

# ADVERTISING BOARDS ON OR VISIBLE FROM NATIONAL ROADS

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## 1. BACKGROUND

In the past advertising along national roads was regulated by Act 54 of 1971, which stated that no (or limited) advertising signs will be allowed along a national public road or in the road reserve of any road. The Constitution, Section 156 and Part B of Section 5, gave Local Authorities the control over the “erection of billboards and the display of advertisements in public places”.

The Local Authorities had to get their own By-laws in place in order to regulate advertising signs in their area of jurisdiction. The South African Manual for Outdoor Advertising Control (SAMOAC) was published in 1998 stating that advertising signs may be allowed along roads but only in certain areas with specific rules and regulations.

Based on SAMOAC, some Local Authorities compiled their own By-laws on advertising, which are applicable along the roads under the jurisdiction of that local authority.

The South African National Roads Agency Limited (SANRAL) promulgated their “Regulations on Advertising on or visible from National Roads 2000” (“Regulations”) on 13 July 2000 to regulate advertising signs along national roads. These Regulations were revised and re-promulgated on 22 December 2000 in the Government Gazette. The same principle as in SAMOAC, namely to allow advertising along national roads, but conditional to certain rules, was followed. SANRAL also decided in the implementation of these regulations that consultants should be appointed to evaluate the applications in terms of the regulations and to make recommendations to SANRAL as to which applications to approve or reject.

Being a new field, numerous valuable lessons were learned in the implementation of the regulations and in the application thereof to evaluate the applications for outdoor advertising. This paper describes the process followed in the evaluation of applications, the main criteria used in the evaluations based on the regulations, the pitfalls discovered in applying the regulations and some statistics on the status of the applications are provided. The paper aims to provide insight, based on practical experience, on the areas that should be covered in such regulations and to provide some basis for other authorities wishing to implement similar regulations.

## **2. APPLICATION PROCESS**

The application by an applicant consists of submission of an application to SANRAL and payment of a non refundable fee of R2000 per application.

A standard application form has to be completed by the applicant, which is included in the Regulations of SANRAL. This form includes all the basic information such as the name of the applicant, the location of the proposed advertisement sign, the land owner, addresses, etc.

A site plan as well as a layout plan, showing the road and necessary site features and road information should be handed in with the applications.

As required in the Regulations, the site plan should, inter alia, include:

- all natural features,
- buildings and structures which may affect sight distance,
- roads and streets,
- the national road reserve boundary,
- street names, route and section numbers,
- kilometre distances along the national road,
- all existing advertisements in the area,
- road traffic signs and traffic signals,
- the approximate extent of the visual zone, and
- the dimensional position of the advertisement being applied for.

An elevation plan or photographs are also required. Details of the position from which an elevation plan is provided or a photograph has been taken, the distance from the advertisement, the position of the advertisement and its structure in relationship to its surroundings and the national road must be provided.

The layout plan should be on a scale of 1:2000 and should, inter alia, show the following:

- a distance of not less than 500m upstream and downstream of the proposed site of the advertisement being applied for,
- all the information as required for the site sketch plan,
- the positions from which elevations or photographs are provided,
- horizontal curve positions, road gradients, speed limits, street and road lighting poles, as well as
- any other information required by the Agency which will allow a detailed evaluation of any factor which could affect road safety.

One of the major problems in evaluating the applications, was the collection of adequate data on each site to evaluate an application. The site layout, relevant distances and location of road signs submitted with the applications were in general of a poor standard and additional information had to be requested - in many cases the correct information was only obtained by the consultants when doing the site visit.

The lack of technical expertise on the side of many applicants necessitated the collection of all the relevant information as part of the evaluation. A long list of information was initially required - it was found with time that less, but more relevant information can be required from applicants.

### **3. EVALUATION PROCESS**

An evaluation process was developed that consisted of the following (This process is shown graphically on the next page):

1. Receipt of application and the application fee.
2. Sending a letter to the applicant confirming receipt of the application.
3. Initial evaluation of the application - locating the site on a plan, verifying the information submitted with the application.
4. Sending a letter to the applicant requiring additional information if necessary (this was required in almost all cases, especially regarding layout plans).
5. Desktop evaluation - this included criteria such as the area of control along the road, location relative to interchanges etc. In few cases it was possible to reject applications based on this initial desktop evaluation.
6. Site visit. The site visit consisted of recording the position of all physical features such as road signs, bridges, gradients, road marks, hazardous locations, etc. For record purposes photos of all the proposed locations were taken and a video of all the roads were taken to provide later reference of the position of road signs etc.

7. The evaluation of most applications was completed with the site visit - except in cases where doubt existed and additional information regarding the accident statistics in the area were obtained. If, for example an application was approved based on the site visit and the other relevant criteria, accident statistics were obtained for that site to confirm that the site was not a hazardous location from a road safety point of view.
8. After this final evaluation, a letter of approval / rejection was sent by SANRAL to the applicant and the applicant entered into a contract with SANRAL.

#### **4. CLASSIFICATION OF AREAS**

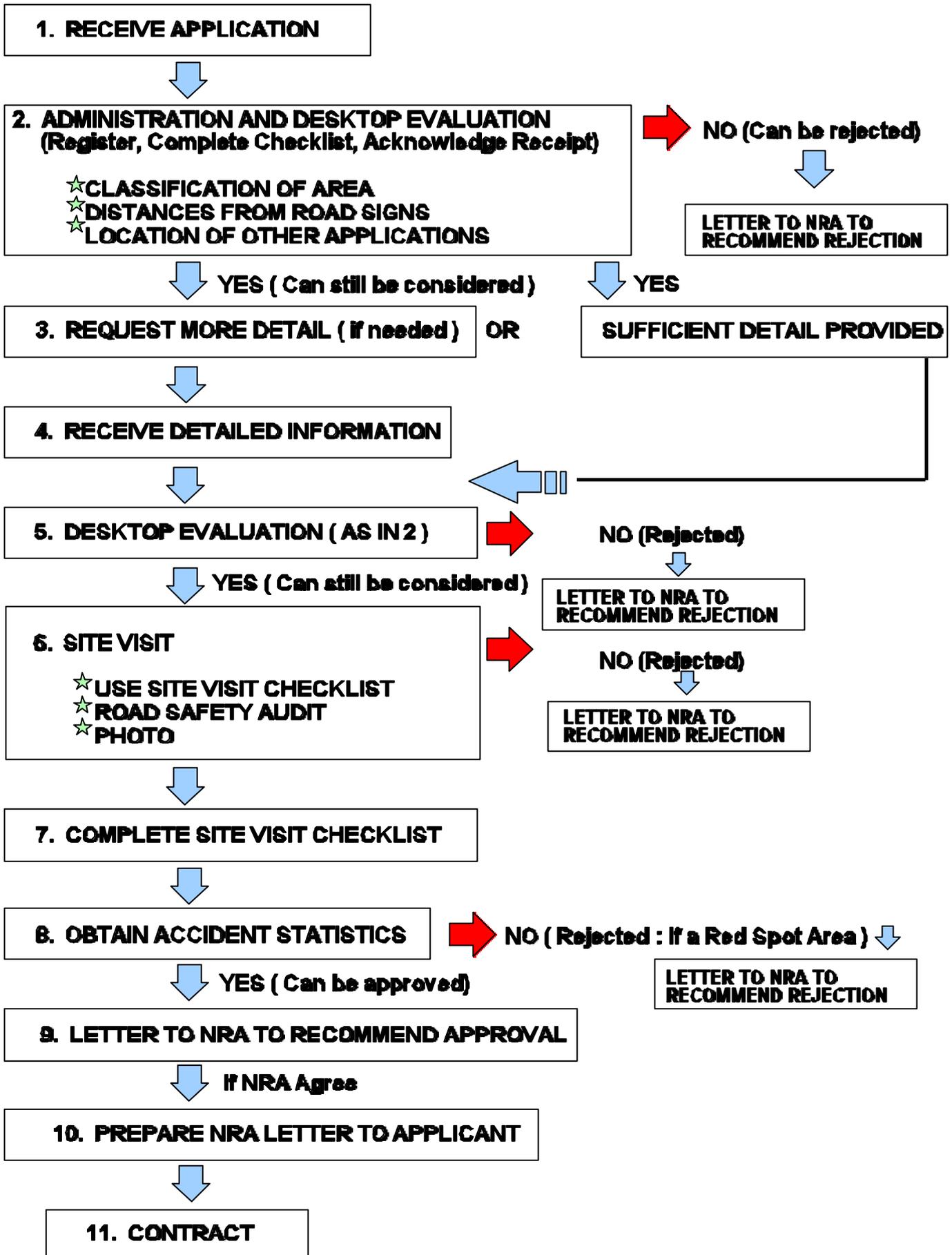
One of the major tasks that had to be finalised before evaluations could be carried out, was the designation of urban areas adjacent to the national roads into areas of maximum, minimum and partial control. Areas outside of urban areas were designated as natural or rural areas. Before evaluating other criteria (i.e. road safety), this is the first “filter” which determined whether a billboard could be erected.

Based on the regulations, the classification of areas had to be done by the Local Councils or where it has not been done, SANRAL had to do the designation in consultation with the Local Council. This proved to be one of the major tasks as few Councils had done the designation and where it had been done, it did not conform to the criteria used by other adjacent authorities or the definition in the regulations. One Council will, for example, classify all residential areas as maximum control and the adjacent Council will classify the same type of area as partial or even minimum control. This created problems in consistency and required lengthy discussions with the different authorities to agree to the same criteria.

The definition of urban areas of maximum control, contained on Page 11 of the Regulations, defined them as areas that

*“included, but are not limited to, natural open spaces, and urban conservation areas, interface of natural landscape with built up areas, bodies of water, rivers, ridges, forests, open recreational areas, characteristic vistas, heritage sites or buildings, special tourist areas, skylines, residential areas of lower density, and visual zones in urban areas, unless the Agency after obtaining a strategic environmental assessment designates areas along such freeways as urban areas of partial or minimum control;”*

**EVALUATION PROCESS FOR APPLICATIONS:  
ADVERTISING ALONG NATIONAL ROADS  
( MAIN STEPS )**



The practical implementation of such a definition resulted in the following:

- Residential areas along national roads were classified as maximum control.
- Industrial/ commercial areas were classified as partial or minimum control areas - the difference in the type of advertisements that can be erected with minimum or partial control is insignificant in terms of the regulations.
- Open land along freeways presented a problem - in most cases it could be expected that the land will become light industrial / commercial in future, however, no planned zoning existed in most cases and there was uncertainty. It was therefore decided, in such cases, to use the existing zoning of all land to determine the classification of the area. Any open farm land next to a freeway or national road was therefore classified as an urban area of maximum control.

The designation of areas into urban areas of maximum control resulted in the rejection of approximately 23% of applications evaluated to date.

## **5. EVALUATION CRITERIA - ROAD SAFETY AND TRAFFIC CONSIDERATIONS**

### **5.1 Evaluation Criteria provided in the Regulations**

The regulations specify that SANRAL, where the relevant Local Authority has by-laws in place dealing with Advertising, can only evaluate the applications in terms of road safety. Limited substantial evidence exist that advertisements result in a road safety hazard. However, it is obvious that advertisements will distract drivers attention, resulting in an unsafe driving condition. In the regulations, the following elements were listed, inter alia, to be evaluated when considering road safety:

- Signs must not present a physical safety hazard to pedestrians or vehicles,
- the signs must not obscure the view of existing road signs,
- the signs must be certain minimum distances away from road signs and traffic signals,
- the size and the content of the advertisement (bits of information), and illumination thereof, graphics etc,
- the speed limit of the road,
- disruption of the flow of information to the driver,
- the position of the advertisement should not distract the drivers attention at merge / diverge areas, curves, interchanges etc.

## 5.2 Statistics from evaluations completed

To provide an indication of the practical application of the regulations, a summary is provided of the reasons why some of the signs were rejected. In the evaluation of applications, the factors that resulted in most rejections were:

- The spacing of advertisements relative to road signs,
- The disruption of flow of information, and
- Area of control.

A summary of the reasons why signs, evaluated to date, were rejected are outlined below.

### **Summary of Advertisements Approved and Reasons for Rejection**

Description	Number	Percentage
Approved (Total out of 248 <sup>(1)</sup> applications)	33	13.3%
<b>Rejections</b>		
Rejected - disruption of flow of information <sup>(2)</sup>	53	20.0%
Rejected - too close to existing road signs	108	40.8%
Rejected - Area of maximum control / natural area	60	22.6%
Rejected - too close to ramp gore	20	7.5%
Other reasons	24	9.1%
Total reasons for rejections <sup>(3)</sup>	265	100.0%

Note 1: Most applications were for double sided boards - the 248 refer to the number of sides as only one side was approved at several locations.

Note 2: None of these signs were "on premises" signs

Note 3: Some applications were rejected due to more than one reason, hence the number is larger than 248.

## 5.3 Road Signs

In evaluating traffic safety, one of the critical elements is the spacing of road signs. In the South African Road Traffic Signs Manual (SARTSM), minimum distances are provided for the spacing between road signs. These distances allow adequate time for the driver to read, interpret and react on the information on the road sign. A typical distance recommended in SARTSM is 200m between road signs if the operational speed is 120 km/h.

The distance of 200 m was also included in the regulations on large billboards, as the minimum spacing between a road sign and a billboard. One of the issues that had to be decided on was whether all road signs should be treated equal or if there are certain signs that need not be considered. The following signs were regarded as supplementary and were excluded when doing evaluations:

- Road Maintenance signs
- Construction Boards
- Provincial Border signs
- Emergency Numbers
- Arrive Alive signs

The distance of 200 m between road signs and advertisement boards was used as a guideline with some play of 20m to 30m. The proximity of applications to road signs resulted in most rejections, namely 41%.

#### **5.4 Disruption of Flow of Information**

One of the regulations that needed interpretation before application, was regulation 6 (2) (k) which states:

*“In considering applications for approval . . . . the Agency must evaluate whether . . . . the position of an advertisement would disrupt the flow of information from road traffic signs to drivers who encounters a series of road traffic signs intended for traffic regulation, warning or guidance, in cases where the applicable speed limit on the road exceeds 60 km/h;”*

The “disruption of flow of information” creates the perception that 2 or 3 subsequent road signs are related to one another and that the link between information on these signs may not be disrupted. In debating the issue, it was concluded that there is no link between 2 subsequent signs, the critical element is the time required to react on the information on the sign.

The SARTSM recommend 200 m minimum between 2 subsequent road signs for 120 km/h roads. This is adequate for most warning and information signs, except at interchanges where a motorist needs to weave and change lanes after reading the sign. According to SARTSM and AASHTO, the distance required on a 120 km/h road by a motorist to react on a road sign and to maneuver if required, is 360m. This is relevant at interchanges where the motorist must be allowed to make safe lane changes in order to exit at the off ramp. Providing additional information (in the form of advertisements) between the advance warning signs at an interchange and the off ramp will reduce this distance below an acceptable standard and it was therefore decided that at interchanges, no advertisements will be allowed between the 1km sign and the off ramp (gore) of the interchange.

This will then result in the motorist being able to read the next road sign (eg. the 500m off-ramp sign), which then again allow just enough time to read the sign.

A road sign (on the freeway) is on average, readable from 200m before the sign. There will not be enough time for the motorist to observe the information on an advertisement, if it is placed between a 1km sign and a 500m sign at an off-ramp. It is recommended not to allow any advertising signs closer than 1.2km from the interchange gore (no signs in front of the 1km sign and also not allowed 200m before such a sign). However the distance between a 2km and 1km direction sign at a system interchange allows enough time, decision and maneuver time and distance to still fit in one advertisement board.

A relaxation was allowed with “on premises” signs to allow them within the 1,2 km area as they contain limited information. Billboards were however not allowed in this area 1,2 km in front of an interchange.

## **5.5 Road Safety - General Aspects**

The practical experience of studying numerous applications provided a better understanding of the road safety aspects related to advertisements next to roads. As different applications were evaluated, the need for a better, well researched understanding of the impact of advertisements on driver behaviour was identified.

Issues that need to be researched is how drivers react to an advertisement when following another vehicle in close proximity, when travelling in a slow moving queue on a freeway and when driving at a desired speed with level of service A conditions. The impact of high versus low traffic volumes on driver behaviour when reading advertisements needs to be investigated.

An aspect that also needs attention, is the use of the drivers vision. A driver has a cone of vision of 15 degrees as described in SARTSM. This cone of vision however consists of 2 components, namely focal vision (used to judge distance and to read) and peripheral vision (wider angle vision that picks up movement and general surroundings). In studying many existing advertisements (many of them illegal at present), one of the conclusions that could be made why there did not occur frequent accidents was the use of this two forms of vision. While a driver is reading an advertisement with focal vision, he is still able to observe if the vehicle in front of him is braking or if other movements take place.

## **6. PRACTICAL ASPECTS NOT COVERED IN THE REGULATIONS**

As applications were evaluated, several practical aspects were discovered that were not covered substantially in the regulations. Some of these issues are outlined below.

### **6.1 Building line relaxation**

There is at present a building line next to National Roads that varies between 20 m and 90m from the road reserve. This building line has always been “reserved” in case other authorities needed to place services or utilities parallel to the national route, or in the event that it was needed for road widening or road maintenance.

Most of the applications for advertisements were within the building line zone and it was decided to allow advertisements up to 5m from the road reserve, subject to the following:

- the advertising structure be classified as a temporary structure,
- that the owner provide a guarantee for the removal of the structure should it be necessary in future,
- the applicant obtaining permission from SANRAL to erect the structure within the building line zone.

### **6.2 Sponsored Road Traffic Projects**

The regulations at present allow sponsored road traffic projects under Regulation 35. The regulations are however not exactly clear in terms of the size, location and layout of the signs for the sponsored road traffic projects.

SANRAL is busy with a pilot project where the reaction of the market was tested by means of a tender to provide sponsorship on a sign of 4,5 m<sup>2</sup> of which 1/3 was made available for a corporate logo. The 4,5 m<sup>2</sup> is what is recommended in the SAMOAC document (Class 4 (a) Signs). The reaction to this size of advertisement from the advertising market was however poor and it is unlikely that sponsored road traffic projects will succeed unless the regulation is changed.

### **6.3 Positioning of applications**

A small, but very valuable asset in positioning applications and evaluating them, was the kilometre markers on National Roads (Freeways) every 200 metres. Without these little signs, locating advertisements and existing road signs would have been a monstrous task. It is strongly recommended that any road authority wishing to embark on a similar

exercise should ensure that these markers are in place before any evaluations start.

#### **6.4 Preparation of “Strip Maps” and Geographical Information System**

As part of the evaluation, it was necessary to compile “as built” plans of all the roads where applications were received to position applications and road signs relative to each other. These plans were compiled in the form of on scale strip maps indicating interchanges, existing road signs, applications, areas of control and all other relevant information.

SANRAL already has a Geographical Information System (GIS) with all other road data - the information gathered with the evaluation of these applications will also be included in the GIS in the near future. This will assist in the management of future applications and of the signs that have been approved.

#### **6.5 Evaluation of content**

The content of advertisements is a next phase. Once advertisement structures are erected, the owners must submit the content of advertisements to SANRAL for approval. This will be a separate phase and will require continual management of the approved signs as the content of advertisements can change frequently.

The evaluation of content will be done in terms of the number of bits of information contained in the advertisement, language, decency, etc.

### **7. SUMMARY**

The Regulations provide a good basis for evaluating advertisement applications along National routes. There were however valuable lessons learnt in the application of the regulations and several aspects, that were not well defined in the regulations, needed further attention.

The following valuable lessons were learned from the process:

1. The quality of applications that were received were in most cases poor and lacked technical support. The amount of information requested could have been reduced and more relevant information need to be obtained initially.
2. The evaluation process requires substantial data and cannot be carried out without proper site information.
3. The designation of areas created a problem. To ensure conformity between

adjacent local authorities extensive discussions were required.

4. A need for research on the impact of advertisements on road safety was identified. Most assumptions regarding road safety aspects are based on engineering judgement at present and the limited research available.
5. The relative low percentage of applications approved is a reflection of the large amount of information already given to the driver by means of road signs. If spacing of road signs and disruption of flow of information is combined, road signs are responsible for 60% of rejections to date.
6. The control of the approved signs and the continual approval of the content of these signs will present a management challenge to ensure that these approved signs stay within the regulations.

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## CURRICULUM VITAE - ELMARIE DU TOIT

**Full Name** ELIZABETH MARIA DU TOIT (ELMARIE)

**Specialisation** Traffic Engineering and Transportation Planning, Statistics and Project Management

**Years of Experience** 10

Elmarie du Toit has a BSc Degree in Mathematical Statistics, University of Pretoria, obtained in 1990, and obtained her BSc (Hon) in Transportation Planning, Faculty of Engineering, University of Pretoria, 1998.

### Key experience

In February 2000, she joined Innovative Traffic Solutions (pty) Ltd as a director of the firm. She became responsible for the managing of specific company, personnel and administrative functions, as well as for the execution and management of major projects. Extensive experience was gained in the Outdoor Advertising field with the appointment by the South African National Roads Agency Ltd, for the Evaluation of Applications for Outdoor Advertising along National Roads in Gauteng, Mpumalanga, North West and Northern Province.

She is responsible for and involved in traffic engineering and transportation planning projects for different authorities and private companies all over the country and internationally. Projects she were involved in and responsible for included traffic impact studies, access management plans, road master plans, development of parking guidelines, implementation of parking control systems and other parking related projects. It also included the development of signage and application for signage, street closures, solution of access problems to developments, filling station development and feasibility studies. Before and after studies for the implementation of traffic calming measures, determination of need for public transport facilities, traffic forecasts for the construction of a main road in Mozambique and a feasibility study for the deepening of Walvis Bay harbour were also part of the projects undertaken.

From July 1995 to January 1997 at BKS (Pty) Ltd, she was involved in the formulation of transport policy documents and incorporation of comments and submissions on related documents; and the compilation and finalisation of transport status quo documents and transport plans for the Highveld District Council, Lowveld District Council, Eastern Gauteng Services Council and the Greater Pretoria Metropolitan Council. She was intensively involved in the development of co-ordination and liaison structures to address the role and responsibilities of provincial and local government in public transport for the Eastern Gauteng Services Council and the Greater Pretoria Metropolitan Council. The statistical analysis of passenger attitudinal and public transport demand surveys for the Highveld District Council, Lowveld District Council, Eastern Gauteng Services Council and the Greater Pretoria Metropolitan Council was her responsibility. She was also involved in the planning, design and implementation of various cemetery development projects. In addition, Elmarie was responsible for project administration, project co-ordination and act as assistant project manager and project leader for design and implementation projects, passenger transport projects and policy formulation projects. She also acted as contact person and project manager for the sub-consultants involved. She also have experience in various research projects such as the analyses of the current transport situation (status quo), interviews and meetings with the officials and all other stakeholders, research and literature studies, identifying of alternative solutions, the composition of reports as well as the co-ordination and management of the projects and the project teams of several projects. Specific experience was gained in health services in the East Rand, the planning and design of cemeteries in the East Rand, as well as the design and development of a computerised information system for cemeteries.