads and comprises the following sub-sections:

4.1 LANDSCAPES

4.2 STRUCTURAL ENVIRONMENT

4.3 CONCLUSIONS

4.4.1.2 Hydrology

The water catchment systems of the country can be described in terms of their vegetation, and the presence of water within such systems. The structures can then be further defined in terms of their wave action and the vegetation on either side.

4.4.1.3 Vegetation

Regional vegetation can be described according to various factors, including the local climate and vegetation types of Southern Africa (Groot, 1988). Defining vegetation communities have a varying influence on the scenic quality of the land.
4.1 LANDSCAPES

Environmental impacts can be managed and mitigated by addressing and varying the activity itself, or by investigating the sensitivity of the landscape in which this activity will take place. With regards to the latter, the South African landscape is classified according to its natural, environmental and cultural characteristics. A classification system dealing with broad categories such as protected, natural, rural, peri-urban and urban landscapes is proposed and discussed hereunder.

The following generalised description of the landscapes of South Africa and the evaluation thereof, is a summary of a sub-study undertaken by Professor Willem van Riet, Landscape Architect. This description and evaluation was used as a basis to broadly zone all areas of the country.

4.1.1 LANDSCAPE DESCRIPTION

The physiography of the landscape in this particular study is described according to its shape (geomorphology), the presence of water (rivers, lakes and coastline), the vegetation covering the landscape and lastly, the land use. When these four landscape characteristics are combined, they result in a landscape synopsis that allows one to judge the inherent scenic value of the landscape.

4.1.1.1 Geomorphology

The geomorphology in South Africa is dominated by the position of the great escarpment, resulting in the interior drainage basin of the Orange River draining away to the west, and a series of catchments draining from the great escarpment to the east, south and west. The Cape Folded Mountain System dominates the southern tip of the continent. This coupled with a range of other smaller geomorphologic outcrops creates mountains such as the Waterberg and the Magaliesberg. These dominant, elevated features of the landscape create, in many parts of the country, an incised drainage system, resulting in deep, well defined valleys of the east coast as well as the lower Orange River.

4.1.1.2 Hydrology

The various drainage systems of the country can be described in terms of the valley-shape and the presence of water within such a valley. The coastline was also be evaluated in terms of type or wave action and the shape of the coastline.

4.1.1.3 Vegetation

Regional vegetation can be described according to Acocks’ broad classification of vegetation types of Southern Africa (Acocks, 1988). Differing vegetation communities have a varying influence on the scenic quality of the landscape.
4.1.1.4 Land Use

The way the land is utilised and developed, ultimately affects the scenic value of the landscape; the less disturbance, the greater the scenic value.

4.1.2 LANDSCAPE EVALUATION

All four of the data categories discussed above can be evaluated for their visual contribution to a scenic map of South Africa. Certain assumptions were made in order to be able to complete this analysis. It was assumed that

- topographic diversity and steep slopes increase the scenic value of a landscape;
- the presence of water and waves increase the scenic value of a landscape or coastline;
- indigenous forested areas in Southern Africa will contribute to a greater scenic value; and
- the more untouched a landscape, the more important its scenic attributes will be. In this specific case, certain cultural and land use categories relating to farming activities were also deemed to be of scenic value. For example, the subsistence farming methods employed in the former homelands of Transkei and Venda as well as some of the agricultural activities along the valleys of the Cape Folded Mountain System have a high cultural and scenic value.

4.1.3 LANDSCAPE CLASSIFICATION

From the results of the landscape, the consequential scenic values were used to determine three broad regional landscape classes.

4.1.3.1 Natural Landscape

Natural landscapes occur where the activities resulting from agriculture or urban development are so low that the landscape can be classified as basically natural. In this particular case, most of the high value scenic regions of South Africa would be placed in this zone. The land use activities are considerably lower than in the rural and urban areas and the visual impact of outdoor advertising will be considerably higher.

Examples of natural areas are wilderness areas, national parks, game reserves, nature reserves, marine reserves, extensive agriculture, subsistence agriculture and scenic corridors.

4.1.3.2 Rural Landscape

Rural landscapes occur where the agricultural activities have changed the natural scenery to such an extent that little natural visual character remains; but where the land use activity is of such a nature that the landscape as a whole can still be classified as scenic. The land
use activities are considerably higher than in the natural areas and some impact from outdoor advertising can be tolerated.

Examples of rural areas are intensive agriculture, rural centres of economic activity, and peri-urban areas.

The results of the above analysis are illustrated on a landscape zoning map produced by Professor Van Riet. This map of South Africa zones the country into natural, rural and urban landscapes and is included below for illustrative purposes.

MAP 1: Landscape Zoning
4.1.3.3 Urban Landscape

Urban landscapes occur where the activities of humans are so dominant that few natural features remain. In this zone the structures are so dominant that the visual impact of outdoor advertising is low and the intensity of activities demand some form of information transfer and advertising.

Examples of urban areas are central business districts, industrial, commercial, residential, open space, sports and recreation, beachfronts, railway stations, and special neighbourhoods.

Professor S le Roux of the then Department of Architecture, University of Pretoria, undertook a sub-study on the classification of the urban environment. The findings of this study are summarised below. The complete study is included as Appendix One.

4.1.3.3.1 Present classification of Urban Environments

Urban areas are usually zoned according to existing and proposed land use. The plan of such urban areas, commonly referred to as a Structure Plan, usually includes the following classes:

- Residential - with various densities.
- Business - with various orders of use.
- Offices - with orders of size.
- Industrial.
- Commercial.
- Educational.
- Hospitals.
- Government or Municipal.
- Open spaces - local, nature area, city wide, sport.
- Roads - freeway, main.
- Public transport.

This information is indicated on plans and is used for future planning and rezoning applications. It has economic rather than environmental implications.

4.1.3.3.2 A Proposal for Classification of the Urban Environment

The application of an outdoor advertising control scheme will require a refined structure plan that will acknowledge and incorporate the quality of the environment.

It is proposed that the urban environment be divided into three areas of control as described below:
Maximum Control

This includes areas where the size, number and positions of advertisements are strictly controlled, with some freedom for their design. Apart from signs identifying owners or tenants or building names, all advertisements are scrutinised according to well-developed and well-defined regulations. As all advertisements affect the appearance of the building, structure or place where they are displayed, it may be necessary to develop conditions and regulations to specific detail. Local trade and amenity organisations are to be consulted about the policy of demarcation. It is proposed that the following urban areas be included in maximum control zones:

- Conservation areas - national or local heritage sites or buildings, special tourist areas, historical or contextual streetscapes, skylines from viewing points [to be demarcated];
- areas of strong architectural context or historical scale [to be demarcated];
- exclusively residential areas, mostly low density single [residential];
- important gateways [to be demarcated with roads];
- characteristic vistas - over built up area, down streets or avenues [to be demarcated with roads/open space];
- important through roads [roads];
- interface of natural landscape and built fibre; natural edges like water, rivers, ridges and forests [open space]; and
- open areas like parks, squares and commons [open space].

Partial Control

In these areas greater freedom is allowed for the size, number and positions of advertisements and well-stated guidelines may be enough to regulate most cases. It is proposed that the following urban areas be included in partial control zones:

- Residential areas with shops and offices interspersed, mostly high density mixed [residential];
- residential areas in transition [residential];
- small commercial enclaves in residential areas [commercial];
- ribbon development along main streets [roads/commercial];
- roads [roads];
- man-made edges like railway lines, bridges, and roads [roads];
- public transport connections like train and bus stations or harbours [government or municipal];
- educational institutions [educational];
- sports fields or stadia [open space]; and
- government enclaves, including diplomatic or civic amenities [government or municipal].
Minimum Control

Any lawful and safe advertisement is allowed. It is proposed that the following urban areas be included in minimum control zones:

- Commercial districts, shopping centres and office parks or precincts [commercial];
- industrial areas or parks [industrial]; and
- entertainment districts or complexes [commercial].

For each of these specific guidelines/criteria should be formulated taking into consideration the following and stating each unambiguously:

- Objectives;
- appropriate opportunities;
- required standards;
- number of signs per identified site; and
- size of signs.
4.2 STRUCTURAL ENVIRONMENT

4.2.1 CLASSIFICATION OF ROADS

According to a document issued by the Department of Transport, "Classification of Roads in South Africa" (1992), there is considerable confusion and misunderstanding among members of the public regarding the classification of roads. The general misunderstanding is that all tar roads would be national roads and all secondary roads would be gravel roads. The actual problem is that the present road classification system is organised on the system of the "responsible authority".

Only roads declared as national roads are considered as being national roads. Furthermore, every road authority has its own terminology for the roads in its jurisdiction. It is for this reason that terms such as provincial roads, district roads, primary routes and secondary routes, are used to describe roads with the same function.

Using the American approach as a basis, the different levels of roads are defined within the South African context as follows:

*Primary roads* provide mobility in a national context. Traffic on these roads usually has long travel distances and the design of the roads makes provision for relatively high speeds and minimum interference of through traffic (AASHTO classification: Rural principle and minor arterial system).

*Secondary roads* provide mobility in a regional context. Shorter travel distances are experienced on these roads and more moderate speeds are consequently acceptable. This group of roads often forms the link between the towns not situated on the primary road network (AASHTO classification: Rural collector system).

*Tertiary roads* provide local mobility. Their main function is to serve the land uses next to the road network (AASHTO classification: Rural local road system).

The above-mentioned system of classification is based solely upon traffic volumes (vehicles per day: vpd) and primary traffic function. This system is by no means to be used directly as a classification system. It is included as it could form the basis for a classification system.

A road classification system was developed for road traffic signing purposes by the Department of Transport (1992) and is illustrated in figure 3 below.
Classification of roads (in the context of outdoor advertising) should be done according to appropriate criteria. The criteria should include visual considerations (views from the road), traffic volume, surrounding land uses, etc. This becomes an area specific system. This means for example, that the whole of the N1 freeway will not necessarily be classified in the same category, but its classification will change as its surrounding land uses change depending on the area. Consequently, the areas have different levels of sensitivity to aesthetic impacts and therefore need to be classified differently.

After discussions with officials of the various national and provincial transportation departments, and in order to reduce the complexity of guidelines, it was decided to simplify the classification system.
For purposes of this study it was decided to use only two categories of roads in the urban and rural environments as follows:

- **RURAL ROUTES**
  - Numbered routes
  - Unnumbered routes

- **URBAN ROUTES**
  - Routes of Metropolitan significance
  - All other routes classified according to zones discussed under 4.1.3.3.2

### 4.2.2 CLASSIFICATION OF ROAD TRAFFIC SIGNS

As road traffic signs are in its broadest definition included under outdoor advertising, a brief introduction into the South African Road Traffic Sign System is necessary.

‘Road traffic signs’ is the collective term used in legislation to include all road signs, traffic signals and road markings as illustrated in figure 4.

Of particular interest to this study are the tourism signs ("brown signs") under the category Road Signs. Tourism signs are a local or supplementary form of guidance signing which are provided in support of primary direction signs (blue and green signs). These signs are considered a transitional form of signage that bridges the gap between “commercial” signage and road traffic signs.

![Diagram of Road Traffic Signs](image)

**FIGURE 4**: Road Traffic Signs
The road traffic sign system and the outdoor advertising sign classification system overlap with the tourism signs being common to both (see figure 5).

FIGURE 5: Common ground: Road Traffic Signs and Outdoor Advertising.
4.3 CONCLUSIONS

The following conclusions are drawn and used in the development of a model for a National Code of Practice for Outdoor Advertising:

- The South African landscape has been classified into three distinct areas, namely natural, rural and urban areas. The latter has been further classified according to land use. This classification system, based largely on the landscapes sensitivity to visual disturbance will further facilitate the development of a model for a National Code of Practice for Outdoor Advertising.

- A simplified classification of South African roads was established. This classification adds a further dimension to the concept advertising control. It is now possible to link certain types of signs (as previously classified) to certain types of landscapes and certain classes of roads.

- The common ground between road traffic signs and outdoor advertising has been established. 'Brown Tourism Signs', are regarded as both road traffic signs and outdoor advertising and should be included in the scope of this study.