

1999/00

Output Detail

1449

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Completion Date: 30 Sep 1999

Title: GIS: the foundation of crime prevention in South Africa

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Personnel No	Name	Editor
01241	Dr W J Schurink	
04062	Mr C A Schwabe	

Corporate Author:

Distribution Point: C.A. Schwabe
Support Services
HSRC
Private Bag X41
Pretoria
0001

Tel: (012) 302-2955**Internal Archive:****Is Publication Expected:** No

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~~Final Report~~
Completed outputs 1999/2000
Paper/presentation

Group (tick the appropriate box)	Democracy and Governance	
	Economic and Social Analysis	
	Education and Training	
	Support Services	
Type of paper/presentation (tick the correct unshaded box)	0500	Papers/presentations
	0501	National conference/seminar/workshop: peer reviewed
	0502	International conference/seminar/workshop: peer reviewed
	0503	National conference/seminar/workshop: not peer reviewed
	0504	International conference/seminar/workshop: not peer reviewed
	0507	Other external conference/seminar/workshop: peer reviewed
	0508	Other external conference/seminar/workshop: not peer reviewed
	0505	Occasional: peer reviewed
	0506	Occasional: not peer reviewed
	0509	Public briefing paper
Title of paper/presentation	Towards the dawn of a spring to work for civilisation GIS: The foundation of civilisation in Africa	
Language of paper/presentation	English	
Name of series of papers/presentations, if applicable	WIA	
First author	Personnel number/ external	Surname and initials
	04062	Schwabe
Second author	Personnel number/ external	Surname and initials
	01241	W Schurink
Third author	Personnel number/ External	Surname and initials

911115

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Paper/presentation (continued)

Are there more than three authors?	Yes	No	
Date that paper was read/submitted to editor(s)/publisher (DD-MM-YY)	29, 30 September - 1 October 1999		
Name of conference at which paper was read	The geographical Information Management Services User Conference		
Place of conference at which paper was read	Midrand		
Dates of conference at which paper was read	30 Sept		
Has the paper been published to date in hard copy?	Yes	No	
If yes:			
Publication date (month and year)			
If published as part of proceedings, title of proceedings			
First editor of proceedings	Personnel number/external	Surname and initials	
Second editor of proceedings	Personnel number/external	Surname and initials	
Third editor of proceedings	Personnel number/external	Surname and initials	
Are there more than three editors of the proceedings?	Yes	No	

✓
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GIMMS

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Paper (continued)

Publisher of paper/proceedings			
Place of publication of paper/proceedings			
ISBN number of paper/proceedings			
Paper/proceedings volume			
Paper/proceedings number			
Paper page numbers			
Has the paper been published electronically to date?	Yes	No X	
If yes, web site/Internet address			
If not published to date, is publication of the paper expected?	Yes	No X	
If yes, anticipated publication date (month and year)			
Number of pages of manuscript			
Any other bibliographical information	AC		
Is the paper linked to a project?	Yes	No	Project number
	X		SHG EHB

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**IS: THE FOUNDATION OF
CRIME PREVENTION IN
SOUTH AFRICA**

Craig Schwabe

Willem Schurink

Human Sciences Research Council

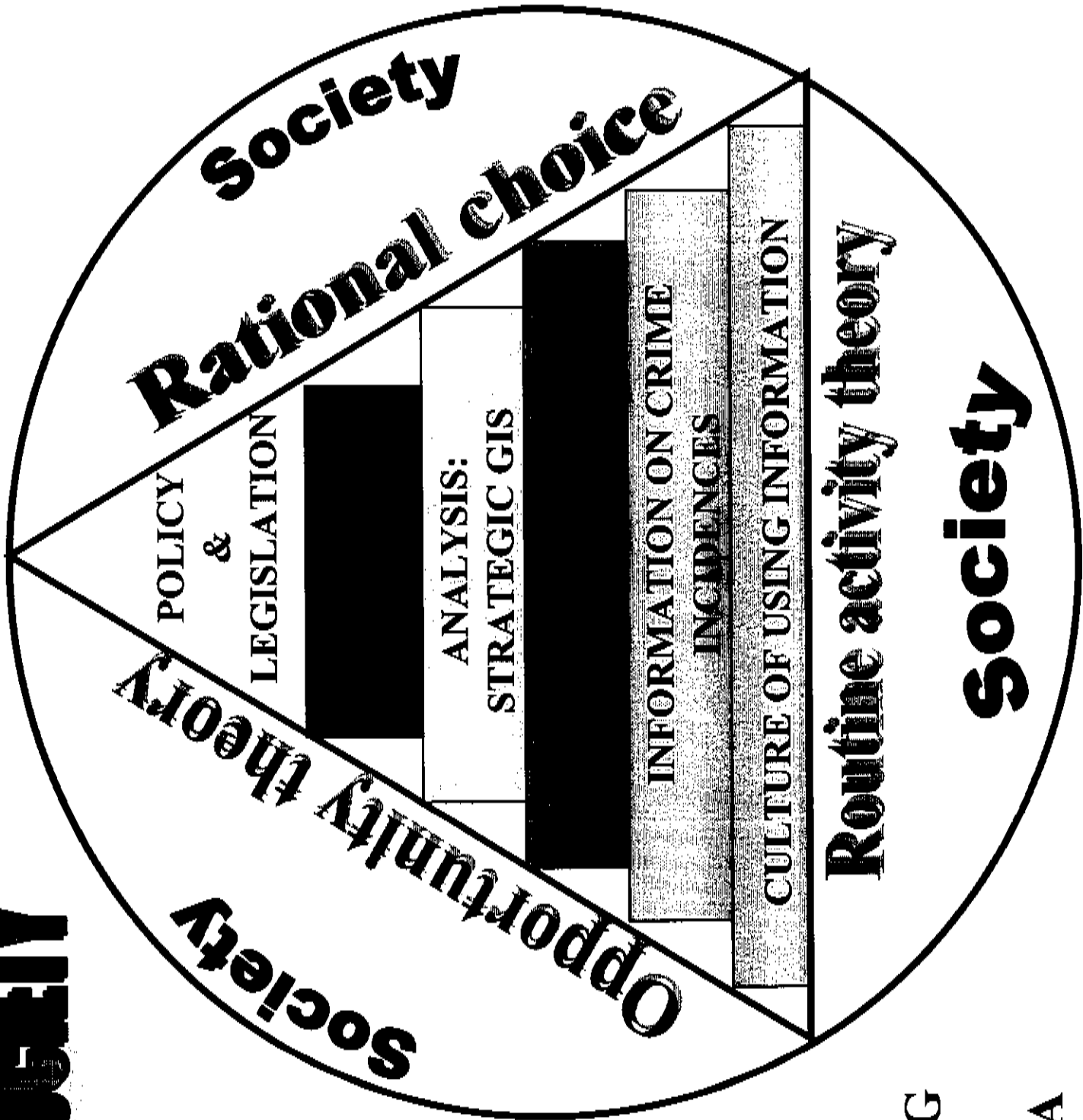
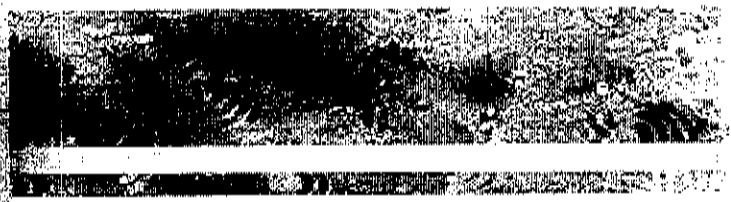
THE PROBLEM

- **“South Africa - crime capital of the world”**
 - **murder rate - highest in the world - 6 times that of the United States**
 - **rape rate - on the increase and the worst in the world**
 - **car hijackings - Gauteng's nightmare**
 - **use of violence and guns are increasing**
- **“South African society is becoming used to the crime !”**
 - **so much needed yet so little done**
- **The need for information**

WHAT'S THE CAUSE?

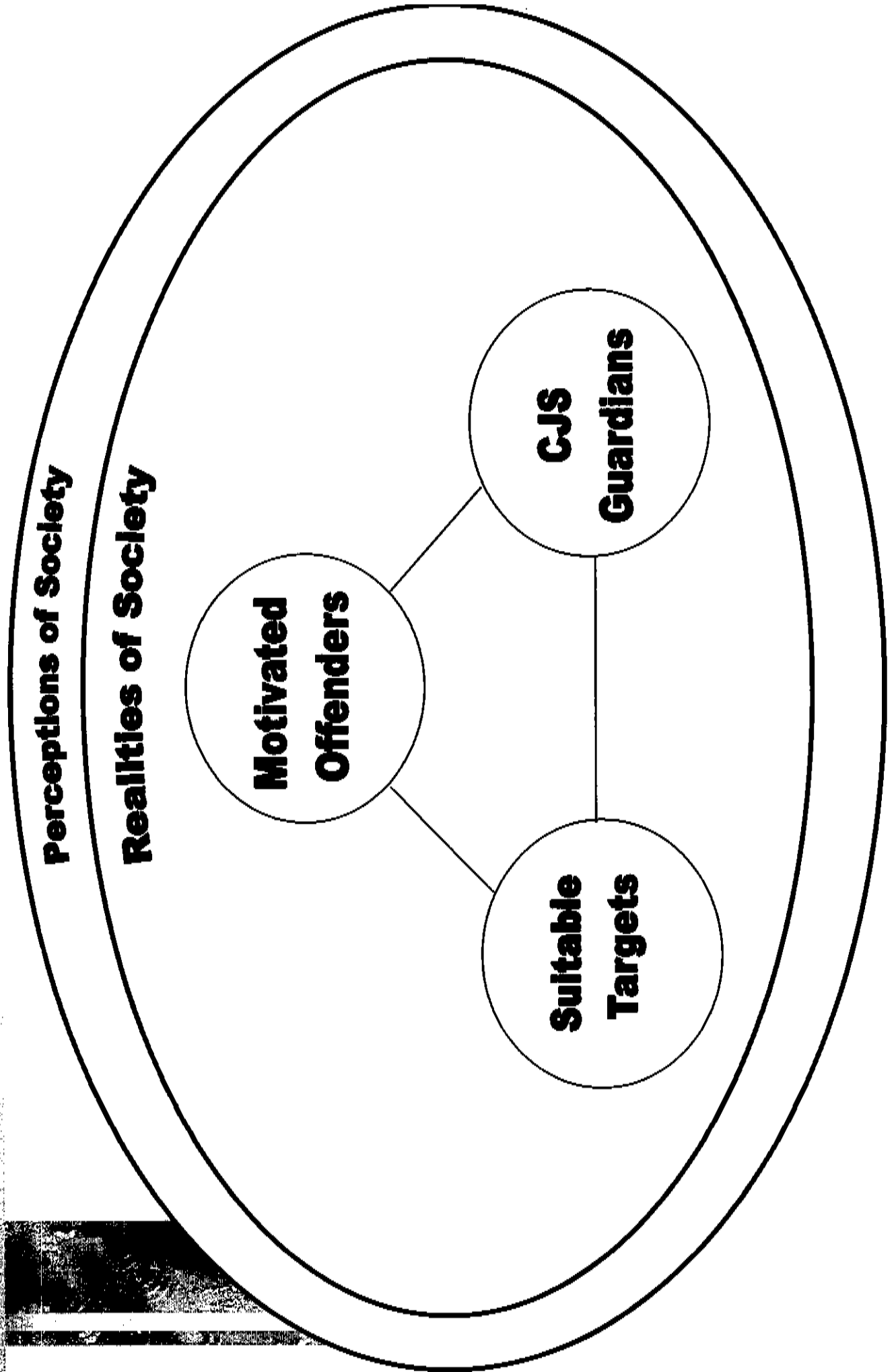
- **Success of solving crime**
 - **robberies - 1 in 4 solved**
 - **housebreakings - 1 in 5 solved**
 - **vehicle theft - 1 in 10 solved**
 - **murders - 2 in 5 solved**
 - **18% of people arrested are convicted**
 - **94% of criminals are repeat offenders**
- **Police resources**
 - **RSA - 1 : 328 police to population**
 - **internationally - 1 : 1014 police to population**
- **Simple building blocks are not in place**
- **The need for information**

CRIME IN SOCIETY



ANALYSING
AND
PREVENTING
CRIME
PHENOMENA

CRIME ACTIVITY THEORY



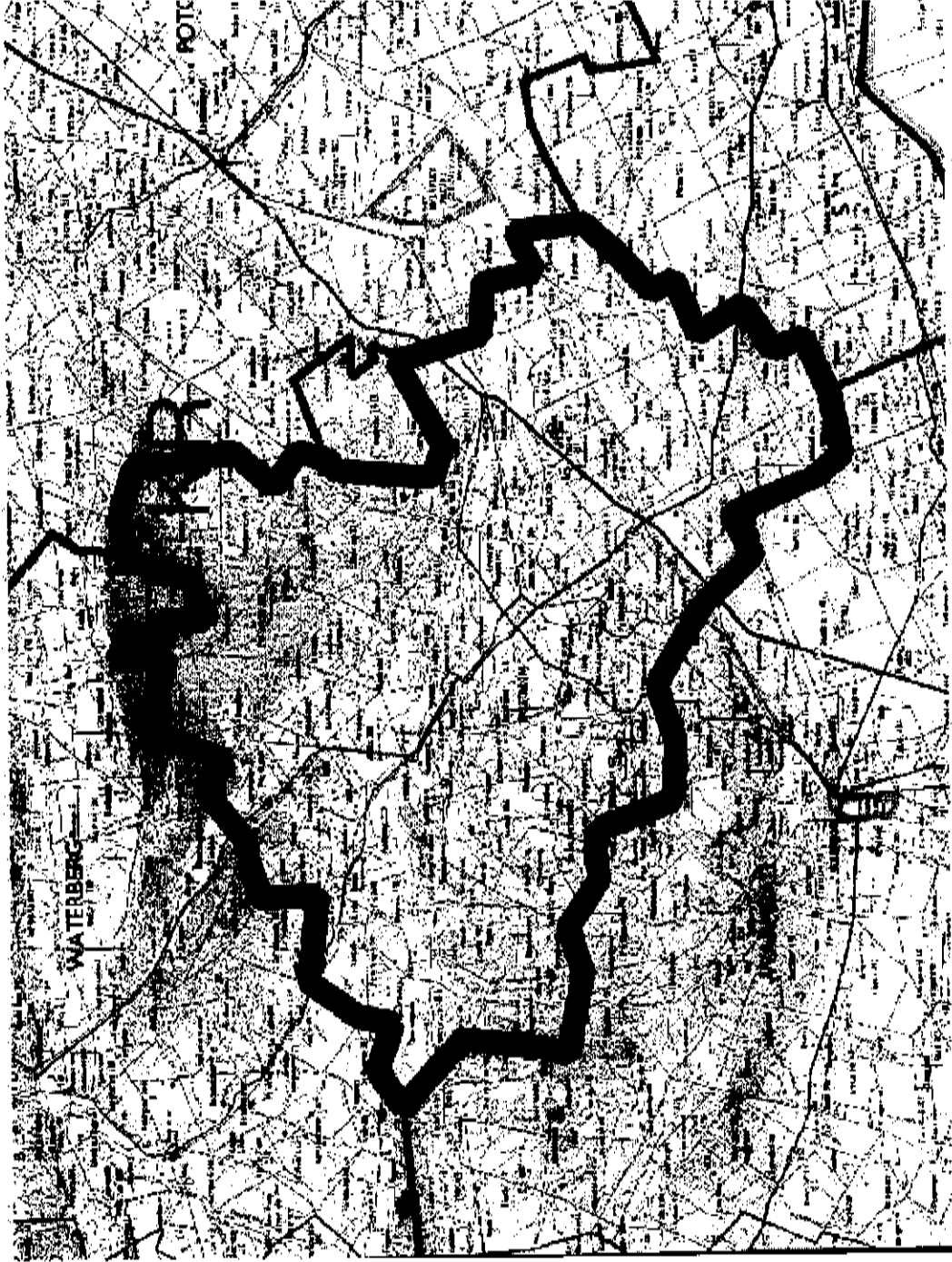
COURSE OF USING INFORMATION

- **Realising that there's a problem**
- **CompStat approach - a USA example**
- **Buy-in of SAPS management**
- **Developing policies on information use**
- **Strategies for implementing GIS**
- **Effective communication and consultation**
- **Setting appropriate time frames**
- **Integrating information from the criminal justice system (police, courts, prisons and parole system)**
- **Developing a management information system**

BASIC INFORMATION FOR CRIME PREVENTION

- **Crime scene reports / checklists**
 - **modus operandi**
 - **victim and suspect reports**
- **Accurate and comprehensive crime statistics**
 - **updated crime code list**
- **Automated geocoding of crime scenes**
 - **GPS versus land parcel databases**
 - **Seamless land parcel data for police stations**
- **Police station and CAS Block boundaries**
- **Police resources and efficiency indicators**
- **Integration of crime statistics and socio-demographic data**

POLICE STATION DOCUMENT: NYLSTROOM



NYLSTROOM POLICE STATION

Map Version 1.0

South African Police Service (1998)

GIS Centre, HSRC

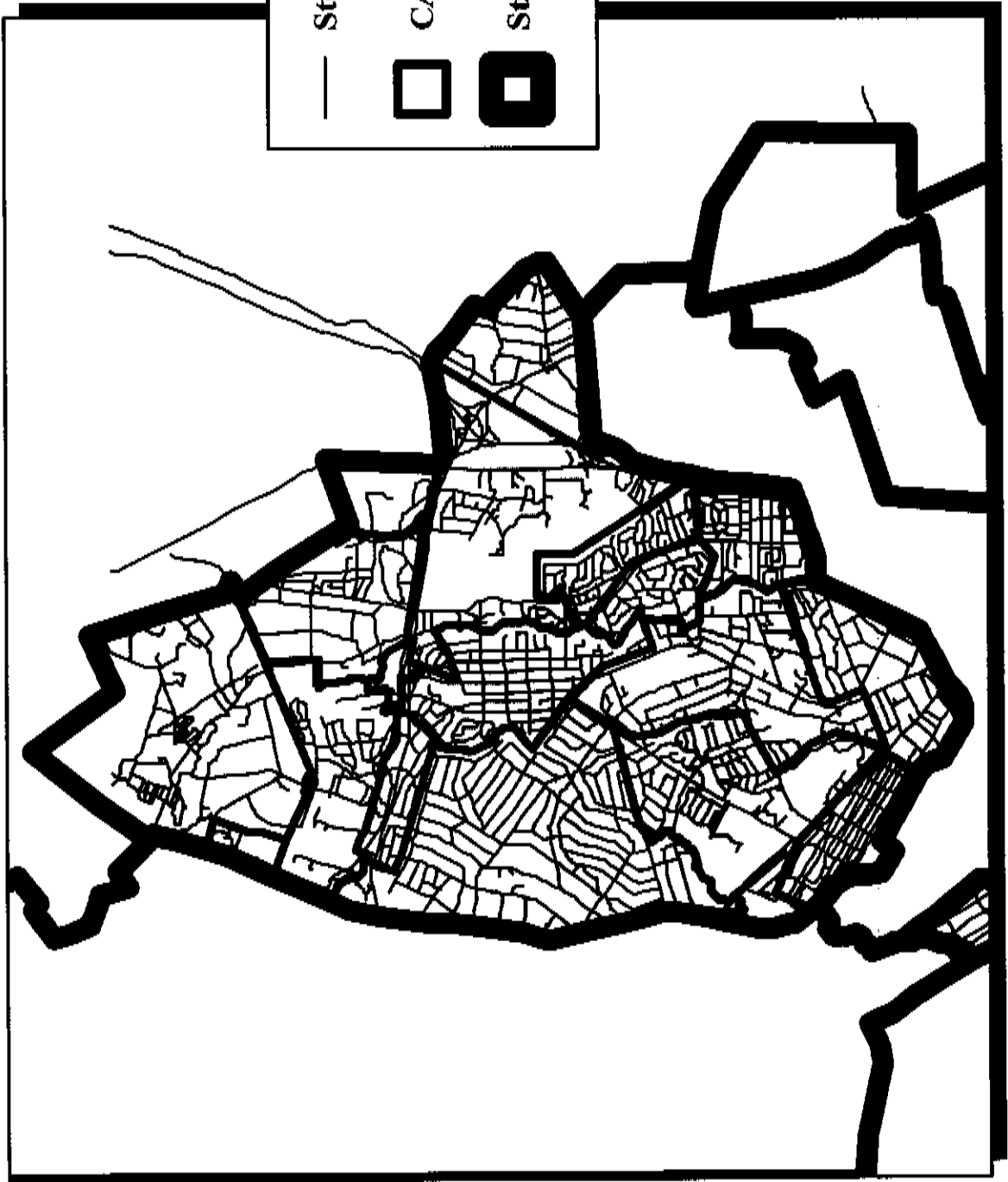
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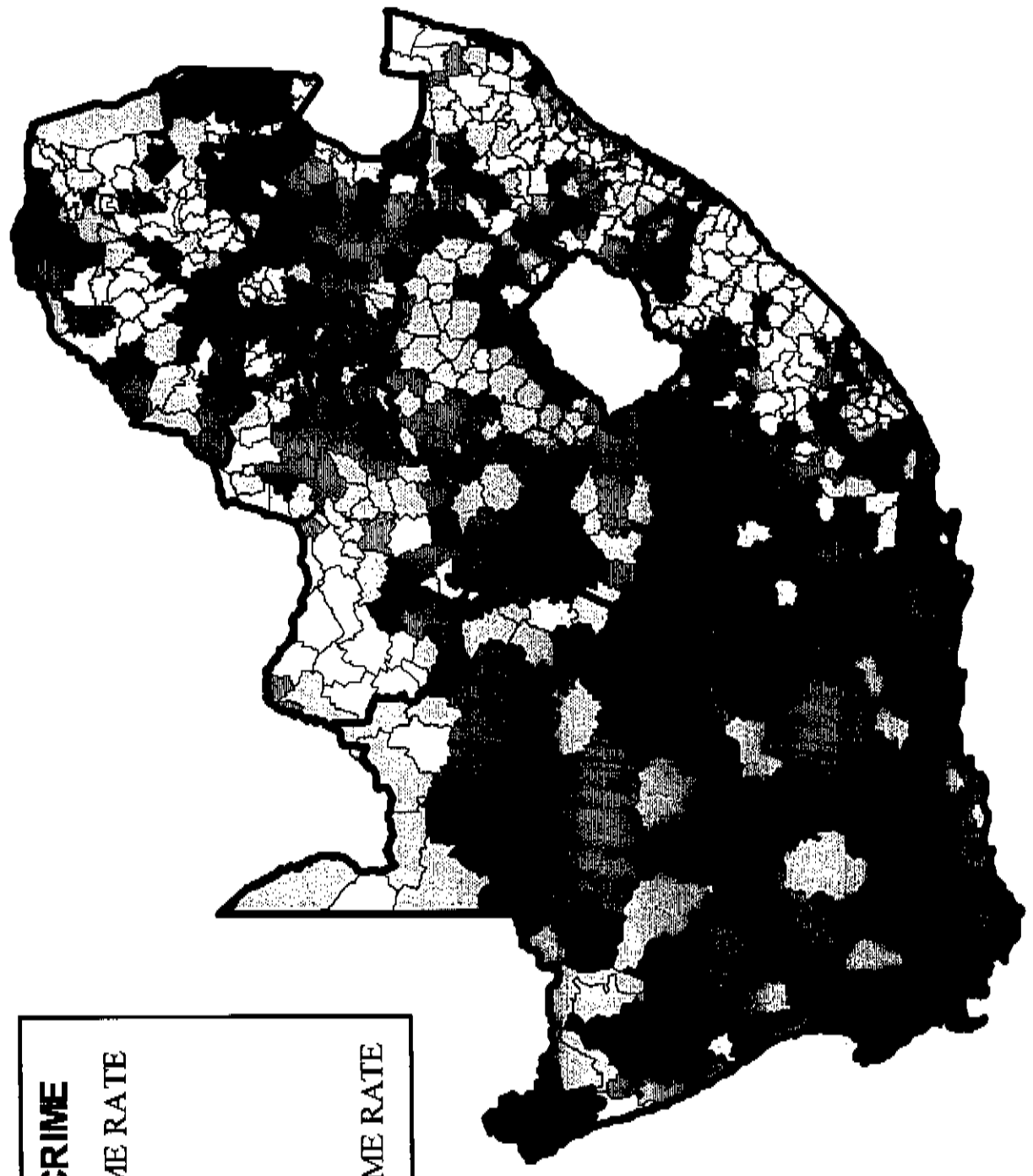
Produced by:

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STATION AND CAS BLOCKS MAP



TOTAL CRIME DENSITY IN SOUTH AFRICA (1988)

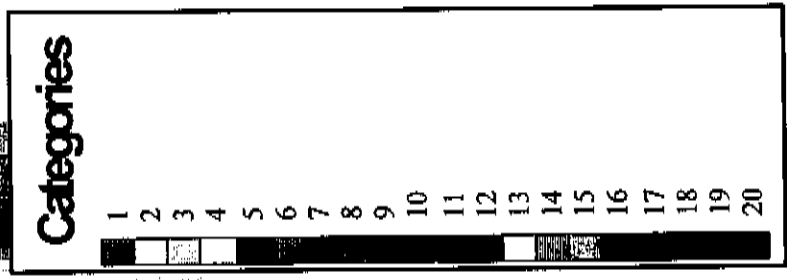


RATE OF CRIME

LOW CRIME RATE

HIGH CRIME RATE

ASSIGNMENT OF POLICE STATIONS IN SOUTH AFRICA



URGENT INFORMATION SYSTEM

Medium term objectives

- **Police stations linked over wide area network to central database for storage of crime statistics**
- **Use commercial GIS software (e.g. SDE)**
- **User friendly interface to Crime Administration System (CAS) in Windows environment**
- **Some GIS functionality in a customised environment**
- **Controlled access and data entry**
- **Implement in priority police stations where information officers are available**
- **Training of information officers in use of GIS**

URGENT INFORMATION SYSTEM

Long term objectives

- **Integration of all systems in the SAPS (e.g. guns, personnel, vehicles, intelligence, etc)**
- **Integration with other relevant systems (e.g. vehicle register, population register, property register)**
- **Expansion of GIS functionality to include**
 - **hot spot analysis**
 - **shortest path analysis**
 - **forecasting and geographic profiling**
 - **statistical analysis**
 - **decision rule models and expert systems**

CONCLUSION

“There is no doubt that a country like South Africa with its high crime rates needs to be able to map its crime so that directed strategies can be implemented to address the crime situation. For this to happen requires that crime incidents are located in geographic space by the use of automated geocoding. It is clear that both management and operational police personnel see the need for automated geocoding to be implemented in the SAPS. A user requirement statement and test protocol that could possibly be used as a brief for the implementation of automated geocoding has been developed. For automated geocoding to be implemented in the SAPS requires a strict schedule of activities to ensure that it happens. Our research has suggested a possible way forward for achieving the short, medium and long-term goals of implementing automated geocoding in the SAPS.” [Schwabe and Schurink, 1999].

Hopefully the South African government and SAPS will respond.