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# TABLE OF CONTENTS

## PART A: INTRODUCTION

1. INTRODUCTION .................................................................................. A-1
   1.1 Purpose .................................................................................. A-1
   1.2 Scope ..................................................................................... A-1
   1.3 Content .................................................................................. A-1
2 ROAD SAFETY IN SOUTH AFRICA – THE NEED FOR A PARADIGM SHIFT ..... A-2
   2.1 The Road Safety Status of South Africa .................................. A-2
   2.2 The Development of Road Safety In South Africa ......................... A-4
   2.3 The Development of a Road Safety Manual for South Africa .............. A-6
   2.4 The Road Traffic Management Corporation: The Way Forward .......... A-7
   2.4.1 The RTMC and road traffic safety ....................................... A-7
   2.4.2 Background to the RTMC .................................................. A-7
   2.4.3 The Road Traffic Management Bill ....................................... A-8
   2.4.4 The Road Traffic Management Model ................................... A-8
   2.4.5 Structure of the RTMC ...................................................... A-9
3 REFERENCES .................................................................................. A-9

## PART B: PRINCIPLES

1 THE HUMAN FACTOR AND ROAD SAFETY ENGINEERING .................. B-1
   1.1 Introduction ............................................................................. B-1
   1.2 The Role of Road Safety Engineering ....................................... B-2
   1.3 The Driving Task ..................................................................... B-3
   1.3.1 The components of the driving task ..................................... B-3
   1.3.2 The process of the driving task .......................................... B-3
   1.3.3 Information .......................................................................... B-4
   1.3.3.1 The information processing task ....................................... B-4
   1.3.3.2 Driver limitations .......................................................... B-5
   1.3.3.3 Illumination ..................................................................... B-7
   1.3.4 Expectancy .......................................................................... B-10
   1.3.4.1 Background ..................................................................... B-10
   1.3.4.2 Continuation expectancy ............................................... B-10
   1.3.4.3 Event expectancy .......................................................... B-10
   1.3.4.4 Temporal expectancy .................................................... B-10
   1.3.4.5 Expectancy and traffic design ....................................... B-11
   1.3.5 Reaction time ....................................................................... B-12
   1.3.6 Memory ............................................................................... B-13
   1.3.7 The hysteresis effect ........................................................... B-14
   1.4 The Pedestrian .......................................................................... B-14
   1.4.1 Introduction ......................................................................... B-14
   1.4.2 Vulnerable road users ....................................................... B-14
   1.4.3 Pedestrians and traffic design .......................................... B-15
2 ROAD TRAFFIC SAFETY MANAGEMENT ........................................ B-16
   2.1 Introduction ............................................................................. B-16
   2.2 The Aim of Road Traffic Safety Management ................................ B-16
   2.3 Why Do We Need Road Traffic Safety Management ..................... B-16
   2.4 The Principles of Road Traffic Safety Management ....................... B-17
   2.5 Reactive And Active Road Traffic Safety Management Strategies ........ B-17
   2.6 Integrated Road Traffic Safety Management ................................ B-17
# TABLE OF CONTENTS (Continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6.1 Integrated and non-integrated systems</td>
<td>B-17</td>
</tr>
<tr>
<td>2.6.2 The need for an integrated system</td>
<td>B-18</td>
</tr>
<tr>
<td>2.6.3 The benefits of an integrated system</td>
<td>B-18</td>
</tr>
<tr>
<td>2.6.4 The key components of road traffic safety management</td>
<td>B-18</td>
</tr>
<tr>
<td>2.6.5 The process of integrated road traffic safety management</td>
<td>B-18</td>
</tr>
<tr>
<td>2.6.6 Phase 1: Policies and decision making</td>
<td>B-20</td>
</tr>
<tr>
<td>2.6.7 Phase 2: Assessment of traffic safety targets</td>
<td>B-20</td>
</tr>
<tr>
<td>2.6.8 Phase 3: Setting goals</td>
<td>B-21</td>
</tr>
<tr>
<td>2.6.9 Phase 4: Designing an integrated road traffic safety management plan</td>
<td>B-22</td>
</tr>
<tr>
<td>2.6.10 Phase 5: Operations and implementation</td>
<td>B-23</td>
</tr>
<tr>
<td>2.6.11 Phase 6: Evaluation</td>
<td>B-23</td>
</tr>
<tr>
<td>2.7 The Roleplayers and Sectors Involved in Road Traffic Safety Management</td>
<td>B-23</td>
</tr>
<tr>
<td>2.8 Implementing road traffic safety management</td>
<td>B-27</td>
</tr>
<tr>
<td>2.9 Accident information and road traffic safety management</td>
<td>B-27</td>
</tr>
<tr>
<td>2.10 Management systems related to road traffic safety management</td>
<td>B-30</td>
</tr>
<tr>
<td>2.10.1 Incident management</td>
<td>B-30</td>
</tr>
<tr>
<td>2.10.2 Maintenance management</td>
<td>B-31</td>
</tr>
<tr>
<td>2.10.2.1 Pavement management</td>
<td>B-32</td>
</tr>
<tr>
<td>2.10.2.2 Roadside maintenance</td>
<td>B-32</td>
</tr>
<tr>
<td>2.10.2.3 Drainage management</td>
<td>B-32</td>
</tr>
<tr>
<td>2.10.3 Road signs management</td>
<td>B-33</td>
</tr>
<tr>
<td>2.10.4 Land-use management</td>
<td>B-33</td>
</tr>
<tr>
<td>2.10.5 Access management</td>
<td>B-34</td>
</tr>
<tr>
<td>2.10.6 Speed management</td>
<td>B-37</td>
</tr>
<tr>
<td>3 REFERENCES</td>
<td>B-38</td>
</tr>
</tbody>
</table>

## PART C: POLICIES

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 INTRODUCTION</td>
<td>D-1</td>
</tr>
<tr>
<td>2 THE KEY ELEMENTS OF A ROAD SAFETY POLICY</td>
<td>D-1</td>
</tr>
</tbody>
</table>

## PART D: THE SOUTH AFRICAN ROAD SAFETY MANUAL

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HOW TO USE THE VOLUMES OF THE SOUTH AFRICAN ROAD SAFETY MANUAL AS PART OF ROAD TRAFFIC SAFETY MANAGEMENT</td>
<td>D-1</td>
</tr>
<tr>
<td>2 DEFINING THE PROCESSES DESCRIBED IN THE SOUTH AFRICAN ROAD SAFETY MANUAL</td>
<td>D-1</td>
</tr>
<tr>
<td>2.1 Road safety engineering assessment</td>
<td>D-1</td>
</tr>
<tr>
<td>2.2 Road safety audit</td>
<td>D-1</td>
</tr>
<tr>
<td>2.3 The remedial measures programme</td>
<td>D-1</td>
</tr>
<tr>
<td>3 THE DIFFERENCE BETWEEN THE ROAD SAFETY AUDIT AND THE ROAD SAFETY ENGINEERING ASSESSMENT</td>
<td>D-3</td>
</tr>
<tr>
<td>4 ROAD SAFETY MANAGEMENT OF EXISTING ROADS</td>
<td>D-3</td>
</tr>
<tr>
<td>5 ROAD SAFETY MANAGEMENT OF NEW DESIGN PROJECTS, LOCAL IMPROVEMENTS, ROAD CONSTRUCTION PROJECTS AND ROAD MAINTENANCE PROJECTS</td>
<td>D-3</td>
</tr>
<tr>
<td>6 HOW TO USE VOLUME 2 AND 3: ROAD SAFETY ENGINEERING ASSESSMENT</td>
<td>D-4</td>
</tr>
<tr>
<td>7 HOW TO USE VOLUME 4: ROAD SAFETY AUDITS</td>
<td>D-4</td>
</tr>
<tr>
<td>8 HOW TO USE VOLUME 5: REMEDIAL MEASURES AND EVALUATION</td>
<td>D-7</td>
</tr>
<tr>
<td>9 HOW TO USE VOLUME 6: ROADSIDE HAZARD MANAGEMENT</td>
<td>D-7</td>
</tr>
<tr>
<td>10 HOW TO USE VOLUME 7: DESIGN FOR SAFETY</td>
<td>D-7</td>
</tr>
</tbody>
</table>

VOLUME 1: PRINCIPLES AND POLICIES Final Draft: 25 May 1999
LIST OF FIGURES

Figure A-1: Content of Volume 1
Figure A-2: The organisational chart of the RTMC
Figure B-1: Factors contributing to road traffic accidents
Figure B-2: The basic model of information processing
Figure B-3: The integration concept
Figure B-4: Goal setting process
Figure B-5: The relationship between the number of businesses, at-grade intersections per km and the accident rate per 100 million veh-km
Figure D-1: The use of the South African Road Safety Manual in the Road Safety Management Process
Figure D-2: The management process for existing roads
Figure D-3: The management process for new design projects, local improvements, road construction projects, road maintenance projects

LIST OF TABLES

Table A-1: 1997 Accident statistics
Table A-2: Fatality rates for selected countries
Table B-1: The roleplayers in road traffic safety management
Table B-2: The sectors involved in road traffic safety management
Table B-3: Task-roleplayer matrix
Table B-4: Task-roleplayer-linkage matrix
Table B-5: The effect of intersections and businesses on accident rates
I. BACKGROUND

Each year nearly 10 000 people die on South African roads. Accidents involving pedestrians are 56% in South Africa, compared to only 19% in Australia.

The White Paper on National Transport Policy\(^1\) outlines the vision for transportation in South Africa:

“Provide safe, reliable, effective, efficient, and fully integrated transport operations and infrastructure which will best meet the needs of freight and passenger customers at improving levels of service and cost, in a fashion which supports government strategies for economic and social development whilst being environmentally and economically sustainable”.

As the management of accident risk is a long-term strategy, it requires corporate support. In view of this, road authorities in South Africa accepted a corporate goal of providing and maintaining a safe and affordable transportation network. To achieve this goal, a formal Business Plan, ‘The Road Traffic Management Strategy (RTMS)’, was developed to ensure an acceptable level of quality in road traffic, with emphasis on road safety on the urban and rural road network.

One of the measures identified in the RTMS was the need to develop the “tools” to assist road authorities with the evaluation of traffic operations and assessment of road safety aspects of their road network. These “tools” take the format of the South African Road Safety Manual prepared through the guidance of the RTSETC, thus involving all levels of government in the process. Consultation with all involved road authorities forms an important part of the project as the use of a uniform system of road safety procedures will ultimately contribute to the reduction of road safety fatalities in South Africa.

The South African Road Safety Manual consists of the following volumes:
- Volume 1: Principles and Policies
- Volume 2: Road Safety Engineering Assessment on Rural Roads
- Volume 3: Road Safety Engineering Assessment on Urban Roads
- Volume 4: Road Safety Audits
- Volume 5: Remedial Measures and Evaluation
- Volume 6: Roadside Hazard Management
- Volume 7: Design for Safety

Figure 1-1 shows a diagrammatic layout of the processes involved for the feasibility stage, draft and detail design, construction and pre-opening stage of new projects and that for existing roads. Figure 1-2 and 1-3 indicate which volumes are utilised in the processes shown in Figure 1-1.

Figure I-1: The use of the South African Road Safety Manual in the Road Safety Management Process
Figure I-2: The management process for new design projects, local improvements, road construction projects and road maintenance projects.

**GOAL:**
Safe transport facilities and infrastructure

**EXISTING roads**
Road Safety Management of the total road network
Monitoring the existing road network with specific reference to elements influencing road traffic safety

**ROAD SAFETY ASSESSMENT OF THE TOTAL EXISTING NETWORK**
Identify and prioritise hazardous locations in the road safety assessment

**ROAD SAFETY AUDIT**
at hazardous locations:
Stage 6: Existing Roads

**REMEDIAL MEASURES AT HAZARDOUS LOCATIONS**

**EVALUATION OF IMPLEMENTED REMEDIAL MEASURES**

**Rural Road Networks:**
a) Volume 2: Road Safety Assessments on Rural Roads
b) Volume 6: Roadside Hazard Management
c) Volume 7: Design for Safety

**Urban Road Networks:**
a) Volume 3: Road Safety Assessments on Urban Roads
b) Volume 6: Roadside Hazard Management
c) Volume 7: Design for Safety

a) Volume 5: Remedial Measures and Evaluation.
b) Volume 6: Roadside Hazard Management

- Managing the road safety of the existing road network
- Reducing accidents and the severity thereof
Figure I-3: The management process for existing roads

GOAL:
Safe transport facilities and infrastructure

NEW design projects, Local improvements
Road construction projects, Road maintenance projects

ROAD SAFETY AUDIT
at a specific location or for a specific project

Stage 1: Feasibility
Stage 2: Draft design
Stage 3: Detail design
- Change design elements/philosophy

a) Volume 4: Sections on the first three stages
b) Volume 6: Roadside Hazard Management
c) Volume 7: Design for safety

Stage 4: Construction stage
- Improve accommodation of traffic and road safety during road construction and maintenance

a) Volume 4: Section on the construction phase
b) Volume 6: Roadside Hazard Management

Stage 5: Pre-opening stage
- Change road traffic signs and markings and any detail which is not according to drawings (pertaining only to road safety) etc.

a) Volume 4: Section on the pre-opening stage
b) Volume 6: Roadside Hazard Management

Prevent accidents and reduce the severity thereof by:
- Preventing safety hazards from being built into the road network
- Ensuring that safety elements are built in

-
II. Volume 1: Principles and Policies

The principles and policies of road safety assessments and audits are described in Volume 1. Volume 1 provides guidelines on the use of the various volumes comprising the South African Road Safety Manual.

III. Volumes 2 and 3: Road Safety Engineering Assessment On Rural Roads And Road Safety Engineering Assessment On Urban Roads

Volumes 2 and 3, the Road Safety Engineering Assessment volumes, describes the methodology and processes involved in assessing the road safety status of, respectively, the rural and urban road networks.

A road safety assessment will have, at least, the following deliverables:
- An assessment of the road network at a network level
- The identification and prioritisation of hazardous locations in the network that need to be investigated further.

IV. Volume 4: Road Safety Audits

The volume dealing with road safety audits will be used to audit the hazardous locations on existing roads identified in the road safety assessment process and also for projects at the feasibility, preliminary and detailed design, construction and pre-opening stages. The road safety audit process and methodology, including the guidelines for the preparation of an audit report is also described. Note that a road safety audit is done at a project level.

V. Volume 5: Remedial measures and evaluation

After a road safety assessment is completed for a road network, road safety audits are conducted at the hazardous locations identified in the assessment. The road safety audit in turn identifies potential road safety problems at the hazardous locations. Volume 5 provides guidelines for road-engineering elements that can be modified or implemented to reduce the number and severity of accidents. The economic benefit and evaluation of the remedial measures form an important part of the document.

VI. Volume 6: Roadside Hazard Management

The management of the roadside environment with the aim of reducing the severity of run-off the road accidents is described in detail in this volume. In addition to a detailed description of the methodology of providing a safe roadside, a section on traffic barriers is included.
VII. Volume 7: Design for Safety

This volume describes the role of safety in design and provides guidance to road designers and road safety auditors on principles and findings related to designing for safety. This volume is also a tool that can be used to evaluate or audit a design.

VIII. CONCLUSION

The South African Road Safety Manual is aimed at reducing the number and severity of accidents in South Africa. The use of this Manual and the co-operation of road authorities at all spheres of Government through COLTO are essential in order to achieve this goal.