

https://dspace.org/

The effects of central government participation in urban transportation in the Republic of South Africa

Copley, Peter Judd

2015-02-13
http://hdl.handle.net/10539/16965

Downloaded from a DSpace repository. https://dspace.org/

THE EFFECTS OF CENTRAL GOVERNMENT PARTICIPATION IN URBAN TRANSPORTATION IN THE REPUBLIC OF SOUTH AFRICA

Peter Judd Copley

A Report Submitted to the Faculty of Engineering, University of the Witwatersrand, Johannesburg, towards the Degree of Master of Engineering.

Pretoria
May 1982

ABSTRACT

The Driessen Report, which initiated Central Government involvement in Urban Transport in South Africa, was published in 1974. Legislation to enable the implementation of Government policy, embodied in the White Paper on the Driessen Report, was passed in 1977.

This report looks at the Urban Transport Situation in 1982. The view is expressed that the South African situation dictates that, despite earlier predictions of official policy the Central Government role should be restrained to one of co-ordinating endeavours on the basis of a national system of monitoring and review, research and demonstration.

Enabling legislation should be enacted to assist transportation infrastructure to be provided and financed on a metropolitan basis, as is presently the case with water supply and sewerage reticulation, directly from the authorities that benefit from this provision themselves.

Comparison with overseas practise, particularly in the United Kingdom and the United States of America, indicates that South Africa should adopt a unique stance applicable to its situation as a developing nation, endowed with a good road system, but afflicted by a shortage of trained manpower and local investment capital.

The effects of the Central Government initiative on urban transport to date, as reflected by the monitoring system introduced, is reported on.

The action anticipated from this dissertation is a clear declaration of current policy from the Central Government authorities and an avoidance of the confusion which has arisen since original expectations were raised with the publication of the White Paper in 1977.

DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted towards the degree of Master of Engineering in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

PETER JUDD COPLEY

28th day of February, 1982

DEDICATION

In appreciation of my wife, Barbara Mary Drower Copley.

PREFACE

In July 1978, the author commenced work in the newly created Urban Transport Branch of the Department of Transport. The then recent promulgation of the Urban Transport Act (Act 78 of 1977) had engendered considerable enthusiasm and optimism for the future of urban transport.

Today, five years since the Act was passed, where does urban transport stand in South Africa? What has been achieved? What have we learned? Where are we going from here?

These questions, and many others, gave rise to a need to objectively reflect on what has been the effect of central government involvement in the urban transport scene in South Africa and to assess this contribution.

While the author acknowledges the time granted for study by the Director-General: Transport and the National Transport Commission, it must be stressed that the views expressed are the author's own and do not necessarily reflect either Commission or Departmental policy.

The assimilation and presentation of data is the work of the author himself, but thanks are extended to all of the officials, consultants, planners, researchers and others who compile this data, either to meet the requirements of the Department of Transport, or for local transportation Planning needs. The scources of all data are acknowledged in the references concluding the report.

pp [illegible] [illegible].

LIST OF ABBREVIATIONS

Act	-	Urban Transport Act (No. 78 of 1977)
CBD	-	Central Business District
CMTF	-	Consolidated Metropolitan Transport Fund
DOT	-	Department of Transport (South African)
GDP	-	Gross Domestic Product
GNP	-	Gross National Product
MTAB	-	Metropolitan Transport Advisory Board
NITRR	-	National Institute for Transport and Road Research
NTC	-	National Transport Commission
UTF	-	Urban Transport Fund
JOMET	-	Johannesburg Metropolitan Transport Area
PEMET	-	Port Elizabeth Metropolitan Transport Area
PRETET	-	Pretoria Metropolitan Transport Area

CONTENTS

		PAGE
PREFACE		V
LIST OF ABBREVIATIONS		VII
LIST OF TABLES		IX
LIST OF FIGURES		X
CHAPTER		
1.	INTRODUCTION	
1.1	Statement and Analysis of the Urban Transport Problem	1
1.2	Scope and Objectives of the Study	7
1.3	Method of Investigation	12
1.4	International Experience	15
2.	SOUTH AFRICAN BACKGROUND	
2.1	The Driessen Report	39
2.2	The White Paper	58
2.3	The Urban Transport Act	74
3.	AREAS OF NON-MEASURABLE EFFECT	
3.1	Research, Education and Training	77
3.2	Planning	83
3.3	Public Involvement	89
3.4	The Political Process	92
4.	AREAS OF MEASURABLE EFFECT	
4.1	The Use of Urban Transport Facilities	97
4.2	Investment in Urban Transport Infrastructure	133
4.3	Assessment of Priorities	142
4.4	Land-usage	154
5.	CURRENT INTER-GOVERNMENT RELATIONS	162
6.	CONCLUSIONS	169
LIST OF REFERENCES		

LIST OF TABLES

1.1 Johannesburg City: Light Vehicle Registration by Ownership Category

4.1 Vehicle Registration : Port Elizabeth Metropolitan Transport Area

4.2 Person-kilometres of travel PEMET AREA : Percentage contributions of modes : 1970-2000

4.3 Vehicle Registration : Metropolitan Transport Area

LIST OF FIGURES

1.1	The Seven Aspects of the Urban Transport Problem
1.2	Total light vehicle licences : Johannesburg City
1.3	Black vehicle licences : Johannesburg City
1.4	Transport Plan Preparation and Approval Procedure
2.1	Proposed Administrative Machinery for Implementing the Recommendations of the Driessen Report
4.1 to 4.6	Bar chart summaries of major route vehicle kilometres of travel : PEMLT 1974 to 1980
4.7	Person-kilometres of travel by mode : PEMLT 1980
4.8 to 4.9	Highway cordon counts : PEMLT 1974 to 1980
4.10	Air travel on an average weekday : PEMLT 1977 to 1980
4.11	Registered Taxis : PEMLT 1977 to 1980

THE EFFECTS OF CENTRAL GOVERNMENT PARTICIPATION IN URBAN TRANSPORTATION IN THE REPUBLIC OF SOUTH AFRICA

CHAPTER 1 : INTRODUCTION

1.1 Statement and Analysis of the Urban Transport Problem

The international urban transport problem is well defined by J M Thomson in his book "Great Cities and their Traffic", published by Victor Gollanz Ltd, London in 1977.

He considers the symptons of the problem as comprising seven facets, viewed as the sides of a septagon, and with each influenced by the other, as represented in Figure 1.1:

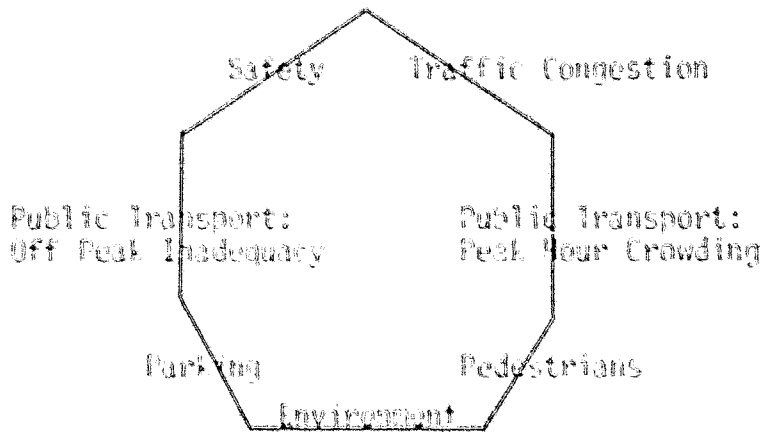


FIGURE 1.1 : THE SEVEN ASPECTS OF THE URBAN TRANSPORT PROBLEM

South Africa is part of the rapidly developing Third World, with consequent high rates of urbanisation, which further aggravates the situation. The author's view is that this phenomenon manifests itself within the seven described symptons. Consequently, while it is accepted that rapid urbanisation, with resultant growth and aspirations, worsens the problem, it will not be considered separately from the more universal causes of the urban transport problem.

Subsequent to the Second World War, the increased aspirations and expectation of reward of the survivors led to unprecedented growth in the ownership and use of the private motor car. The situation

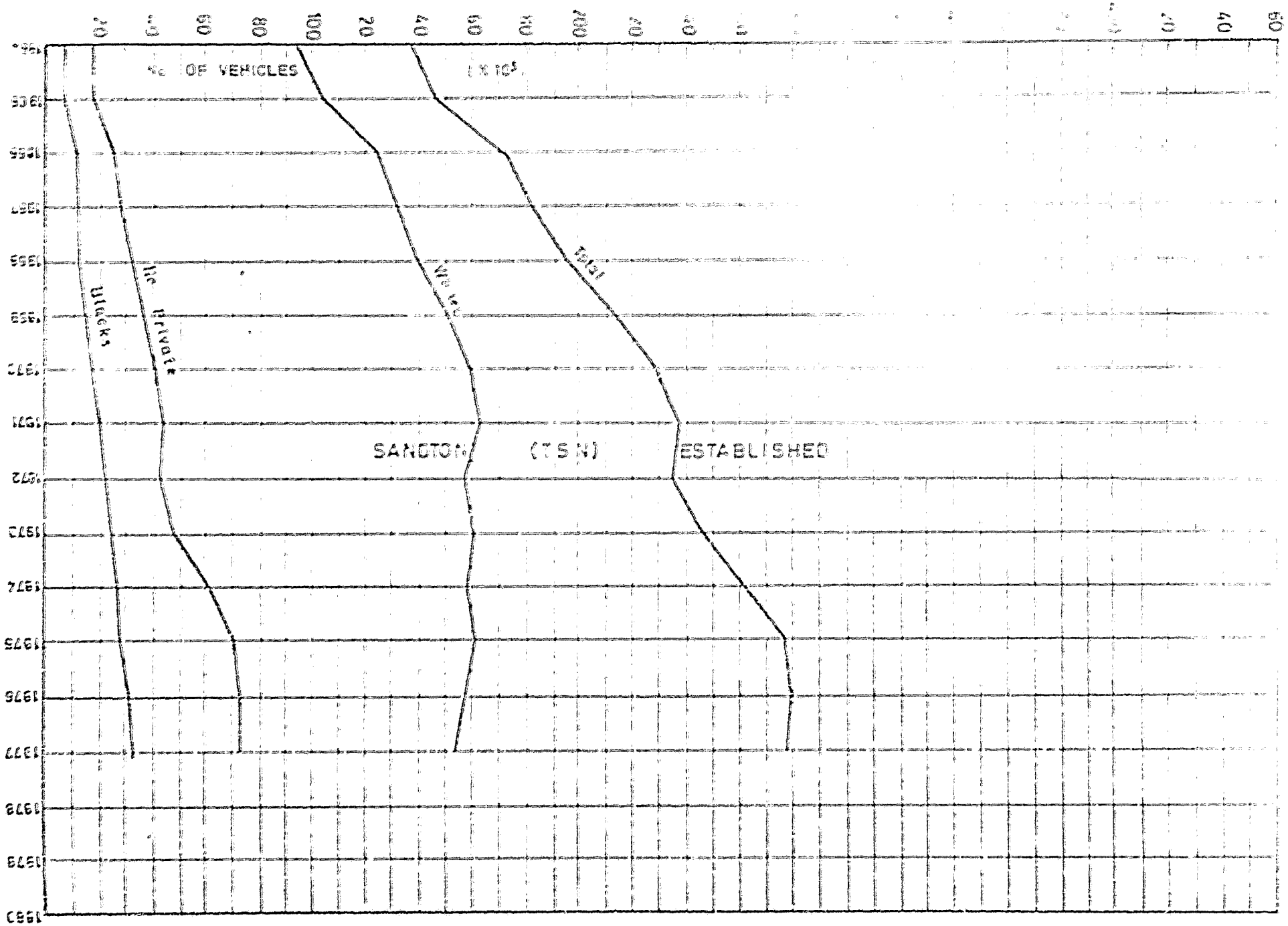
in the Johannesburg Metropolitan Transport Area is described below and is typical of any of the world's major cities. At the end of 1977 some 602 000 registrations of all types were recorded of which around 462 000 were light vehicles and 574 000 light vehicles plus buses and commercial vehicles. The known Public Authority registrations increased in grand total to some 613 000 registrations for the whole Jomet Area.

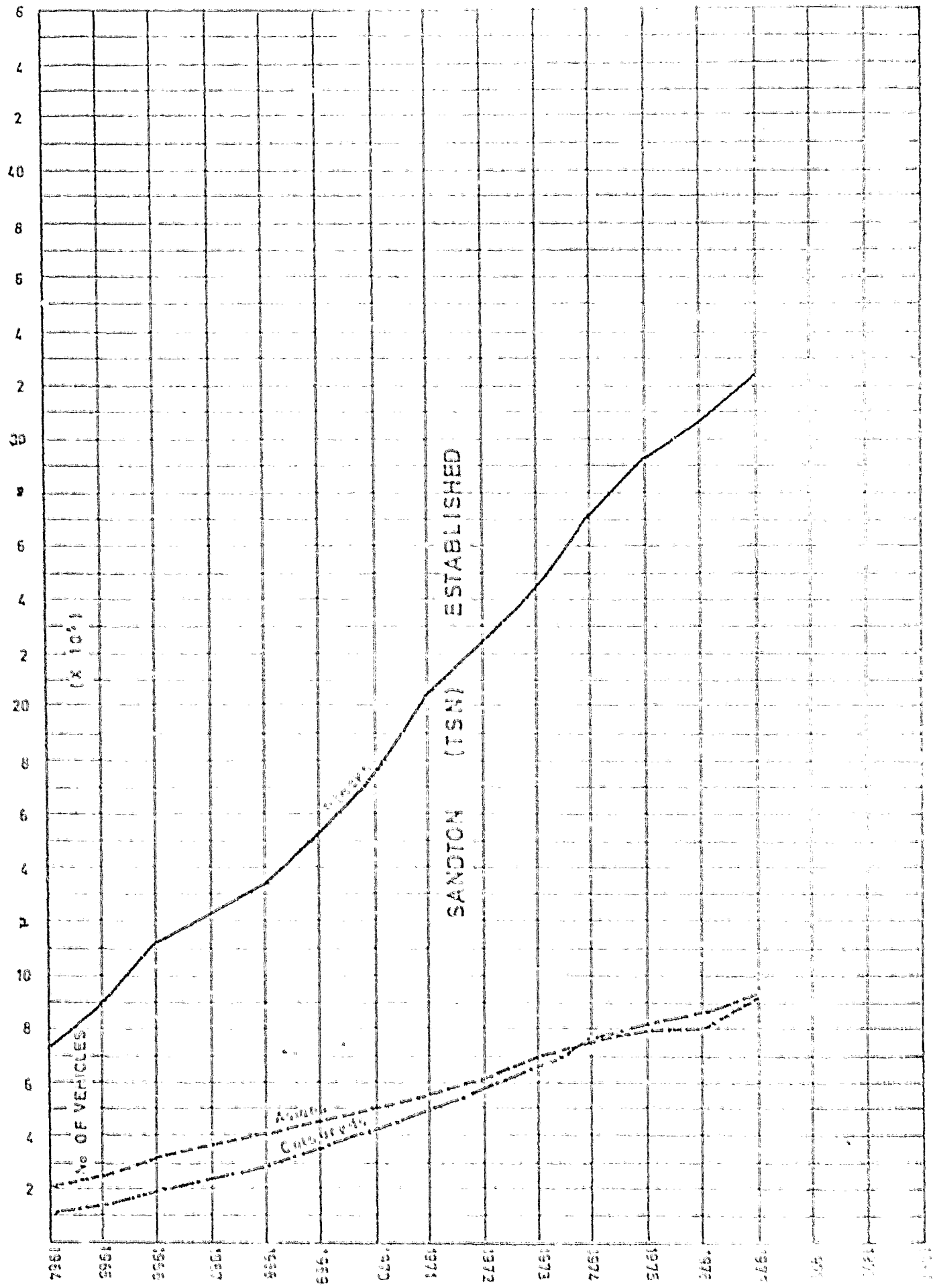
The percentage breakdown between the municipalities reveals that Johannesburg registrations account for about 60 of the total. Of the remaining 40 , Germiston accounts for 11,5 , Roodepoort, Sandton and Randburg between 5 and 10 each and the municipalities of Alberton, Edenvale, Bedfordview and Elsburg less than 5 each.

From historical data obtained from the Department of Statistics, light vehicle registrations in the Jomet Area have increased from some 383 000 at the end of 1973 to around 462 000 at the end of 1977. This represents an average simple growth rate of close to 5 p.a. over the four year period although the growth rate recently has indicated a decline.

Considerably more detailed information is available for Johannesburg city registrations than is available for total Jomet registrations and the following paragraphs examine the ownership categories and rate of growth of city registrations.

As far as light vehicle registrations are concerned, Table 1.1 below illustrates the percentage ownership by category for the ends of 1964, 1970 and 1977. This Table should be read in conjunction with Figures 1.2 and 1.3 which show both the ownership category and rate of growth graphically.


% OF VEHICLES
(X 10³)
SANCTON (TSN) ESTABLISHED
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980



BLACK VEHICLE LICENCES

FIG. 1.3 : LIGHT VEHICLES : JOHANNESBURG CITY

TABLE 1.1 : JOHANNESBURG CITY LIGHT VEHICLE REGISTRATION BY OWNERSHIP CATEGORY

YEAR END	PERCENTAGE BY OWNERSHIP CATEGORY						
	WHITE	BLACK	ASIAN	COLOURED	NON-PRIVATE	UNKNOWN	TOTAL
1964	69	5	2	1	13	10	100
1970	69	8	2	2	18	1	100
1977	56	12	3	3	27	0	100

Between 1964 and 1970, the percentage ownership of light vehicles remained at around 69 for White while the ownership of Non-Whites and Non-Private increased slowly. The period between 1970 and 1977 has seen a startling change in ownership categories with Whites reducing significantly while Non-Whites and Non-Private increased significantly.

Prior to this period of growth, which has continued relatively unabated but for short periods of economic recession, the transport infrastructure of large cities had essentially evolved for pedestrians or for animal drawn private modes of transport, or for corridors of high density dwellings served by public transport. Cities were thus compact and of high density, both in their non-residential and residential areas.

It is interesting to note that the desire for liebensraum, or for space around one's self, is practically universal in the human being with middle class values. This desire is no doubt inherited from our ancestral need for territorial rights. The technology which created the motor car in turn led to unprecedented middle class wealth which, together with sophisticated building society movements in most of the western world, permitted middle class man to move to low density living in the suburbs.

later in this report it will be shown that the use of public transport is influenced by :

- the size and density of the area of attraction,
- the residential density of the corridor served,
- the proximity of the residential area to the attraction,
- the quality of service.

An added influence in respect of South Africa's Blacks are the effects of political decisions such as the Group Areas Act, although natural demand remains predominantly influenced by the factors mentioned. The flight to the suburbs resulted in decreased white residential densities, lowered proximity to downtowns, with a consequent decrease in the use of public transport, and with inevitable public transport losses. The problem was compounded in that decision makers, anxious to offer skilled workers competitive job conditions, were compelled to shift the work place to the suburbs in order to provide parking for the commonly accepted private home to work trip.

This decentralisation led in turn to a weakening of the economic heart of the city, the CBD, which, together with increasingly effective electronic communication offered by new technology, lowered the attractiveness of the central area. There was no longer any essential need for business to be there.

One may ask, why not permit this trend to continue? The economic system was coping; in fact growth continued almost unimpaired. One of the wealthiest cities in the world, Los Angeles, had developed into a totally private car oriented city.

The initial signs that all was not well with such a system came, as should be, from the population itself. The urban sprawl resulting from planning for the motor car led to an increasing need for four-, six-, twelve- and even thirty-two lane freeways. Facilities of such enormous proportions cut broad swathes across the landscape, reducing residential areas to unattractive expanses of concrete and asphalt.

The noise and airpollution arising from thousands of private vehicles noticeably disturbed the urban fabric. Parking problems became increasingly expensive to solve.

And those who did not have vehicles were compelled to live in increasingly derelict downtowns and face the conflict with motorists who still chose to do their business in these areas. This of course particularly applied to persons captive to place of employment

and residence through political decisions and non-representation, as in the case of Blacks.

The safety of the motor car user had been catered for by the provision of ever more advanced control systems, highways and vehicles, while the personal safety of the pedestrian and transit user had been forgotten.

In the environmentally concious 'sixties', the groundswell of public opinion began to highlight the predicament in which a private motor car oriented society had landed us. A public gets both the politicians, and the planners, it deserves. Little was done to alter the system - a change to a transport planning process here, a pedestrian mall there - until the urban renewal programmes commenced in earnest in the late 1960's.

Infallible human hindsight recognised where we had gone wrong. An easily made comparison between the older cities of London, Paris, Rome, Berlin, and the new of Los Angeles, Houston, Sydney, Johannesburg identified that the older, more dense cities remained very attractive places in which to live. Even more to the point, they could balance their budgets, due primarily to the still high commercial values of their CBD's, on which worthwhile rates or land taxes could be levied, and their low cost transport systems, amortised in some cases many years previously and still attracting riders.

It became increasingly apparent that the new cities could follow one of two extremes:

- continue to develop around the private motor car, into a Los Angeles type sprawl;
- redirect their planning into downtown renewal and increased densities.

Both systems would work - the final choice depended on popular opinion. However, either alternative would be expensive.

To continue providing freeways with construction costs escalating at 25% per annum frightened the most leverage minded City Treasurer;

while effective public transit - ideally underground - thought nothing of capital investments of R20 000 per metre, and more.

Los Angeles' continued to opt for the spread out alternative; Toronto, amongst others, for condensing.

The political solution to the problems of finance lay in pointing out to the higher tiers of government that the economic wealth of the country was generated in the urban complexes. Their demise would be the country's demise. Increased urbanisation, coupled with philosophies of "the great society", made it easy to appropriate increasing portions of the national wealth into the cities transport infrastructures. Whole new departments were created to assist in this appropriation.

Then, in 1973, the World saw the first large scale and long term disruption to its continued growth in prosperity - the OPEC countries' decision to increase the price of crude oil. It is not for this paper to say that such an increase was to come in line with inflationary trends, or was a pistol held to the head of the developed nations for a more equal distribution of international wealth - suffice to say that it happened. The transportation investment had suddenly become real. From accounting in its total sense for some 5 - 7% of a country's GDP prior to 1973, it leaped to approximately 12% in 1975, 18% in 1979, and was set to reach 20% in 1980. This represents the <u>total</u> investment of a country in its transport systems, all aspects considered.

The transport problem, so admirably defined by Thomson had become real to the whole of society, not just to those with an interest in the various facets of it.

1.2 Scope and Objectives of the Study

Prior to 1973, the 'White' cities of South Africa did not have an urban transport problem. The increasing suburbanisation and use of the private motor car led to short term congestion, easily solved by traffic engineering developments and innovations, or the addition of a freeway or two to the network. A sympathetic Province (the Cape) invested licencing fees - or their equivalent - back into the roads of the municipalities from which they were collected, while the other Provinces utilised these moneys to swell their own coffers for the provision of hospitals and other essential services.

These easy solutions were not necessarily the situation with Black commuter transport from arbitrarily determined Group Area Townships to White dominated places of employment. Black public transport has always given rise to user criticism. This could be easily hidden under the carpet due to a lack of adequate political representation. While occasional bus boycotts and even transportation inspired social unrest was experienced, it was not considered as being of sufficient importance by the authorities to warrant addressing, other than paying subsidies on the fares of those passengers travelling further than ten kilometres.

The due process of development was not ruffled by considerations of transport. A few individuals had been bitten by the bug of that aspect of the problem which interested them, be it the environment, the lack of parking, safety, congestion or - in a hypothetical fashion - the convenience of the pedestrian. In the late 1960's, certain well read City Treasurers pointed to the World trend in drawing on the Exchequer to assist in urban transport financial provision and assistance. This, in a rather gentlemenly manner, led to the appointment by the Minister of Finance of a Committee of Inquiry into Urban Transport Facilities in the Republic, under the chairmanship of the then Secretary for Transport, Mr J Driessen.

The events of 1973 jolted South Africa as much as they did the rest of the world.

Despite an earlier rejection by the Driessen Committee, of a proposal

put forward by the South African Institute of Civil Engineers to raise the tax on fuel by 1,1cent per litre to finance urban infra= structural development, on the grounds that it would irreparably damage the economy, the need for a firm statement of Central Govern= ment policy on urban transport took on a new and urgent meaning.

The Driessen Report was published towards the end of 1974. It is discussed fully in Chapter Two and will not be elaborated upon here. Its publication was followed rapidly by the acceptance by Cabinet of a White Paper in 1975, and by the promulgation of the Urban Transport Act (No. 78 of 1977) soon thereafter. Both of these are more fully addressed in Chapter Two. The average passage of a Bill and Act through Parliament is five years. [3] We can see the urgency accorded urban transport at that time.

Whether fortunately or unfortunately, 1975 saw the continued cold political chills of the winds of change sweeping down from the North, with South Africa's military intervention into Angola; and 1976 saw what are now commonly referred to as the "Soweto Riots", which in fact were far more extensive.

The Government's priorities became defence and black housing, while urban transport took a lower profile. Nevertheless most of the provisions of the Urban Transport Act were implemented. Three new members were appointed to the National Transport Commission (NTC) (Messrs J C van Zyl, representing the Urban Areas, Mr J de Waal, representing the South African Railways, and Mr E F Niksch, representing the Department of Transport) and the Urban Transport Branch was created within the Department to assist the commission in the execution of its new functions.

An Urban Transport Fund (UTF) was established. Metropolitan Trans= port Areas were declared in and around Johannesburg (JOMET), Pretoria (PRETMET), Durban, Cape Town and Port Elizabeth (PEMET) with these five cities being declared "core cities". Consolidated Metropolitan Transrpot Funds were established in these areas, as were Metropolitan Transport Advisory Boards who were to advise the Administrator on urban trans= port matters.

A new Branch, responsible for transportation research, was established in the then National Institute for Road Research, resulting in a name change to the "National Institute for Transport and Road Research". The first NIC sponsorships in Transportation Engineering and Economics were established at the Universities of Pretoria, Stellenbosch (Engineering) and South Africa (Economics). The first students were awarded bursaries to commence post-graduate study. Co-ordinated transport planning commenced in accordance with the Act, undertaken by the core cities assisted by technical liaison committees representative of all, initially White, local authorities. Few then realised that the seeds for possible metropolitan government were being sown.

The acceptance by Government of the White Paper on the Driessen report and the consequent promulgation of the Urban Transport Act, led to high expectations in many quarters that the urban transport problems experienced in South Africa were finally being objectively addressed. From 1977, when the Urban Transport Fund first received an appropriation from Parliament, interest and effort continually increased. Five interim transport plans were approved and studies were launched in a further six areas towards the preparation of short term plans, while work was well advanced towards long term plans for the five declared metropolitan transport areas. The five interim plans mentioned revealed an annual financial demand on the Urban Transport Fund of some R72,0 million in 1981/82 at the rates laid down in the Driessen Report.

However the growth in Parliamentary appropriation did not come near to meeting this demand. Despite several sources of revenue being proposed by Driessen, which are discussed in Chapter 2, funding remained restricted to an annual parliamentary appropriation.

Historic allocations were:

1976/77	R 0,2 million
1977/78	R 0,8 million
1978/79	R 2,8 million
1979/80	R 5,0 million
1980/81	R18,0 million
1981/82	R20,0 million

The Minister for Finance has stated that he will not increase this appropriation further before the acceptance by the Government of the recommendations of the Franszen Report, expected to be in some eighteen months time. In essence the Franszen proposals are that all national passenger transport funds (i.e. the National Road Fund, the Urban Transport Fund, the moneys for subsidy clip card payments to black bus services in the country and the railway urban passenger losses) be thrown into a single National Transport Fund, involving some R600 million per annum and distributed by the Minister of Transport. The Minister of Finance presently handles this distribution. The Provincial transport moneys will, significantly, continue to be allocated by Treasury according to the Du Plessis formula. The proposed National Transport Fund will be funded from a tax on fuel sales, augmented by Parliamentary appropriations and possibly, revenues from toll facilities and payroll taxes for the urban areas. This proposal will undoubtedly be in line with Central Government policy of user charging, with the rationalisation of the Department of Transport, and will make available large financial resources to assist in meeting the indicated long term urban transport demand.

These are indications for the future.

However we must look critically at the events which have occured since 1977, when the Urban Transport Act was passed, and at the present political climate, as well as historic trends, to determine what should be central government's role in urban transport.

What have past experiences shown us?

Has there been measurable shift in emphasis away from planning for the motor car, to the dictates of modern transport economy?

Whatever transport planning direction that we are now following, has it been the results of central government action? Or would it have occurred in any event given the developments which have occured?

What measures have been implemented and what has been their effect?

How successful has been the introduction of a uniform monitoring system?

Is this data used to objectively evaluate problems prior to decision making?

What are the roles of the three tiers of government in urban transport?

What should they be for efficiency?

The aim of this dissertation is to try and answer these questions for South Africa, in the light of local experience over the past five years.

1.3 Method of Investigation

A study of this nature runs the risk of being accused of being subjective. It is true that some areas of comparison, for example a comparison of methods of bringing about public involvement, can only be subjective.

Such areas can only be compared, before and after the passing of the Urban Transport Act, by personal assessment of procedures. In such cases the author will report on documented cases, [illegible] knowledge, and will [illegible] to his perspective.

There are however other areas which can be reported on objectively. In its document 'Guidelines and Requirements for the Preparation of an Urban Transport Plan,' the Department of Transport identified what it considered were the constituent parts of an urban transport plan and, in the same document, listed its requirements for annual statistical returns from the various metropolitan transport areas. In its approval of this document the NTC effectively gave it the weight of being regulative to the Urban Transport Act.

A great deal of discussion has since centred about the statistical requirements in this document, and on the suggested contents of an urban transport plan.

In one form or another both plans and statistics have been submitted annually by the five major areas. The plans, which in some cases actually embrace the annual statistics as a statement of existing conditions, have been prepared by the Technical Liaison Committees of the areas, which committees are representative of the city/town engineers of the constituent local authorities. They have then been approved by the Core City Councils, by the Metropolitan Transport Advisory Boards, by the respective Provincial Administrations, and finally by the National Transport Commission and the Minister of Transport Affairs. This preparation and approval procedure is given in Figure 1.4.

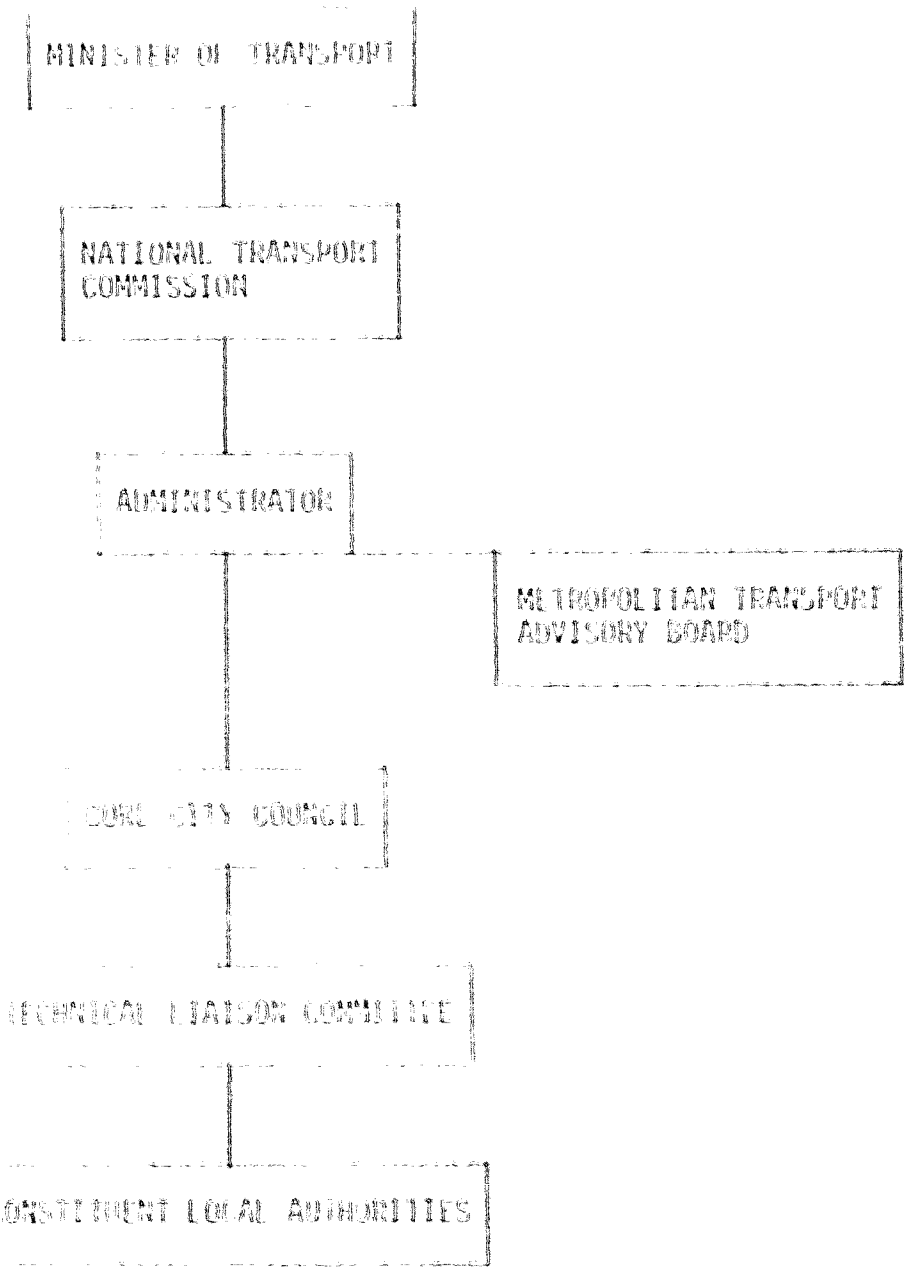


Fig. 1.4 : Transport Plan Preparation and Approval Procedure

Many criticisms have been lodged at this lengthy process of approval. While some of the criticism may be valid, and this aspect will be considered in more detail later, the process does at least ensure that an approved plan is representative of local and provincial council, and ministerial/parliamentary opinion by the time it is implemented. It is therefore, theoretically at least, an expression of the will of the people.

Analysis of the approved plans and the supplementary annual transport statistics will therefore show if any measurable changes in the use of

urban transport facilities, investment in urban [illegible], assessment of priorities or land use has occurred.

If such changes have taken place within [illegible] areas it is difficult to identify whether these are [illegible] attributable to central government involvement. However [illegible] are evident in the whole metropolitan area these [illegible] to the effects of the Urban Transport Act.

This dissertation thus passes subjective, but [illegible] of changes in urban transport

- research, education and training;
- planning;
- public involvement;
- political processes;

and then looks at

- the use of urban transport facilities;
- investment in urban transport infrastructure;
- assessment of priorities;
- land use

by analyses of urban transport plans and annual statistics, and, by comparison of these findings with time, attempts to determine the effect, if any, of central government involvement in the urban areas.

A comparison is also made with international experience in these areas.

1.4 International Experience

1.4.1 Introduction

Increasingly central governments have become involved in metropolitan transport provision throughout the world. This was primarily due to similar local government financial- and national political pressures as those experienced in South Africa. In fact, the path of Driessen Committee/White Paper/Urban Transport Act traced in the previous section was only a South African sequel to events which had been occurring over the past decade in other parts of the world.

1.4.2 United Kingdom

In the United Kingdom all local transport matters are the responsibility of local government. Central government however retains an interest in both broad transport policy and in overall resource planning - how much money is spent, by whom, on what. [1]

The UK's 1977 White Paper on Transport Policy for example made it clear that central government was throwing its financial weight behind the maintenance of local bus services and placing less emphasis than hitherto on the construction of new roads. While holding to the policy of local choice in local transport matters, central government expects each of the 46 counties in England to submit a reasoned annual statement of its local transport policies and proposed implementation programme. This 'Transport Policies and Programme' (TPP) document has two functions - it advises central government of each county's local transport problems and proposals and, in effect, it seeks approval to spend a certain amount of money on local transport.

Part of the Department of Transport function in processing TPP's is to advise the Secretary of State on a suitable level of local transport expenditure for each county. Associated with this financial appraisal, the Department attempts to assess how well each county's proposals appear to meet their transport problems, within the framework of national policy laid down by central government.

Officers from the Department meet with county council officers throughout the year advising on planning procedures, government policies and providing

a measure of cross-fertilisation of ideas between counties. It is significant that the Department may try to persuade a county that its local transport policy or plan is capable of improvement, but it will not go beyond persuasion, having no powers to insist in any local transport matter.

In parallel with the UK's policy of local responsibility in transport matters, all local transport expenditure in England is met from local government funds. There are however two significant central government financial contributions to local areas through the 'rate support grant' (RSG) and the 'transport supplementary grant' (TSG).

The RSG is distributed through the Department of the Environment to local authorities in accordance with a formula based on past expenditure and is determined annually in negotiations between central and local government. It generally provides slightly more than 50 of local authorities financial resources.

Inevitable fluctuations in transport expenditure (e.g. the high spending at certain stages of road construction) mean that it is not entirely suitable for assistance based on the RSG formula. TSG is therefore paid on local transport expenditure above a level which can be thought of as 'regular' and suitable for financing from the rates and RSG. In 1979/80 the TSG grant amounted to 29 of that local transport expenditure accepted as being eligible for TSG assistance.

The combined effect of these two grants (ie RSG and TSG) amount to providing 61 of local authorities financial resources. While it has been indicated that central government attempts to direct local authorities planning endeavours by 'persuasion', a broad control is in fact retained through the PPP process. This control is reinforced in that the sum of local requirements can not exceed central government's decisions on all elements of national overall expenditure, of which transport is a single one, in a given year.

Central government exercises a further control over local transport expenditure through its required approval for borrowing money for capital projects. For capital projects in excess of £½m (sterling) Department

of Transport approval is also required, thus exercising a degree of control over the balance between capital and current expenditure and between small and large capital projects - but still not specific to individual projects.

Local transport plans are set in context within the framework of a County Structure Plan (SP), which is a statutory document. In contrast the TPP is not a statutory document : it is submitted primarily to enable the Secretary of State to decide the allocation of TSG.

A new introduction in the planning process in the UK, since 1978, is the public transport plan (ptp) which, while being a statutory document, is lower in the hierarchy than the SP or TPP. It looks in detail at just the public transport content of the TPP and, importantly, details the extent of the financial arrangements agreed with the public transport operators.

In recent years the bus industry has been operating with worsening overall deficits. Nearly all operators therefore seek financial support ('public transport revenue support') from the county council within whose boundaries they operate. County councils can not be compelled to give financial support to bus operators - and some give very little - but they can include the cost of such support in their TPP bid for TSG.

In order to attain the above sequence of approval the Department of Transport offers advice on a suitable planning approach for developing a TPP. This is summarised below:[1]

Recommended Transportation Planning Process for Each Separate Section (Usually Geographical) Within the TPP:

a. Assessment of (financial) resources thought likely to be available.

b. Identification of present and future transport problems - specifically rather than generalities.

c. Selection of indicators (ie the units in which the problem is to be quantified) and specifying of objectives (ie by what measurable amount the problem is hopefully to be alleviated).

d. Development and assessment of alternative solutions, leading to

e. Choice of preferred scheme options.

f. Combination of preferred options into a balanced implementation package for 5 years.

g. Monitoring of results after project completed (in terms of the measured improvements of the problem condition).

The experience of the UK in urban transportation planning and in central government involvement in urban transportation has undoubtedly influenced South African authorities. This is to be expected in view of the two countries' traditional links and similar governmental structures. The significant differences between the UK's and South African approaches lie in the areas of philosophy (socialistic vs segregated capitalistic) and geography (small and dens vs large and spread out). The detailed investigation into South Africa's experience in later sections will highlight these differences. Britains' involvement in its local authority areas has been generally successful, perhaps due to the differences between the two countries which are stated above. There have however also been glaring deficiencies in the system, as for example in the years of peak development of the Tyne-and-Wear Underground, where persuasive politics led to 9% of the national RSG and a large amount of the RSG for the area being funnelled into the project - to the detriment during those years of transportation in the rest of the country.

1.4.3 United States of America

As befits the country with the greatest investment in both transport infrastructure and vehicles, considerable literature exists on the transport planning exercise in the USA. Significantly the bulk of this literature comes from a central government viewpoint indicating the Federal interest and concern in investment and distribution levels.

The traditional federal view of metropolitan transportation was that such responsibility belonged to localities.' This approach has now changed. Although concern for the problem had been expressed previously, the Transportation Message of President John F. Kennedy in 1962 placed the problem

in the perspective of a national concern and called for both long-term federal assistance and emergency aid. From the small start made in the Housing Act of 1961 (made prior to the Kennedy message) and carried through the Mass Transportation Act of 1964, as amended, and the Federal Aid Highway Act of 1965, the importance of transportation planning to areawide planning has gradually become a part of the requirement for qualification for federal assistance and support. This legislation has served to strengthen the thrust of metropolitan planning in the direction of greater comprehensiveness. Increasing stress has been placed on the interrelatedness and interdependence of planning for housing, education, public recreation, other civic improvements, and transportation.

But the actual level of federal participation in implementing such plans clearly indicates that the political appeal of modally oriented projects remains dominant. In the first five years of application of the Urban Mass Transportation Act of 1964, for example, the total amount of funds devoted to capital and demonstration grants amounted to slightly over $500 million. This figure was dwarfed by the more than $22 billion made available during the same period for highways and aviation.

Nor is it clear that federal planning for urban transportation has been more than stop-gap in nature. For the most part, funds allocated have been parceled out primarily to bail out existing systems. Since 1964, approximately 69 per cent of the federal funds allocated were used for this purpose. In contrast, limited money has been made available to explore innovative approaches and new modes of transportation. It is not contended that the assistance rendered has been misguided. But this course of action leaves unanswered the serious question of how future needs - growing so rapidly in size and complexity - will be planned for and, beyond that, financed.

Federal planning has not ignored the possibilities of research and development in considering the future needs for urban mass transportation. Perhaps the most important indication of this fact was the passage of the High Speed Ground Transportation Act of 1965 as amended. But its primary aim is to deal with some of the long-range problems of future

in the perspective of a national concern and called for both long-term federal assistance and emergency aid. From the small start made in the Housing Act of 1961 (made prior to the Kennedy message) and carried through the Mass Transportation Act of 1964, as amended, and the Federal Aid Highway Act of 1965, the importance of transportation planning to areawide planning has gradually become a part of the requirement for qualification for federal assistance and support. This legislation has served to strengthen the thrust of metropolitan planning in the direction of greater comprehensiveness. Increasing stress has been placed on the interrelatedness and interdependence of planning for housing, education, public recreation, other civic improvements, and transportation.

but the actual level of federal participation in implementing such plans clearly indicates that the political appeal of modally oriented projects remains dominant. In the first five years of application of the Urban Mass Transportation Act of 1964, for example, the total amount of funds devoted to capital and demonstration grants amounted to slightly over $500 million. This figure was dwarfed by the more than $22 billion made available during the same period for highways and aviation.

Nor is it clear that federal planning for urban transportation has been more than stopgap in nature. For the most part, funds allocated have been parceled out primarily to bail out existing systems. Since 1964, approximately 80 per cent of the federal funds allocated were used for this purpose. In contrast, limited money has been made available to explore innovative approaches and new modes of transportation. It is not contended that the assistance rendered has been misguided. But this course of action leaves unanswered the serious question of how future needs - growing so rapidly in size and complexity - will be planned for and, beyond that, financed.

Federal planning has not ignored the possibilities of research and development in considering the future needs for urban mass transportation. Perhaps the most important indication of this fact was the passage of the High Speed Ground Transportation Act of 1965 as amended. But its primary aim is to deal with some of the long-range problems of future

intercity transportation. Whether the technological progress achieved could be applied directly to intraurban transportation is still open to serious question.

Thus far, federal assistance to future-oriented systems of urban transportation reflects a cautious, conservative bent. The Northeast Corridor Project though it is now providing regular services, is testing the Metroliner and Turbo train to determine how effectively conventional rail service might be modified to meet the needs of high-density intercity passenger travel; experiments are being conducted on the possibilities of various configurations of technologically advanced systems such as track-levitated vehicles, monorails, tube vehicle systems, multi-modal systems, pallet and ferry systems, and the like; the needs for innovative, new modes of transportation are being explored.[2]

Over and above these emphases within the transportation policy framework, the crucial question affecting the future of urban mass transportation turns on the matter of financing. Up to this point the dominant tone pervading federal efforts to plan new approaches to transportation has had the ring of "soft money." There has been limited inclination throughout the short experience of this facet of federal planning to provide the bulk of the financing necessary to revitalize or create urban mass transportation systems on a national basis.

Attitudes may be reshaping. As noted earlier, the record of performance could change if several federal proposals, or some version of them, is in fact funded. Furthermore, Congress showed its favorable disposition toward the development of the long-proposed Washington, D.C., subway by passing legislation authorizing over $1 billion in federal funds for its construction. (In contrast, the UMTA 701 had budgeted $43.2 million for it in 1970).[3] Of course, it is significant that this legislation was the product of congressional committees on the District of Columbia, not of the Commerce or Public Works Committees - the legislators who influence fundamental transportation spending on a national scale. Whether the needs of metropolitan areas that do not personally affect all of the Congress will receive such generous consideration is another matter.

Transportation planning provides a master key for opening new approaches to urban development. It can contribute significantly to making possible the attainment of objectives that extend well beyond provision of efficient transportation services. As noted, future national and regional configurations of population, employment, housing, industrial development, recreational facilities, and educational complexes can be heavily influenced through transportation planning.

Yet the policy of planning comprehensively in advance of growth has only been practiced sporadically. Past federal transportation planning has been characterized more by reaction than action. Federal transportation investment has awaited, rather than anticipated, the generation of transportation demand. Lacking have been strategies that would project alternate national goals and design transport programs to achieve them.

Future intensification of urban growth can be predicted with near certainty. The specific form and composition of this enormous expansion, however, are much more uncertain. Such will be heavily influenced by the quality of transportation services developed and the manner in which transportation planning is utilized. But if planning is to be used as a tool for effectively shaping the future mobility and structure of society, federal transportation policy must be reoriented. Specifically, its focus and principal concern msut be broadened to integrate segmental planning within a national strategy governing total transportation needs.

Thus it is identified that there is an elaborate urban transportation planning process in being, supported by substantial federal grants derived principally from the US Department of Transportation's highway program and, to a lesser (and declining) extent from the section 701 program of the Department of Housing and Urban Development. The Federal-Aid Highway Act of 1962 (section 134) requires each urban area of more than 50 000 population to have a continuing transportation study underway. There are some 230 such studies in various stages of existence,[3] with most of their funding coming from a share of the federal highway funds allocated to the respective states, supplemented by widely-varying

Transportation planning provides a master key for opening new approaches to urban development. It can contribute significantly to making possible the attainment of objectives that extend well beyond provision of efficient transportation services. As noted, future national and regional configurations of population, employment, housing, industrial development, recreational facilities, and educational complexes can be heavily influenced through transportation planning.

Yet the policy of planning comprehensively in advance of growth has only been practiced sporadically. Past federal transportation planning has been characterized more by reaction than action. Federal transportation investment has ratified, rather than anticipated, the generation of transportation demand. Lacking have been strategies that would project alternate national goals and design transport programs to achieve them.

Future intensification of urban growth can be predicted with near certainty. The specific form and composition of this enormous expansion, however, are much more uncertain. Such will be heavily influenced by the quality of transportation services developed and the manner in which transportation planning is utilized. But if planning is to be used as a tool for effectively shaping the future mobility and structure of society, federal transportation policy must be reoriented. Specifically, its focus and principal concern must be broadened to integrate segmental planning within a national strategy governing total transportation needs.

Thus it is identified that there is an elaborate urban transportation planning process in being, supported by substantial federal grants derived principally from the U.S. Department of Transportation's highway program and, to a lesser (and declining) extent from the section 701 program of the Department of Housing and Urban Development. The Federal-Aid Highway Act of 1962 (section 134) requires each urban area of more than 50 000 population to have a continuing transportation study underway. There are some 230 such studies in various stages of existence,[3] with most of their funding coming from a share of the federal highway funds allocated to the respective states, supplemented by widely-varying

state contributions. Indeed, individual Federal-aid highway projects in such areas can be approved only if they "are based on a continuing comprehensive transportation planning process". Related to this highway planning work is a requirement in the Urban Mass Transportation Act of 1964 (section 3) that transit grants can be made to a community only if such grants are needed for carrying out a program "for a unified or officially co-ordinated urban transportation system as a part of the comprehensively planned development of the urban area."[3] To support such general urban planning, HUD has made grant to communities under its 701 program. Finally, Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 provides that applications for Federal grants for highways, airports, and other transportation facilities (among other purposes in major urban areas) must be submitted to a designated areawide agency (usually the Council of Governments or the regional planning agency) for review and comment. Such comments are to deal with "comprehensive planning development or in the process of development for the metropolitan area".[3] The Intergovernmental Co-operation Act of 1968 places similar emphasis on metropolitan co-ordination.

On the face of it - in terms of legislation, formal procedures, and funding - there appears to be a commendable emphasis on planning in major urban areas, seemingly encompassing all aspects of transportation and relating transportation to overall metropolitan planning. However, in practice, urban transportation planning exhibits a number of deficiencies, some of the most serious of which are precisely those experienced in South Africa and discussed later.

American experience is that transportation planning and comprehensive planning have evolved as separate and frequently conflicting fields of professional activity. Current relationships between both types of planning are characterized by increasing frustration and declining effectiveness in the national pursuit of public development policy objectives. At the federal level, ambivalence toward comprehensive planning has hampered the development of planning capacity among state, metropolitan, and local agencies, while unquestioning pursuit of federal-aid highway construction has produced a monolithic transportation planning

[illegible] operation [illegible] and dominated [illegible] mode.[3] The [illegible] of the current separatism characteristic of comprehensive planning and transportation planning are apparent in a pattern of local [illegible] against highway projects, belated analyses of a comprehensive [illegible] environmental and socio-economic factors inherent in highway [illegible], and widespread public demand for a reassessment of the [illegible] of highway systems.

[illegible] American author [illegible] being one of planning for planning's sake rather than planning for implementation. Surely, no competent professional planner would recommended that 1 000 000 people be added to a region without adequate water and sewer services. Nor should 1 000 000 people be added to a region without the necessary accompanying transportation services, as such a process erodes away existing capacities and mortgages the future. Failure to implement transportation plans at the regional scale affects every citizen in the region in terms of congestion and through the redistribution of land development. When weighing the impacts of alternative transportation proposals, agencies should also weigh the impacts of the null alternative or partial plan and the impacts of delays in decision-making.

It is perhaps not so much a problem of deciding not to build the facility or provide a particular service, but that indecision, the fact that no decision at all has been made, is the real problem. This promotes delay in considering alternatives in the face of growth. These delays have significant impacts.

It's perhaps time to be realistic, and to plan for what can be in an imperfect organizational and institutional system and not what should be.

In a recent article in Washingtonian Magazine, Royce Hanson, Director of the Washington Centre for Metropolitan Studies, presented "the law of unwished-for decisions".[4] Stated simply, the law reads: "In Washington for any proposal to be approved, it must be concurred in by a very large number of citizens, agencies, and groups. That proposal, as it passes

from decision-making to [illegible]
until it disappears entirely" (Brown, 1971). [illegible]
implementation be accomplished in an [illegible]
organizations and institutions. [illegible]
would appear that at least four [illegible]

(1) Superimpose a "Super-Agency" [illegible]
(2) Consolidate units by combining, [illegible]
(3) Delegate program to a [illegible]
governmental agreement [illegible]
program or project, or
(4) Recognize the interest [illegible]
units and, for any particular plan, [illegible]
together into temporary "ad hoc" [illegible]

In 'Future Shock', Toffler (1970) points out the organizational [illegible]
now occurring. He states that "the high rate of innovation [illegible] most dramatically symbolized by the rapid rise in ad hoc executive and project or task force management. Here teams are assembled to solve specific short-term problems. Then, nearly like mobile playgrounds, they are dissembled and the human components reassigned. Sometimes these teams are thrown together to serve only for a few days. Some times they are intended to last a few years. But unlike the functional departments or divisions of a traditional bureaucratic organization, which are presumed to be permanent, the project or task force team is temporary by design. He calls this "the coming ad-hocracy." Existing organizations do not provide the necessary interaction and form to bring together the disparate interests that influence decisions on a problem. The ad hocracy" tion offers great promise in permitting these units to [illegible] Citizen participation can also be achieved through this mechanism. This technique has been used effectively in plan implementation in Washington and examples will be discussed later. Of course, this exactly the same arrangement which has been used in the great majority of comprehensive, cooperative and continuing (3-C) urban transportation planning studies to produce a plan in the first place. It is now necessary to build on that organizational arrangement to include agencies and others outside the planning circle if plans are to be implemented. For example, private transit operators [illegible]

officially part of the 3C process. How, then, can effective implementation proceed? Planning and implementation must become two sides of the same coin - inseparable activities.

Other impediments, besides organizational, to the proper implementation of transportation plans are executional. For example a policy or procedural report prepared by a consultant for the Washington Transit Commission recommended a whole series of necessary and desirable bus revisions in the downtown Washington area. These revisions were not carried out because funding was not available to cover the costs inherent in the proposal (run cutting, re-scheduling, etc.) A minimal staff in both the Commission and in the bus company prevented the execution of these revisions. No program existed to enable these changes to be made.[4] Hopefully, this can be corrected in the near future by UMTA participation in short-range transit planning.

Even though funds may be available for particular programs, the competition for funds prevents actions and makes future implementation difficult. Failure to allocate sufficient funds to acquire rights-of-way in advance of construction is a severe problem and leads to the loss of future facilities. The proposed alignment for the Washington area Outer Beltway was threatened by being unable to acquire rights-of-way in the path of housing development. Also, although the Federal Government does provide funds for fringe parking if adjacent to a federal-aid route, the highway departments are not willing to take advantage of this because the money must be removed from regular construction funds.

Another key [illegible] problem in Washington (and in other cities) is the complete absence of an agency in charge of parking policy in the downtown area. All-day parking rather than short-term parking is encouraged through the rate structure. The Federal Government provides all-day parking for its employees at one-fifth the private rate, even though a stated local and federal policy is to encourage the use of public transportation. New parking facilities are constantly added, with zoning requiring one space for every three workers in the same area where the METRO rail transit system is under construction. These obvious inconsistencies should be resolved.

To summarize, the transportation planning process must be willing to recognize and assemble a wide variety of agencies and groups to deal with any particular problem. In addition, the restraints of program policy must be lifted be effective communication with local, state and federal agencies. Funding for parkway facilities, expanded funding for many existing programs, and the institution of new federal-aid programs in urban areas must be promoted. Parking and transit policies must be interrelated.[4]

Quoting again from Toffler's Future Shock:[5]

"Not only is it regarded as unnecessary and unwise to make long-range plans for the future of the institution or society, it is sometimes even regarded as poor taste to plan the next hour and a half of a meeting. Planlessness is glorified ... We hear increasing calls for anti-planning or non-planning ... Arguing that planning imposes values on the future, the anti-planners overlook the fact that non-planning does so, too, often with far worse consequence ... When critics charge that technocratic planning is anti-human, in the sense that it neglects social, cultural and psychological values in its head long rush to maximize economic gain, they are usually right. When they charge that it is short sighted and undemocratic, they are usually right. When they charge that it is inept, they are usually right. But when they plunge backward into irrationality, anti-scientific attitudes, a kind of sick nostalgia and the exaltation of now-ness, they are not only wrong, but dangerous ... We need instead, a strong new strategy. We can invent a form of planning more humane, more far-sighted and more democratic than any so far in use."

Citizen reaction to proposed facilities is usually negative. Implementation agencies should be aware that benefits may accrue to one population group and costs to another when they divide facilities into construction segments of short length for programming and construction purposes. It is difficult for residents to understand what benefit they can achieve from the proposed route which is going through their neighborhood. They feel that these benefits will accrue to others, who will use the facility through the area.

This is especially true when the people in question do not have access to automobiles and recommendations for improving their environment are not included in the proposal. Expanded bus service, provision of rental vehicles at reduced rates, closing of streets when the freeway is constructed to reduce traffic in local neighborhoods, are all things that can be done to make the facility more acceptable.

The American Urban Corridor Demonstration Program provides for combining federal programs so that transit, parking, TOPICS and highway construction improvements can be made in any one particular corridor.[4] Continued use and expansion of that concept to provide trade-offs is highly desirable. The use of housing, open space, health care, and other federal funds in the corridor on a combined basis should be encouraged as a means of implementing desirable transportation plans. Such programs can also serve as a catalyst to meaningful citizen participation and needed organizational and institutional change.

To be effective the continuing planning process must concentrate on this kind of short-range corridor planning. This requires the use of many of the techniques currently available for long-range regional planning but orients these techniques to a much finer grain time frame.

In the paper "On Improving the Transportation Planning Process", Kochanowski and Wickstrom (1970) describe corridor planning.[7]

> "Within the framework provided by the regional system, corridor or subarea analysis should be used to study alternative improvement proposals for each mode of travel. At this scale, network assumptions, data requirements, forecasting and modeling become more manageable. Shorter-range projections (let us say 10-15 years) are appropriate. The nature and staging of specific improvements takes on added significance. It is at this scale that our present transportation planning methodology is most applicable. We have spent too much effort in dealing with end-state alternatives, but far too little time testing, evaluating and recommending improvements to the partial transportation systems which exist today and will still exist five, ten (and, yes, even twenty years) from now.
>
> Within these corridors, research efforts also need be directed a better methods of land use control to insure that a reasonable level of service is maintained. All too often, the expenditure of funds for highway facilities to improve the level of service has been

immediately offset by rapid growth in land development producing subsequently higher travel demands than anticipated.

To integrate planning and implementation, it is necessary to change the procedure which develops long-range plans in an attempt to optimize the benefits to be derived in a far-off future year. It will be a far more viable economic solution to attempt to reduce the amount of cost of travel every year, starting immediately. That is, it is not to ask what is the best system in 1990, but what is the best system in 1972, what is then the best system in 1974, and so forth, insuring that each year is accounted for. In this way, the aggregate benefits over time will sum to a maximum.

At the regional scale, this implies not definitive physical plans, but policy plans which can specify the level of service required for different trips and in different directions in different areas. It also would specify the densities of development to be accommodated and the kinds of travel modes to be provided, rather than specific facilities and facility elements. These elements would be determined at the corridor scale in accordance with the timetable set up for corridor implementation. Thus, planning will proceed from a policy plan at the regional scale to precise at the corridor scale.

Planning must also concern itself with the reservation of the rights-of-way for future facilities. These facilities will largely be constructed outside the limits of the present urbanized area.

Here, reasonable forecasts of when areas will be developed are more important than how they are to be developed. What is needed is to identify those areas which are most likely to be subject to development pressures in the near future and to quantify the amount of transportation service required to serve the demands generated. Sound system plans for both highways and public transportation can then be developed and implemented in these areas. It is essential, too, for the planning agency to understand (over time) the consequences of alternative decisions and the scale at which these decisions must be made.

Toffler[6] also points out that: "It would be foolish to oversell the ability of science, as yet to forecast complex events accurately,[1] and that [1]the danger today is not that we will overestimate our ability;

the real danger is that we will under-utilize it. For even when our still-primitive attempts at scientific forecasting turn out to be grossly in error, the very effort helps us to identify key variables in change, it helps clarify goals, and it forces more careful evaluation of policy alternatives. In these ways, if no others, probing the future pays off in the present."

To summarize, the planning process must be brought down from the regional long-range scale to shorter time frames and smaller areas. The regional plan can form a background for such work. At the regional scale, planning agencies should not become advocates for any particular facility, but prepare and promulgate policies specifying the level of service required to achieve desired land development, transportation, social, and environmental goals and objectives. All alternatives, including non-facility alternatives, should be considered. Consideration should, therefore, be given to providing funding for such agencies independently of modal agencies such as highway departments or transit agencies in order to insure that all factors are adequately analyzed and evaluated.[18]

A detailed investigation of impacts, and full use of combined federal and local programs to achieve these goals and objectives, can be accomplished at the corridor scale. At this scale, the planning process must be able to assess and measure the impacts of alternatives and must have mechanisms that can quickly evaluate the effect of proposed transportation facilities on land development, trip generation, trip patterns, modal use and the like, as well as assessing social and environmental impacts.

The null alternative should always be considered and the effects of delays evaluated. The planning agency must also be constantly monitoring and evaluating the results of any projects instituted.

An important role emerges for the review agency in each area. This agency should use its review function to evaluate the impacts of any proposal and to insure compatibility with regional goals, objectives and standards. The review agency should expedite plans by insuring that all questions which can delay implementation are adequately answered, and that all possible alternatives have in fact been considered. Federal funding support, possibly through the Bureau of the Budget, should be

considered in order to provide adequate support for the review function.

Federal Highway Administration Instructional Memorandum 50-4-68 on Operations Plans for "Continuing" Urban Transportation Planning states that "The true effectiveness of the planning process will ultimately be measured by the extent of its contribution to proper selection and design."[4]

With the rapid change in human values and environmental concerns over the past few years, perhaps this statement should be broadened to reflect the fact that "proper project selection and design" is only one measure of an effective planning process, and that the ability of the process to contribute to the reduction of travel demand may, in the long run, be a more satisfactory measure of its performance.

Transportation facilities are not and have never been ends in themselves. Rather, they are a means of serving travel demands generated by the spatial distribution of population and land use activities. Traditionally, land development has generated travel demand which is served by supplying transportation facilities. These facilities in turn influence land development, which generates new travel demands, requiring additional facilities, and so on ...

It is becoming increasingly obvious to decision-makers, and particularly local elected officials, that we can no longer afford to provide an unlimited supply of new transportation facilities to meet growing urban travel demands, and that non-facility alternatives to reduce these travel demands must be considered.

Perhaps ahead of his time, Joseph Barnett (1969), then Deputy Assistant Commissioner for Engineering of the Bureau of Public Roads, in reviewing the 1967 Mass Transportation Study for the Washington Metropolitan Area, stated:

> "It is not unreasonable to face the possibility that not all the highways necessary to serve the future plans can or will be constructed. We therefore, must consider other means of reducing congestion. The other means I have in mind are the several proven efforts in city planning looking toward a reduction in the overall needed travel

measured in vehicle-miles and person-miles, particularly during the peak hour.

If it is realistic to assume that all the capacities necessary for what we now believe to be the future plan can not be developed, then we must look to compromise in the ideal city to reduce the person-miles of travel and the ton-miles of goods.

I urge city planners in the various jurisdictions take serious note of the possibility that their plans may not be possible or practical of attainment because of congestion, and that each planning consultation should do its share to achieve the objective of alleviating congestion by reducing the needed vehicle-miles of travel haulage."

For example, economic policies provide a range of possible options that can influence travel demand. Policies that encourage staggered working hours can spread and reduce peak travel demand. Economic incentives for car pooling and the use of small cars can reduce both transport and terminal facility requirements. And such measures as commuter parking taxes and peak period tolls, while still unpopular in our "free wheeling" society, are nevertheless legitimate options for altering the balance between modes of travel for certain trip purposes which in turn can help to reduce facility requirements.

New concepts in working hour arrangements such as the four day - 40 hour week, and "Flexitime Arrangement" or "gliding working time" (a system which allows workers to choose, with certain limitations, the eight hours they wish to work within a 12- or 13-hour work day) are being tested in other countries. These techniques can reduce peak hour loads on existing transportation facilities and at the least, slow down the need for new transportation facilities.

Also, innovative use of CATV (cable television) holds the promise of revolutionizing communication techniques, which in turn can alter the travel patterns and habits of metropolitan communities.

If the urban transportation planning process is to be responsive to the growing concern over the social and environmental impact of transportation facilities in large urban areas, it is essential that all of these non-facility options be considered.

However, in the long run, the ability of the urban transportation planning process to influence the magnitude and arrangement of land use activities to reduce travel demand may prove to be the most significant and dramatic measure of its effectiveness.

There are many ways to use land development policies and controls to reduce travel demand. One way is to locate development so as to utilize available capacity, rather than dumping new development at locations where transportation facilities are already overloaded. This will tend to equalize supply and demand on a areawide basis.

The transportation planning process must be responsive to the total needs of the local officials who participate in the final political decisions on transportation. If the local official wants not only long-range plans but also short-range studies and demonstrations with early measurable "pay-offs" (as well as a little special assistance or recognition occasionally to improve his relations with his constituents), he should get all of these things if such efforts generate confidence in and commitment to the transportation planning process and help to improve local/regional cooperation and understanding. Special short-range activities are practical exercises aimed directly at current transportation problems and provide a base of regional understanding, experience and cooperation upon which sound long-range transportation plans can be developed and implemented.

Wickstrom and Frost suggest a number of technical and organizational strategies that may contribute to the implementation of plans and programs resulting from the transportation planning process. In making the case for these strategies, a number of fundamental questions have been raised about the traditional activities and relationships that have characterized many urban transportation planning programs in the past. During periods of rapidly changing human values such as are being experienced in urban areas today, it is essential to continually re-examine planning techniques and strategies to make sure that opportunities are not being missed to be more effective to "real world" conditions.

While drawing heavily upon experience in the Washington Metropolitan Area, they believe that many of the technical and organizational strategies

suggested in that area may have application in other urban communities throughout the country.

The following general conclusions can be drawn from their views. They are intended to provoke thoughtful discussions and broaden perspectives and options for improving the effectiveness of the urban transportation planning process.[4]

(1) The failure to construct major transportation facilities in accordance with long-term goals and objectives will have major impacts on the level of transportation service, the distribution of population and employment, the environment, and the social and economic well-being of the metropolitan area. The effectiveness of the planning process can be improved by giving more consideration to these long-range regional consequences and effects of not providing adequate facilities, as well as to the more easily identifiable localized impacts.

(2) The potential for implementation of transportation facilities can be improved if residents of affected areas can see benefits accruing to them, as well as costs. To achieve this objective, the planning process should encourage the application of combined federal transportation programs, as exemplified by the Urban Corridor Demonstration Program, wherever possible. An expansion of this concept to include non-transportation programs into a total improvement package is also desirable.

(3) In addition to the traditional policy and technical committees, ad hoc steering groups created for specific purposes can strengthen the effectiveness of the planning process in the conduct of corridor planning studies and special projects by providing a voice and a forum for all parties that may be affected by the particular planning effort.

(4) The regional plan developed through the planning process should specify corridor level of service standards and priorities for improvement, rather than specific facilities, in order not to preempt consideration of more specific alternatives appropriate at the corridor level scale of planning.

(5) The implementation of plans and programs resulting from the planning process could be enhanced if greater flexibility is allowed in design standards and the use of federal funds in urban areas. For example the use of federal funds for parkways, the ability to allocate more funds for advance acquisition of rights-of-way, and modifications of highway design standards in urban areas, can all help to make transportation facilities more acceptable in urban areas.

(6) Continuing monitoring and evaluation of the effectiveness of new facilities, or the lack of new facilities, is an essential part of the transportation planning process. The level of service, costs, and social and environmental impacts should be evaluated over time, and the results made available to the community to dispel, or confirm, current fears and concerns.

(7) The urban transportation planning process can be most effective if it has the capability and support necessary to adequately analyze and evaluate land development, social and environmental factors, as well as transportation factors, in the conduct of the process. Consideration should be given to direct federal funding support of the planning process, and the pooling of such funds by appropriate federal agencies who have program interest in these related planning activities.

(8) A review agency can perform an important implementation function by insuring that all questions that might delay action have been adequately considered and answered. In order to insure the adequacy of the review process, specifically earmarked federal funding support for this function should be considered.

(9) The effectiveness of the planning process should be measured by its ability to achieve a desired level of transportation service. This can be accomplished by reducing travel demand as well as increasing facility supply.

(10) The urban transportation planning process should include a balanced program of long-range work and short-range, politically responsive activities designed to gain the understanding and commitment of local government decision-makers.

[illegible] law in France laid down that every built-up area with over 10 000 inhabitants had to prepare a development plan setting out its medium- and long-term town plan[illegible] goals. The studies which had begun towards the end of the 1960's had shown that the methods used for transport planning were not always in agreement with the town planners' studies. In effect the engineers responsible for planning and constructing urban transport infrastructures were undertaking traffic studies [illegible] solely for determining the number of lanes required and the construction characteristics of the highways. The socio-economic predictions made by the town planners were not always compatible with the engineers' traffic predictions and the majority of these studies did not take into account the possible impact of a pro-active transport policy.

However, in 1972 the Ministère de l'Equipement et du Logement and the Ministère des Transports formalised new procedures and the methodology to be used in five different levels of study.[10] The circulars defining these procedures stressed the needs for integrated land use/transport studies taking into account social and environmental objectives. The first three levels concern transport, planning, economic and phasing studies, the last two geometric design and construction financing.

The different techniques to be used in each level of study are described in the study manuals provided by SETRA (Service d'Etudes Techniques des Routes et Auto-routes). The broad methodological principles of Levels 1, 2 and 3 are described below:

Level 1

Etude Préliminaire d'Infrastructure de Transport (EPIT). The essential spirit of the Level 1 study is simplicity. The study should, however, be sufficiently refined to locate the important problems, bring to light inadequacies and make essential recommendations. The principal objective of the study is to establish a general transport plan which will satisfy the long-term needs of the urban area.

The first phase of the study calculates the [illegible]
at the horizon year based on population and employment [illegible].
In the second phase the study analyses the possibility of the [illegible]
duction of a new public transport mode and the effect of [illegible]
on modal choice. Finally a more detailed study is made of the [illegible]
centre, its parking needs, its protection by [illegible]
or far from the centre, and the feasibility of [illegible]
structure requirements by the inclusion of [illegible].

Level 2

Plan d'Occupation du Sol (POS). The [illegible]
land use/transport study; its principal [illegible]
the land requirements for the proposed [illegible]
infrastructure.

Traffic predictions are made for the [illegible]
planning data. Alternative networks are tested [illegible]
new infrastructure proposals are geometrically designed [illegible]
study their effect on the urban environment. The [illegible]
schemes are then evaluated in terms of economic and [illegible]
considerations. The chosen scheme or scheme[illegible] [illegible]
approval before being included in the [illegible].

Level 3

Dossier d' Inscription (DI). The objective of [illegible]
to prepare schemes in detail so that they can be included [illegible]
Ministry's next two five-year plans. The studies which [illegible]
the formation of the 'dossier d'inscription' are of three [illegible].
Firstly, the establishment of a phasing programme indicating [illegible]
various sections to be built, their links to the existing [illegible],
and the possibility of financing parts of the work from [illegible].
Secondly, the rate of return is calculated for each of the [illegible]
sections. The cost/benefit analysis is carried out in the [illegible]
way by calculating time and distance savings on the network [illegible]
to the assigned traffic. Finally, other considerations are studied,
such as the degree to which the proposals satisfy planning objectives
and link with infrastructure proposals in the surrounding area.

This new approach to urban transport planning in France was first used in Rouen and Strasbourg, where in both instances the master plan was already being studied.[10] In order to test and develop the methodology further eight pilot cities, between 80 000 and 900 000 population, were designated. In each city the three study levels are in various stages of completion. Toulon, which is one of the eight pilot cities, has just completed its Level 1 study and is already well advanced with its Level 2 study.[10]

1.4.5 Summary and Discussion

The experience of central government involvement in urban transport in three overseas countries has been outlined. In the case of the United Kingdom and France involvement is restricted to a persuasive role as to what planning procedure is desirable, and especially as to how this activity should tie in with regional land use or structure plans. Pressure can be exerted in that, while fixed percentages are not paid towards implementation of plans, contributions, which can be substantial, are made towards projects perceived to be in the national good and which co-incide with national policy.

Perhaps because of the high density of population of these countries, their small geographic size and their relatively direct central political participation, results are generally good. Viewed from a more cynical angle historically sound urban transport systems, densely populated cities and expensive real estate have forced these countries to continually evaluate all proposals - with the result that dire predictions of the collapse of their city areas are not made.

On the contrary side the United States has had a history of development around the automobile and private mobility. While central government efforts have been made from as early as the 1960's towards planning with an emphasis on mass transit, the very philosophy of the country has made the society reluctant to implement projects which are not conducive to the continued love affair with the automobile.

Transport and land-use planners are most concerned with this failure to shift philosophy and are making continued efforts towards doing so. The approach put forward is towards one of altering the very management of the country, rather than introducing an effective transport planning process into the existing structures.

South Africa may be perceived as lying between these two extremes. With a physical and geographic structure similar to that of the United States, its investment levels and political structure is more closely allied to Europe and especially Britain. This thesis attempts to identify and describe where South Africa should position itself between these extremes of philosophy in addressing its urban transport problem.

CHAPTER 2 : SOUTH AFRICAN BACKGROUND

2.1 The Driessen Report

The Driessen Report - or more formally the 'Report of the Committee of Inquiry into Urban Transport Facilities in the Republic' - affords a comprehensive background to urban transportation in South Africa and provides forty five recommendations in the fields of planning, long- and short-term remedial measures, finances and administration towards the meeting of the urban transport problem in the Republic.

It is unfortunate that the Report has perhaps not been given the credit or consideration that it is due by many decision makers. For example the Browne Committee Report on municipal finances assumed that most of Driessen's proposals had been implemented. This assumption was made in late 1980 when it was quite clearly not the case. This is unfortunate in two ways. Firstly, the sound proposals for urban transport which were contained in the report have been largely modified by the course of events and political decisions so as to make them less meaningful or effective. Secondly the lack of central government sincerity in implementing the original proposals has led to a resigned discarding of Driessen's principles by lower levels of government.

An example of this is the Johannesburg's Management Committee's decision, taken in July 1981, not to contribute approximately R380 000 into the Consolidated Metropolitan Transport Fund on the grounds that the Urban Transport Fund contribution to the JOMET area in 1981/82 was not meaningful.

Cape Town City Council, in like manner, in August 1981, rejected the National Transport Commission's requirement that a bus depot should be funded from the CMF, and resolved instead that the operator should finance the balance of the facility and, further, that the NTC should increase its subsidy to this operator! At the time of writing it is understood that the Durban City Council are also expressing reservations at continuing with metropolitan transport planning from April 1982. While these are isolated decisions, they are indicative of a political trend.

Such negative examples are indicative of how a lack of clear commitment on the part of central government to the proposals of the Driessen Report have bedevilled progress ever since.

This is most regretful, as the Driessen Report, while being representative of the views of central and local government, couldhave formed the focus of the engineering profession's endeavours in the late 1960's and early 1970's towards addressing the emerging urban transport problem in South Africa. A critical appraisal of the Driessen Report will reveal to any reader that it was the historic high point for urban transport in this country. Indeed, when considered in its purest transportation influencing form, it probably still is.

The Report itself consists of eight chapters and a wealth of annexures and appendices setting out transport data up to the yar 1970. This date will be used as a basis for comparison in later sections of this report.

The chapters themselves are entitled:

Summary of Major Findings and Recommendations;
Terms of Reference and Field Covered;
The Urban Transport Problem in the Republic;
Urban Transport Planning and Policy Formulation;
Long-term Remedial Measures;
Short-term Remedial Measures;
Financial Implications of the Proposals;
Administrative Machinery Required to Implement the Proposals.

It is necessary to look at this important document in some depth, although the order will be altered somewhat in the sections that follow. In the purest sense the document is considered by the author of this reportto provide the basic statement as to what the central government's role should be.

2.1.1 The Urban Transport Problem in the Republic

The Driessen Report simplifies Thomson's statement of the urban transport problem somewhat, by stating that it is characterised by an excessive daily influx of motor vehicles to the city centre resulting in: 11

(i) acute traffic congestion especially in the morning and evening peaks;

(ii) poor patronage of public transport services with consequent running losses;

(iii) an actual or potential deterioration of economic and social conditions in central city areas;

(iv) a deterioration of environmental conditions due to exhaust emissions, noise and the construction of unsightly transport facilities.

It should be noted that this view does not pertinently consider pedestrians or safety as being specific aspects to the problem. This lack is generally apparent in South African transport planning.

Be this as it may, the committee goes on to point out the increasing acuteness of the problem, especially in the period of rapid economic growth subsequent to the second World War.

The contributing parts of the problem in South Africa are considered to be:

(a) Urbanisation of the population, which grew from 26 (total) urbanised in 1911 to a projected 52 in 2000 AD.

(b) Car ownership, which in 1968 averaged a rate of 66 cars per 1 000 persons. While the White ownership rate in that year was 337 per 1 000, it was rightfully assumed and predicted that the economic advancement of Blacks would push up the overall average rate to nearer the 290 - 300 per 1 000 mark by the turn of the century. Such an increase would imply a four fold increase in car ownership density in thirty years - to a total vehicle population of 6,89 million. Later work by Marx[12] indicates, that this figure shouldbe nearer 5,33 million. This remains a threefold increase.

(c) Different population groups were considered to be a problem in that it was put forward that the wealthy White group would have to finance the mass transit facilities for Blacks. An aspect

(i) acute traffic congestion especially in the morning and evening peaks;

(ii) poor patronage of public transport services with consequent running losses;

(iii) an actual or potential deterioration of economic and social conditions in central city areas;

(iv) a deterioration of environmental conditions due to exhaust emissions, noise and the construction of unsightly transport facilities.

It should be noted that this view does not pertinently consider pedestrians or safety as being specific aspects to the problem. This lack is generally apparent in South African transport planning.

Be this as it may, the committee goes on to point out the increasing acuteness of the problem, especially in the period of rapid economic growth subsequent to the second World War.

The contributing parts of the problem in South Africa are considered to be:

(a) Urbanisation of the population, which grew from 26 (total) urbanised in 1911 to a projected 52 in 2000 AD.

(b) Car ownership, which in 1965 averaged a rate of 66 cars per 1 000 persons. While the White ownership rate in that year was 337 per 1 000, it was rightfully assumed and predicted that the economic advancement of Blacks would push up the overall average rate to nearer the 200 - 300 per 1 000 mark by the turn of the century. Such an increase would imply a four fold increase in car ownership density in thirty years - to a total vehicle population of 6,89 million. later work by Marx[12] indicates, that this figure shouldbe nearer 5,33 million. This remains a threefold increase.

(c) Different population groupswere considered to be a problem in that it was put forward that the wealthy White group would have to finance the mass transit facilities for Blacks. An aspect

not mentioned, which makes South Africa unique, is that the poorer (Black) group lives further away from the city centre than the more affluent. This is a reversal of normal city development.

(d) Growth in incomes and the industrialisation of the economy would result in increasing disposable wealth and higher standards of housing (i.e. less dense living conditions)

(e) Economic progress of blacks would lead to accelerated car ownerhips in this group and a growth in private vehicle travel from 13 percent in 1978 to 53 percent in 2000 AD.

(f) Low density housing is a feature of all South African cities, for the reasons cited earlier, although a growth trend in the provision of flats near the inner circle of the city was detected.

(g) High density centre city employment was considered as still being part of the South African way of life. While this aggravated peak traffic congestion it boded well for public transit ridership.

(h) Peak period traffic, it was noted, results in excessive 'operating' costs to the community as well as additional investment in facilities which are only used for 3 - 4 hours daily.

(i) Financial losses on public transport were observed to be substantial.

(j) Financial problems of local authorities, which were in fact the trigger which initiated the formation of the committee, were given attention, although the problems were not made out to be as critical as they in fact were, and still are.

(k) Environmental and safety aspects were considered less serious in South Africa than in leading overseas countries. Nevertheless considerable attention was paid to the experiences of these countries. A noteworthy omission was any reference to the personal security of commuters (especially Blacks) on mass transit routes.

(1) The impact of the fuel crisis was noted as, at that time, not yet having a clearly assessable affect, although evidence was becoming available of a more favourable trend in the use of public transport facilities.

The Committees findings were summarised at the end of chapter three of the Report.

2.1.2 Urban Transport Planning and Policy formulation.

The report criticised the often haphazard planning which had occurred in the past and stated that the need for goal orientated urban planning and development had become increasingly necessary. Its discussion, probably stemming from the then experience of the committee, centred on the need for transportation planning as part of national planning, or guide planning. Interestingly this emphasis has been lost sight of today, for a variety of reasons, not least of which being that as the authority responsible for the preparation of guide plans (the Physical Planning Branch of the Office of the Prime Minister) does not make a financial contribution towards either planning activities or the implementation thereof, the lower tiers of government do not place a high priority on such planning. This phenomenon is discussed in more detail later in this report.

The committee went on to identify four major goals for transportation planning viz. mobility, convenience, reasonable costs and minimum side-effects.

Significantly it chose to quote from the pioneering Buchanan Report : 'The overriding context in which the problems of urban traffic have to be considered is the need to create or re-create towns which in the broadest sense of the term are worth living in, and this means much more than the freedom to use vehicles. It is a mixture of all manner of things - convenience, variety of choice, contrast, architecture, history visible in the buildings - all more or less subtle qualities. Life in towns could no doubt be lived without any of them, but it would be a poorer and emptier life as a result.'

(1) The impact of the fuel crisis was noted as, at that time, not yet having a clearly assessable affect, although evidence was becoming available of a more favourable trend in the use of public transport facilities.

The Committees findings were summarised at the end of chapter three of the Report.

2.1.2 Urban Transport Planning and Policy Formulation.

The report criticised the often haphazard planning which had occurred in the past and stated that the need for goal orientated urban planning and development had become increasingly necessary. Its discussion, probably stemming from the then experience of the committee, centred on the need for transportation planning as part of national planning, or guide planning. Interestingly this emphasis has been lost sight of today, for a variety of reasons, not least of which being that as the authority responsible for the preparation of guide plans (the Physical Planning Branch of the Office of the Prime Minister) does not make a financial contribution towards either planning activities or the implementation thereof, the lower tiers of government do not place a high priority on such planning. This phenomenon is discussed in more detail later in this report.

The committee went on to identify four major goals for transportation planning viz. mobility, convenience, reasonable costs and minimum side-effects.

Significantly it chose to quote from the pioneering Buchanan Report : 'The overriding context in which the problems of urban traffic have to be considered is the need to create or re-create towns which in the broadest sense of the term are worth living in, and this means much more than the freedom to use vehicles. It is a mixture of all manner of things - convenience, variety of choice, contrast, architecture, history visible in the buildings - all more or less subtle qualities. Life in towns could no doubt be lived without any of them, but it would be a poorer and emptier life as a result.'

The Report went on to describe the now well known urban transport planning process described briefly in the Department of Transport's document "Guidelines for the Preparation of an Urban Transport Plan" and in more detail in the NITRR's Transport Planning Research Reports.

This process was compared with a brief statement of current transport planning activities in South Africa, especially the :

Greater Johannesburg Area Transportation Study - 1964;
Durban Transportation Study - 1966;
Port Elizabeth Regional Transportation Study - 1970;
Pretoria Road Plan - 1972;
Pietermaritzburg Transport Plan - 1969.

The findings and recommendations pursuant to this chapter of the Report were set out at its close. They are considered sufficiently important for purposes of this report to repeat them here. [11]

'The future development of urban transport in the major urban areas of the Republic should be proper planning within the framework of a system of regional and city planning, which should logically be co-ordinated on a national basis by the Department of Planning and the Environment. Urban transport planning should be broadly directed and co-ordinated by the National Transport Commission, and implemented by means of the administrative machinery described in Chapter 8 and set out in Chart 4.

The Committee believes that the planning for, and provision of, adequate urban transport facilities should be assigned a prime rating in the ordering of national economic priorities in the Republic. (Par. 4.1.3)

The functions of the National Transport Commission should be extended to include the formulation of urban transport policies, and broad supervision over and co-ordination of all matters relating to urban transport in the Republic. For this purpose three additional members conversant with urban transport problems should be appointed to the Commission. Of these, one should be the Commissioner for Urban Transport referred to in par. 4.6.4, the second should represent the South African Railways, and the third should represent the broad public. (Par. 4.5.8.)

[illegible] is created in the Department of Transport to [illegible] metropolitan transport matters, and in particular [illegible] for the administrative co-ordination and supervision of all aspects of policy, planning, investigations, research and the [illegible] of funds to metropolitan, local and other bodies for the purposes of urban transport planning, development, surveys and research. The head of the division should be accorded the rank of director and [illegible] for urban transport. (Par. 4.5.8)

The Commission supports in principle the establishment of Central Guide Plan Committees, or alternatively Metropolitan Planning Councils as proposed by the Department of Planning and the Environment, and regards their work as an essential initial step in the establishment of the land use pattern upon which sound urban transport planning should be based. (Par. 4.6.)

To ensure the co-ordinated urban transport in a metropolitan area, a Metropolitan Transport Advisory Council should be established by the Administrator in any metropolitan area which merits such an organisation in the view of the Administrator as well as the National Transport Commission. Such a Council should advise the Administrator on all aspects of the planning and co-ordination of urban transport within the area, and should also serve as a forum for an exchange of views on these matters between the various spheres of government, private commerce and industry. In order to ensure proper co-ordination with the work of the Metropolitan Transport Advisory Councils, representation should be given to the latter on the relevant Central Guide Plan Committees or Metropolitan Planning Councils. (Supporting administrative arrangements are set out in Par. 8.4 and 8.5 of Chapter 8.)

Urban transport planning by local or provincial authorities should be [illegible] encouraged by means of subsidies granted by the national Transport Commission to a maximum of 50 per cent of the costs of preparing approved plans provided that -

the approval in principle is obtained from the Administrator and [illegible] the National Transport Commission;

(b) prior approval of the expenditure involved is obtained from the National Transport Commission;

(c) any such authority can show with reasonable justification that the total population within the relevant urban area or urban sphere of influence is currently at least 200 000 or expected to reach 400 000 within 30 years, unless these conditions are waived by the Administrator and the National Transport Commission.

Provincial authorities should have the right to apply for subsidies for the preparation of urban transport studies and plans relating to areas where the provincial authorities can show, to the satisfaction of the National Transport Commission, that studies and plans will materially promote local, regional or national welfare. The balance of the costs of preparing studies or plans should be borne by the provincial or local authorities concerned. (See also par. 5.5.10)

In view of the increasingly specialised nature of urban transport research, and the specialised staff and other facilities required for useful research in this field, the scope and functions of the National Institute for Road Research of the Council for Scientific and Industrial Research should be extended to include urban transport research. The extended responsibilities of the National Institute for Road Research should be given recognition by suitable redesignation, say the National Institute for Transport and Road Research. This recommendation is, however, advanced subject to the approval of the C.S.I.R. The National Transport Commission should largely finance the Urban Transport Research Division from the proposed Urban Transport Fund referred to in Chapter 7, although a portion of the funds may be obtained from other sources as mutually agreed by the parties concerned. (Par. 4.5.9.)

2.1.3 Short-term Remedial Measures

The main aim of this dissertation is to determine to what extent the short-term remedial measures have been implemented in the five declared metropolitan areas, and what has been the effect of these measures. Consequently it behoves the author to consider the Driessen Report short-term proposals in some detail.

The committee argued that the major reason for distinguishing short-term from long-term measures is the increasing need for making better use of the available transport facilities. The provision of additional facilities can be hampered by circumstances such as lack of funds.

Short-term measures may therefore be directed towards one or both of the following :

(a) spreading the peak demand for travelling, and restricting the use of cars (adaptation of demand to available capacity),

(b) by improving traffic control, and reorganising bus services (adaptation of available capacity to meet demand).

These measures should ideally be integrated with long term measures, however as they often have to be applied under difficult or crisis conditions, it is important that they be subject to continuous review in order to ensure that they are at least adequately synchronised with long term measures.

The short term measures considered appropriate by the committee for application to the Republic were :

- co-ordination and integration of transport services;
- staggering of working hours;
- parking;
- traffic control;
- restriction of car transport;
- management of public transport undertakings;
- subsidisation of urban public transport;
- operation of bus transport;
- operation of railway transport.

The techniques that could be applied for the implementation of these measures were essentially all traffic system management actions.

The resultant recommendations arising from the committees findings were that :

'The proposed Metropolitan Transport Advisory Councils should promote the introduction of measures designed to ensure proper and adequate co-ordination and integration of the various urban transport services, including the railways, in the major metropolitan areas of the Republic. (Par. 6.2.7.)

The Committee supports in principle the introduction of staggered working hours schemes, and in this regard the proposed Metorpolitan Transport Advisory Councils can play a useful role. A Staggered Working Hours Committee should be established in each metropolitan area, preferably under the aegis of the local Metropolitan Transport Advisory Council, to investigate and supervise the implementation of staggered working hours. Employers' as well as employees' organisations should be represented on the Committee. (Par. 6.3.7.)

The conditions on which parking facilities will be provided or permitted should be set out in urban transport plans submitted to the National Transport Commission. (Par. 6.4.4.)

The principle of charging for parking space and loading zones in central city areas should be applied, and charges should cover all direct and non-direct economic costs, except in the case of park-and-ride facilities. (Par. 6.4.6.)

Legislation should, where necessary, be adopted to enable local authorities to frame regulations whereby the provision of parking space in all buildings and on all sites can be controlled, and to impose a special tax or levy on parking space. (Par. 6.4.7.)

A proper traffic control policy should form part of any urban transport plan submitted to the National Transport Commission for approval. (Par. 6.5.4.)

Grants may be made by the National Transport Commission at a rate of 50 per cent of the capital expenditure of additional equipment required for the control of traffic in central urban areas, provided that the acquisition of such equipment is approved by the Commission as part of an urban transport plan which is submitted for approval. (Par. 6.5.6.)

A levy and permit system for directly controlling the number of cars which are permitted to enter congested areas or "restricted zones" in major cities should be introduced to improve the balance between the number of vehicles and the available road space. Such a system should, where necessary, be included in the measures proposed for implementing urban transport plans which are submitted to the National Transport Commission, but should be implemented with due regard to the viability of the central business district. (Par. 6.6.10.)

Urban transport undertakings should be required to satisfy the National Transport Commission that effective and efficient management procedures are applied and regularly reviewed. (par. 6.7.6.)

The Committee supports in principle the centralisation of subsidy payments on Non-White Transport under the Department of Transport, and approves of the basic principles which are being applied. All transport subsidies should, furtheremore, be based as far as possible on the volume of service rendered, and where this is impracticable, on current revenue, and should not have adverse effects on efficiency. (Par. 6.8.5.)

Bus transport should be accorded preference in urban traffic control systems by means such as the introduction of exclusive bus lanes or streets, closing of roads to car traffic during peak hours or for longer periods, contra-flow use of one-way streets by buses, special robot and traffic light signalling, and other devices. (Par. 6.6.9.)

A subsidy of 20 per cent on current revenue should be paid on public urban bus services which are not already subsidised by the Government, provided that such undertakings -

(i) keep full sets of books and prepare properly certified statements;

(ii) charge fares approved by the National Transport Commission;

(iii) run services which are part of an approved metropolitan transport plan; and

(iv) fully observe Government policies.

The subsidy basis should be changed to the volume of service rendered where the latter can be satisfactorily measured, and the principles set out in par. 6.8.2 should be observed as far as possible. (Par.6.9.13.)

As it is important to augment public transport facilities before imposing measures to discourage the of motor-cars in urban areas, Recommenda= tions 1.3.11 and 1.4.12 sh e applied as soon as possible on an interim basis to large public transport undertakings in the major urban areas, subject to such safeguarding conditions as may be considered necessary by the National Transport Commission. (Par. 6.9.14.)

Close liaison should be established between the Metropolitan Transport Advisory Councils and the managements of the Railways Administration and urban bus undertakings for the purpose of studying and co-ordinating the needs and preferences of the travelling public in urban areas. (Par. 6.10.5.)

The principle should be adopted that variable costs on any specific suburban railway network should be covered as far as possible by revenue from fares. If new services should have to be provided requiring invest= ment in additional fixed assets, fares should cover the full additional costs as far as possible. (Par. 6.10.6.)

Reservation. The Railways representative, Mr H J L du Toit, holds the view that total costs should be used as a basis, as motivated in the reservation undrer par. 6.10.4. Furthermore the principle expressed in Recommendations 1.4.15 should be a long-term aim, but this principle should be made subservient to the main objective (see par. 6.8.2) in order that public transport may be supported by motorists.

Suburban railway services for first and second class passengers which remain essential but are not expected to break even on variable costs and which cannot be replaced by other modes, should be subsidised on the volume of service to enable them to cover losses on variable costs. Such subsidies should be financed as follows :

(i) an amount of approximately R5 million per annum to be provided from the resources of the Urban Transport Fund, as set out in par. 7.6.3, this amount representing the transfer described in par. 6.8.2 (ii);

(ii) the balance to form a charge against the Consolidated Revenue Fund of the Central Government, in terms of the exposition in par. 6.8.2 (v) and (vi).

Reservation. The Railways representative, Mr H J L du Toit, holds the view that the opening sentence of this paragraph should read as follows : Suburban railway services for all classes of passengers which remain essential but are not expected to break even on total costs and which cannot be replaced by other modes, should be subsidised on the volume of service to enable them to cover losses on total costs.'

These recommendations are tested as to their efficacy in Chapter 3 of this Report.

2.1.4 Long-term remedial measures

The long-term remedial measures were considered to be those which would have an effect over five years. As at this time, due to delays in the implementation of the Driessen Committee's proposals such a period has not elapsed, this Report will confine itself to listing these recommended on by the committee.

These were :

- education and training in urban transport;
- urban layout;
- buildings and urban transport;
- personal car transport in urban areas;
- taxi services;
- bus services;
- road construction;
- suburban railways;
- underground railways;
- road goods transport;
- technological developments;
- environmental effects.

Expanded, subjective discussion on the present state of development of these measures is given in Chapter 4 of this Report.

2.1.5 Financial Implications of the Proposals

It was acknowledged that the role of finance was crucial to the implementation of the Committee's proposals, because the availability of funds sets an upper limit to the urban transport facilities which can be provided. Five major sources for the financing of urban transport were distinguished.

These were:

(i) Fares or charges paid by the use of public transport;
(ii) Loan finance, requiring servicing in the form of interest and redemption;
(iii) Outright financial assistance in the form of capital grants and subsidies on current operations;
(iv) Hidden financial assistance e.g. government guaranteed and low-interest loans, tax rebates on fuel, etc;
(v) Costs borne by the users of non-public transport (business and individuals).

The Committee did not set an upper limit to the amount which should be expended annually because it felt that the amounts actually required should be established on the basis of properly prepared transport plans for which the users of transport in the major urban areas were prepared to pay.

Eight requirements were enunciated for the form in which and the methods whereby the necessary funds should be obtained, which it was felt would well solve the objectives of urban transport planning in the Republic.

These eight were:

- user charging;
- broad based sufficiency;
- adaptability;
- low production costs;
- income distribution;
- administration and collection costs;
- practicability.

Several systems were suggested whereby the funds required for subsidy could be obtained. These are discussed, in the light of the Committee's opinion of them, below beginning with the most direct methods, and thereafter more indirect and general methods.

Off-vehicle recording systems - electronic recording and charging of the user by price zone was suggested as probably becoming a more practicable proposition in the course of time, as technology in the field improves.

Driver-operated meters were suggested wherein the driver himself would set an internal meter into operation when entering a price zone.

Automatic meters could also be installed in every vehicle but would be switched on externally by automatic control.

Tolls received a negative vote from the Committee on the grounds that they appeared 'less suited for collecting the substantial amounts required for the subsidies and related expenditures recommended in (the) Report'.

Fuel taxes were considered favourably except on the grounds of their adaptability (not easy to differentiate between essential features of demand) and their lack of a close relationship between the vehicle using and its congestion caused (not user charging).

Vehicle levies received very favourable consideration in meeting the postulated criteria better than any other system considered.

Employment taxes were proposed which it were felt would satisfy most of the criteria but for sufficiency and production costs.

Sales duty was not favourably considered by the Committee as, when applied specificably to transport associated items, it was considered better used as a general 'regulator' of the economy than as a specific source of raising funds.

General taxation were considered as jettisoning the principle of user charging and would be assistance on an essentially 'non-economic' basis, however it was considered to be justified in the case of meeting residual deficits in public transport subsidy.

The above suggestions were considered as being appropriate for application by central or provincial government. The Committee did also consider sources available to local government which it felt would be sufficient to raise at least R18,0 million per annum (1973 Rands). These are discussed below.

Levys on central city properties were suggested as being able to be justifiably increased by up to 25 per cent, with possible exemption for residential properties.

Higher parking fees - it was argued that parking fees should cover direct as well as non-direct economic costs and, with such higher fees, could derive about R3,0 million per annum.

Taxes on private parking spaces were suggested 'to preserve a balance between public and private parking. This would also produce revenue of approximately R3,0 million per annum.

Charging for reserved zones such as loading zones were suggested as being the source of a futher R3,0 million per annum.

It was, perhaps optimistically, suggested that the benefits of centrally co-ordinated planning and integrated transport, as well as the introduction of staggered working hours would lead to more efficient urban transport systems with consequent savings and benefits to provincial and local levels of government who, by implication, were not deriving maximum benefit from their resources at that stage.

The committee was particularly enthusiastic towards the annual levy and permit system, as indicated above, in view of the fact that it met the postulated criteria better than any of the other systems considered, especially in applying the principle of user charging on a broad overall, yet effective basis. It was considered as being the most suitable mecha-

nism for raising the necessary funds. At that time (1971) total revenue (taxes, licences and fines less administration costs) received annually from road users amounted to approximately R296 million, while total road and bridge expenditure amounted to some R319 million. Expenditure therefore exceeded receipts by about R23 million (8 per cent) and it was felt (in 1973) that this percentage was increasing. The committee opined that additional expenditure on road facilities should be financed as far as possible from additional revenue obtained from the road user.

In the opinion of the Committee R74 million was required in 1974 prices, over and above the R18,0 million which could be raised by local authorities themselves, to meet the expressed rates of subsidy. This was to be raised and utilised as shown in Table 2.1, through an Urban Transport Fund, which was to be created under the aegis of the National Transport Commission.

Table 2.1 Revenue to be obtained from the levy and permit system and estimated annual expenditure from the urban transport fund. (1974 Rands)

Revenue (to Urban Transport Fund)

	Avg. rate (rands)		R million
	car	goods vehicle	
All vehicles	9	18	25
Metropohtan vehicles	20	40	31
Vehicles subject to permit	45	90	18
TOTAL	74	148	74

Expenditure (from Urban Transport Fund)	% grant or subsidy	R million
Capital expenditure on buses and bus equipment	50	6,5
Capital expenditure on traffic control equipment	50	1,0
Construction cost of roads, bridges, mass transit	60	54,0
Operation of bus services	20	7,0
Operation of suburban railways	-	5,0
Administration, transport studies, etc.	-	0,5
TOTAL	-	74,0

'- calculated on revenue

Significantly, the two provincial representatives registered their opposition to the levy and permit system as they were of the opinion that this source of revenue should be retained by the provinces only. They were of the opinion that the revenue required should be obtained by levying a fuel tax and/or from a state subsidy.

In consideration to this minority view the Committee recorded that it felt that a general fuel tax of ½ cent per litre and a metropolitan fuel tax of a further ½ cent per litre would furnish the revenue proposed from the general vehicle imposts.

This revenue to the Urban Transport Fund, applied at the rates of subsidy proposed, would support a gross annual capital expenditure of R105 million as follows:

Capital expenditure on buses and bus equipment	R13,0 m
Capital expenditure on traffic control equipment	R 2,0 m
Construction costs of roads, bridges, mass transit systems	R90,0 m
TOTAL	R105,0 m

The National Transport Commission was charged with the function of initially setting studies in motion and prioritising the purchase of buses before introducing control measures on the private motor car.

The Provincial Authorities, it was suggested, could take the necessary steps to do the work on behalf of 'unwilling' local authorities, and claim costs from these parties' revenue.

The Committee's aims and methods for financing the proposed co-ordinated urban transport initiative were laudable. We shall discuss what happened to these aims as this report progresses.

2.1.6 Administrative Machinery Required to Implement the Proposals

The Committee set clear objectives for the administrative machinery necessary to effect the new urban transport initiative. The major objectives were to:

- prepare suitable urban transport plans, covering also railways and properly integrated with land use (guide) plans;

- the preparation and implementation of expenditure and related programmes;
- the periodical reviewing and up-dating of these activities.

In order to meet these objectives the following points were commented on:

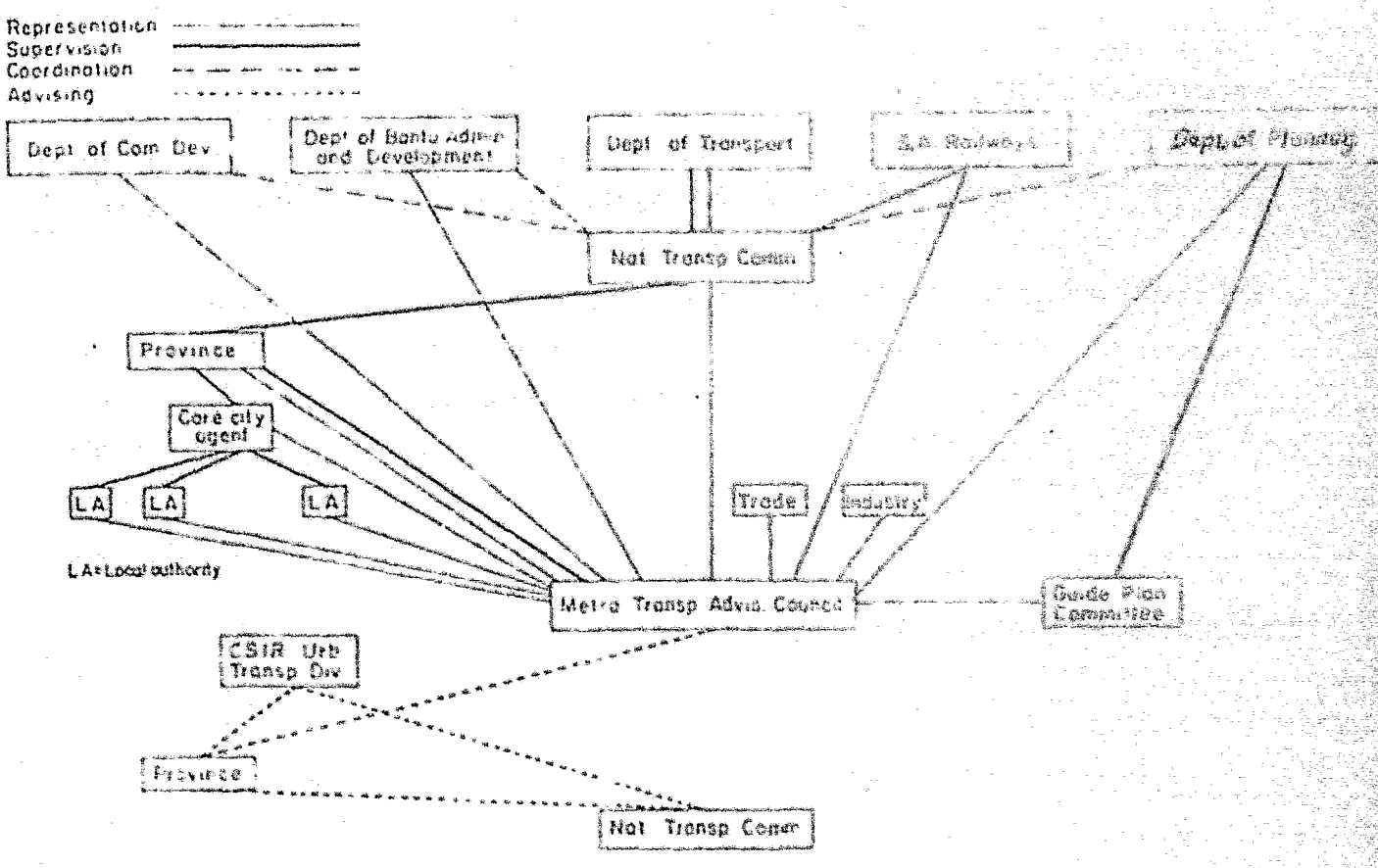
Representation	- should represent most directly affected institutions and other interests, in a manner to promote rapid and clear-cut decisions;
Established institutions	- should be left with their existing functions and responsibilities as intact as far as practicable;
Functional responsibility	- should be clearly defined, but permit flexibility;
Alignment of authority	- necessary to establish the role of each body or organisation without impinging on the autonomy of lower authorities;
Co-ordination and integration	- the administrative machinery should facilitate mutual consultation and the taking of collective action, as may be necessary;
Availability of staff	- lack of expertise in the country meant that control or supervisory systems requiring much skilled or professional labour should be avoided.

In order to attempt to meet these requirements the Committee proposed the organisational and administrative machinery set out in Figure 2.1

This proposed administrative machinery was modified slightly in practice, as is discussed later. A point worth noting is that the original proposals indicated that land use control should be effected by 'close collaboration between the Metropolitan Transport Advisory (Council) and the Guide Plan Committee in each area'.

In essence the Committee proposed a new Provincial Department, or Urban Transport Secretariat, for the execution of the Metropolitan Transport Advisory Councils' policy decisions, these policies being co-ordinated nationally by the National Transport Commission, on the recommendation of the respective Administrators.

Figure 2.1 Proposed Administrative Machinery for Implementing the Recommendations of the Driessen Committee



These admirable proposals were returned to the Minister of Finance and ultimately to Parliament in the form of a White Paper, which set out the Government's urban transport policy in detail. This is considered in the next section.

The chapters entitled 'Summary of Major Finding and Recommendations' and 'Terms of Reference' were statements of the recommendations covered above and of the urban transport problem, respectively. As they have been covered above, they will not be further elaborated on.

2.2 The White Paper

The White Paper on the Driessen Report, which was tabled before Parliament in 1975, did justice to the thoughts put forward by the Committee - excepting in the area of finance.[13] This is ironic, as the Paper indicates that the Committee was appointed in March 1972 to implement the undertaking

given by the Government in the White Paper on the Borckenhagen Reports to investigate 'the new demands being made on local authorities regarding the planning and financing of modern urban and metropolitan road networks in order to provide, inter alia, efficient systems of mass passenger transport. A second reason for the appointment of the Committee was identified as having been the influence of the development of the urban transport problem in the Republic, and in particular by indications that timely action would result in substantial savings at a later stage.

Interestingly enough, in the time between the appointment of the Committee by the Minister of Finance and the tabling of the White Paper, by the Minister of Transport, an obvious shift in emphasis had been placed on the central government urban transport initiative. This shift from a financial aspect to a transport aspect had a bearing on the whole attributable philosophy.

The White Paper went on to identify and expand on the Reports eight chapters by considering the following sections:

Terms of reference
Nature of the problem
Urgency of the problem
Further perspective on the problem
Urban transport policy
Basic importance of urban transport planning
General long-term measures which can be implemented without delay
Measures on transport modes which can be implemented without delay
General short-term measures which be be implemented without delay
Measures for which time is required
Underground railways
Financial aspects
Administrative machinery
Implementation of the measures
The Governments' urban transport policy in brief

The first three sections are restatements of matters already elaborated on in this report.

Author Copley P J
Name of thesis The effects of central government participation in urban transportation in the Republic of South Africa 1985

PUBLISHER:
University of the Witwatersrand, Johannesburg
©2013

LEGAL NOTICES:

Copyright Notice: All materials on the University of the Witwatersrand, Johannesburg Library website are protected by South African copyright law and may not be distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

Disclaimer and Terms of Use: Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.