



**Western Cape
Government**
Transport and Public Works

DEVELOPMENT OF ACCESS MANAGEMENT GUIDELINES FOR THE WESTERN CAPE GOVERNMENT, SOUTH AFRICA

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THE DEVELOPMENT OF ACCESS MANAGEMENT GUIDELINES FOR THE WESTERN CAPE GOVERNMENT, SOUTH AFRICA

PRESENTATION CONTENT

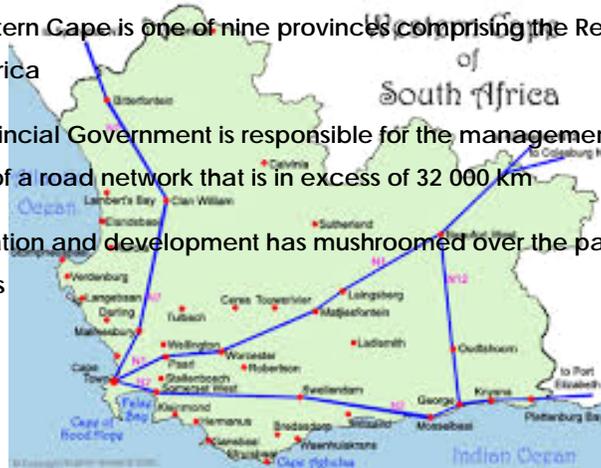
- Introduction
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INTRODUCTION

- The Western Cape is one of nine provinces comprising the Republic of South Africa
- The Provincial Government is responsible for the management and control of a road network that is in excess of 32 000 km
- Urbanisation and development has mushroomed over the past two decades



PURPOSE

- The document under discussion has been prepared as an outcome of an extensive review of the original Road Access Guidelines (2002)
- It builds on the original document and expands its scope to move beyond simply providing guidance relating to the determination of the type, location and control processes to new and expanding land uses to the road network
- The document provides guidance to :-
 - practitioners planning access for particular developments
 - officials considering the acceptability and approval of proposed access as well as
 - those planning, reviewing and approving the extension of the road network to serve newly developing areas



PURPOSE cont.

- It has become important to consider road access from a broader perspective, more specifically :-
 - The operational and requirements and impacts of Non-motorised Transport (NMT), Public Transport (PT) and Bus Rapid Transit (BRT)
 - Consideration of the road system in a network context
- These new perspectives have resulted in the evolvement of the Road Access Guidelines (RAG) in to the Access Management Guidelines



VISION AND MISSION

The above is underpinned by the vision and mission of the Western Cape Government to:-

- Create an open opportunity society for all in the Western Cape so that people can live the lives they value, and
- To achieve a road based transport hierarchal network which promotes social and economic development by providing appropriate safe access to adjacent land uses in a way that optimises the needs of all users as well as the passing traffic, irrespective of mode



OBJECTIVES

- Leading from the above it is the objective of the Western Cape Government to:-
 - Provide a consistent and technically sound methodology for the determination of access from the road network, and
 - To ensure that all road and planning authorities within the Western Cape Province apply the principles and recommendations contained in the Access Management Guidelines



DEFINITION AND BENEFITS OF ACCESS MANAGEMENT

Access Management is defined in the Access Management Guidelines as being:-

“the systematic control of the location, spacing, design and operation of driveways, median openings, street connections and interchanges to a roadway. It also involves roadway design applications such as median treatments and auxiliary lanes and the appropriate spacing of traffic signals and roundabouts”.



DEFINITION AND BENEFITS cont.

- Access management is particularly important along principal, major and minor arterials and other primary roads that are expected to provide safe and efficient movement of traffic as well as some access to property
- Access management's prime requirement on lower order roads is to address safety considerations
- Roads are expensive to construct, upgrade and maintain – in a socio-economic environment where there are many competing demand on public funding it is imperative to ensure there is effective and efficient management of the transportation system
- It is irresponsible to allow major arterials which are critical for economic activity to become heavily congested and fail to play their intended role effectively



BENEFITS CONT.

- By managing road access correctly road authorities can prolong the lives of roads, improve public safety, reduce traffic congestion and improve the appearance and quality of the built environment
- Not only does proper access management preserve the transportation function of the road network, it also preserves the long-term property values and economic viability of abutting developments
- From an environmental perspective improved traffic flow translates into better fuel efficiency and lower vehicle emissions



ROAD FUNCTIONAL CLASSIFICATION SYSTEM

In the South African context a functional road classification system is used, per *“TRH 26 South African Road Classification System and Access management Manual, August 2012”*

The functional classification system comprises six classes of road with a differentiation between urban and rural areas:

Road Class	Function	Description
Class 1	Mobility	Principal Arterial
Class 2		Major Arterial
Class 3		Minor Arterial
Class 4	Access/Activity	Collector Street
Class 5		Local Street
Class 6		Walkway



ROADSIDE DEVELOPMENT ENVIRONMENT

- The Roadside Development Environment (RDE) concept was evolved during the compilation of the Road Access Guidelines (2002) –
- Five different roadside development environments were identified to recognize that access guidelines need to vary according to the nature of the environment through which a particular road passes
- The prime factor used to distinguish between the different types of roadside development environment was development density
 - This was seen as an appropriate proxy to reflect the intensity of a number of other associated conditions eg. Retail, commercial and residential activities
- The following table sets out the five Roadside Development Environments and their main distinguishing features



RDE DENSITY CHARACTERISTICS

Roadside Development Environment	Floor Area Ratio (FAR)	Bulk (m ²)
CBD	> 1	10 000 m ² / ha
Intermediate	0.3 – 1.0	3 000 – 10 000 m ² / ha
Suburban	0.1 – 0.3	1 000 – 3 000 m ² / ha
	Urban Edge	
Semi-rural	< 0.1	
Rural	< 1 bldg / 10 ha	



RDE AS A VEHICLE TO ASSIST TRANSPORT POLICY

- Transport planning policy and proposals have a fundamental impact on the ability of urban and rural environments to realize the economic and demands of society and the environment
- Policy makers should be mindful of the danger of promoting transport goals as ends in themselves rather than in terms of their larger societal and environmental responsibility
- The use of Roadside Development Environments as overlay zones in Integrated Transport Plans and Spatial Development Frameworks can be a useful tool as they can provide the same common platform for both transport and land use guidelines, thus helping to achieve an alignment



INTERSECTION SPACING

- Every intersection or access on the network introduces conflicting movements into the traffic stream
- With these conflicts come some level of safety risk as well as potential delay and congestion
- Access management seeks to space out such conflict and congestion areas so as to reduce their negative impact while still allowing adequate access to adjacent properties and other elements of the network
- Intersection controls can generally be one of stop control, traffic signals or roundabouts



MINIMUM SPACING OF SIGNALISED INTERSECTIONS

Development Environment	Road Category			
	Class 1	Class 2	Class 3	Class 4
Urban	540m	370m	270m	210m
Intermediate	800m	540m	370m	270m
Suburban	1 200m	800m	540m	370m
Semi rural	1 600m	1 200m	800m	540m
Rural	Values not included as operational speeds exceed 80km/h which is an inappropriate speed for signalised control			



ALTERNATIVES TO SIGNALIZATION

- The fact that the installation of traffic signals may be warranted does not mean that signalization is the best or optimum solution to a specific problem
- Alternative solutions may well exist that are viable and feasible and which, if implemented, may obviate the need for traffic signals
- The provision of a roundabout may not only increase the capacity of a junction but also significantly improve traffic safety



PUBLIC TRANSPORT

A public transport orientated road, designed to accommodate and balance the needs of all modes of transport can contribute to the attractiveness and efficiency of public transport as well as contribute to the liveability of the environment and the social well-being of the surrounding community

Public transport operations and infrastructure impacts on roads in various ways, for instance:-

- When a general traffic lane is dedicated to public transport it can reduce capacity for general traffic,
- When public transport services require priority at intersections the available green band is reduced for general traffic



PUBLIC TRANSPORT cont.

- Right-turners (for motorists driving on the left side of the road) are affected through reduced turning opportunities
- The following are options to deal with this challenge:-
 - Rationalisation of full intersections
 - Closure of full unsignalised intersections or conversion to marginal intersections
 - Introduction of partial intersections
 - Introduction of alternative movements ie
 - 3 left turns plus a through movement
 - Through movement plus a downstream u-turn



NON-MOTORISED TRANSPORT

- Traditionally non-motorised transport has not been included in transport planning
- New legislation has made it statutory to include non-motorised transport in the development of transport planning
- It is the objective of transport authorities to enable pedestrians and cyclists to form an important feeder for public transport
- In order to minimise conflict situations at intersections between non-motorised transport users and other forms of transport the introductions of certain constraints on turning movements



CONCLUSION

- Due to a constant increase in traffic with resultant congestion, road access management has become a necessary tool in the provision of a safe and consistent approach to dealing with property access and the extension of the road network
- The increasing usage of other modes of transport within the same environment adds to the challenge
- Within the developing world pressing socio-economic considerations need to be taken into account whilst retaining an appropriate level of mobility, the primary goal of many roads



“Ensuring optimal effectiveness and efficiency in the transportation system benefits all stakeholders and users of the system and therefore proper access management provides society as a whole”



